United States
Department of
Agriculture

Natural Resources
Conservation
Service

In cooperation with
New Hampshire
Agricultural
Experiment Station

Soil Survey of Grafton County Area, New Hampshire

INSERT ILLUS. 1A (42 x 28 picas)

How to Use This Soil Survey

General Soil Map

The general soil map, which is the color map preceding the detailed soil maps, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

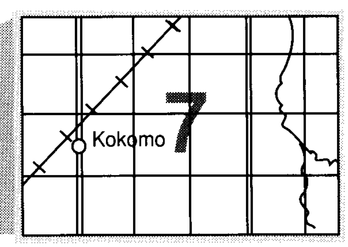
Detailed Soil Maps

The detailed soil maps follow the general soil map. These maps can be useful in planning the use and management of small areas.

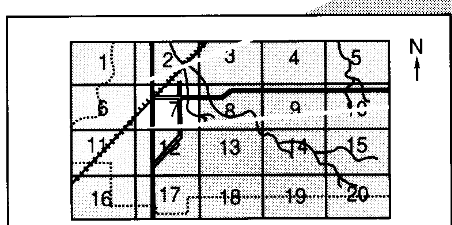
To find information about your area of interest, locate that area on the **Index to Map Sheets**, which precedes the soil maps. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map units symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



MAP SHEET



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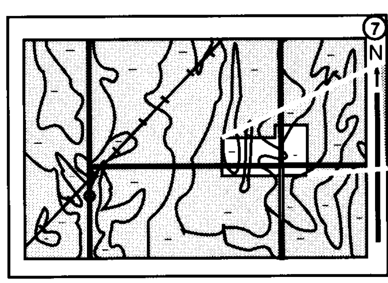

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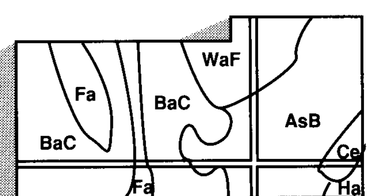

AREA OF INTEREST

NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1986. Soil names and descriptions were approved in 1987. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1986. This survey was made cooperatively by the Natural Resources Conservation Service and the New Hampshire Agricultural Experiment Station. The survey is part of the technical assistance furnished to the Grafton County Soil and Water Conservation District.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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Cover: Connecticut River floodplain, terrace and adjacent uplands. The area farmed in the foreground is within the mesic soil temperature regime. The forested uplands (middle) is in the frigid soil temperature regime. The mountain tops are in the cryic soil temperature regime.

Contents

Issued 1998

Foreword

This soil survey contains information that can be used in land-planning programs in the Grafton County Area. The survey contains predictions of soil behavior for selected land uses. The survey also highlights limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, ranchers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

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State Conservationist
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Soil Survey of
Grafton County Area, New Hampshire

By Joseph W. Homer, Natural Resources Conservation Service

Fieldwork by: Joseph W. Homer, Kenneth E. Harward, Carl B. Dellinger, Sidney A.L. Pilgrim,Frank J. Vieira, William R. Forbes,Garnet J. Wood, and Howard W. Carr
Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service
in cooperation with the University of New Hampshire Agricultural Experiment Station

Grafton County is in the west-central part of New Hampshire. The western boundary of the county, formed by the Connecticut River, is the Vermont state line. The total area of the county is 1,750 square miles, or 1,120,000 acres. The part of this county covered in this survey excludes the White Mountain National Forest and has a total area of about 775,300 acres, or 1,211 square miles (fig 1.).

The soils in the county on the hills and lower parts of mountains dominantly are gently sloping to very steep and well drained to poorly drained. Stones and boulders are on the surface of most areas, except those cleared for farming.

The soils on the tops of mountains and high hills are commonly shallow to bedrock. Complex slope patterns, stones and boulders on the surface, the depth to bedrock, a high water table, and an erosion hazard are major limitations of those areas for farming and community development.

The soils in the major stream valleys are dominantly excessively drained to poorly drained and nearly level to very steep. Those soils that are nearly level to gently sloping are the major farming areas of the county.

This soil survey provides updated information to a soil survey of Grafton County published in 1939 *(5)* and provides maps that shows the soils in greater detail.

General Nature of the Survey Area

This section provides general information about Grafton County and describes some of the natural and cultural features that affect land use in the county.

Two different levels of detail, or orders, have been used mapping the soils of Grafton County. Order II mapping was used for approximately 80 percent of the county and is intended to supply soil data for intensive land use that require detailed information about the soil resources for making predictions of suitability for use and treatment needs. This information can be used in planning for general agriculture, construction, community development, and similar uses that require precise knowledge of the soils and their variability. Order III mapping was used for the remaining 20 percent of the county and is intended to supply soil data for extensive land uses that do not require precise knowledge of small areas or detailed soil information. Such survey areas are usually dominated by a single land use and have few subordinate uses. This information can be used in planning for forestry, wildlife and recreational uses.

History and Population

The first settlement in Grafton County was made at Lebanon in 1761 by pioneers from Connecticut. The county was formed in 1771, and its original boundaries are essentially unchanged.

The county contains 39 incorporated towns and one unincorporated town. Lebanon is the only city in the county. Some of the larger towns are Hanover, Littleton, Plymouth, and Haverhill. In 1988 the population of Grafton County was 74,453 (*4*) and was fairly well distributed over the southern and western parts of the county but somewhat more dense in the Connecticut River Valley. The summer population is

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Figure 1.— Location of Grafton County in New Hamsphire

estimated to be two to three times the normal population.

Physiography, Relief, and Drainage

This county lies within the Mountain and Valley section of New England. More than two thirds of its land area forms a fan-shaped plateau that extends from the northwest to the southeast.

The plateau slopes in all directions from the north-central part, joining the base of the White Mountains, where the average elevation is about 1,000 feet above sea level, to the outer edges, where the average elevation is about 1,200 feet. The remaining third, or northeast part, of the county is mountainous. Elevations reach 3,000 feet in many places, and 12 peaks rise above 4,000 feet. Mt. Lincoln, for example, is 5,108 feet high, and Mt. Lafayette is 5,249 feet.

A number of lower mountain ranges, extending mainly north and south, cross the plateaus. The major ranges contain Moose Mountain, Mt. Cube, and Black Mountain in the western part, Gardner Mountain in the northwest part, and Mt. Cardigan in the south-central part. These mountains range from 2,000 to 3,000 feet above sea level. Scattered over the plateau are numerous small monadnocks which stand well above its general level. The plateau is deeply dissected throughout, and only small remnants of the plateau remain at the original level. Most of the streams, especially the lateral streams which flow west to Connecticut River, have cut narrow, deep valleys with steep sides. A few streams, however, flow through hanging valleys, or basins, characterized by a somewhat subdued topography. One example of the latter is the Mascoma Basin, where the streams are sluggish, swamps are numerous, and the hills generally are smoother than elsewhere. Wild Ammonoosuc River Valley is a good example of a deeply entrenched valley. The narrow strip along its western edge has hilly relief.

The central belt of the plateau comprises fragmentary plateau tops and generally steep sides with, in places, lower hills or benches at the base and along the streams. There are many gently sloping areas between the plateau tops and the steeper breaks to the bottoms.

The outer edges of the plateau are closely serrated by the entrenched valley of the Connecticut River. In the extreme northern part, the valley is narrow, but throughout most of its extent, it is 1 mile wide. Wide bottoms and smooth, broad terraces are in places, particularly at Haverhill, Piermont, Orford, and Hanover. At the point where the Connecticut River touches the northwest corner of the county, the elevation is 780 feet, and at the point where the river touches the southwest corner, it is 320 feet. The Ammonoosuc River, the principal tributary to the Connecticut River, flows across the northern part of the county in a deeply entrenched valley containing some bottom land and terraces. On the upper reaches of the Pemigewasset River, which heads in the White Mountains, the valley has steep sides, but in the southern part of the county, this valley is a width of 1 mile in places and includes broad bottoms and terraces. The Baker River, the principal tributary of the Pemigewasset River, flows in a deeply entrenched valley between the mountain section and the northeast edge of the plateau. The elevation at the point of confluence of these two rivers at Plymouth is about 500 feet.

A number of lakes are scattered over the county. The largest are Squam Lake in the southeast part, Newfound Lake in the south-central part, and the system of lakes associated with Mascoma Lake in the southwest part. The poorly drained areas or swamps are comparatively small meadows, filled-in lakes, and hollows in the mountains.

Farming

In 1987 there were 356 farms in Grafton County covering 80,871 acres. The majority of full-time farms are dairy operations. Of the total farm acreage, 30,100 acres was in cropland; 7,198 acres in pasture; 41,602 acres in woodland; and 1,971 acres in farmsteads, buildings, roads, and other uses *(11)*.

The major crops grown in the county in terms of acreage planted are hay and silage corn used as feed for dairy cows. Other locally important crops are apples, other small fruits, vegetables, and Christmas trees. Many farmers supplement their income by producing maple syrup.

Forestry

Much of the original forest in the county was cleared for farming in the early 1800s, primarily for use as pasture, and most of the present forest vegetation is second or third grown. When farming declined in the mid to late 1800s, most of the abandoned land reverted to forest.

The forest cover varies widely with differences in relief. Generally below an elevation of 1,000 feet, over the southern part of the county the dominant forest tree is white pine, which is mixed with white oak, red oak, sugar maple, red maple, ash, gray birch, aspen, and hemlock. Between 1,000 and 2,500 feet the forest consists mainly of yellow birch, beech, sugar maple, red maple, red spruce, white pine, hemlock, white birch, aspen, and oak. Between 2,500 and 3,500 feet red spruce, balsam fir, and white birch are common, although little merchantable timber grows above and elevation of 3,000 feet. Above 3,500 feet, the vegetation is mainly stunted spruce. In 1983 about 986,900 acres or 90 percent of the county was forested (*10*).

The forests in the county support a wide variety of industries, including the production of lumber, cordwood, and wooden products such as furniture, pallets, dowels, and spools. The forests are also used for recreational purposes such as hiking, hunting, cross country skiing, and snowmobiling.

Climate

Prepared by the National Climatic Center, Asheville, North Carolina.

Winters in Grafton County are cold, and summers are moderately warm. The mountainous areas are markedly cooler than the lowlands. In winter, snow is frequent, sometimes in the form of blizzards, and covers the ground much of the time. Total annual precipitation is nearly always adequate for crops that are suited to local temperatures.

Table 1 gives data on temperature and precipitation for the survey area, as recorded at Hanover, Monroe, and Woodstock for the period 1951 to 1981. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter the average temperatures at Hanover, Monroe, and Woodstock are 21, 16, and 21 degrees F., respectively, and the average daily minimum temperature is 11 degrees at Hanover and Woodstock and 5 degrees at Monroe. The lowest temperature on record, which occurred at Monroe on January 14, 1957, is -36 degrees. In summer the average temperature is 65 degrees at Monroe and Woodstock and 67 degrees at Hanover, and the average daily maximum temperature is 78 degrees. The highest recorded temperature, which occurred at Hanover on August 2, 1975, is 103 degrees.

Growing degree days, shown in Table 1, are equivalent to heat units. During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is 37 inches in Hanover and Monroe and 45 inches in Woodstock. Of that, about 45 percent usually falls in April through September, which includes the growing season for most crops. The heaviest 1-day rainfall during the period of record was 4.14 inches at Woodstock on October 24, 1959. Thunderstorms occur on about 16 days each year, and most occur in summer.

Average seasonal snowfall is 75 inches at Hanover, 72 inches at Monroe, and 94 inches at Woodstock. The greatest snow depth at any one time during the period of record was 47 inches at Hanover, 48 inches at Monroe, and 65 inches at Woodstock. On the average, 59 days at Hanover, 62 days at Monroe, and 65 days at Woodstock have at least 1 inch of snow on the ground, but the number of such days varies greatly from year to year.

The average relative humidity in mid-afternoon is about 55 percent. Humidity is higher at night, and the average at dawn is about 80 percent. The percentage of possible sunshine is 60 percent in summer and 45 percent in winter. The prevailing wind is from the northeast. Average windspeed is highest, 8 miles per hour, in spring.

How This Survey Was Made

This survey was made to provide information about the soils in the survey area. The information includes a description of the soils and their location and a discussion of the suitability, limitations, and management of the soils for specified uses. Soil scientists observed the steepness, length, and shape of slopes; the general pattern of drainage; the kinds of crops and native plants growing on the soils; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biologic activity.

The soils in the survey area occur in an orderly pattern that is related to the geology, the landforms, relief, climate, and the natural vegetation of the area. Each kind of soil is associated with a particular kind of landscape or with a segment of the landscape. By observing the soils in the survey area and relating their position to specific segments of the landscape, a soil scientist develops a concept, or model, of how the soils were formed. Thus, during mapping, this model enables the soil scientist to predict with considerable accuracy the kind of soil at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, acidity, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. The system of taxonomic classification used in the United States is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpreted the data from these analyses and tests as well as the field-observed characteristics and the soil properties in terms of expected behavior of the soils under different uses. Interpretations for all of the soils were field tested through observation of the soils in different uses under different levels of management. Some interpretations are modified to fit local conditions, and new interpretations sometimes are developed to meet local needs. Data were assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management were assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties, but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can state with a fairly high degree of probability that a given soil will have a high water table within certain depths in most years, but they cannot assure that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

This survey area was mapped at two levels of detail. At the more detailed level, map units are narrowly defined and map unit boundaries were plotted and verified at closely spaced intervals. At the less detailed level, map units are broadly defined and boundaries were plotted and verified at wider intervals. In the legend for the detailed soil maps, narrowly defined units are indicated by symbols in which the first letter is uppercase and the second is lowercase. For broadly defined units, the first and second letters are uppercase.

The descriptions, names, and delineations of the soils in this survey area do not fully agree with those of the soils in adjacent survey areas *(6,7)*. The differences are the result of better knowledge of the soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in different survey areas.

Map Unit Composition

A map unit delineation on a soil map represents an area dominated by one major kind of soil or an area dominated by several kinds of soil. A map unit is identified and named according to the taxonomic classification of the dominant soil or soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural objects. In common with other natural objects, they have a characteristic variability in their properties. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of soils of other taxonomic classes. Consequently, every map unit is made up of the soil or soils for which it is named and some soils that belong to other taxonomic classes. These latter soils are called inclusions or included soils.

Most inclusions have properties and behavioral patterns similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting (similar) inclusions. They may or may not be mentioned in the map unit descriptions. Other inclusions, however, have properties and behavior divergent enough to affect use or require different management. These are contrasting (dissimilar) inclusions. They generally occupy small areas and cannot be shown separately on the soil maps because of the scale used in mapping. The inclusions of contrasting soils are mentioned in the map unit descriptions. A few inclusions may not have been observed and consequently are not mentioned in the descriptions, especially where the soil pattern was so complex that it was impractical to make enough observations to identify all of the kinds of soil on the landscape.

The presence of inclusions in a map unit in no way diminishes the usefulness or accuracy of the soil data. The objective of soil mapping is not to delineate pure taxonomic classes of soils, but rather to separate the landscape into segments that have similar use and management requirements. The delineation of such landscape segments on the map provides sufficient information for the development of resource plans, but onsite investigation is needed to plan for intensive uses in small areas.

General Soil Map Units

The general soil map at the back of this publication shows the soil associations in this survey area. Each association has a distinctive pattern of soils, relief, and drainage. Each is a unique natural landscape. Typically, an association consists of two or more major soils and some minor soils. It is named for the major soils. The soils making up one association can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one association differ from place to place in slope, depth, drainage, and other characteristics that affect management.

The names and delineations of the soils on the map do not in all instances match those on maps of adjacent survey areas. The differences are the result of changes in soil classification and mapping procedures.

Soil Descriptions

1. Windsor-Hitchcock-Quonset

Nearly level to very steep, very deep, well drained and excessively drained, sandy and silty soils formed in glacial outwash and lacustrine sediments on terraces and lake plains (fig. 2).

The landscape of this unit is characterized by mainly nearly level to gently sloping terraces separated by moderately steep to very steep escarpments. The escarpments mainly are between the terraces but also separate the terraces from the nearly level flood plains

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Figure 2.— Typical pattern of soils and underlying material in the Windsor-Hitchcock-Quonset unit.

of the Connecticut River and its tributaries. A few areas of the terraces are strongly sloping. The escarpments range from moderately steep to very steep. The flood plains are nearly level. Most of the drainageways are deeply entrenched in these very erodible soils. The terraces are flanked by strongly sloping to very steep glaciated hills. In many areas the terraces immediately adjacent to the hills are poorly drained. The vegetation of the terraces is dominantly white pine and hemlock and some areas of sugar maple, red oak, and elm. Much of the native vegetation of the flood plains is grasses.

Most of this unit has been cleared for farming. Silage corn and grass-legume hay are grown in support of daily farming. Small fruits and vegetables for local use are grown in a few areas. These terraces are also the sites of the major urban development. The uncleared acreage of this unit consists of the steep and very steep escarpments and ravines and the nearly level, poorly drained areas.

This unit makes up about 3 percent of the survey area. The unit is about 23 percent Windsor soils, 17 percent Hitchcock soils, 10 percent Quonset soils, and 60 percent minor soils.

The Windsor soils are on nearly level to strongly sloping terraces and moderately steep to very steep escarpments. The soils are very deep, excessively drained, and sandy.

The Hitchcock soils are on nearly level to strongly sloping terraces and lake plains and moderately steep to very steep escarpments. The soils are very deep, well drained, and silty and have finely stratified, slowly permeable underlying material.

The Quonset soils are on nearly level to strongly sloping terraces and moderately steep to very steep escarpments.

The soils are very deep, excessively drained, and sandy.

The common minor soils are Suncook, Occum, Hadley, Pootatuck, and Winooski soils on flood plains and Dartmouth, Agawam, and Binghamville soils on terraces.

The nearly level to gently sloping terraces and flood plains of the unit are suited to silage corn, grasses, and legumes. The growing season is marginal for grain corn. The low available water capacity of the Windsor and Quonset soils is the main limitation for farming. The erosion hazard on strongly sloping areas make them best suited to hayland or pasture. Most of the escarpment areas are forested and are generally too steep and erodible for other uses.

On the nearly level to strongly sloping areas of the Windsor and Quonset soils, slope and rapid permeability are the main limitations for most types of community development. The Hitchcock soils have similar limitations and are also limited by the slowly permeable substratum and high potential frost action. The flood plains have severe limitations for urban development because of annual flooding in the lower areas and flooding at least once in 10 years on the higher areas. On the terrace escarpments, slope and erosion limit use to woodland and green belts.

This unit is suitable for trees. The Windsor and Quonset soils and the silty escarpment areas are well suited to softwood production, especially white pine. Slope is the main limitation on the escarpment areas. The rest of the unit is suited to hardwoods and softwoods, but softwood regeneration is dependent on controlling hardwood growth.

2. Bernardston-Cardigan-Pittstown

Gently sloping to very steep, very deep and moderately deep, well drained and moderately well drained, silty and loamy soils formed in glacial till on uplands (fig. 3).

The landscape of this unit is characterized by smooth, strongly sloping hills and very narrow valleys. In some areas, the hilltops are broad with nearly level to gently sloping areas of very deep and moderately deep soils. Some other areas are sharp, steep hills on landforms controlled by the underlying bedrock.

Some of this unit has been cleared. Most of the cleared areas are on gently sloping hilltops and strongly sloping hillsides. A few of the gently sloping areas are used to produce silage corn, but most of the areas are used for hayland and pasture. The rest of the unit is a variety of forest. Hardwoods are the climax stage, but all stages of succession are common and the types range from quaking aspen and white pine to sugar maple and red oak. Most roads in this unit run parallel to the ridges of the very narrow valleys.

This unit makes up about 15 percent of the survey area. The unit is about 22 percent Bernardston soils, 19 percent Cardigan soils, 18 percent Pittstown soils, and 41 percent soils of minor extent.

The Bernardston soils are very deep, well drained, and silty and have a dense, slowly permeable substratum. The soils are on smooth hills that range from gently sloping to very steep. Stones commonly cover less than 1 percent to 3 percent of the surface unless the area has been cleared for farming.

The Cardigan soils are well drained and silty and are 20 to 40 inches deep to bedrock. The soils are mainly in irregular patterns with Kearsarge soils and rock outcrops. Slopes range from gently sloping to very steep. Some areas have smooth slopes, but most slopes are irregular and uneven. Unless cleared,

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Figure 3.— Typical pattern of soils and underlying material in the Bernardston-Cardigan-Pittstown unit.

stones cover from less than 1 percent to 3 percent of the surface.

The Pittstown soils are very deep, moderately well drained, and loamy and have a dense, slowly permeable, loamy substratum. The soils are on smooth areas that range from gently sloping to strongly sloping, but a few are moderately steep. Stones cover less than 1 percent to 3 percent of the surface unless the area has been cleared for farming.

The common minor soils are Kearsarge, Charlton, and Stissing soils. Areas of rock outcrop are throughout the unit near Cardigan and Kearsarge soils.

If the surface stones are removed and adequate erosion control measures are used on this unit, the gently sloping areas on the hills are moderately well suited to row crops. The areas of Pittstown soils can be tilled earlier in the spring and crops harvested later in the fall if adequate drainage is provided. The strongly sloping to moderately steep areas are best suited to hayland and pasture. The stony areas have limited use as pasture.

This unit is well suited to most trees, and productivity is moderate to moderately high. The forest types are dominantly hardwoods and white pine early in the succession. Woodland management on these soils is limited by slope, windthrow hazard, and erosion along skid trails and access roads.

The bedrock and slowly permeable hardpans in this unit limit community development. Residential development requires careful selection of the areas.

3. Adams-Colton

Nearly level to very steep, very deep, excessively drained, sandy soils formed in stratified water deposited sediments on terraces, kames, and eskers (fig. 4).

The landscape of this unit is characterized by nearly level to gently sloping terraces separated by very steep escarpments. The escarpments also separate the terraces from the flood plains of the major streams of the northern, central, and eastern parts of the county. The terraces mainly are nearly level to gently sloping, but a few areas are strongly sloping. The escarpments mainly are very steep, but some areas are moderately steep. Drainageways commonly are deeply entrenched in these terraces of erodible soils. The flood plains below the escarpments are nearly level and range from excessively drained to very poorly drained. The terraces are flanked by moderately steep to very steep glaciated hills. In many areas, the terrace soils adjacent to the hills are poorly drained. The native vegetation of the terraces is mainly white pine and

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Figure 4.— Typical pattern of soils and underlying material in the Adams-Colton unit.

hemlock and some areas of sugar maple, red oak, and elm. Much of the vegetation of the flood plains is native grasses and some red maple, elm, and white pine.

Most of this unit has been cleared for farming, mainly dairy farming in the Connecticut and Ammonoosuc River valleys. The other areas have some limited farming. Some small scale production of truck crops and small fruits is done in the Pemmigewasset and Baker River valleys, which are also the sites of the major urban development. The wooded areas of this unit originally consisted of the steep escarpments and ravines and the poorly drained and very poorly drained areas, but many nearly level, well drained or excessively well drained areas have reverted to woodland.

This unit makes up about 8 percent of the survey area. The unit is about 30 percent Adams soils, 22 percent Colton soils, and 48 percent soils of minor extent.

The Adams soils are on nearly level to strongly sloping terraces and moderately steep to very steep escarpments. The soils are very deep, excessively drained, and sandy.

The Colton soils are on nearly level to strongly sloping terraces and moderately steep to very steep escarpments. The soils are very deep, excessively drained, and sandy and have an extremely gravelly subsoil and substratum.

The common minor soils on flood plains are Sunday, Ondawa, Podunk, and Rumney soils. The common minor soils on terraces are Croghan, Groveton, and Kinsman soils.

The nearly level to gently sloping major soils of this unit are moderately well suited to the production of row crops. The major limitation is droughtiness. The soils are well suited to the production of forage crops, particularly legumes, for hay or pasture. The erosion hazard on the strongly sloping or very steep areas limits their use to forage crops. The steep escarpment areas are mainly forested and are too steep and erodible for other uses.

The nearly level to strongly sloping areas of Adams and Colton soils are limited by slope and rapid permeability for most types of community development. The flood plain soils have severe limitations for urban development because of the flooding hazard. The terrace escarpments have severe slope and erosion limitations and are best suited to woodland and green belts.

The soils of this unit are suitable for trees. The Adams, Colton, and Sunday soils are suitable for softwood production, especially white pine. Soils on the escarpment areas are limited by the moderately steep to very steep slopes. The other soils of this unit generally are suitable for hardwoods, and production of softwoods in those areas is dependent on controlling growth of hardwoods.

4. Marlow-Peru

Nearly level to very steep, very deep, well drained and moderately well drained, loamy soils formed in glacial till on uplands (fig. 5).

The landscape of this unit is characterized by smooth hills and uniformly sloping mountainsides. A few isolated areas of shallow soils and rock outcrops are on the landscape, mainly along major valleys.

A small part of this unit is open farmland. These areas are the well drained and moderately well drained and are gently to strongly sloping. Forage production for hay and pasture is the major use, but a few gently sloping areas are used for row crops, primarily silage corn. The rest of the unit is forested. Hardwood forest is the climax woodland type. Sugar maple, beech, white and yellow birch, and red oak are the dominant species. Roads in these areas generally parallel the ridges or are steep and winding where they hill.

This unit makes up about 22 percent of the survey area. The unit is about 28 percent Marlow soils, 21 percent Peru soils, and 51 percent soils of minor extent.

The Marlow soils are very deep, well drained, and loamy and have a dense, slowly permeable substratum. The soils are on smooth, convex, gently sloping to steep areas. Surface stones are common but rarely cover more than 1 percent of the surface. Areas that are farmed have had most of the surface stones removed for tillage.

The Peru soils are very deep, moderately well drained, and loamy and have a dense, slowly permeable substratum. These soils are mainly on uniform, slightly concave slopes and have a seasonal water table that is at a depth of 18 to 30 inches during the fall and spring. Stones cover less than 1 percent of the surface. Areas that are farmed have had the surface stones removed to permit tillage.

The common minor soils are Berkshire, Tunbridge, and Lyman soils and areas of rock outcrop.

Where the surface stones have been removed, the gently sloping areas of the Marlow and Peru soils are well suited to agriculture. The Peru soils may require

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Figure 5.— Typical pattern of soils and underlying material in the Marlow-Peru unit.

drainage to allow early spring tillage. Some erosion control measures should be used if row crops are grown. On the strongly sloping areas of these soils, the erosion hazard generally prohibits row crops unless intensive erosion control measures are used. These erodible areas are better suited to forage production, and excellent yields of legumes and grasses can be obtained. The moderately steep areas are suited to forage production and are used primarily for pasture; the operation of modern forage harvesting equipment on these areas is inefficient and hazardous. The very stony areas have limited use for unimproved pasture.

The soils of this unit are well suited to most commercial tree species, and productivity is moderate to moderately high. The main forest types are hardwoods and white pine early in the succession. Yellow birch and balsam fir are common on the areas of Peru soils. Woodland management is limited by slope, windthrow hazard, and erosion along skid trails and access roads.

The slopes, stoniness, and slowly permeable hardpan in these areas limit the potential for community development. A few areas are suitable for low-density development. Careful planning is required to avoid erosion and pollution of ground water.

5. Tunbridge-Lyman

Gently sloping or undulating to very steep, moderately deep and shallow, well drained and somewhat excessively drained, loamy soils formed in glacial till on uplands (fig. 6).

The landscape of this unit is characterized by rugged hills and mountains. The slopes are irregular, and rock outcrops are common. The valleys are strongly sloping to steep. They have fast-flowing streams that have little or no flood plain.

Most areas of this unit are forested. A few areas have been cleared for farming, but the slope, stoniness, and rock outcrops limit their use to forage crops for hay or pasture. Most of these cleared areas are reverting to woodland. The woodland types are

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Figure 6.— Typical pattern of soils and underlying material in the Tunbridge-Lyman unit.

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Figure 7.— Typical pattern of soils and underlying material in the Becket-Monadnock-Hermon unit.

highly variable. The Tunbridge soils commonly support climax types of hardwood; sugar maple, beech, and ash are the dominant species. Northern red oak is common on the south-facing slopes. The droughty Lyman soils may have a mixed-forest climax type, but the more drought-resistant softwoods (white pine, red pine, hemlock, and red spruce) dominate. Few roads cross these areas. They either roughly parallel the ridges or cross through the few low notches in the mountain chains.

This unit makes up about 15 percent of the survey area. The unit is about 45 percent Tunbridge soils, 25 percent Lyman soils, and 30 percent soils of minor extent.

The Tunbridge soils are well drained and loamy and are 20 to 40 inches deep to bedrock. The soils are in an irregular pattern with Lyman soils and rock outcrops. Slopes range from gently sloping and undulating side slopes and hilltops to very steep mountainsides. Some areas have smooth slopes, but most slopes are irregular and broken. Stones cover from less than 1 percent to 3 percent of the surface.

The common minor soils in this unit are Marlow soils which makes up about 5 percent of this map unit. Rock outcrops are common, and small areas of wet soils are in pockets where the bedrock blocks drainage.

Slope, surface stones, and rock outcrops severely limit this unit for farming. Some areas have limited potential for forage production or orchards.

The soils of this unit are suited to most tree species, and productivity is moderate to moderately high. The main forest types are hardwoods and white pine early in the succession. The Lyman areas are better suited to softwoods. Woodland management is limited on these soils by windthrow hazard, slope, erosion hazard along skid trails and access roads, and rock outcrops.

Slope, moderately deep and shallow soils, surface stones, and rock outcrops severely limit the potential of these soils for community development. Low-density, limited residential development is possible in carefully selected areas. Erosion and pollution of ground water are hazards.

6. Becket-Monadnock-Hermon

Gently sloping and undulating to very steep, very deep, well drained and somewhat excessively drained, loamy soils formed in glacial till on uplands (fig. 7).

The landscape of this unit is characterized by smooth hills and uniformly sloping mountainsides in the areas of Becket soils and irregular slopes in the areas of Monadnock and Hermon soils.

A small part of this unit has been cleared. The cleared areas of Becket soils are on gently sloping and strongly sloping hills and some moderately steep hills. The cleared areas of Monadnock and Hermon soils are on undulating and rolling hills and side slopes. Most of the areas are used for hayland and pasture. A few areas are used for row crops, mostly silage corn. The rest of the unit is forested. Hardwood forest is the climax type on the Becket soils, and the Monadnock and Hermon soils are mainly mixed softwoods, white pine, and hemlock. The dominant hardwoods are sugar maple, beech, white birch, and red oak. Roads through these areas usually follow the narrow valleys. Roads through the hills are mainly narrow, steep, and winding.

This unit makes up about 21 percent of the survey area. The unit is about 33 percent Becket soils, 22 percent Monadnock soils, 12 percent Hermon soils, and 33 percent soils of minor extent.

The Becket soils are very deep, well drained, and loamy and have a dense, slowly permeable, sandy substratum that is locally known as hardpan. The soils are on smooth, uniform hills with slopes that range from gently sloping to very steep. Stones commonly cover from less than 1 percent to 3 percent of the surface unless the area has been cleared for farming.

The Monadnock soils are very deep, well drained, loamy soils and have a sandy substratum. The soils are on irregular or complex slopes that range from undulating to very steep. Stones commonly cover more than 1 percent of the surface unless the area has been cleared for farming.

The Hermon soils are very deep, somewhat excessively drained, and loamy and have a sandy subsoil and substratum that have a high percentage of cobbles, stones, and boulders. The soils are on irregular or complex slopes that range from undulating to very steep. Stones and boulders commonly cover more than 1 percent of the surface unless the area has been cleared for farming.

The common minor soils are the moderately well drained Skerry and Waumbek soils and the poorly drained Pillsbury soils. The moderately deep Tunbridge soils are in a complex pattern with the shallow Lyman soils and rock outcrops.

Where the surface stones have been removed, the gently sloping areas of Becket soils and undulating areas of Monadnock soils are well suited to row crops and the droughty Hermon soils are moderately well suited. Erosion control measures, such as diversions and grass waterways, contour tillage, and winter cover crops, should be used if continuous row crops are grown. These soils are well suited to forage production for hay or pasture. The included wetter soils usually require drainage for maximum productivity. The strongly sloping to moderately steep and rolling to hilly areas are best suited to forage production. The very stony areas have limited use for pasture.

The soils of this unit are well suited to most trees, and productivity is moderate to moderately high. The main forest types are hardwoods and white pine early in the succession. Woodland management has few limitations other than slope and erosion along skid trails and access roads.

Slope, stoniness, and permeability limit this unit for community development. Low-density residential development is possible in carefully selected areas if careful design is used to avoid erosion and pollution of ground water.

7. Hermon-Tunbridge-Lyman

Undulating to very steep, very deep to shallow, somewhat excessively drained and well drained, loamy soils formed in glacial till on uplands (fig. 8).

The landscape of this unit is characterized by rugged hills and mountains that have irregular slopes and numerous bedrock outcrops. Valleys are steep and contain fast-flowing streams that have little or no flood plain.

Most of the areas of this unit are forested. A few areas have been cleared for farming, but the slope, stoniness, and droughtiness limit use to forage crops for hay and pasture. Most of the cleared areas have been abandoned and are reverting to woodland. Woodland types are highly variable. The Hermon and Tunbridge areas usually have climax types of hardwood, and the dominant species are sugar maple, beech, ash and red oak on the south-facing slopes. Some areas of the droughty Lyman soils are mixed forest, but usually the softwood species of white pine, red pine, red spruce, and hemlock dominate. Roads in these areas either parallel ridges or cross through notches in mountain chains.

This unit makes up about 15 percent of the survey area. The unit is about 26 percent Hermon soils, 26 percent Tunbridge soils, 21 percent Lyman soils, and 27 percent minor soils and rock outcrops.

The Hermon soils are very deep, somewhat excessively drained, and loamy and have a high percent of cobbles, stones, and boulders in the subsoil and substratum. The soils are on irregular or complex slopes that range from undulating to very steep. Stones and boulders commonly cover more than 1 percent of the surface, but they cover as much as 15 percent in areas south and east of the hills and mountaintops.

The Tunbridge soils are well drained and loamy and are 20 to 40 inches deep to bedrock. The soils are

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Figure 8.— Typical pattern of soils and underlying material in the Herman-Tunbridge-Lyman unit.

mainly in an irregular pattern with Lyman soils and rock outcrops. Slopes range from gently sloping and undulating to very steep. Some areas have smooth slopes, but normally the slopes are irregular and broken. Stones commonly cover from less than 1 percent to 3 percent of the surface.

The Lyman soils are somewhat excessively drained, loamy soils and are 10 to 20 inches deep to bedrock. The soils are mainly in irregular patterns with the Tunbridge soils and rock outcrops. The soils range from gently sloping and undulating to very steep. Some areas have smooth, uniform slopes, but most slopes are irregular and broken. Stones cover from less than 1 percent to 3 percent of the surface.

The main soils of minor extent are Becket soils and smaller areas of Marlow, Peru, and Waumbek soils. Rock outcrops are common, and small areas of wet soils occupy pockets where the bedrock blocks drainage.

The slopes, stones, and rock outcrops severely limit this unit for farming.

Most areas of this unit are forested. The soils are suited to most tree species, and productivity is moderate to moderately high. The main forest types on the Hermon and Tunbridge soils are hardwood and white pine early in the succession. The Lyman soils are generally better suited to softwoods. Woodland management is limited by slope, windthrow hazard, erosion along skid trails and access roads, and, in some areas, surface stones, boulders, and rock outcrops.

The slopes, depth to bedrock, stones, and rock outcrops severely limit the potential of these areas for community development. Low-density, limited residential development is possible in carefully selected areas if special design is used to avoid erosion and pollution of ground water.

8. Saddleback-Ricker

Very steep, very shallow to moderately deep, well drained to excessively drained, loamy and organic soils formed in glacial till and organic material on mountainsides (fig. 9).

The landscape of this unit is characterized by very steep mountainsides and mountaintops. These areas are generally above an elevation of 2,500 feet and are snow covered from October through May. On north-

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Figure 9.— Typical pattern of soils and underlying material in the Saddle-Ricker unit.

facing slopes in the northern and central parts of the survey area, the elevation is 2,000 feet.

Most areas of this unit are forested. Tree growth is usually poor and decreases with increasing elevation. Most areas of hardwoods are beech and yellow birch. The common softwoods are red spruce and balsam fir. The unit is generally unsuitable for commercial timber production because of the very slow tree growth.

This unit makes up about 1 percent of the survey area. The unit is about 33 percent Saddleback soils, and 18 percent Ricker soils, and 49 percent minor soils and rock outcrops.

The Saddleback soils are on very steep slopes on high mountains. The soils are well drained and loamy and are 10 to 20 inches deep to bedrock.

The Ricker soils are very shallow to moderately deep, well drained to excessively drained, and mainly organic. They are formed by slowly decomposing mosses and plant remains. In some areas a thin layer of sandy loam or loamy sand is between the organic material and the bedrock. The depth to bedrock ranges from 1 to 26 inches.

The common minor areas are bedrock outcrops and rocky slopes and numerous soils, mainly Sisk and Surplus soils.

Most areas of this unit are forested. In a few areas, particularly on north-facing slopes, narrow areas have been cleared for ski trails. Tree species are restricted to those that survive the extreme cold and very short growing season. Yellow birch and beech are the common hardwoods, and a few sugar maples are at lower elevations. Red spruce and balsam fir are the common softwoods. Tree growth is slow, and productivity is low. Stunted alpine fir and mountain birch are at elevations of 3,000 feet or more. Some areas have only alpine grasses and mosses.

The climate in this unit is too severe for farming. Climate and accessibility are severe limitations for most other uses. Hiking trails through these areas require careful planning to avoid damaging the soil and vegetation.

Detailed Soil Map Units

The map units on the detailed soil maps at the back of this survey represent the soils in the survey area. The map unit descriptions in this section, along with the soil maps, can be used to determine the suitability and potential of a soil for specific uses. They also can be used to plan the management needed for those uses. More information on each map unit, or soil, is given under “Use and Management of the Soils.”

Each map unit on the detailed soil maps represents an area on the landscape and consists of one or more soils for which the unit is named.

A symbol identifying the soil precedes the map unit name in the soil descriptions. Each description includes general facts about the soil and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer or of the underlying material, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer or of the underlying material. They also can differ in slope, stoniness, salinity, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Marlow fine sandy loam, 3 to 8 percent slopes, is a phase of the Marlow series.

Some map units are made up of two or more major soils. These map units are called soil complexes, soil associations, or undifferentiated groups.

A *soil complex* consists of two or more soils, or one or more soils and a miscellaneous area, in such an intricate pattern or in such small areas that they cannot be shown separately on the soil maps. The pattern and proportion of the soils are somewhat similar in all areas. Tunbridge-Lyman complex, 8 to 15 percent slopes, is an example.

A *soil association* is made up of two or more geographically associated soils that are shown as one unit on the maps. Because of present or anticipated soil uses in the survey area, it was not considered practical or necessary to map the soils separately. The pattern and relative proportion of the soils are somewhat similar. Monadnock-Hermon association, hilly, very stony, is an example.

An *undifferentiated group* is made up of two or more soils that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils in the mapped areas are not uniform. An area can be made up of only one of the major soils, or it can be made up of all of them. Lyme and Moosilauke soils, 0 to 3 percent slopes, very stony, is an undifferentiated group in this survey area.

Most map units include small scattered areas of soils other than those for which the map unit is named. Some of these included soils have properties that differ substantially from those of the major soil or soils. Such differences could significantly affect use and management of the soils in the map unit. The included soils are identified in each map unit description. Some small areas of strongly contrasting soils are identified by a special symbol on the soil maps.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits, gravel is an example. Miscellaneous areas are shown on the soil maps. Some that are too small to be shown are identified by a special symbol on the soil maps.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils.

Soil Descriptions

1—Occum fine sandy loam, frequently flooded

This soil is well drained, nearly level, and very deep. It is on loamy flood plains along the southern half of the Connecticut River and its tributaries. The areas are usually long and narrow. Where tributaries enter the main valley, the areas are generally fan shaped deltas.

Areas of this soil range from 5 to 50 acres in size. Slopes range from 0 to 3 percent (fig. 10).

The typical sequence, depth, and composition of the layers of this soil is as follows—

Surface layer:

0 to 8 inches, very dark grayish brown fine sandy loam

Subsoil:

8 to 25 inches, brown fine sandy loam

Substratum:

25 to 44 inches, olive brown loamy fine sand

44 to 65 inches, olive fine sand

Some areas are underlain by sand and gravel at a depth of 20 to 36 inches.

Inclusions

Included with this soil in the mapping are low ridges of excessively drained Suncook soils and narrow drainageways of moderately well drained Pootatuck soils or poorly drained Rippowam soils. Also included adjacent to fast-flowing streams are small areas that are gravelly and very gravelly fine sandy loam throughout and areas with 1 to 4 inches of recently deposited loamy fine sand over the original surface. Included soils make up about 10 percent of this unit.

Major properties of the Occum soil

Permeability: Moderately rapid in the surface layer and subsoil; rapid in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: 4 to 6 feet

Potential frost action: Moderate

Flood hazard: At least once in 2 years from November through April. Flooding during the growing season is rare.

Most areas of this soil are being farmed. Some small isolated areas or areas in a nonfarm region are forested.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. The soil can be used for continuous row crops, and good yields of silage, corn, grasses, and legumes are obtained with the proper use of lime and fertilizers. Winter cover crops help prevent erosion during flooding and can be incorporated into the surface layer to maintain and increase organic matter

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Figure 10.— Corn stubble on Occum fine sandy loam, frequently flooded, with Hitchcock silt loam, 15 to 60 percent slopes on the escarpment in the background.

levels. Areas subject to very erosive flood flows should be used for grasses and legumes.

Woodland

Fertility and moisture are favorable for high quality hardwoods. This soil is limited for woodland management by flood hazard and plant competition. In many areas timber quality may be reduced by ice damage during flooding. Access to some areas may be a limitation to logging operations. Site preparation after harvest helps reduce the invasion of undesirable species.

Community development

This Occum soil has severe limitations for all types of community development due to flooding. These areas are floodwater channels, and diking to prevent flooding usually causes flooding in another area.

Flooding is a severe limitation for onsite septic systems, and there is a severe hazard of ground-water pollution because the sandy, rapidly permeable substratum may not adequately filter the effluent.

Recreation

This soil is limited by the flood hazard for recreational uses. Limitations are severe for camp areas and playgrounds and moderate for picnic areas, hiking paths and trails. These areas are subject to ice damage, erosion, and sedimentation.

Wildlife Habitat

This soil has good suitability for the development of habitat for openland or woodland wildlife. It is very poorly suited for wetland wildlife habitat. Frequent flooding will severely damage water impoundments in these areas.

The capability class is I.

2—Suncook loamy fine sand

This soil is very deep, nearly level, and excessively drained. It is on low flood plains of the southern half of the Connecticut River. The areas are long and narrow along the river and semirounded along tributaries. They range from 5 to over 100 acres in size. Slopes range from 0 to 2 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 8 inches, dark grayish brown loamy fine sand

Substratum:

8 to 32 inches, olive brown loamy fine sand

32 to 65 inches, olive fine sand

Some areas along fast-flowing streams have a gravelly or very gravelly substratum.

Inclusions

Included with this soil in mapping are areas of moderately well drained soils and a few narrow areas of well drained Hadley or Occum soils. Also included are occasionally flooded areas. Included areas make up about 15 percent of this unit.

Major properties of the Suncook soil

Permeability: Rapid to very rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 3 to 6 feet
Potential frost action: Low
Flood hazard: At least once in 2 years from March through May. Flooding is rare during the growing season. Some areas in major valleys are subject to occasional flooding.

Most areas of this soil are farmed, but a few areas are forested. Some areas have been used for commercial and industrial development.

Use and Management

Farming

Droughtiness is the major limitation. Yields are generally low unless irrigation is used. Winter cover crops help prevent erosion during spring flooding and can be incorporated into the surface layer to maintain and increase organic matter levels.

Woodland

Fertility and moisture are adequate for good tree growth. This soil is limited for woodland management by flood hazard and seedling mortality. In many areas timber quality may be reduced by ice damage during early spring flooding. Access to some areas may be a limitation to logging operations. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community development

This soil is severely limited for most types of community development due to flood hazard. Many of these areas are floodwater channels, and diking to prevent flooding usually causes flooding in another area. Construction of underground utilities through these areas is difficult because the sides of excavations tend to slough.

Onsite sewage disposal systems have severe limitations due to flood hazard and poor filtering. The sandy, very permeable substratum does not effectively filter the effluent, and there is a hazard of ground-water pollution.

Recreation.

This soil has severe limitations for camping or playgrounds and athletic fields due to flood hazard. The flood hazard and the sandy, droughty surface are moderate limitations for picnic areas and hiking trails. Ground cover is difficult to establish and maintain on this droughty soil, and the areas are susceptible to erosion and sedimentation during flooding.

Wildlife Habitat

Suitability is poor for habitat areas for openland and woodland wildlife and very poor for wetland wildlife.

The capability subclass is IIIs.

4—Pootatuck very fine sandy loam

This soil is very deep, nearly level, and moderately well drained. It is on loamy flood plains of the southern half of the Connecticut River and its tributaries. The areas are irregular in shape and range from 5 to 40 acres in size. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil is as follows—

Surface layer:
0 to 7 inches, dark brown very fine sandy loam
Subsoil:
7 to 19 inches, olive brown fine sandy loam
19 to 24 inches, mottled, olive brown fine sandy loam
Substratum:
24 to 32 inches, mottled, grayish brown fine sandy loam
32 to 47 inches, mottled, olive gray loamy sand
47 to 65 inches, olive gray sand

Some areas along fast-flowing streams have a gravelly subsoil and very gravelly substratum. On broad flood plains, some areas are very fine sandy loam in the subsoil and loamy very fine sand in the substratum.

Inclusions

Included with this soil in mapping are areas of excessively drained Suncook soils, well drained Occum soils, and poorly drained Rippowam soils. The Suncook and Occum soils are on low, narrow ridges or slightly higher areas. The Rippowam soils are on very narrow abandoned stream channels. Also included are areas with very recent flood depositions of 4 to 5 inches of loamy sand and areas which are only occasionally flooded. The included soils make up about 10 percent of this unit.

Major properties of the Pootatuck soil

Permeability: Moderate to moderately rapid in the surface layer and subsoil; rapid to very rapid in the substratum
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 1.5 to 2.5 feet from November through April
Potential frost action: Moderate
Flood hazard: At least once in 2 years from November through April. Flooding during the growing season mainly is rare. Some areas in major valleys are subject to occasional flooding.

Most areas of this soil are farmed. A few isolated areas or areas in a nonfarming region are forested.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. Winter cover crops and manure will help maintain the organic matter levels, and the cover crops will provide protection from erosion during spring flooding. Artificial drainage will permit earlier tillage in the spring, but adequate outlets may be difficult to locate on this nearly level soil.

Woodland

Fertility and moisture are favorable for high quality hardwoods. This soil is limited for woodland management by flood hazard and plant competition. In many areas timber quality may be reduced by ice damage during flooding. Access to some areas may be a limitation to logging operations. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This soil is limited for community development by flooding, wetness, and frost action. Any type of construction must be designed to withstand flooding. The construction of underground utilities through these areas is difficult because the sides of shallow excavations tend to slough. Deep excavations usually require special equipment and should be planned for midsummer to avoid the high water table. This soil is severely limited for dwellings without basements by flooding and for dwellings with basements by flooding and wetness. Flooding and frost action are severe limitations for local roads and streets. Frost action can be overcome by providing coarser grained base material to frost depth and installing drainage.

The flooding, wetness, and poor filtering are severe limitations for onsite waste disposal systems. The sandy, very permeable subsoil and substratum do not effectively filter effluent, and there is a hazard of ground-water pollution.

Recreation

This soil has severe limitations for camp areas, playgrounds, and athletic fields due to flood hazard. Limitations are moderate for picnic areas, hiking paths and trails due to flooding and wetness. The soil is susceptible to erosion and sedimentation during flooding.

Wildlife Habitat

Suitability is fair for habitat areas for openland wildlife and good for woodland wildlife. This soil is poorly suited for wetland wildlife habitat.

The capability subclass is IIw.

5—Rippowam fine sandy loam

This soil is very deep, nearly level, and poorly drained. It is on loamy flood plains and oxbows along the southern half of the Connecticut River and its tributaries. The areas are mainly irregular or narrow, curving shapes and range in size from 5 to 25 acres. Slopes range from 0 to 3 percent (fig. 11).

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 10 inches, dark grayish brown fine sandy loam

Subsoil:

10 to 18 inches, mottled, dark grayish brown sandy loam

Substratum:

18 to 26 inches, mottled, olive gray fine sandy loam

26 to 40 inches, mottled, olive gray loamy sand

40 to 65 inches, mottled, dark olive gray gravelly loamy sand

Some areas along fast-flowing streams have a gravelly subsoil. A few areas along slow-flowing streams are fine sandy loam throughout or have surface layer and subsoil of very fine sandy loam.

Inclusions

Included in this unit are low, very poorly drained areas with a surface layer of mucky peat and mounds or narrow ridges of moderately well drained Pootatuck soils and well drained Occum soils. Also included are areas with 1 to 4 inches of recently deposited fine sand, very fine sand, or silt and areas which are only occasionally flooded. The included soils make up about 15 percent of this unit.

Major properties of the Rippowam soil

Permeability: Moderate to moderately rapid in the surface layer and subsoil; rapid to very rapid in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: 0 to 1.5 feet from September through June

Potential frost action: High

Flood hazard: At least once in 2 years mainly from October through May. Some areas will flood during the summer following heavy rains.

Most areas of this soil are forested. Some areas have been cleared and are used for hayland or pasture. A few areas are used for row crops.

Use and Management

Farming

This soil is moderately well suited for row crops. Wetness in late spring and early fall delays tillage and planting and is a limitation during harvest. The soil is well suited for use as hayland or pasture. Grasses and legumes on this soil must be able to tolerate prolonged wetness, flooding, and severe frost heaving.

Woodland

Fertility and moisture are fair to poor for hardwood growth and fair to good for softwoods, especially red spruce and balsam fir. This soil is limited for woodland management by flood hazard, equipment limitations, seedling mortality, windthrow hazard, and plant competition. In many areas timber quality may be reduced by ice damage during flooding. Access to some areas may be a limitation to logging operations.

Equipment limitations due to wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen or during the driest summer months. Seedling mortality can be reduced by special site preparation or by favoring species that are suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following tree harvest helps decrease the invasion of undesirable species.

Community Development

This soil has severe limitations for all phases of

INSERT ILLUS. 12A (42 x 26$\frac{1}{2}$ picas)

Figure 11.— Flooded area of Rippowam fine sandy loam adjacent to Windsor loamy fine sand, 8 to 15 percent slopes. The good vegetative cover maintained through proper grazing helps control erosion.

community development due to frequent flooding, prolonged wetness, poor filtering, and frost action.

The soil, however, improves and maintains water quality by acting as a natural filter to remove harmful chemicals, nutrients, and sediment. It also recharges ground-water aquifers and stores runoff to lessen flood damage.

Recreation

This soil has severe limitations for camp areas, playgrounds, and athletic fields due to flood hazard and wetness. Limitations are severe for picnic areas and hiking paths and trails due to wetness. The soil is susceptible to erosion and sedimentation during flooding.

Wildlife Habitat

Suitability is fair for woodland, openland, and wetland wildlife habitat. Water impoundments are susceptible to flood damage and sedimentation.

The capability subclass is IIIw.

8—Hadley silt loam, frequently flooded

This soil is very deep, nearly level, and well drained. It is on silty flood plains of the southern half of the Connecticut River. The areas are irregular in shape and range from 5 to 50 acres in size. Slopes range from 0 to 3 percent (fig. 12).

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 10 inches, dark brown silt loam
Substratum:
10 to 22 inches, olive silt loam
22 to 42 inches, olive very fine sandy loam
42 to 65 inches, olive loamy fine sand

Some areas of this soil have 1 to 4 inches of recently deposited loamy fine sand or loamy very fine sand on the surface.

Inclusions

Included with this unit are narrow ridges of excessively drained Suncook soils and well drained

Occum soils. Moderately well drained Winooski soils and poorly drained Limerick soils are in narrow depressions and old stream channels. The included soils make up about 10 percent of this unit.

Major properties of the Hadley soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 4 to 6 feet; November to April
Potential frost action: High
Flood hazard: At least once in two years from February through April. Flooding during the growing season is rare.

Most areas of this soil are farmed. Very few areas are forested or have been developed for residential or commercial uses.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. Excellent yields of silage corn, grasses, and legumes are obtained with the proper use of lime and fertilizer. Where row crops are grown, winter cover crops protect the soil from erosion during flooding and can be incorporated into surface layer to maintain organic matter levels.

Woodland

Fertility and moisture are favorable for the growth of high quality hardwoods. Flood hazard and plant competition on this soil are limitations that affect woodland management. In many areas timber quality may be reduced by ice damage during flooding. Access to some areas may be a limitation to logging

INSERT ILLUS. 13A (42 x 31 picas)

Figure 12.— Spring flooding along the Connecticut River on an area of Hadley silt loam, frequently flooded.

operations. Special site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This soil has severe limitations for most phases of community development due to frequent flooding. This soil is usually a floodwater channel, and diking to prevent flooding will often cause flooding in another area.

Recreation

This soil has severe limitations for camping areas, playgrounds, and athletic fields due to frequent flooding. It has severe limitations for hiking paths and trails due to wetness and erosion hazard. This soil is subject to ice damage, erosion, and sedimentation during flooding. Any facilities should be designed to withstand flooding.

Wildlife Habitat

Suitability of this soil is good for habitat for openland and woodland wildlife. This soil is very poorly suited for wetland wildlife habitat except as a resting or nesting area adjacent to wetlands.

The capability class is I.

9—Winooski silt loam

This soil is very deep, nearly level, and moderately well drained. It is on silty flood plains of the southern half of the Connecticut River and its tributaries. Some areas are broad and irregular in shape, and others are narrow and curving. The areas range from 5 to 50 acres in size. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 8 inches, dark grayish brown silt loam
Substratum:
8 to 18 inches, faintly mottled, brown silt loam
18 to 28 inches, mottled, brown silt loam
28 to 36 inches, mottled, dark grayish brown very fine sandy loam
36 to 42 inches, mottled, grayish brown very fine sandy loam
42 to 65 inches, mottled, olive gray loamy very fine sand

Inclusions

Included with this soil in mapping are small depressions of poorly drained Limerick soils and low mounds or ridges of well drained Hadley soils and excessively drained Suncook soils. Also included are areas which are only occasionally flooded. The included soils make up about 15 percent of this unit.

Major properties of the Winooski soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 1.5 to 3.0 feet from November through April
Potential frost action: High
Flood hazard: At least once in 2 years from February through April. Flooding during the growing season mainly is rare. Some areas in major valleys are subject to occasional flooding.

Most areas of this soil are farmed. A few isolated areas and areas in nonfarming regions are forested.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. Excellent yields of silage corn, grasses, and legumes are obtained with the proper use of lime and fertilizer. The seasonal wetness may delay tillage of this soil. Subsurface drainage may be limited by the lack of adequate outlets on this nearly level soil. Winter cover crops help protect the soil from erosion when flooded. Legumes, particularly alfalfa, are difficult to maintain because of the high frost action. Land grading to improve surface drainage will increase the rate of winter survival.

Woodland

Fertility and moisture are favorable for high quality hardwoods. This soil is limited for woodland management by flood hazard and plant competition. In many areas timber quality may be reduced by ice damage during flooding. Access to some areas may be a limitation to logging operations. Special site preparation following tree harvest helps decrease invasion of undesirable species.

Community Development

This soil is limited for community development by flooding, wetness, and frost action. Any type of construction must be designed to withstand flooding. Shallow excavations fill with water. Deep excavations should be planned for midsummer to avoid ground water. This soil has severe limitations for dwellings without basements due to flooding, and for dwellings with basements due to flooding and wetness.

Limitations on this soil are severe for local roads and streets due to flooding and frost action. Frost action can be overcome by providing coarser grained base material to frost depth and installing drainage.

Flooding and wetness limit onsite sewage disposal systems.

Recreation

This soil has severe limitations for camp areas, playgrounds, and athletic fields due to flood hazard. Limitations on this soil are moderate for picnic areas due to flooding and wetness. This soil is susceptible to ice damage, erosion, and sedimentation during flooding.

Wildlife Habitat

Suitability is fair for habitat areas for openland wildlife and good for woodland wildlife. This soil is poorly suited for wetland wildlife habitat.

The capability subclass is IIw.

15—Searsport mucky peat

This soil is very deep, nearly level, and very poorly drained. It is in depressions on sandy outwash plains and terraces. The areas are generally oval. They range from 5 to 50 acres in size. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 12 inches, dark reddish brown mucky peat
12 to 17 inches, gray fine sandy loam
Substratum:
17 to 25 inches, gray loamy fine sand
25 to 65 inches, olive medium and fine sand

Some areas of this soil have a surface layer of black fine sandy loam.

Inclusions

Included with this soil in mapping are small areas of very poorly drained Chocorua soils, poorly drained Kinsman soils, and moderately well drained Croghan soils. Chocorua and Kinsman soils are throughout this unit. Croghan soils are on slightly higher benches or low ridges. The included soils make up about 15 percent of this unit.

Major properties of the Searsport soil

Permeability: Rapid in the surface layer and subsoil; rapid to very rapid in the substratum
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 1.0 foot above the surface to a depth of 1.0 foot from January through December. This soil is subject to prolonged periods of ponding.
Potential frost action: Moderate
Flood hazard: None

The areas of this soil are a forest of water-tolerant trees or have a marshgrass and sedge cover.

Use and Management

Farming

This soil is too wet for agricultural uses. Most areas are in low frost pockets with less than 90 frost-free days annually.

Woodland

Fertility and moisture are so variable that onsite investigation is required to assess the potential. This soil is limited for woodland management by equipment limitations, seedling mortality, windthrow hazard, and plant competition.

Equipment limitations due to wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen. Seedling mortality can be reduced by site preparation or by favoring species that are suited for wet sites.

Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following tree harvest helps decrease invasion of undesirable species.

Community Development

This soil has severe limitations for all phases of community development due to prolonged wetness, ponding, and mucky peat in the surface layer.

Ponding and poor filtering are severe limitations for onsite sewage disposal.

The soil, however, improves and maintains water quality by acting as a natural filter to remove harmful chemicals, nutrients, and sediment. The areas also recharge ground-water aquifers and store runoff to lessens flood damage.

Recreation

This soil has severe limitations for all types of recreational development due to ponding and the mucky peat in the surface layer.

Wildlife Habitat

Suitability is poor for habitat areas for openland and woodland wildlife. Suitability is fair for wetland wildlife habitat. These areas are frequently flooded by beaver dams.

The capability subclass is VIIw.

22A—Colton loamy sand, 0 to 3 percent slopes

This soil is very deep, nearly level, and excessively drained. It is on sandy terraces and outwash plains. The areas are irregularly shaped and range in size from 5 to 45 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 8 inches, dark brown loamy sand
8 to 11 inches, gray loamy sand

Subsoil:
11 to 12 inches, very dark gray gravelly loamy fine sand
12 to 18 inches, yellowish red gravelly loamy sand
18 to 22 inches, yellowish brown gravelly loamy sand

Substratum:
22 to 65 inches, very pale brown very gravelly loamy sand

Inclusions

Included with this soil in mapping are areas of excessively drained Adams soils, moderately well drained Croghan soils, and areas with surface stones and boulders that are 5 to 30 feet apart. The Adams soils are throughout this unit. The Croghan soils are along the base of slopes, in depressions, and along drainageways. Also included are small areas with slopes of more than 3 percent. Included soils make up about 15 percent of this unit.

Major properties of the Colton soil

Permeability: Rapid in the surface layer and subsoil; very rapid in the substratum
Available water capacity: Very low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil were cleared for farming at one time, but many areas have been abandoned and have reverted to woodland. A few areas are farmed or are used for residential, commercial, or industrial development. Many of the commercial sand and gravel operations in the area are in this unit.

Use and Management

Farming

The droughtiness of this soil is the primary limitation for farming. The soil is moderately well suited for row crops. However, the short growing season and cool summers restrict the choice of crop varieties. Heavy applications of manure and winter cover crops incorporated into the surface layer will help maintain and increase the organic matter level and the available water capacity. Even with the proper use of lime and fertilizer, only fair yields of grasses and legumes are normally obtained without irrigation. Winterkill of legumes is a concern in depressions on this nearly level soil because the depressions may be covered by ice following midwinter thaws.

Woodland

Soil moisture is adequate for good softwood growth, especially eastern white pine, on this soil.

Seedling mortality is a limitation for woodland management. This limitation can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This soil has several limitations for community development. The sides of excavations tend to slough, and deep excavations may require special equipment. Droughtiness is a severe limitation for the establishment of lawns and landscaping

The sandy and gravelly, very permeable subsoil and substratum do not effectively filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution.

This soil is a probable source of gravel, but extensive test pitting should be done at the site.

Recreation

Use of this soil is limited for playgrounds and athletic fields. There is a moderate limitation where the surface is gravelly. Maintaining adequate grass cover on athletic fields is a concern on this droughty soil.

Wildlife Habitat

Suitability of this soil is fair for habitat areas for openland wildlife and poor for woodland wildlife. This excessively drained soil is very poorly suited for wetland wildlife habitat except as a resting or nesting area adjacent to wetlands.

The capability subclass is IIIs.

22B—Colton loamy sand, 3 to 8 percent slopes

This soil is very deep, gently sloping, and excessively drained. It is on sandy terraces and outwash plains. The areas are irregularly shaped and range in size from 5 to 60 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 8 inches, dark brown loamy sand
8 to 11 inches, gray loamy sand
Subsoil:
11 to 12 inches, very dark gray gravelly loamy fine sand
12 to 18 inches, yellowish red gravelly loamy sand
18 to 22 inches, yellowish brown gravelly loamy sand
Substratum:
22 to 65 inches, very pale brown very gravelly loamy sand

Inclusions

Included with this soil in mapping are areas of excessively drained Adams soils, moderately well drained Croghan soils, and areas with surface stones and boulders that are 5 to 30 feet apart. The Adams soils are throughout this unit. The Croghan soils are along the base of slopes, in depressions, and along drainageways. Also included are small areas with slopes of less than 3 percent or more than 8 percent. Included soils make up about 15 percent of this unit.

Major properties of the Colton soil

Permeability: Rapid in the surface layer and subsoil; very rapid in the substratum
Available water capacity: Very low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil were cleared for farming at one time, but many areas have been abandoned and have reverted to woodland. A few areas are farmed or are used for residential, commercial, or industrial development. Many of the commercial sand and gravel operations in the area are in this unit.

Use and Management

Farming

The droughtiness of this soil is the primary limitation for farming. The soil is moderately well suited for row crops. However, the short growing season and cool summers restrict the choice of crop varieties. Heavy application of manure and winter cover crops incorporated into the surface layer will help maintain and increase the organic matter level and the available water capacity. Even with the proper use of lime and fertilizer, only fair yields of grasses and legumes are normally obtained.

Woodland

Soil moisture is adequate for good softwood growth, especially eastern white pine. Seedling mortality is a limitation that affects woodland management. This limitation can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This soil has several limitations for community development. The sides of excavations tend to slough, and deep excavations may require special equipment. Slope is a moderate limitation for small commercial buildings. Droughtiness is a severe limitation for the establishment of lawns and landscaping.

The gravelly, very permeable subsoil and substratum do not effectively filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution.

This soil is a probable source of gravel, but extensive test pitting should be done at the site.

Recreation

This soil has moderate limitations for playgrounds and athletic fields due to slope and small stones. Maintaining adequate grass cover on athletic fields is a concern on this droughty soil.

Wildlife Habitat

Suitability of this soil is fair for habitat areas for openland wildlife and poor for woodland wildlife. This excessively drained soil is very poorly suited for wetland wildlife habitat except as resting or nesting areas adjacent to wetlands.

The capability subclass is IIIs.

INSERT ILLUS. 14A (42 x 20 picas)

Figure 13.— This area of Colton loamy sand, 8 to 15 percent slopes, is used for growing hay.

22C—Colton loamy sand, 8 to 15 percent slopes

This soil is very deep, sloping, and excessively drained. It is on sandy terraces and outwash plains. The areas are irregularly shaped and range in size from 5 to 25 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 8 inches, dark brown loamy sand
8 to 11 inches, gray loamy sand

Subsoil:
11 to 12 inches, very dark gray gravelly loamy fine sand
12 to 18 inches, yellowish red gravelly loamy sand
18 to 22 inches, yellowish brown gravelly loamy sand

Substratum:
22 to 65 inches, very pale brown very gravelly loamy sand

Inclusions

Included with this soil in mapping are areas of excessively drained Adams soils, moderately well drained Croghan soils, and areas with surface stones and boulders that are 5 to 30 feet apart. The Adams soils are throughout this unit. The Croghan soils are along the base of slopes, in depressions, and along drainageways. Also included are small areas with slopes of less than 8 percent or more than 15 percent. Included soils make up about 15 percent of this unit.

Major properties of the Colton soil

Permeability: Rapid in the surface layer and subsoil; very rapid in the substratum
Available water capacity: Very low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil were cleared for farming at one time, but many areas have been abandoned and have reverted to woodland. A few areas are farmed or are used for residential and industrial development. Many of the commercial sand and gravel operations in the area are in this unit.

Use and Management

Farming

The droughtiness of this soil and the moderate erosion hazard are the primary limitations for farming. The soil is better suited for drought-resistant grasses and legumes than to row crops (fig. 13). The short growing season and cool summers restrict the choice of crop varieties. Heavy applications of manure and winter cover crops incorporated into surface layer will help maintain and increase the organic matter level and the available water capacity. Fertilizers are leached quickly through this soil, and frequent, light applications to hay and pasture areas are more economical than single heavy applications. Even with the proper use of lime and fertilizer, only fair yields of grasses and legumes are normally obtained.

Woodland

Soil moisture is adequate for good softwood growth, especially eastern white pine.

Seedling mortality is a limitation that affects woodland management. This limitation can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This soil is limited by slope and droughtiness. The construction of roads and streets may make it necessary to use significant grading. The resulting road cuts and disturbed areas are difficult to revegetate on this droughty soil. The sides tend to slough. Deep excavations may require special equipment. Erosion is an additional concern during periods of construction. After construction, the droughtiness is a severe limitation for the establishment of lawns and landscaping.

The sandy and gravelly, very permeable subsoil and substratum do not effectively filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution.

This soil is a probable source of gravel, but extensive test pitting should be done at the site.

Recreation

The slope of this soil is a limitation for most recreational uses. This limitation is moderate for camp and picnic areas and severe for playgrounds and athletic fields. Hiking paths and trails have few limitations, but areas of heavy use should be designed to prevent erosion.

Wildlife Habitat

Suitability of this soil is fair for habitat areas for openland wildlife and poor for woodland wildlife. This excessively drained soil is very poorly suited for wetland wildlife habitat except as resting or nesting areas adjacent to wetlands.

The capability subclass is IVs.

22E—Colton loamy sand, 15 to 60 percent slopes

This soil is very deep, moderately steep to very steep, and excessively drained. It is on sandy terrace escarpments, ravines, and eskers. The areas are long and narrow and range from 5 to 25 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 8 inches, dark brown loamy sand

8 to 11 inches, gray loamy sand

Subsoil:

11 to 12 inches, very dark gray gravelly loamy fine sand

12 to 18 inches, yellowish red gravelly loamy sand

18 to 22 inches, yellowish brown gravelly loamy sand

Substratum:

22 to 65 inches, very pale brown very gravelly loamy sand

Inclusions

Included with this soil in mapping are small areas with slopes of less than 15 percent on narrow terraces and ridgetops and few areas with slopes of more than 60 percent. Moderately well drained Croghan or poorly drained Kinsman soils in places are on narrow ravine floors. In some areas the ravines have cut into the underlying glacial till and the ravine floors include the poorly drained Lyme or Pillsbury soils. Along major valleys, the lower portion of some escarpments are stratified silts. Bedrock outcrops are common along the base of some escarpments. The included soils make up about 25 percent of this unit.

Major properties of the Colton soil

Permeability: Rapid in the surface layer and subsoil; very rapid in the substratum

Available water capacity: Very low

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: More than 6 feet

Potential frost action: Low

Flood hazard: None

Most areas of this soil are woodland.

Use and Management

Farming

The moderately steep to very steep slopes make this soil unsuited for farming.

Woodland

Soil moisture is adequate for good softwood growth, especially eastern white pine, but erosion hazard, equipment limitations, and seedling mortality are limitations that affect woodland management.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes and with frequent water bars and culverts, then seeding with drought-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by the use of track equipment and careful planning to avoid steepest areas. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This soil is severely limited by slope for all phases of community development. Sides of excavations in this soil tend to slough, and deep excavations may require special equipment. The construction of roads and streets through the soil may make it necessary to use extensive cuts to reduce slopes. The resulting road cuts and disturbed areas are difficult to stabilize and revegetate on this droughty soil.

Poor filtering and slope severely limit suitability for onsite sewage disposal systems. The sandy and gravelly, very permeable subsoil and substratum do not effectively filter the effluent, and there is a hazard of ground-water pollution.

This soil is a probable source of sand and gravel, but extensive test pitting should be done at the site.

Recreation

This soil has severe slope limitations for all recreational uses. Heavily used hiking paths and trails should be designed to prevent erosion.

Wildlife Habitat

Suitability of this soil is poor for habitat areas for openland and woodland wildlife habitat. This excessively drained soil is very poorly suited for wetland wildlife habitat except as resting or nesting areas adjacent to wetlands.

The capability subclass is VIIe.

24A—Agawam fine sandy loam, 0 to 3 percent slopes

This soil is very deep, nearly level, and well drained. It is on loamy terraces along the southern half of the Connecticut River valley. The areas are long and irregular in shape and range from 5 acres to over 50 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 10 inches, very dark grayish brown fine sandy loam
Subsoil:
10 to 19 inches, strong brown fine sandy loam
19 to 23 inches, light olive brown sandy loam
Substratum:
23 to 65 inches, light yellowish brown loamy coarse sand

Inclusions

Included with this soil in mapping are areas of excessively drained Windsor soils, well drained Hitchcock soils, and moderately well drained Dartmouth soils. The Windsor soils are along escarpment breaks and on low ridges. The Hitchcock soils usually are near breaks to upland or glacial till soils. The Dartmouth soils are in depressions and at the base of upland slopes. Also included are moderately well drained areas which have a loamy surface layer and a sandy subsoil and substratum, and narrow areas with slopes exceeding 3 percent. Included areas make up 10 percent of this unit.

Major properties of the Agawam soil

Permeability: Moderately rapid to rapid in the surface layer and subsoil; rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil are in cropland. A few small areas are forested, and some areas have been used for residential and commercial development.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. Excellent yields of corn silage and hay are obtained with the proper use of lime and fertilizer (fig. 14).

Woodland

Fertility and moisture are favorable on this Agawam soil for high quality hardwoods. Plant competition is a limitation for woodland management. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

The sides of excavations in this soil tend to slough, and deep excavations may require special equipment.

The sandy, very permeable substratum does not effectively filter the effluent from onsite waste disposal

INSERT ILLUS. 15A (42 x $24^1/_2$ picas)

Figure 14.— Corn on Agawam fine sandy loam, pasture on Charlton fine sandy loam, 15 to 25 percent slopes, woodland on Tunbridge-Lyman-Rock outcrop complex, 25 to 60 percent slopes, very stony.

systems, and there is a hazard of ground-water pollution.

This soil is a probable source of sand and gravel, but extensive test pitting should be done at the site.

Recreation

This soil is suited for most recreational uses.

Wildlife Habitat

Suitability is good for habitat for openland or woodland wildlife. This soil is very poorly suited for wetland wildlife habitat except as resting or nesting areas adjacent to wetlands.

The capability class is I.

24B—Agawam fine sandy loam, 3 to 8 percent slopes

This soil is very deep, gently sloping, and well drained. It is on loamy terraces along the southern half of the Connecticut River valley. The areas are irregular in shape and range from 5 to 30 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 10 inches, very dark grayish brown fine sandy loam

Subsoil:
10 to 19 inches, strong brown fine sandy loam
19 to 23 inches, light olive brown sandy loam

Substratum:
23 to 65 inches, light yellowish brown loamy coarse sand

Inclusions

Included with this soil in mapping are small areas of excessively drained Windsor soils, well drained Hitchcock soils, and moderately well drained Dartmouth soils. The Windsor soils are along escarpment breaks and on low ridges. The Hitchcock soils usually are near breaks to upland or glacial till soils. The Dartmouth soils are in depressions and at the base of upland slopes. Also included are moderately well drained areas which have a loamy surface layer and a sandy subsoil and substratum, and areas with slopes of less than 3 percent or more than 8 percent. Included areas make up 15 percent of this unit.

Major properties of the Agawam soil

Permeability: Moderately rapid to rapid in the surface layer and subsoil; rapid in the substratum
Available water capacity: Moderate

Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil are in cropland. A few small areas are forested, and some areas are used for residential and commercial development.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. Excellent yields of corn silage and hay are obtained with the proper use of lime and fertilizer (fig. 15). The erosion hazard is moderate, but if contour cropping, minimum tillage, and winter cover crops are used, this soil can be used for continuous row crops.

Woodland

Fertility and moisture are favorable on this Agawam soil for high quality hardwoods. Plant competition is a limitation for woodland management. Site preparation following tree harvest helps decrease invasion of undesirable species.

Community Development

This Agawam soil is limited for community development by erosion hazard during construction, sloughing, and slope. Limiting surface disturbance is an effective method of controlling the moderate erosion hazard. The sides of excavations tend to slough, and deep excavations may require special equipment. The slope limitation on the soil for small commercial buildings may be reduced by cut and fill.

The sandy, very permeable substratum does not effectively filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution.

This soil is a probable source of sand and gravel, but extensive test pitting should be done at the site.

Recreation

This soil has a moderate slope limitation for playgrounds and athletic fields due to the amount of land shaping needed.

INSERT ILLUS. 16A (42 x 26 picas)

Figure 15.— Corn stubble on Agawam fine sandy loam, 3 to 8 percent slopes. The undulating surface is characteristic of the sandy terrace soils.

Wildlife Habitat

Suitability is good for habitat for openland or woodland wildlife. This soil is very poorly suited for wetland wildlife habitat except as resting or nesting areas adjacent to wetlands.

The capability subclass is IIe.

26A—Windsor loamy fine sand, 0 to 3 percent slopes

This soil is very deep, nearly level, and excessively drained. It is on sandy terraces and outwash plains along the southern half of the Connecticut River valley. The areas are irregular in shape and range from 5 acres to more than 40 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 10 inches, dark yellowish brown loamy fine sand

Subsoil:

10 to 18 inches, yellowish brown loamy fine sand

18 to 27 inches, olive brown loamy fine sand

Substratum:

27 to 33 inches, pale olive fine sand

33 to 65 inches, light olive gray fine sand

Inclusions

Included with this soil in mapping are small depressions of moderately well drained Deerfield soils and poorly drained Walpole soils. Also included are areas with slopes of more than 3 percent and areas with a fine sandy loam surface layer. The included soils make up about 10 percent of this unit.

Major properties of the Windsor soil

Permeability: Rapid throughout

Available water capacity: Low

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: More than 6 feet

Potential frost action: Low

Flood hazard: None

Many areas of this soil are farmed. Some areas are forested, and some areas have been used for residential or commercial development.

Use and Management

Farming

The droughtiness of this Windsor soil is the major limitation. Fair to good yields of silage corn, grasses, and legumes are obtained with the proper use of lime and fertilizer. Incorporating crop residue into surface layer and adding manure to the soil will increase the organic matter content and improve the water holding capacity of the soil. Winterkill of legumes is a concern in depressions on this nearly level soil because of ice coverage following midwinter thaws.

Woodland

Soil moisture is adequate for good softwood growth, especially eastern white pine.

This soil is limited for woodland management by seedling mortality. This limitation can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This soil is limited for most phases of community development. The sides of excavations tend to slough, and deep excavations may require special equipment. After construction, droughtiness is a moderate limitation for the establishment of lawns and landscaping.

The sandy, very permeable subsoil and substratum do not effectively filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution.

This soil is a probable source of sand, but extensive test pitting should be done at the site.

Recreation

This soil has moderate limitations for most recreational uses because of the sandy texture and the low available water holding capacity. Maintaining adequate grass cover on athletic fields is a concern on this droughty soil.

Wildlife Habitat

Suitability is poor for habitat areas for openland and woodland wildlife and very poor for wetland wildlife habitat.

The capability subclass is IIIs.

26B—Windsor loamy fine sand, 3 to 8 percent slopes

This soil is very deep, gently sloping or undulating, and excessively drained. It is on sandy terraces and outwash plains along the southern half of the Connecticut River valley. The areas are mainly irregular in shape and range from 5 to 30 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

INSERT ILLUS. 17A (42 x 26 picas)

Figure 16.— This area of Windsor loamy fine sand, 3 to 8 percent slopes, is used as a source of sand.

Surface layer:
0 to 10 inches, dark yellowish brown loamy fine sand
Subsoil:
10 to 18 inches, yellowish brown loamy fine sand
18 to 27 inches, olive brown loamy fine sand
Substratum:
27 to 33 inches, pale olive fine sand
33 to 65 inches, light olive gray fine sand

Inclusions

Included with this soil in mapping are small depressions of moderately well drained Deerfield soils and poorly drained Walpole soils. Also included are areas with slopes of less than 3 percent or more than 8 percent and areas with a fine sandy loam surface layer. The included soils make about 15 percent of this unit.

Major properties of the Windsor soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Many areas of this soil are farmed. Some areas are forested, and some areas have been used for residential or commercial development.

Use and Management

Farming

The droughtiness of this Windsor soil is the major limitation. Fair to good yields of silage corn, grasses, and legumes are obtained with the proper use of lime and fertilizer. Incorporating crop residue into surface layer and adding manure to the soil will increase the organic matter content and improve the water holding capacity of the soil. Contour farming and winter cover crops are needed to control erosion if these undulating soils are used for continuous row crops.

Woodland

Soil moisture is adequate for good softwood growth, especially eastern white pine.

This soil is limited for woodland management by seedling mortality. This limitation can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This soil is limited by droughtiness and sandy texture for most phases of community development. The sides of excavations tend to slough, and deep excavations may require special equipment. After construction, droughtiness is a moderate limitation for the establishment of lawns and landscaping.

The sandy, very permeable subsoil and substratum do not effectively filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution.

This soil is a probable source of sand, but extensive test pitting should be done at the site (fig. 16).

Recreation

This soil has moderate limitations for most recreational uses because of the sandy texture and the low available water capacity. Slope is a moderate limitation that may make it necessary to use extra land shaping for areas used as playgrounds. Maintaining adequate grass cover on athletic fields is a concern on this droughty soil.

Wildlife Habitat

Suitability is poor for habitat areas for openland and woodland wildlife and very poor for wetland wildlife habitat.

The capability subclass is IIIs.

26C—Windsor loamy fine sand, 8 to 15 percent slopes

This soil is very deep, strongly sloping or rolling, and excessively drained. It is on sandy terraces and outwash plains along the southern half of the Connecticut River valley. The areas are mainly irregular in shape and range from 5 to 20 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 10 inches, dark yellowish brown loamy fine sand
Subsoil:
10 to 18 inches, yellowish brown loamy fine sand
18 to 27 inches, olive brown loamy fine sand
Substratum:
27 to 33 inches, pale olive fine sand
33 to 65 inches, light olive gray fine sand

Inclusions

Included with this soil in mapping are small areas of moderately well drained Deerfield soils and poorly drained Walpole soils in depressions and at the base of

INSERT ILLUS. 18A (42 x $22^{1}/_{2}$ picas)

Figure 17.— Hay on Windsor loamy fine sand, 8 to 15 percent slopes (foreground), corn on Agawam fine sandy loam, 0 to 3 percent slopes.

slopes. Also included are areas with slopes of less than 8 percent or more than 15 percent and areas with a fine sandy loam surface layer. The included soils make up about 15 percent of this unit.

Major properties of the Windsor soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil are forested or have been used for residential or commercial development. Some areas are farmed.

Use and Management

Farming

Droughtiness and the erosion hazard limit farming of this soil to hayland or pasture (fig. 17). Fair to good yields of grasses and legumes are obtained with the proper use of lime and fertilizer. The addition of manure will increase the organic matter content of the soil and help improve the water holding capacity.

Woodland

Soil moisture is adequate for good softwood growth, especially eastern white pine.

This soil is limited for woodland management by seedling mortality. This limitation can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This soil has limitations for most phases of community development due to slope and the sandy texture. The sides of excavations tend to slough, and deep excavations may require special equipment. Limitations are moderate for dwellings with or without basements due to slope. This soil has moderate slope limitations for the construction of roads and streets. The resulting road cuts and disturbed areas are difficult to revegetate on this droughty soil. Erosion is a concern during periods of construction but can be controlled with sediment catch basins, heavy mulching, hay bales, terraces, and diversions. After construction, droughtiness and slope are moderate limitations for the establishment of lawns and landscaping. Slope limitations on this unit generally can be overcome with cut and fill to level areas.

The sandy, very permeable subsoil and substratum do not effectively filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution.

This soil is a probable source of sand, but extensive test pitting should be done at the site.

Recreation

This soil is limited for most recreational development by slope and the sandy, droughty conditions. Limitations for this soil are moderate for camp and picnic areas due to slope and droughtiness. Limitations are severe for playgrounds and athletic fields due to slope. This soil has moderate limitations for hiking paths and trails because of the sandy texture.

Wildlife Habitat

Suitability is poor for habitat areas for openland and woodland wildlife and very poor for wetland wildlife habitat.

The capability subclass is IVs.

26E—Windsor loamy fine sand, 15 to 60 percent slopes

This soil is very deep, moderately steep to very steep, and excessively drained. It is on sandy terrace escarpments along the southern half of the Connecticut River valley. The areas are mainly long and narrow, but some broaden to include severely truncated areas. The areas ranges from 5 acres to more than 60 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 10 inches, dark yellowish brown loamy fine sand
Subsoil:
10 to 18 inches, yellowish brown loamy fine sand
18 to 27 inches, olive brown loamy fine sand
Substratum:
27 to 33 inches, pale olive fine sand
33 to 65 inches, light olive gray fine sand

Inclusions

Included with this soil in mapping are small or narrow areas with slopes of less than 15 percent and a few areas with slopes of more than 60 percent. Moderately well drained Deerfield soils or poorly drained Walpole soils in places are on narrow ravine floors. In some areas the ravines have cut into the underlying glacial till and the ravine floors include the poorly drained Stissing soils. Along major valleys the lower portion of some escarpments are stratified silts. Bedrock outcrops are common along the base of some escarpments, especially escarpments bordering flood plains. The included soils make up about 15 percent of this unit.

Major properties of the Windsor soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil are forested, and a few moderately steep areas are used for pasture.

Use and Management

Farming

The steep slopes and severe erosion hazard are limitations for all farming of the soil. Operation of modern farming equipment on these slopes is hazardous. Some of the moderately steep areas can be used for pasture, but maintenance of good quality grasses and legumes is a concern. Severe erosion may develop along cattle trails.

Woodland

Soil moisture is adequate for good softwood growth, especially eastern white pine, but this soil is limited for woodland management by erosion hazard, equipment limitations, and seedling mortality.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with drought-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by the use of track equipment and careful planning to avoid steepest areas. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This soil has severe limitations for most phases of community development due to steep slopes. The sides of excavations tend to slough, and deep excavations may require special equipment. Erosion is a concern during periods of construction but can generally be controlled on this rapidly permeable soil with measures such as sediment catch basins, heavy mulching, hay bales, terraces, and diversions. This soil has severe slope limitations for the construction of roads and streets. The resulting road cuts and disturbed areas are difficult to revegetate on this droughty soil.

Slope limits onsite waste disposal. Also, the sandy, very permeable subsoil and substratum do not effectively filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution.

This soil is a probable source of sand, but extensive test pitting should be done at the site.

Recreation

Slope is the major limitation for most uses.

Wildlife Habitat

Suitability is poor for habitat areas for openland and woodland wildlife and very poor for wetland wildlife habitat.

The capability subclass is VIIs.

27A—Groveton fine sandy loam, 0 to 3 percent slopes

This soil is very deep, nearly level, and well drained. It is on loamy terraces and outwash plains. The areas are irregular in shape and range from 5 to 25 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—
Surface layer:
0 to 3 inches, dark brown fine sandy loam
Subsoil:
3 to 8 inches, brown fine sandy loam
8 to 28 inches, yellowish brown fine sandy loam
Substratum:
28 to 48 inches, light yellowish brown loamy fine sand
48 to 65 inches, light yellowish brown fine sand

Some areas have a substratum of gravelly loamy sand.

Inclusions

Included with this soil in mapping are small areas of excessively drained Adams soils and moderately well drained Madawaska soils. Adams soils are on low ridges and along the edges of escarpments. Madawaska soils are in depressions and along the base of slopes. Also included in this unit are areas with slopes of more than 3 percent. Inclusions make up about 10 percent of this unit.

Major properties of the Groveton soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low

Flood hazard: None

Most areas of this soil are forested. Some areas are used for farming, and some areas are used for residential development.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. However, the short growing season and cool summers restrict the choice of crop varieties. Good yields of grasses and legumes can be obtained with the proper use of lime and fertilizer. The organic matter content can be maintained by incorporating crop residue, winter cover crops, and manure into the surface layer.

Woodland

Fertility and moisture are favorable on this Groveton soil for high quality hardwoods. There are few limitations for woodland management or logging operations.

Community Development

This Groveton soil has few limitations for most phases of community development. There are concerns during construction because the sides of excavations tend to slough, and deep excavations may require special equipment.

This soil is a probable source of sand, but extensive test pitting should be done at the site.

Recreation

This soil has few limitations for recreational uses.

Wildlife Habitat

Suitability is good for habitat for openland and woodland wildlife. This soil is poorly suited for wetland wildlife except as resting or nesting areas adjacent to wetlands.

The capability class is I.

27B—Groveton fine sandy loam, 3 to 8 percent slopes

This soil is very deep, gently sloping, and well drained. It is on loamy terraces and outwash plains. The areas are irregular in shape and range from 5 to 45 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 3 inches, dark brown fine sandy loam

Subsoil:

3 to 8 inches, brown fine sandy loam

8 to 28 inches, yellowish brown fine sandy loam

Substratum:

28 to 48 inches, light yellowish brown loamy fine sand

48 to 65 inches, light yellowish brown fine sand

Some areas have a substratum of gravelly loamy sand.

Inclusions

Included with this soil in mapping are small areas of excessively drained Adams soils, moderately well drained Madawaska and Croghan soils, and poorly drained Kinsman soils. Adams soils are on low ridges and along the edges of escarpments. Madawaska, Croghan, and Kinsman soils are in depressions and along the base of slopes. Also included in this unit are areas with slopes of less than 3 percent or more than 8 percent. Inclusions make up about 15 percent of this unit.

Major properties of the Groveton soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: More than 6 feet

Potential frost action: Low

Flood hazard: None

Most areas of this soil are forested. Some areas are used for farming or residential development.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. However, the short growing season and cool summers restrict the choice of crop varieties. Good yields of grasses and legumes can be obtained with the proper use of lime and fertilizer. Contour farming and conservation tillage help to control erosion. The organic matter content can be maintained by incorporating crop residue, winter cover crops, and manure into the surface layer.

Woodland

Fertility and moisture are favorable on this Groveton soil for high quality hardwoods. There are few limitations for woodland management or logging operations.

Community Development

This Groveton soil has few limitations for most phases of community development, but the erosion hazard is moderate during construction. Limiting surface disturbance is an effective method of controlling erosion. There are concerns during construction because the sides of excavations tend to slough, and deep excavations may require special equipment.

This soil is a probable source of sand, but extensive test pitting should be done at the site.

Recreation

This soil has a moderate slope limitation for playgrounds and athletic fields due to the amount of landshaping required to level the area.

Wildlife Habitat

Suitability is good for habitat for openland and woodland wildlife. This soil is poorly suited for wetland wildlife except as resting or nesting areas adjacent to wetlands.

The capability subclass is IIe.

27C—Groveton fine sandy loam, 8 to 15 percent slopes.

This soil is very deep, strongly sloping, and well drained. It is on loamy terraces and outwash plains. The areas are irregular in shape and range from 5 to 45 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 3 inches, dark brown fine sandy loam
Subsoil:
3 to 8 inches, brown fine sandy loam
8 to 28 inches, yellowish brown fine sandy loam
Substratum:
28 to 48 inches, light yellowish brown loamy fine sand
48 to 65 inches, light yellowish brown fine sand

Some areas have a substratum of gravelly loamy sand.

Inclusions

Included with this soil in mapping are small areas of excessively drained Adams soils, moderately well drained Madawaska, Nicholville, and Croghan soils, and poorly drained Kinsman and Pemi soils. Adams soils are along the edges of escarpments. Madawaska, Nicholville, and Croghan soils are in depressions and along the base of slopes. Kinsman and Pemi soils are in narrow ravine floors and at the base of slopes. Also included in this unit are areas with slopes of less than 8 percent or more than 15 percent. A few areas of rock outcrop are along the base of escarpments. Some areas have finer textures throughout the soil. Inclusions make up about 15 percent of this unit.

Major properties of the Groveton soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil are forested. A few areas have been cleared and are in grass or woodland. Some areas are used for residential development.

Use and Management

Farming

Slope and erosion hazard are the main limitations. The short growing season and cool summers restrict the choice of crop varieties. Good yields of grasses and legumes can be obtained with the proper use of lime and fertilizer. Contour farming and conservation tillage help to control erosion. The organic matter content can be maintained by incorporating crop residue, winter cover crops, and manure into surface layer.

Woodland

Fertility and moisture are favorable on this Groveton soil for high quality hardwoods. There are few limitations for woodland management or logging operations.

Community Development

This Groveton soil is limited by slope and a moderate erosion hazard for most phases of community development. Limiting surface disturbance is an effective method of controlling erosion. The sides of excavations tend to slough, and deep excavations may require special equipment. The slope of this soil is a moderate limitation for dwellings with or without basements and local roads and streets. Most slope limitations can be reduced by cut and fill techniques.

The slope is a moderate limitation for onsite waste diposal but can be reduced by cut and fill to level an area for an absorption field.

This soil is a probable source of sand, but extensive test pitting should be done at the site.

Recreation

This soil is limited by slope for recreational developments. Limitations are severe for playgrounds and athletic fields and moderate for picnic and camping areas. This soil has few limitations for hiking paths and trails, but areas of heavy use should be designed to prevent erosion.

Wildlife Habitat

Suitability is good for habitat for openland and woodland wildlife. This soil is very poorly suited for wetland wildlife except as resting or nesting areas adjacent to wetlands.

The capability subclass is IIIe.

27E—Groveton fine sandy loam, 15 to 60 percent slopes

This soil is very deep, moderately steep to very steep, and well drained. It is on loamy terrace escarpments and ravines. The areas are long and narrow and range from 5 to 50 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 3 inches, dark brown fine sandy loam
Subsoil:
3 to 8 inches, brown fine sandy loam
8 to 28 inches, yellowish brown fine sandy loam
Substratum:
28 to 48 inches, light yellowish brown loamy fine sand
48 to 65 inches, light yellowish brown fine sand

Some areas have a substratum of gravelly loamy sand.

Inclusions

Included with this soil in mapping are small areas of excessively drained Adams soils and poorly drained Kinsman and Pemi soils. Adams soils are along the edges of escarpments. Kinsman and Pemi soils are in narrow ravine floors and at the base of slopes. Also included in this unit are areas with slopes of less than 15 percent or more than 60 percent. A few areas of rock outcrop are along the base of escarpments. Some areas have finer textures throughout the soil. Inclusions make up about 15 percent of this unit.

Major properties of the Groveton soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil are forested. Some of the moderately steep areas have been cleared. Some other areas are woodland.

Use and Management

Farming

Slope and erosion hazard are severe limitations for all farming of this soil. Some of the moderately steep areas can be used for pasture, but maintenance of good quality grasses and legumes is a concern. Severe erosion may develop along livestock trails.

Woodland

Fertility and moisture are favorable on this Groveton soil for high quality hardwoods, but erosion hazard and equipment limitations affect woodland management.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by the use of track equipment and careful planning to avoid steepest areas.

Community Development

This soil is severely limited by steep slopes. Roads and streets through the soil will need extensive cuts resulting in side slopes that are difficult to stabilize. The sides of excavations tend to slough, and deep excavations may require special equipment. Limiting surface disturbance is an effective method of controlling erosion on the soil. The slope of this soil is a severe limitation for dwellings with or without basements, for small commercial buildings, and for local roads and streets. Most slope limitations can be reduced by cut and fill techniques.

The slope is a severe limitation for onsite waste disposal but can be reduced by cut and fill to level an area for an absorption field.

This soil is a probable source of sand, but extensive test pitting should be done at the site.

Recreation

This soil has severe limitations for recreational uses due to slope. Areas of heavy use should be designed to prevent erosion.

Wildlife Habitat

Suitability is good for habitat for openland and woodland wildlife. This soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIIe.

28A—Madawaska fine sandy loam, 0 to 3 percent slopes

This soil is very deep, nearly level, and moderately well drained. It is on loamy terraces and outwash plains. The areas are irregularly shaped and range from 5 to 35 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 11 inches, dark brown fine sandy loam
11 to 15 inches, light gray fine sandy loam
Subsoil:
15 to 22 inches, mottled, yellowish red fine sandy loam
22 to 31 inches, mottled, brown fine sandy loam
Substratum:
31 to 33 inches, mottled, olive gray fine sand
33 to 65 inches, mottled, olive brown sand

In some areas the lower part of the subsoil and the substratum are gravelly.

Inclusions

Included with this soil in mapping are small areas of moderately well drained Croghan soils, well drained Groveton soils, and poorly drained Kinsman soils. The Croghan soils are throughout some areas of this unit. The Groveton soils are on slightly higher areas. The Kinsman soils are in depressions and along the base of slopes. Also included in this unit are areas with slopes of more than 3 percent. The included soils make up about 15 percent of this unit.

Major properties of the Madawaska soil

Permeability: Moderately rapid in the surface layer and subsoil and rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 1.5 to 3.0 feet from November through May
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are farmed. A few areas have reverted to forest or have been used for commercial or residential development.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. It is suited for silage corn, small grains, grasses, and vegetables. However, the short growing season and cool summers restrict the choice of crop varieties. Good yields of grasses and legumes can be obtained with the proper use of lime and fertilizer. Artificial drainage will allow earlier tillage in the spring. The potential for frost action may result in severe winterkill of legumes. The organic matter content can be maintained by incorporating crop residue, winter cover crops, and manure into surface layer.

Woodland

Fertility and moisture are favorable on this Madawaska soil for high quality hardwoods. Plant competition is a limitation for woodland management. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

Wetness and frost action are the major limitations for community development. The sides of excavations tend to slough and fill with water. Deep excavations may require special equipment. Wetness is a moderate limitation of the soil as s site for dwellings without basements and for small commercial buildings, and wetness is a severe limitation for dwellings with basements. This limitation can be overcome with foundation drains that control wetness and frost action. Moderate limitations for local roads and streets due to frost action can be overcome by providing coarser grained base material to frost depth.

The rapidly permeable substratum may not adequately filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution. Wetness due to the seasonal high water table is an additional limitation that may make it necessary to use fill to raise septic tank absorption fields.

This soil is a probable source of sand, but extensive test pitting should be done at the site.

Recreation

This soil has moderate limitations for recreational uses due to wetness. In addition, playgrounds and athletic fields are limited by small stones.

Wildlife Habitat

Suitability is good for habitat for openland or woodland wildlife. This soil is poorly suited for wetland wildlife habitat.

The capability subclass is IIw.

28B—Madawaska fine sandy loam, 3 to 8 percent slopes

This soil is very deep, gently sloping, and moderately well drained. It is on loamy terraces and outwash plains. The areas are irregularly shaped and range from 5 to 25 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 11 inches, dark brown fine sandy loam
11 to 15 inches, light gray fine sandy loam
Subsoil:
15 to 22 inches, mottled, yellowish red fine sandy loam
22 to 31 inches, mottled, brown fine sandy loam
Substratum:
31 to 33 inches, mottled, olive gray fine sand
33 to 65 inches, mottled, olive brown sand

In some areas the lower part of the subsoil and the substratum layers are gravelly.

Inclusions

Included with this soil in mapping are small areas of moderately well drained Croghan soils, well drained Groveton soils, and poorly drained Kinsman soils. The Croghan soils are throughout some areas of this unit. The Groveton soils are on slightly higher areas. The Kinsman soils are in depressions and along the base of slopes. Also included in this unit are areas with slopes of less than 3 percent or more than 8 percent. The included soils make up about 15 percent of this unit.

Major properties of the Madawaska soil

Permeability: Moderately rapid in the surface layer and subsoil and rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 1.5 to 3.0 feet from November through May
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are farmed. A few areas have reverted to forest or have been used for commercial or residential development.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. It is suited for silage corn, small grains, grasses, and vegetables. The short growing season and cool summers restrict the choice of crop varieties. Good yields of grasses and legumes can be obtained with the proper use of lime and fertilizer. Artificial drainage will allow earlier tillage in the spring. By incorporating crop residue and winter cover crops into surface layer, in combination with conservation tillage, organic matter content can be maintained and erosion can be controlled, which will allow this soil to be cropped continually. The potential for frost action may result in severe winterkill of legumes.

Woodland

Fertility and moisture are favorable on this Madawaska soil for high quality hardwoods. Plant competition is a limitation for woodland management. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

The seasonal high water, frost action, and erosion hazard of this soil are limitations for community development. Erosion can be kept to a minimum by limiting the amount of surface disturbance to only the areas of immediate development. The sides of excavations tend to slough and fill with water. Deep excavations may require special equipment. Wetness is a moderate limitation of this soil as a site for dwellings without basements and for small commercial buildings, and wetness is a severe limitation for dwellings with basements. This limitation can be overcome with foundation drains to control wetness and frost action. Moderate limitations for local roads and streets due to frost action can be overcome by providing coarser grained base material to frost depth.

The rapidly permeable substratum may not adequately filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution. Wetness due to the seasonal high water table is an additional limitation that may make it necessary to use fill to raise septic tank absorption fields.

This soil is a probable source of sand, but extensive test pitting should be done at the site.

Recreation

This soil has moderate limitations for recreational uses due to wetness. In addition, slope and small stones are moderate limitations for playgrounds and athletic fields.

Wildlife Habitat

Suitability is good for habitat for openland or woodland wildlife. This soil is poorly suited for wetland wildlife habitat.

The capability subclass is IIw.

36A—Adams loamy sand, 0 to 3 percent slopes

This soil is very deep, nearly level, and excessively drained. It is on sandy terraces and outwash plains along streams and rivers. The areas are generally long and narrow and range from 5 to 25 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 6 inches, dark brown loamy sand
Subsoil:
6 to 10 inches, strong brown loamy sand
10 to 26 inches, light yellowish brown sand
Substratum:
26 to 65 inches, pale yellow sand

Some areas of this Adams soil have a gravelly surface layer or a surface layer of fine sandy loam.

Inclusions

Included with this soil in mapping are small depressions or drainageways of moderately well drained Croghan soils or poorly drained Kinsman soils. Areas of excessively drained Colton soils and well drained Groveton soils are throughout some areas of this unit. Also included are small areas with slopes of more than 3 percent and areas with surface stones and boulders 5 to 30 feet apart. Included soils make up less than 15 percent of this unit.

Major properties of the Adams soil

Permeability: Rapid in the surface layer and subsoil; very rapid in the substratum
Available water capacity: Very low
Depth to bedrock: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil were farmed, but many are reverting to woodland. A few areas are farmed or are used for residential, commercial, and industrial development.

Use and Management

Farming

Droughtiness, low fertility, and the short growing season severely limit farming of this soil. Under intensive management, fair to good yields of hay and silage corn are produced. Incorporating crop residue into surface layer and adding manure to the soil will increase the organic matter content and improve the water holding capacity of the soil. Winterkill of legumes is a concern in depressions on this nearly level soil because of ice coverage following midwinter thaws. Small fruits and vegetables are produced on a few areas by utilizing mulches and irrigation.

Woodland

Soil moisture is adequate for good softwood growth, especially eastern white pine, on this Adams soil. Seedling mortality is a limitation for woodland management. This limitation can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This soil is limited by droughtiness and sandy texture for most phases of community development. The sides of excavations tend to slough, and deep excavations may require special equipment. After construction, the droughtiness is a severe limitation for the establishment of lawns and landscaping.

The sandy, very permeable subsoil and substratum do not effectively filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution.

This soil is a probable source of sand, but extensive test pitting should be done at the site.

Recreation

This soil has few limitations for recreational uses other than the low available water capacity. Maintaining adequate grass cover on playgrounds and athletic fields may be a concern on this droughty soil.

Wildlife Habitat

This soil is poorly suited for habitat for openland or woodland wildlife and very poorly suited for wetland wildlife habitat except as resting or nesting areas adjacent to wetlands.

The capability subclass is IIIs.

36B—Adams loamy sand, 3 to 8 percent slopes.

This soil is very deep, gently sloping, and excessively drained. It is on sandy terraces and outwash plains along streams and rivers. The areas are mainly long and narrow and range from 5 to 25 acres in size (fig. 18).

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 6 inches, dark brown loamy sand
Subsoil:
6 to 10 inches, strong brown loamy sand
10 to 26 inches, light yellowish brown sand
Substratum:
26 to 65 inches, pale yellow sand

Some areas of this Adams soil have a gravelly surface layer or a surface layer of fine sandy loam.

Inclusions

Included with this soil in mapping are small depressions or drainageways of moderately well drained Croghan soils or poorly drained Kinsman soils. Areas of excessively drained Colton soils and well drained Groveton soils are throughout this unit. Also included are small areas with slopes of less than 3 percent or more than 8 percent and areas with surface stones and boulders 5 to 30 feet apart. Included soils make up less than 15 percent of this unit.

Major properties of the Adams soil

Permeability: Rapid in the surface layer and subsoil; very rapid in the substratum
Available water capacity: Very low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil were farmed, but many have reverted to woodland. A few areas are farmed or are used for residential and industrial development.

Use and Management

Farming

Droughtiness, low fertility, moderate erosion hazard, and the short growing season severely limit farming of this soil. Under intensive management, fair to good yields of hay and silage corn are produced. Incorporating crop residue into surface layer and adding manure to the soil will increase the organic matter content and improve the water holding capacity of the soil. Winterkill of legumes is a concern in depressions because of ice coverage following midwinter thaws. Small fruits and vegetables are produced on a few areas by utilizing mulches and irrigation.

Woodland

Soil moisture is adequate for good softwood growth, especially eastern white pine, on this Adams soil. Seedling mortality is a limitation for woodland management. This limitation can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This Adams soil is limited by slope and sandy,

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Figure 18.— Adams loamy sand, 3 to 8 percent slopes and 15 to 60 percent slopes used for pasture and barnyard, Tunbridge-Lyman fine sandy loam, 15 to 25 percent slopes used for hayland and pasture.

droughty conditions. The slope of this soil is a moderate limitation for small commercial buildings. The sides of excavations tend to slough, and deep excavations may require special equipment. After construction, droughtiness is a severe limitation for the establishment of lawns and landscaping.

The sandy, very permeable subsoil and substratum do not effectively filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution.

This soil is a probable source of sand, but extensive test pitting should be done at the site.

Recreation

This soil has moderate slope limitations for playgrounds and athletic fields. Maintaining adequate grass cover on the soil is an additional concern on this droughty soil.

Wildlife Habitat

This soil is poorly suited for habitat for openland or woodland wildlife and very poorly suited for wetland wildlife habitat except as resting or nesting areas adjacent to wetlands.

The capability subclass is IIIs.

36C—Adams loamy sand, 8 to 15 percent slopes

This soil is very deep, strongly sloping, and excessively drained. It is on sandy terraces and outwash plains along streams and rivers. The areas are generally rounded or long and narrow and range from 5 to 10 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 6 inches, brown loamy sand
Subsoil:
6 to 10 inches, strong brown loamy sand
10 to 24 inches, light yellowish brown sand
Substratum:
26 to 65 inches, pale yellow sand

Some areas of this Adams soil have a gravelly surface layer or a surface layer of fine sandy loam. In some areas erosion and tillage have mixed most or all of the subsoil into the surface layer.

Included with this soil in mapping are small depressions or drainageways of moderately well drained Croghan soils or poorly drained Kinsman soils. Areas of excessively drained Colton soils and well drained Groveton soils are throughout some areas of this unit. Also included are small areas with slopes of less than 8 percent or more than 15 percent and areas with surface stones and boulders 5 to 30 feet apart. Included soils make up about 15 percent of this unit.

Major properties of the Adams soil

Permeability: Rapid in the surface layer and subsoil; very rapid in the substratum
Available water capacity: Very low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil are forested. A few areas are used for hay or pasture, and a few areas are used for residential or commercial development.

Use and Management

Farming

Droughtiness, low fertility, severe erosion, and the short growing season limit farming of this soil to hay and pasture. Under intensive management, fair yields of hay are produced. Incorporating crop residue into surface layer and adding manure to the soil will increase the organic matter content and improve the water holding capacity of the soil.

Woodland

Soil moisture is adequate for good softwood growth, especially eastern white pine, on this Adams soil.

Seedling mortality is a limitation for woodland management. This limitation can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This Adams soil is limited by slope and the sandy, droughty conditions. Limitations are moderate for dwellings with or without basements due to slope. The construction of roads and streets through the soil may make it necessary to use significant grading. The resulting road cuts and disturbed areas are difficult to revegetate on this droughty soil. The sides of excavations in this soil tend to slough, and deep excavations may require special equipment. Erosion is a limitation during periods of construction but generally can be controlled. After construction, droughtiness is a severe limitation for the establishment of lawns and landscaping.

In areas requiring onsite sewage disposal, there is a hazard of ground-water pollution because the sandy, very permeable subsoil and substratum do not effectively filter effluent.

This soil is a probable source of sand, but extensive test pitting should be done at the site.

Recreation

This soil is limited for recreational uses by the slope. Limitations are moderate for camp and picnic areas and severe for playgrounds and athletic fields. This soil has few limitations for hiking paths and trails, but areas of heavy use should be designed to prevent erosion.

Wildlife Habitat

This soil is poorly suited for habitat for openland or woodland wildlife and is very poorly suited for wetland wildlife habitat except as resting or nesting areas adjacent to wetlands.

The capability subclass is IVs.

36E—Adams loamy sand, 15 to 60 percent slopes

This soil is very deep, moderately steep to very steep, and excessively drained. It is on sandy terrace escarpments along streams and rivers. The areas are mainly long and narrow, but some broaden to include severely truncated areas. This unit ranges from 5 acres to more than 90 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 6 inches, dark brown loamy sand
Subsoil:
6 to 10 inches, strong brown loamy sand
10 to 26 inches, light yellowish brown sand
Substratum:
26 to 65 inches, pale yellow sand

Some areas of this Adams soil have a gravelly surface layer or a surface layer of fine sandy loam.

Inclusions

Included with this soil in mapping are small or narrow areas with slopes of less than 15 percent and a few areas with slopes of more than 60 percent. Moderately well drained Croghan soils or poorly drained Kinsman soils are on some narrow ravine floors. In some areas the ravines have cut into the underlying glacial till and the ravine floors include poorly drained Pillsbury soils. Along major valleys the lower portion of some escarpments are stratified silts. Bedrock outcrops are common along the base of some escarpments, especially escarpments bordering flood plains. Also included are small areas with surface stones and boulders 5 to 30 feet apart. The included soils make up 15 percent of this unit.

Major properties of the Adams soil

Permeability: Rapid in the surface layer and subsoil; very rapid in the substratum
Available water capacity: Very low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil are woodland.

Use and Management

Farming

The steep slopes and erosion hazard are severe limitations for all farming of this soil. Some of the less steep areas can be used for pasture, but maintenance of good quality grasses and legumes is a concern. Severe erosion may develop along cattle trails.

Woodland

Soil moisture is adequate for good softwood growth, especially eastern white pine, but slope, erosion hazard, and seedling mortality limit woodland management.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with drought-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by the use of track equipment and careful planning to avoid steepest areas. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This Adams soil has severe limitations for most phases of community development due to slope. Roads and streets through the soil need extensive cuts, and the side slopes are difficult to stabilize and revegetate on this droughty soil.

Slope limits onsite waste disposal. Also, the sandy, very permeable subsoil and substratum do not effectively filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution.

This soil is a probable source of sand, but extensive test pitting should be done at the site.

Recreation

This soil has severe limitations for recreational uses due to slope. Waterbars on hiking trails in this unit will reduce erosion.

Wildlife Habitat

This soil is poorly suited for habitat for openland or woodland wildlife and very poorly suited for wetland wildlife habitat except as resting or nesting areas adjacent to wetlands.

The capability subclass is VIIe.

56B—Becket fine sandy loam, 3 to 8 percent slopes

This soil is very deep, gently sloping, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 20 acres in size. The surface of some areas has stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 7 inches, dark yellowish brown fine sandy loam

Subsoil:

7 to 14 inches, dark brown fine sandy loam

14 to 18 inches, strong brown fine sandy loam

18 to 22 inches, light olive brown fine sandy loam

Substratum:

22 to 65 inches, olive gray, very firm gravelly loamy fine sand

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. In depressions and along narrow drainageways are moderately well drained Skerry soils and poorly drained Pillsbury soils. Also included are small isolated areas of rock outcrop and shallow or moderately deep soils. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Becket soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: 18 to 36 inches

Depth to water table: 2.0 to 3.5 feet from March to April

Potential frost action: Moderate

Flood hazard: None

Most areas of this soil have been cleared for farming. Some are reverting to woodland. Other areas have been used for residential or commercial development.

Use and Management

Farming

This unit is classified as prime farmland in this survey area. It is well suited for row crops, but the short growing season and cool summers restrict the choice of crop varieties. Good yields of silage corn, grasses, and legumes can be obtained with the proper use of lime and fertilizers. Continuous row cropping is mainly not practical because of the moderate erosion hazard. Row crops can be grown in rotation with grasses and legumes. Contour tillage and stripcropping will generally keep soil losses to a minimum when row crops are grown.

Woodland

Fertility and moisture are favorable on this Becket soil for high quality hardwoods. Windthrow hazard and plant competition are limitations that affect woodland management.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited by the perched water table in the spring, a slowly permeable hardpan, and frost action. Foundation drains will help control wetness and frost action. This soil has a moderate limitation for local roads and streets due to frost action. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. This soil has a moderate limitation for lawns and landscaping due to small stones.

For onsite sewage disposal systems, the slow permeability of the substratum is a severe limitation that can be overcome with fill to raise and increase the size of absorption fields.

Recreation

This soil has a moderate limitation for camping and picnic areas due to slow permeability in the substratum. There is a moderate limitation for playgrounds and athletic fields due to slope.

Wildlife Habitat

Suitability is good for habitat areas for openland wildlife and fair for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IIe.

56C—Becket fine sandy loam, 8 to 15 percent slopes

This soil is very deep, strongly sloping, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 30 acres in size. The surface of some areas has stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 7 inches, dark yellowish brown fine sandy loam

Subsoil:

7 to 14 inches, dark brown fine sandy loam

14 to 18 inches, strong brown fine sandy loam

18 to 22 inches, light olive brown fine sandy loam

Substratum:

22 to 65 inches, olive gray, very firm gravelly loamy fine sand.

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. In depressions and along narrow drainageways are moderately well drained Skerry soils and poorly drained Pillsbury soils. Also included are small isolated areas of rock outcrop and shallow or moderately deep soils. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Becket soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: 18 to 36 inches

Depth to water table: 2.0 to 3.5 feet from March to April

Potential frost action: Moderate

Flood hazard: None

Most areas of this soil have been cleared for farming. Some areas are reverting to woodland. Other areas have been used for residential or commercial developments.

Use and Management

Farming

This unit is well suited for farming, but the short growing season and cool summers restrict the choice of crop varieties. Fair to good yields of silage corn, grasses, and legumes can be obtained with the proper use of lime and fertilizers. Continuous row cropping is mainly not practical because of the moderate erosion hazard. Row crops can be grown in rotation with grasses and legumes. Contour tillage and stripcropping will generally keep soil losses to a minimum when row crops are grown.

Woodland

Fertility and moisture are favorable on this Becket soil for high quality hardwoods. Windthrow hazard and plant competition are limitations for woodland management.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited by a perched water table in the spring, a slowly permeable hardpan, slope, and frost action. Foundation drains will help to control wetness and frost action. The slope of this soil is a moderate limitation for dwellings without basements. Soil wetness and slope are moderate limitations for dwellings with basements and for shallow excavations. This soil has moderate limitations for local roads and streets due to slope and frost action. This limitation can be overcome by using cut and fill, providing coarser grained base material to frost depth, and installing drainage. This soil has moderate limitations for lawns and landscaping due to small stones and slope. Slope limitations on this unit can be reduced by using cut and fill to level these strongly sloping areas. However, cuts made into slopes below the hardpan may make it necessary to use drainage to the remove water on the hardpan during wet times of the year.

For onsite sewage disposal, the slowly permeable substratum is a severe limitation that can be overcome with fill to raise and increase the size of absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to slope and slow permeability in the substratum. Limitations are severe for playgrounds and athletic fields due to slope.

Wildlife Habitat

Suitability is good for habitat areas for openland wildlife and fair for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IIIe.

56D—Becket fine sandy loam, 15 to 25 percent slopes

This soil is very deep, moderately steep, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 15 acres in size. The surface of some areas has stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 7 inches, dark yellowish brown fine sandy loam

Subsoil:

7 to 14 inches, dark brown fine sandy loam

14 to 18 inches, strong brown fine sandy loam

18 to 22 inches, light olive brown fine sandy loam

Substratum:

22 to 65 inches, olive gray, very firm gravelly loamy fine sand

Inclusions

Included with this unit are small areas with slopes of less than 15 percent or more than 25 percent. In depressions and along narrow drainageways are moderately well drained Skerry soils and poorly drained Pillsbury soils. Also included are small isolated areas of rock outcrop and shallow or moderately deep soils. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Becket soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: 18 to 36 inches

Depth to water table: 2.0 to 3.5 feet from March to April

Potential frost action: Moderate

Flood hazard: None

Most areas of this soil have been cleared for farming. Some areas are reverting to woodland. Other areas have been used for residential or commercial developments.

Use and Management

Farming

Slope and severe erosion hazard are the major limitations. Intensive erosion control measures such as diversions, contour stripcropping, and winter cover crops are necessary to prevent excessive erosion. The soil is best suited for pasture because the slopes make the operation of modern farm equipment hazardous.

Woodland

Fertility and moisture are favorable on this Becket soil for high quality hardwoods. Erosion hazard, slope, windthrow hazard, and plant competition are limitations for woodland management.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This Becket soil is severely limited by slope, a perched water table in the spring, a slowly permeable hardpan, and frost action. Building foundation drains will help to control wetness and frost action. Slope limitations can be reduced by using cut and fill techniques to level this area. However, cuts made into slopes below the hardpan may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal, the slow permeability of the substratum and the slope are severe limitations that can be overcome with fill to raise and increase the size of absorption fields.

Recreation

This soil has severe limitations for camping areas, picnic areas, playgrounds, and athletic fields due to slope. There is a moderate limitation for hiking trails due to slope.

Wildlife Habitat

Suitability is fair for habitat areas for openland and woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IVe.

57B—Becket fine sandy loam, 3 to 8 percent slopes, very stony

This soil is very deep, gently sloping, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 45 acres in size. Stones are mainly 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 7 inches, dark yellowish brown fine sandy loam

Subsoil:

7 to 14 inches, dark brown fine sandy loam

14 to 18 inches, strong brown fine sandy loam

18 to 22 inches, light olive brown fine sandy loam

Substratum:

22 to 65 inches, olive gray, very firm gravelly loamy fine sand

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. In depressions and along narrow drainageways are moderately well drained Skerry soils and poorly drained Pillsbury soils. Also included are small isolated areas of rock outcrop and shallow or moderately deep soils. A few areas have surface stones less than 5 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Becket soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: 18 to 36 inches

Depth to water table: 2.0 to 3.5 feet from March to April

Potential frost action: Moderate

Flood hazard: None

Most areas of this unit are forested. Other areas have been used for residential or commercial developments.

Use and Management

Farming

This unit is too stony for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. If the soil is cleared of surface stones, it meets the criteria for prime farmland. The short growing season and cool summers restrict the choice of crop varieties. The moderate erosion hazard limits the use of this unit for row crops, but forage crops of grasses and legumes can be grown.

Woodland

Fertility and moisture are favorable on this Becket soil for high quality hardwoods. Windthrow hazard and plant competition are limitations for woodland management.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited by a perched water table in the spring, a slowly permeable hardpan, and frost action. Wetness is moderate limitation for dwellings with basements and for shallow excavations. Foundation drains will help to control wetness and frost action. This soil has a moderate limitation for local roads and streets due to frost action. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. Limitations are moderate for lawns and landscaping due to large stones.

For onsite sewage disposal systems, the slowly permeable substratum is a severe limitation that can be overcome with fill to raise and increase the size of absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to slow permeability in the substratum. There is a severe limitation for playgrounds and athletic fields due to large stones and slope.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.
The capability subclass is VIs.

57C—Becket fine sandy loam, 8 to 15 percent slopes, very stony

This soil is very deep, strongly sloping, and well drained. It is on loamy glaciated hills and mountainsides. The areas are irregular in shape and range from 10 to 75 acres in size. Stones are mainly 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.
The typical sequence, depth, and composition of the layers of this soil are as follows—
Surface layer:
0 to 7 inches, dark yellowish brown fine sandy loam
Subsoil:
7 to 14 inches, dark brown fine sandy loam
14 to 18 inches, strong brown fine sandy loam
18 to 22 inches, light olive brown fine sandy loam
Substratum:
22 to 65 inches, olive gray, very firm gravelly loamy fine sand

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. In depressions and along narrow drainageways are moderately well drained Skerry soils and poorly drained Pillsbury soils. Also included are small isolated areas of rock outcrop and shallow or moderately deep soils. A few areas have surface stones less than 5 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Becket soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March to April
Potential frost action: Moderate
Flood hazard: None
Most areas of this unit are forested. Other areas have been developed for residential or commercial uses.

Use and Management

Farming

This soil is too stony for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. Even if the soil is cleared of surface stones, the short growing season and cool summers restrict the choice of crop varieties. The moderate erosion hazard limits the use of this unit for row crops, but forage crops of grasses and legumes can be grown.

Woodland

Fertility and moisture are favorable on this Becket soil for high quality hardwoods. Windthrow hazard and plant competition are limitations that affect woodland management.
Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.
In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited by a perched water table in the spring, a slowly permeable hardpan, slope, and frost action. Foundation drains will help to control wetness and frost action. Slope is a moderate limitation for dwellings without basements. Wetness and slope are moderate limitations for dwellings with basements and for shallow excavations. There are moderate limitations for local roads and streets due to slope and frost action. They can be overcome by using cut and fill techniques, providing coarser grained base material to frost depth, and installing drainage. This soil has moderate limitations for lawns and landscaping due to large stones and slope. Slope limitations can be reduced by using cut and fill techniques to level these strongly sloping areas. However, cuts made into slopes below the hardpan may make it necessary to use drainage to remove the water on the hardpan during wet times of the year. For onsite sewage disposal systems, the slowly permeable substratum is a severe limitation that can be overcome with fill to raise and increase the size of absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to slope and slow permeability in the substratum. Limitations are severe for playgrounds and athletic fields due to slope.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

57D—Becket fine sandy loam, 15 to 25 percent slopes, very stony

This soil is very deep, moderately steep, and well drained. It is on loamy glaciated hills and mountainsides. The areas are irregular in shape and range from 5 to 100 acres in size. Stones are mainly 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical Becket sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 7 inches, dark yellowish brown fine sandy loam

Subsoil:

7 to 14 inches, dark brown fine sandy loam

14 to 18 inches, strong brown fine sandy loam

18 to 22 inches, light olive brown fine sandy loam

Substratum:

22 to 65 inches, olive gray, very firm gravelly loamy fine sand

Inclusions

Included with this unit are small areas with slopes of less than 15 percent or more than 25 percent. In depressions and along narrow drainageways are moderately well drained Skerry soils and poorly drained Pillsbury soils. Also included are small isolated areas of rock outcrop and shallow or moderately deep soils. A few areas have surface stones and boulders less than 5 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Becket soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: 18 to 36 inches

Depth to water table: 2.0 to 3.5 feet from March to April

Potential frost action: Moderate

Flood hazard: None

Most areas of this soil are forested. Other areas have been used for residential or commercial developments.

Use and Management

Farming

This soil is too steep and stony for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. The severe erosion hazard limits the use of this soil even if the soil is cleared of surface stones.

Woodland

Fertility and moisture are favorable on this Becket soil for high quality hardwoods. Erosion hazard, slope, windthrow hazard, and plant competition are limitations that affect woodland management.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is severely limited by slope, a perched water table in the spring, a slowly permeable hardpan, and frost action. Foundation drains will help to control wetness and frost action. Slope limitations can be reduced by using cut and fill techniques to level this moderately steep soil. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal systems, the slowly permeable substratum and slope are severe limitations that can be overcome with fill to raise and increase the size of absorption fields.

Recreation

This soil has a severe limitation for camping areas, picnic areas, playgrounds, and athletic fields due to the moderately steep slopes. Limitations are moderate for hiking paths and trails due to slope.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

57E—Becket fine sandy loam, 25 to 35 percent slopes, very stony

This soil is very deep, steep, and well drained. It is on loamy glaciated hills and mountainsides. The areas are irregular in shape and range from 10 to 60 acres in size. Stones are mainly 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 7 inches, dark yellowish brown fine sandy loam

Subsoil:

7 to 14 inches, dark brown fine sandy loam

14 to 18 inches, strong brown fine sandy loam

18 to 22 inches, light olive brown fine sandy loam

Substratum:

22 to 65 inches, olive gray, very firm gravelly loamy fine sand

Inclusions

Included with this unit are small areas with slopes of less than 25 percent or more than 35 percent. In depressions and along narrow drainageways are moderately well drained Skerry soils and poorly drained Pillsbury soils. Also included are small isolated areas of rock outcrop and shallow or moderately deep soils. A few areas have surface stones and boulders less than 5 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Becket soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: 18 to 36 inches

Depth to water table: 2.0 to 3.5 feet from March to April

Potential frost action: Moderate

Flood hazard: None

Most areas of this soil are forested. Other areas have been used for residential or commercial developments.

Use and Management

Farming

The steep slopes and surface stones make this soil unsuited for farming.

Woodland

Fertility and moisture are favorable on this Becket soil for high quality hardwoods. Erosion hazard, slope, windthrow hazard, and plant competition are limitations that affect woodland management.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by using track equipment and careful planning to avoid the steepest areas within the unit. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is severely limited by steep slopes, slow permeability in the substratum, and an erosion hazard during construction operations. At times when the surface of this soil is disturbed, extraordinary erosion control measures are needed. Slope limitations can be reduced by cut and fill. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal systems, the slowly permeable substratum and slope are severe limitations that can be overcome with special designs and fill to raise and increase the size of absorption fields.

Recreation

This soil has severe limitations for recreational developments due to slope.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIIs.

59B—Waumbek loamy sand, 3 to 8 percent slopes, very stony

This soil is very deep, gently sloping or undulating, and moderately well drained. It is on glaciated valleys and hillsides. The areas are irregular in shape and range from 5 to 30 acres in size. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

1 inch to 0, slightly decomposed needles, moss, leaves, and twigs

0 to 4 inches, black partially decomposed herbaceous and woody material

4 to 9 inches, light brownish gray loamy sand

Subsoil:

9 to 10 inches, dark reddish brown loamy sand

10 to 13 inches, dark reddish brown cobbly loamy sand

13 to 20 inches, strong brown very cobbly loamy sand

20 to 25 inches, dark yellowish brown very cobbly loamy sand with gray mottles

Substratum:

25 to 41 inches, dark grayish brown very cobbly loamy sand

41 to 65 inches, grayish brown very cobbly loamy sand

Some areas of this unit have surface layer of loamy fine sand.

Inclusions

Included with this unit are low mounds or ridges of somewhat excessively drained Hermon soils, nearly level areas of poorly drained Lyme and Moosilauke soils in depressions and along narrow drainageways, and small areas with slopes of less than 3 percent or more than 8 percent. Also included are areas that have been cleared of surface stones for farming. A few areas have surface stones less than 5 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Waumbek soil

Permeability: Moderately rapid to rapid in the surface layer and subsoil; rapid in the substratum

Available water capacity: Very low

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: 1.5 to 2.5 feet from November through May

Potential frost action: Moderate

Flood hazard: None

Most areas of this unit are forested. A few areas have been cleared for farming, but many are reverting to woodland. Other areas have been used for residential or commercial developments.

Use and Management

Farming

This unit is too stony for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. Even if the soil is cleared of surface stones, the spring wetness, summer droughtiness, and moderate erosion hazard are limitations. The short growing season and cool summers restrict the choice of crop varieties.

Woodland

Fertility and moisture are adequate on this Waumbek soil for good tree growth. This soil is limited for woodland management by windthrow hazard and plant competition.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

Wetness, frost action, and stoniness are the main limitations. The sides of excavations slough and fill with water. Deep excavations may require special equipment. In many areas the large stones and boulders in the substratum are an additional limitation for excavations. Wetness is a severe limitation for dwellings with basements and a moderate limitation for dwellings without basements. Foundation drains are needed to control wetness and frost action. Erosion control measures such as sediment catch basins, heavy mulches, straw bales, terraces, and diversions should be used during periods of construction. Wetness and large stones are moderate limitations for lawns and landscaping.

Wetness and poor filtering are severe limitations for onsite sewage disposal systems. Also, the very permeable subsoil and substratum do not effectively filter effluent, and there is a hazard of ground-water pollution.

This soil is a probable source of sand and gravel, but extensive test pitting should be done at the site.

Recreation

This soil has moderate limitations for camping and picnic areas due to wetness and large stones. Limitations are severe for playgrounds and athletic fields due to stoniness. Soil wetness is moderate limitation for hiking paths and trails.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. These soils are very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

59C—Waumbek loamy sand, 8 to 15 percent slopes, very stony

This soil is very deep, strongly sloping or rolling, and moderately well drained. It is on glaciated valleys and hilltops. The areas are irregular in shape and range from 5 to 50 acres in size. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

1 inch to 0, slightly decomposed needles, moss, leaves, and twigs

0 to 4 inches, black partially decomposed herbaceous and woody material

4 to 9 inches, light brownish gray loamy sand

Subsoil:

9 to 10 inches, dark reddish brown loamy sand

10 to 13 inches, dark reddish brown cobbly loamy sand

13 to 20 inches, strong brown very cobbly loamy sand

20 to 25 inches, dark yellowish brown very cobbly loamy sand with gray mottles

Substratum:

25 to 41 inches, dark grayish brown very cobbly loamy sand

41 to 65 inches, grayish brown very cobbly loamy sand

Some areas of this unit have a surface layer of loamy fine sand.

Inclusions

Included with this unit are low mounds or ridges of somewhat excessively drained Hermon soils, nearly level areas of poorly drained Lyme and Moosilauke soils in depressions and along narrow drainageways, and small areas with slopes of less than 8 percent or more than 15 percent. Also included are a few areas that have been cleared of surface stones for farming. A few areas have surface stones less than 5 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Waumbek soil

Permeability: Moderately rapid to rapid in the surface layer and subsoil; rapid in the substratum

Available water capacity: Very low

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: 1.5 to 2.5 feet from November through May

Potential frost action: Moderate

Flood hazard: None

Most areas of this soil are forested. A few areas have been cleared for farming, but many of these are reverting to woodland. Other areas have been used for residential or commercial developments.

Use and Management

Farming

This soil is too stony for most farming other than pasture. The degree of pasture improvement that can be done on the soil depends on the amount of surface stones. Even if the soil is cleared of surface stones, the slope, spring wetness, summer droughtiness, and moderate erosion hazard are limitations. The short growing season and cool summers restrict the choice of crop varieties.

Woodland

Fertility and moisture are adequate for good tree growth. This soil is limited for woodland management by windthrow hazard and plant competition.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This soil is limited by wetness, slope, frost action, and stoniness for most phases of community development. The sides of shallow excavations tend to slough and fill with water, and deep excavations may require special equipment. In many areas the large stones and boulders in the substratum are an additional concern for excavations. Slope and wetness are moderate limitations for dwellings without basements. Limitations for dwellings with basements are severe due to wetness. Foundation drains are needed to control wetness and frost action. Limitations are moderate for lawns and landscaping due to wetness, large stones, and slope. Erosion control measures such as sediment catch basins, heavy mulches, straw bales, terraces, and diversions should be used during periods of construction.

Wetness and poor filtering properties are severe limitations for sites of onsite sewage disposal systems. The very permeable subsoil and substratum do not effectively filter effluent, and there is a hazard of ground-water pollution.

This soil is a probable source of sand and gravel, but extensive test pitting should be done at the site.

Recreation

This soil has moderate limitations for camping and picnic areas due to slope, wetness, and large stones. Limitations are severe for playgrounds and athletic fields due to stoniness and slope. Soil wetness and large stones are moderate limitations for hiking paths and trails.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. The soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

61B—Tunbridge-Lyman-Rock outcrop complex, 3 to 8 percent slopes

The Tunbridge and Lyman soils in this unit are in such an intricate pattern that it was not practical to map them separately. The Tunbridge soils are loamy, moderately deep, and well drained. The Lyman soils are loamy, shallow, and somewhat excessively drained. These soils are on undulating or gently sloping hilltops and hillsides. The areas are roughly oval or irregular in shape and range from 5 to 40 acres in size. Rock outcrops are less than 100 feet apart. Stones are mainly 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. Tunbridge soils make up 40 percent of this unit, Lyman soils 30 percent, rock outcrops 15 percent, and other soils 15 percent.

The typical sequence, depth, and composition of the layers of the Tunbridge soil are as follows—

Surface layer:

0 to 1 inch, dark reddish brown fine sandy loam
1 to 3 inches, pinkish gray fine sandy loam

Subsoil:

3 to 11 inches, strong brown fine sandy loam
11 to 21 inches, yellowish brown fine sandy loam

Substratum:

21 to 28 inches, light yellowish brown fine sandy loam
28 inches, hard schist bedrock

The typical sequence, depth, and composition of the layers of the Lyman soil are as follows—

Surface layer:

0 to 3 inches, dark reddish brown fine sandy loam

Subsoil:

3 to 7 inches, yellowish brown fine sandy loam
7 to 12 inches, yellowish red loam
12 to 16 inches, olive gravelly loam
16 inches, hard schist bedrock

Inclusions

Included with this complex are areas that are nearly level, areas of well drained Marlow soils or moderately well drained Peru soils, and areas of very shallow soils. In some areas bedrock blocks the drainage patterns and the moderately deep to shallow soils are moderately well drained to poorly drained. These inclusions make up about 10 percent of this complex. Also included are small areas with surface stones less than 5 feet apart and areas that are more than 15 percent rock outcrop. These inclusions make up about 5 percent of this complex.

Major properties of the Tunbridge soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: 20 to 40 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Major properties of the Lyman soil

Permeability: Moderately rapid throughout
Available water capacity: Very low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this complex are woodland. A few areas have been cleared for pasture, but most are reverting to woodland. A few scattered areas have been used for homesites.

Use and Management

Farming

Stones and rock outcrops are major limitations. Some areas may have limited potential for hayland or pasture, depending on amount and size of the rock outcrops and surface stones. Erosion is a concern in areas adjoining broad smooth rock outcrops because the soil is mainly too shallow to support adequate plant cover.

Woodland

Fertility and moisture are adequate on these Tunbridge and Lyman soils. However windthrow is a hazard and seedling mortality and plant competition are additional limitations on Lyman soils.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Site preparation following harvest helps reduce the invasion of undesirable species.

Because of the size, shape, or slope of the rock outcrops, the establishment of roads is difficult in some areas.

Community Development

These soils are limited for community development by depth to bedrock, rock outcrops, frost action, and surface stones. Construction and installation of underground utilities often require drilling and blasting the bedrock to obtain desired grades and depths. Foundation drains are to remove water on the bedrock and in the fractures. Foundation drains will also reduce the moderate frost action. Gravity outlets for the drains may be difficult to locate or require additional blasting.

The depth to bedrock is a severe limitation for onsite waste disposal systems. Areas with sufficient depth for the system must be located or a site must be filled to obtain adequate depth. The included areas of Marlow and Peru soils have the necessary depth, but have limitations of slow permeability and seasonal water table.

Recreation

These soils have moderate to severe limitations for most recreational uses. Stoniness is a moderate limitation on the Tunbridge soils if used for camp or picnic. On areas of Lyman soils or rock outcrop, limitations are severe for camp or picnic areas due to the shallow depth to bedrock and for a playground or athletic field due to the depth to bedrock and large stones. Maintaining adequate grass cover on the shallow, droughty Lyman areas is limitation.

Wildlife Habitat

Suitability for habitat on Tunbridge soils is poor for openland wildlife and good for woodland wildlife. Lyman soils are poorly suited for openland and woodland wildlife habitat. The soils are very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

61C—Tunbridge-Lyman-Rock outcrop complex, 8 to 15 percent slopes

The Tunbridge and Lyman soils in this unit are in such an intricate pattern that it was not practical to map them separately. The Tunbridge soils are loamy, moderately deep, and well drained. The Lyman soils are loamy, shallow, and somewhat excessively drained. These soils are on rolling or strongly sloping hilltops and hillsides. The areas are roughly oval or irregular in shape and range from 5 to 40 acres in size. Rock outcrops are less than 100 feet apart. Stones are mainly 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. Tunbridge soils make up 40 percent of this unit, Lyman soils 30 percent, rock outcrops 15 percent, and other soils 15 percent.

The typical sequence, depth, and composition of the layers of the Tunbridge soil are as follows—

Surface layer:
0 to 1 inch, dark reddish brown fine sandy loam
1 to 3 inches, pinkish gray fine sandy loam
Subsoil:
3 to 11 inches, strong brown fine sandy loam
11 to 21 inches, yellowish brown fine sandy loam
Substratum:
21 to 28 inches, light yellowish brown fine sandy loam
28 inches, hard schist bedrock

The typical sequence, depth, and composition of the layers of the Lyman soil are as follows—

Surface layer:
0 to 3 inches, dark reddish brown fine sandy loam
Subsoil:
3 to 7 inches, yellowish brown fine sandy loam
7 to 12 inches, yellowish red loam
12 to 16 inches, olive gravelly loam
16 inches, hard schist bedrock

Inclusions

Included with this complex are areas that are nearly level, areas of well drained Marlow soils or moderately well drained Peru soils, and areas of very shallow soils. In some areas bedrock blocks the drainage patterns and the moderately deep to shallow soils are moderately well drained to poorly drained. These inclusions make up about 10 percent of this complex. Also included are small areas with surface stones less than 5 feet apart and areas that are more than 15 percent rock outcrop. These inclusions make up about 5 percent of this complex.

Major properties of the Tunbridge soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: 20 to 40 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Major properties of the Lyman soil

Permeability: Moderately rapid throughout
Available water capacity: Very low

Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this complex are wooded. A few areas have been cleared for pasture, but most are reverting to woodland. A few scattered areas have been used for homesites.

Use and Management

Farming

The surface stones and rock outcrops are the major limitations. Some areas may have limited potential for hayland or pasture, depending on the amount and size of the rock outcrops and surface stones. Erosion is a concern in areas adjoining broad, smooth rock outcrops because the soil is mainly too shallow to support adequate plant cover.

Woodland

Fertility and moisture are adequate on these Tunbridge and Lyman soils. However, windthrow hazard is a hazard and seedling mortality and plant competition are additional limitations on Lyman soils.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Site preparation following harvest helps reduce the invasion of undesirable species.

Because of the size, shape, or slope of the outcrop, roads are difficult to establish in some areas.

Community Development

These soils are limited for community development by slope, depth to bedrock, rock outcrops, frost action, and surface stones. Limitations are moderate on the Tunbridge soils for local roads and streets due to depth to bedrock, slope, and frost action and severe on the Lyman soils due to shallow depth. Either drilling and blasting of the bedrock or covering with additional fill material will be needed to obtain desired grades and depths.

Frost action can be overcome by providing coarser grained base material to frost depth and installing drainage. Construction and installation of underground utilities often require drilling and blasting bedrock to obtain desired grades and depths. Foundation drains are required to remove water on the bedrock and in the fractures. Foundation drains will also reduce the moderate frost action. The depth to bedrock is a severe limitation for onsite waste disposal systems. Areas with sufficient depth for the system must be located or a site must be filled to obtain adequate depth. The included areas of Marlow and Peru soils have the necessary depth, but have limitations of slow permeability and seasonal water table.

Recreation

These soils have moderate to severe limitations for most recreational uses. There is a moderate limitation on the Tunbridge soils if used for camp or picnic areas due to slope and surface stoniness. On areas of Lyman soils or rock outcrop, limitations are severe for camp or picnic areas due to the shallow depth to bedrock. For a playground or athletic field, there are severe limitations due to the slope, depth to bedrock, and large stones. Maintaining adequate grass cover on the shallow, droughty Lyman areas is also a concern.

Wildlife Habitat

Suitability for habitat on Tunbridge soils is poor for openland wildlife and good for woodland wildlife. Lyman soils are poorly suited for openland and woodland wildlife habitat. These soils are very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

61D—Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes.

The Tunbridge and Lyman soils in this unit are in such an intricate pattern that it was not practical to map them separately. The Tunbridge soils are loamy, moderately deep, and well drained. The Lyman soils are loamy, shallow, and somewhat excessively drained. These soils are on moderately steep hilltops and hillsides. The areas are roughly oval or irregular in shape and range from 5 to 40 acres in size. Rock outcrops are less than 100 feet apart. Stones are mainly 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. Tunbridge soils make up 40 percent of this unit, Lyman soils 30 percent, rock outcrops 15 percent, and other soils 15 percent.

The typical sequence, depth, and composition of the layers of the Tunbridge soil are as follows—

Surface layer:
0 to 1 inch, dark reddish brown fine sandy loam
1 to 3 inches, pinkish gray fine sandy loam
Subsoil:
3 to 11 inches, strong brown fine sandy loam
11 to 21 inches, yellowish brown fine sandy loam
Substratum:
21 to 28 inches, light yellowish brown fine sandy loam

28 inches, hard schist bedrock

The typical sequence, depth, and composition of the layers of the Lyman soil are as follows—
Surface layer:
0 to 3 inches, dark reddish brown fine sandy loam
Subsoil:
3 to 7 inches, yellowish brown fine sandy loam
7 to 12 inches, yellowish red loam
12 to 16 inches, olive gravelly loam
16 inches, hard schist bedrock

Inclusions

Included with this complex areas of well drained Marlow soils or moderately well drained Peru soils, areas of soils with slopes of less than 15 percent or more than 25 percent, and areas of very shallow soils. In some areas bedrock blocks the drainage patterns and the moderately deep to shallow soils are moderately well drained to poorly drained. These inclusions make up about 10 percent of this complex. Also included are small areas with surface stones less than 5 feet apart and areas that are more than 15 percent rock outcrop. These inclusions make up about 5 percent of this complex.

Major properties of the Tunbridge soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: 20 to 40 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Major properties of the Lyman soil

Permeability: Moderately rapid throughout
Available water capacity: Very low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this complex are woodland. A few areas have been cleared for pasture, but most are reverting to woodland. A few scattered areas have been used for homesites (fig. 19).

Use and Management

Farming

The slope, stones, and rock outcrops are major limitations for all but unimproved pasture. Erosion is a concern in areas adjoining broad smooth rock outcrops because the soil is mainly too shallow to support adequate plant cover.

Woodland

Fertility and moisture are adequate on these

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Figure 19.— This area of Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes, is used for woodland.

Tunbridge and Lyman soils. However, windthrow and slope are hazards and seedling mortality and plant competition are additional limitations on Lyman soils.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by using track equipment and careful planning to avoid the steepest areas within the unit. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Site preparation following harvest helps reduce the invasion of undesirable species.

Because of the size, shape, or slope of the rock outcrops, the establishment of roads is difficult in some areas.

Community Development

These soils are limited for community development by slope, depth to bedrock, rock outcrops, frost action, and surface stones. Slope limits construction and installation of underground utilities, and often drilling and blasting the bedrock are required to obtain desired grades and depths. Foundation drains are to remove water on the bedrock and in the fractures. Foundation drains will also reduce the moderate frost action. Gravity outlets for the drains may be difficult to locate or require additional blasting.

The depth to bedrock and slope are severe limitations for onsite waste disposal systems. Areas with sufficient depth for the system must be located or a site must be filled to obtain adequate depth. The included areas of Marlow and Peru soils have the necessary depth, but have limitations of slow permeability and seasonal water table.

Recreation

These soils have severe limitations for most recreational uses because of slope and the depth to bedrock.

Wildlife Habitat

Suitability for habitat on Tunbridge soils is poor for openland wildlife and good for woodland wildlife. Lyman soils are poorly suited for openland and woodland wildlife habitat. The soils are very poorly suited for wetland wildlife habitat.

The capability subclass is VIIs.

61E—Tunbridge-Lyman-Rock outcrop complex, 25 to 60 percent slopes

The Tunbridge and Lyman soils in this unit are in such an intricate pattern that it was not practical to map them separately. The Tunbridge soils are loamy, moderately deep, and well drained. The Lyman soils are loamy, shallow, and somewhat excessively drained. These soils are on steep and very steep mountains and hillsides. The areas are roughly oval or irregular in shape and range from 5 to 40 acres in size. Rock outcrops are less than 100 feet apart. Stones are mainly 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. Tunbridge soils make up 40 percent of this unit, Lyman soils 30 percent, rock outcrops 15 percent, and other soils 15 percent.

The typical sequence, depth, and composition of the layers of the Tunbridge soil are as follows—

Surface layer:

0 to 1 inch, dark reddish brown fine sandy loam

1 to 3 inches, pinkish gray fine sandy loam

Subsoil:

3 to 11 inches, strong brown fine sandy loam

11 to 21 inches, yellowish brown fine sandy loam

Substratum:

21 to 28 inches, light yellowish brown fine sandy loam

28 inches, hard schist bedrock

The typical sequence, depth, and composition of the layers of the Lyman soil are as follows—

Surface layer:

0 to 3 inches, dark reddish brown fine sandy loam

Subsoil:

3 to 7 inches, yellowish brown fine sandy loam

7 to 12 inches, yellowish red loam

12 to 16 inches, olive gravelly loam

16 inches, hard schist bedrock

Inclusions

Included with this complex are areas of well drained Marlow soils or moderately well drained Peru soils and areas with slopes of less than 25 percent or more than 60 percent. In some areas bedrock blocks the drainage patterns and the moderately deep to shallow soils are moderately well drained to poorly drained. These inclusions make up about 10 percent of this complex. Also included are small areas with surface stones less than 5 feet apart and areas that are more than 15 percent rock outcrop. These inclusions make up about 5 percent of this complex.

Major properties of the Tunbridge soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: 20 to 40 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Major properties of the Lyman soil

Permeability: Moderately rapid throughout
Available water capacity: Very low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this complex are wooded.

Use and Management

Farming

The steep and very steep slopes, surface stones, and rock outcrops prohibit farming.

Woodland

Fertility and moisture are adequate on these Tunbridge and Lyman soils. However, the soils are limited for woodland management by erosion hazard, slope, seedling mortality, and windthrow hazard. On areas of Lyman soils, plant competition is an additional limitation.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Because of the size, shape, or slope of the rock outcrop, roads are difficult to establish in some areas.

Community Development

Steep and very steep slopes, rock outcrops, surface stones, and bedrock at a depth of less than 40 inches are severe limitations for any type of community development. Any construction may make it necessary to use special designs.

The depth to bedrock and steep slopes are severe limitations for onsite waste disposal systems. Areas with sufficient depth for the system must be located or a site must be filled to obtain adequate depth. The included areas of Marlow and Peru soils have the necessary depth, but have limitations of slow permeability and seasonal water table.

Recreation

These steep and very steep soils have severe limitations for recreational uses. Trails should be planned across these slopes as much as possible. Hiking trails crossing the soil should have frequent water bars to prevent excessive erosion, and trails on broad, smooth, steep areas of rock outcrop are slippery. The large steep outcrops frequently provide natural scenic overlooks that should be considered in planning trails. Maintaining vegetation on these steep slopes is very difficult on the shallow soils, and erosion is a severe hazard.

Wildlife Habitat

Suitability for habitat on Tunbridge soils is poor for openland wildlife and fair for woodland wildlife. Lyman soils are poorly suited for openland and woodland wildlife habitat. These soils are very poorly suited for wetland wildlife habitat.

The capability subclass is VIIs.

62B—Charlton fine sandy loam, 3 to 8 percent slopes

This soil is very deep, gently sloping, and well drained. It is on loamy glaciated hills along the western part of the survey area. The areas are oval and range from 5 to 20 acres in size. The surface of some areas has stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
1 inch to 0, loose leaves and twigs
0 to 6 inches, dark brown fine sandy loam
Subsoil:
6 to 11 inches, dark yellowish brown gravelly fine sandy loam
11 to 23 inches, yellowish brown gravelly fine sandy loam
23 to 28 inches, light olive brown gravelly fine sandy loam
Substratum:
28 to 65 inches, olive brown gravelly sandy loam

Some areas are sandier in the substratum.

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. In depressions and along narrow drainageways are moderately well drained and poorly drained, loamy soils. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Charlton soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil have been cleared for farming. Some areas are reverting to woodland. Other areas have been used for residential or commercial developments.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. It is well suited for row crops. Some erosion control measures, such as contour tillage and winter cover crops, should be used if continuous row cropping is planned. This soil is well suited for forage crops. Good to excellent yields of silage corn, grasses and legumes can be obtained with the proper use of lime and fertilizers.

Woodland

Fertility and moisture are favorable on this Charlton soil for high quality hardwoods. There are few limitations for woodland management or logging operations.

Community Development

This soil has few limitations for most phases of community development. Subsurface stones may be a concern when excavating.

Recreation

This soil has moderate limitations due to slope and small stones for playgrounds and athletic fields.

Wildlife Habitat

Suitability is good for habitat areas for openland and woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IIe.

62C—Charlton fine sandy loam, 8 to 15 percent slopes

This soil is very deep, strongly sloping, and well drained. It is on loamy glaciated hills along the western part of the survey area. The areas are irregular in shape and range from 5 to 25 acres in size. The surface of some areas has stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
1 inch to 0, loose leaves and twigs.
0 to 6 inches, dark brown fine sandy loam.
Subsoil:
6 to 11 inches, dark yellowish brown gravelly fine sandy loam.
11 to 23 inches, yellowish brown gravelly fine sandy loam.
23 to 28 inches, light olive brown gravelly fine sandy loam.
Substratum:
28 to 65 inches, olive brown gravelly sandy loam.

Some areas are sandier in the substratum.

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. In depressions and along narrow drainageways are moderately well drained and poorly drained, loamy soils. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil have been cleared for farming. Some areas are reverting to woodland. Other areas have been used for residential or commercial developments.

Use and Management

Farming

This Charlton soil is well suited for forage production, but slope and erosion hazard make it only moderately well suited for row crops. Some erosion control measures such as contour tillage, stripcropping, and winter cover crops should be used if continuous row cropping is planned. Good to excellent yields of grasses and legumes can be obtained with the proper use of lime and fertilizers. This is one of the better soils in the county for the production of alfalfa.

Woodland

Fertility and moisture are favorable on this Charlton soil for high quality hardwoods. This soil has few limitations for woodland management or logging operations.

Community Development

The slope of this soil is a moderate limitation for most phases of community development. Subsurface stones may be a concern when excavating. With careful planning and layout of building lots, less sloping portions of this unit can be used.

For onsite waste disposal, the slope of this soil is a moderate limitation which can be reduced by cut and fill to level an area.

Recreation

This soil has moderate limitations for camping and picnic areas due to slope. Limitations are severe for playgrounds and athletic fields due to slope and small stones. Hiking paths and trails can be planned and maintained with few limitations.

Wildlife Habitat

Suitability is good for habitat areas for openland and woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IIIe.

62D—Charlton fine sandy loam, 15 to 25 percent slopes

This soil is very deep, moderately steep, and well drained. It is on loamy glaciated hills along the western part of the survey area. The areas are irregular in shape and range from 5 to 15 acres in size. The surface of some areas has stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
1 inch to 0, loose leaves and twigs
0 to 6 inches, dark brown fine sandy loam
Subsoil:
6 to 11 inches, dark yellowish brown gravelly fine sandy loam
11 to 23 inches, yellowish brown gravelly fine sandy loam
23 to 28 inches, light olive brown gravelly fine sandy loam
Substratum:
28 to 65 inches, olive brown gravelly sandy loam

Some areas are sandier in the substratum.

Inclusions

Included with this unit are small areas with slopes of less than 15 percent or more than 25 percent. In depressions and along narrow drainageways are moderately well drained and poorly drained, loamy soils. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil have been cleared for farming. Some areas are reverting to woodland. Other areas have been used for residential or commercial developments.

Use and Management

Farming

This Charlton soil is not suited for row crops because of its moderately steep slopes and severe erosion hazard. This soil is moderately well suited for forage production. Good yields of grasses and legumes can be obtained with the proper use of lime and fertilizers. These areas are best suited for pasture because the slopes make the operation of farm equipment inefficient and hazardous.

Woodland

Fertility and moisture are favorable on this Charlton soil for high quality hardwoods. This soil is limited for woodland management by erosion hazard and slope.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas.

Community Development

The slope of this soil is a severe limitation for most phases of community development. Subsurface stones may be a concern when excavating. Areas of this soil may require significant erosion control measures during periods of construction to control soil loss and to prevent sedimentation below the site. Most slope limitations can be reduced by cut and fill techniques to level areas.

For onsite waste disposal, the slope of this soil is a severe limitation which can be reduced by cut and fill or special system designs.

Recreation

This soil is limited by slope for recreational developments. Limitations are severe for playgrounds, athletic fields, and picnic and camping areas. This soil has a moderate limitation for the design and maintenance of hiking paths and trails.

Wildlife Habitat

Suitability is fair for habitat areas for openland wildlife and good for woodland wildlife habitat. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IVe.

63B—Charlton fine sandy loam, 3 to 8 percent slopes, very stony

This soil is very deep, gently sloping, and well drained. It is on loamy glaciated hills along the western part of the survey area. The areas are oval and range from 5 to 30 acres in size. Stones are 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
1 inch to 0, loose leaves and twigs
0 to 6 inches, dark brown fine sandy loam
Subsoil:
6 to 11 inches, dark yellowish brown gravelly fine sandy loam
11 to 23 inches, yellowish brown gravelly fine sandy loam
23 to 28 inches, light olive brown gravelly fine sandy loam
Substratum:
28 to 65 inches, olive brown gravelly sandy loam

Some areas are sandier in the substratum.

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. In depressions and along narrow drainageways are moderately well drained and poorly drained, loamy soils. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil are forested. Other areas have been used for residential or commercial developments.

Use and Management

Farming

This unit is too stony for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. If cleared of surface stones, the soil meets criteria for prime farmland. This soil is well suited for forage crops.

Woodland

Fertility and moisture are favorable on this Charlton soil for high quality hardwoods. There are few limitations for woodland management or logging operations.

Community Development

This soil has few limitations for most phases of community development. Surface stones are a moderate limitation for the establishment and maintenance of lawns. Subsurface stones may be a concern when excavating.

Recreation

This soil has moderate limitations for camping and picnic areas due to large surface stones. There is a severe limitation for playgrounds and athletic fields due to large stones.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and good for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

63C—Charlton fine sandy loam, 8 to 15 percent slopes, very stony

This soil is very deep, strongly sloping, and well drained. It is on loamy glaciated hills along the western part of the survey area. The areas are irregular in shape and range from 5 to 75 acres in size. Stones are 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

1 inch to 0, loose leaves and twigs

0 to 6 inches, dark brown fine sandy loam

Subsoil:

6 to 11 inches, dark yellowish brown gravelly fine sandy loam

11 to 23 inches, yellowish brown gravelly fine sandy loam

23 to 28 inches, light olive brown gravelly fine sandy loam

Substratum:

28 to 65 inches, olive brown gravelly sandy loam

Some areas are sandier in the substratum.

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. In depressions and along narrow drainageways are moderately well drained and poorly drained, loamy soils. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this unit are forested. Other areas have been used for residential or commercial developments.

Use and Management

Farming

This unit is too stony for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones.

Woodland

Fertility and moisture are favorable on this Charlton soil for high quality hardwoods. There are few limitations for woodland management or logging operations.

Community Development

The slope of this soil is a moderate limitation for most phases of community development. Surface stones are a moderate limitation for the establishment and maintenance of lawns. Subsurface stones can be a concern when excavating. Slope limitations can be reduced by cut and fill techniques to level areas.

The slope of this soil is a moderate limitation for onsite sewage disposal. This limitation can be reduced by cut and fill to level an area for an absorption field.

Recreation

This soil is limited by slope and large stones. Limitations are severe for playgrounds and athletic fields, while picnic and camping areas are moderately affected. Hiking paths and trails can be planned and maintained with few limitations.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and good for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

63D—Charlton fine sandy loam, 15 to 25 percent slopes, very stony

This soil is very deep, moderately steep, and well drained. It is on loamy glaciated hills along the western part of the survey area. The areas are irregular in shape and range from 5 to 100 acres in size. Stones are 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

1 inch to 0, loose leaves and twigs

0 to 6 inches, dark brown fine sandy loam

Subsoil:
6 to 11 inches, dark yellowish brown gravelly fine sandy loam
11 to 23 inches, yellowish brown gravelly fine sandy loam
23 to 28 inches, light olive brown gravelly fine sandy loam
Substratum:
28 to 65 inches, olive brown gravelly sandy loam

Some areas are sandier in the substratum.

Inclusions

Included with this unit are small areas with slopes of less than 15 percent or more than 25 percent. In depressions and along narrow drainageways are moderately well drained and poorly drained, loamy soils. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this unit are forested. Other areas have been used for residential or commercial developments.

Use and Management

Farming

This unit is too stony for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. The slope makes the operation of farm equipment hazardous.

Woodland

Fertility and moisture are favorable on this Charlton soil for high quality hardwoods. Erosion hazard and slope affect woodland management.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas.

Community Development

The slope of this soil is a severe limitation for all phases of community development. Subsurface stones may be a concern when excavating. Areas of this soil will need significant erosion control measures during periods of construction to control soil loss and to prevent sedimentation below the site. Slope limitations can be reduced by cut and fill techniques to level an area.

For onsite sewage disposal systems, slope is a severe limitation.

Recreation

This soil is limited by slope and large stones. Slope limitations are severe if the soil is used for camp and picnic areas. Limitations are severe due to large stones and slope where areas of this soil are used for playgrounds or athletic fields. The slope of this soil is a moderate limitation for the design and construction of hiking paths and trails.

Wildlife Habitat

Suitability of this soil is poor for habitat areas for openland wildlife and good for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

63E—Charlton fine sandy loam, 25 to 35 percent slopes, very stony

This soil is very deep, steep, and well drained. It is on loamy glaciated hills and mountains along the western part of the survey area. The areas are irregular in shape and range from 5 to 50 acres in size. Stones are 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
1 inch to 0, loose leaves and twigs
0 to 6 inches, dark brown fine sandy loam
Subsoil:
6 to 11 inches, dark yellowish brown gravelly fine sandy loam
11 to 23 inches, yellowish brown gravelly fine sandy loam
23 to 28 inches, light olive brown gravelly fine sandy loam
Substratum:
28 to 65 inches, olive brown gravelly sandy loam

Some areas are sandier in the substratum.

Inclusions

Included with this unit are small areas with slopes of less than 25 percent or more than 35 percent. In depressions and along narrow drainageways are moderately well drained and poorly drained, loamy soils. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this unit are forested. Other areas have been used for residential or commercial developments.

Use and Management

Farming

This unit is too stony for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. The steep slopes make the operation of farm equipment extremely hazardous.

Woodland

Fertility and moisture are favorable on this Charlton soil for high quality hardwoods. Erosion hazard and slope affect woodland management.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas.

Community Development

The slope of this soil is a severe limitation for all phases of community development. Subsurface stones may be a concern when excavating. Areas of this soil will need significant erosion control measures during periods of construction to control soil loss and to prevent sedimentation below the site. Most slope limitations on this unit can be reduced by cut and fill techniques to level an area.

For onsite waste disposal systems, slope is a severe limitation.

Recreation

This soil has severe slope limitations for recreational developments. The large surface stones are an additional limitation for playgrounds and athletic fields.

Wildlife Habitat

Suitability of this soil is poor for habitat areas for openland wildlife and good for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIIs.

72B—Berkshire loam, 3 to 8 percent slopes

This soil is very deep, gently sloping, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 25 acres in size. The surface of some areas has stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 7 inches, very dark grayish brown loam
7 to 8 inches, pinkish gray loam
Subsoil:
8 to 12 inches, dark brown loam
12 to 18 inches, brown loam
Substratum:
18 to 65 inches, very dark grayish brown friable loam

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. In depressions and along narrow drainageways are moderately well drained Peru soils and poorly drained Lyme and Pillsbury soils. Also included are small areas of Monadnock and Tunbridge soils. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Berkshire soil

Permeability: Moderate to moderately rapid throughout.
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are used for hay and pasture. Some areas have been used for cultivated crops, and a few areas have been used for residential or commercial developments. A few areas are reverting to woodland.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. However, the short growing season and cool summers restrict the choice of crop varieties. Excellent yields of silage corn, grasses, and legumes can be obtained with the proper use of lime and fertilizers. The use of conservation tillage or stripcropping to control erosion and the use of winter cover crops will allow this soil to be used for continuous row crops.

Woodland

Fertility and moisture are favorable on this Berkshire soil for high quality hardwoods.

Community Development

This soil has a moderate limitation due to frost action for local roads and streets. This limitation can be overcome by providing coarser grained base material to frost depth. The moderate limitation for small commercial buildings due to slope can be reduced by cut and fill to level the soil.

Recreation

This soil has moderate limitations for playgrounds and athletic fields due to slope and small

stones. Hiking paths and trails can be planned and maintained with few limitations.

Wildlife Habitat

Suitability is good for habitat areas for openland wildlife and woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IIe.

72C—Berkshire loam, 8 to 15 percent slopes

This soil is very deep, strongly sloping, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 25 acres in size. The surface of some areas has stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 7 inches, very dark grayish brown loam
7 to 8 inches, pinkish gray loam
Subsoil:
8 to 12 inches, dark brown loam
12 to 18 inches, brown loam
Substratum:
18 to 65 inches, very dark grayish brown friable loam

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. In depressions and along narrow drainageways are moderately well drained Peru soils and poorly drained Lyme and Pillsbury soils. Also included are small areas of Monadnock and Tunbridge soils. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Berkshire soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are used for hay and pasture. Some areas have been used for cultivated crops, and a few have been used for residential or commercial developments. A few areas are reverting to woodland.

Use and Management

Farming

This soil is not suited for row crops due to its slope and erosion hazard. However, it is well suited for grasses and legumes for hay or pasture.

Woodland

Fertility and moisture are favorable on this Berkshire soil for high quality hardwoods.

Community Development

This soil has a moderate limitation for shallow excavations, dwellings with or without basements, local roads and streets, and lawns due to slope. The slope of this soil is a severe limitation for small commercial buildings. Foundation drains will help to control frost action. There is a moderate limitation for local roads and streets due to frost action. It can be overcome by providing coarser grained base material to frost depth and installing drainage. Limitations due to slope can be reduced by cut and fill to level the soil.

For onsite waste disposal, the slope of this soil is a moderate limitation that can be reduced by cut and fill or special system designs.

Recreation

This soil is limited by slope. Limitations for this soil are severe for playgrounds and athletic fields and moderate for picnic areas and camping areas. Hiking trails can be planned and maintained with few limitations.

Wildlife Habitat

Suitability is good for habitat areas for openland wildlife and woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IIIe.

72D—Berkshire loam, 15 to 25 percent slopes

This soil is very deep, moderately steep, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 15 acres in size. The surface of some areas has stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 7 inches, very dark grayish brown loam
7 to 8 inches, pinkish gray loam
Subsoil:
8 to 12 inches, dark brown loam
12 to 18 inches, brown loam
Substratum:
18 to 65 inches, very dark grayish brown friable loam

Inclusions

Included with this unit are small areas with slopes of less than 15 percent or more than 25 percent. In depressions and along narrow drainageways are moderately well drained Peru soils and poorly drained Lyme and Pillsbury soils. Also included are small areas of Monadnock and Tunbridge soils. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Berkshire soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are used for hay and pasture. Some areas have been used for residential or commercial developments, and a few are reverting to woodland.

Farming

This soil is poorly suited for row crops due to its slope and erosion hazard. However, it is well suited for grasses and legumes for hay or pasture, but the slopes make the operation of modern haying equipment hazardous.

Woodland

Fertility and moisture are favorable on this Berkshire soil for high quality hardwoods. Slope limits the use of equipment, but this limitation can be reduced by careful planning to avoid the steepest areas.

Community Development

This soil has severe slope limitations for shallow excavations, dwellings with or without basements, small commercial buildings, local roads and streets, and lawns. Limitations due to slope can be reduced by cut and fill to level the soil.

For onsite sewage disposal, the slope is a severe limitation that can be reduced by cut and fill or special system designs.

Recreation

The slope of this soil is the main limitation. It is severe for playgrounds, athletic fields, picnic areas, and camping areas. This soil has a moderate limitation for the design and maintenance of hiking paths and trails.

Wildlife Habitat

Suitability is fair for habitat areas for openland wildlife and good for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IVe.

73B—Berkshire loam, 3 to 8 percent slopes, very stony

This soil is very deep, gently sloping, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 30 acres in size. Surface stones are mainly 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 7 inches, very dark grayish brown loam

7 to 8 inches, pinkish gray loam
Subsoil:
8 to 12 inches, dark brown loam
12 to 18 inches, brown loam
Substratum:
18 to 65 inches, very dark grayish brown friable loam

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. In depressions and along narrow drainageways are moderately well drained Peru soils and poorly drained Lyme and Pillsbury soils. Also included are small areas of Monadnock and Tunbridge soils. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Berkshire soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are forested. Some areas have been used for unimproved pasture or residential development.

Use and Management

Farming

This soil is too stony for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. If cleared of surface stones, the soil meets the criteria for prime farmland. This soil is well suited for forage crops.

Woodland

Fertility and moisture are favorable on this Berkshire soil for high quality hardwoods. There are few limitations to woodland management.

Community Development

This soil is limited for community development by frost action and slope. Limitations for local roads and streets are moderate due to frost action and can be overcome by providing coarser grained base material to frost depth. The moderate limitation for small commercial buildings due to slope can be reduced by cut and fill to level the soil.

Recreation

This soil has a moderate limitation for camping areas and picnic areas due to large stones. Limitations are severe for playgrounds and athletic fields due to large stones. Hiking paths and trails can be planned and maintained with few limitations.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and good for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

73C—Berkshire loam, 8 to 15 percent slopes, very stony

This soil is very deep, strongly sloping, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 35 acres in size. Surface stones are mainly 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—
Surface layer:
0 to 7 inches, very dark grayish brown loam
7 to 8 inches, pinkish gray loam
Subsoil:
8 to 12 inches, dark brown loam
12 to 18 inches, brown loam
Substratum:
18 to 65 inches, very dark grayish brown friable loam

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. In depressions and along narrow drainageways are moderately well drained Peru soils and poorly drained Lyme and Pillsbury soils. Also included are small areas of Monadnock and Tunbridge soils. A few areas have surface stones less than 5 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Berkshire soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are forested. Some areas have been used for unimproved pasture or residential development.

Use and Management

Farming

This soil is generally too stony for cultivated crops or hay, although if cleared of surface stones, it can be used for pasture. Lime, fertilizers, and seed will improve pasture quality and carrying capacity.

Woodland

Fertility and moisture are favorable for high quality hardwoods. There are few limitations to woodland management.

Community Development

This soil is limited by slope, frost action and large stones. The slope of this soil is a moderate limitation for shallow excavations, dwellings with or without basements, local roads and streets, lawns, and landscaping. Large stones are an additional limitation for lawns and landscaping. The slope of this soil is a severe limitation for small commercial buildings. This soil has a moderate limitation for local roads and streets due to frost action. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. Limitations due to slope can be reduced by cut and fill to level the soil.

Slope is a moderate limitation in areas of onsite sewage disposal systems. This limitation can be reduced by cut and fill to level an area for an absorption field.

Recreation

This soil is limited for recreational developments by slope and large stones. Limitations are severe for playgrounds and athletic fields and moderate for picnic areas and camping areas. Hiking paths and trails can be planned and maintained with few limitations.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and good for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

73D—Berkshire loam, 15 to 25 percent slopes, very stony

This soil is very deep, moderately steep, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 60 acres in size. Surface stones are 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 7 inches, very dark grayish brown loam
7 to 8 inches, pinkish gray loam
Subsoil:
8 to 12 inches, dark brown loam
12 to 18 inches, brown loam
Substratum:
18 to 65 inches, very dark grayish brown friable loam

Inclusions

Included with this unit are small areas with slopes of less than 15 percent or more than 25 percent. In depressions and along narrow drainageways are moderately well drained Peru soils and poorly drained Lyme and Pillsbury soils. Also included are small areas of Monadnock and Tunbridge soils. A few areas have surface stones less than 5 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Berkshire soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are forested. Some areas have been used for unimproved pasture or residential development.

Use and Management

Farming

This soil is too stony for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. The moderately steep slopes make the operation of farm equipment hazardous.

Woodland

Fertility and moisture are favorable on this Berkshire soil for high quality hardwoods. Slope limits the use of equipment. This limitation can be reduced by careful planning to the avoid steepest areas within the unit.

Community Development

This soil has severe slope limitations for most phases of community development. Slope limitations can be reduced by cut and fill to level the soil.

The slope of this soil is a severe limitation for onsite waste disposal systems. This limitation can be reduced by cut and fill to level an area for an absorption field.

Recreation

This soil is limited by slope and large stones. Slope limitations for this soil are severe for camp areas and picnic areas. Limitations are severe due to large stones and slope for playgrounds or athletic fields. The slope of this soil is a moderate limitation for the design and construction of hiking paths and trails.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and good for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

73E—Berkshire loam, 25 to 35 percent slopes, very stony

This soil is very deep, steep, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 40 acres in size. Surface stones are mainly 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 7 inches, very dark grayish brown loam
7 to 8 inches, pinkish gray loam
Subsoil:
8 to 12 inches, dark brown loam
12 to 18 inches, brown loam
Substratum:
18 to 65 inches, very dark grayish brown friable loam

Inclusions

Included with this unit are small areas with slopes of less than 25 percent or more than 35 percent.

In depressions and along narrow drainageways are moderately well drained Peru soils and poorly drained Lyme and Pillsbury soils. Also included are small areas of Monadnock and Tunbridge soils. A few areas have surface stones less than 5 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Berkshire soil

Permeability: Moderate to moderately rapid throughout.
Available water capacity: High.
Depth to bedrock: More than 65 inches.
Depth to dense basal till: More than 65 inches.
Depth to water table: More than 6 feet.
Potential frost action: Moderate.
Flood hazard: None.

Most areas of this soil are forested. Some areas have been used for unimproved pasture or residential development.

Use and Management

Farming

This soil is too stony and steep for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. The steep slopes make the operation of farm equipment extremely hazardous.

Woodland

Fertility and moisture are favorable on this Berkshire soil for high quality hardwoods. Slope limits the use of equipment. This limitation can be reduced by using track equipment and careful planning to the avoid the steepest areas within the unit.

Community Development

This soil has severe limitations for community development due to slope. Slope limitations can be reduced by cut and fill to level the soil.

The slope of this soil is a severe limitation for onsite waste disposal systems. This limitation can be reduced by cut and fill to level an area for an absorption field.

Recreation

This soil has severe slope limitations for recreational developments. The large surface stones are an additional limitation for playgrounds and athletic fields.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and good for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIIs.

76B—Marlow fine sandy loam, 3 to 8 percent slopes

This soil is very deep, gently sloping, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 40 acres in size. Some areas have stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 3 inches, very dark gray fine sandy loam

3 to 6 inches, gray fine sandy loam
Subsoil:
6 to 13 inches, yellowish red fine sandy loam
13 to 17 inches, light olive brown fine sandy loam
17 to 31 inches, olive gravelly fine sandy loam
Substratum:
31 to 65 inches, olive gray, very firm fine sandy loam

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. In depressions and along narrow drainageways are moderately well drained Peru soils and poorly drained Pillsbury soils. Also included are small isolated areas of Tunbridge or Lyman soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of this Marlow soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum.
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil have been cleared for farming. Some areas are reverting to woodland. Other areas have been used for residential developments.

Use and Management

Farming

This Marlow soil is classified as prime farmland in this survey area. The short growing season and cool summers restrict the choice of crop varieties, and the long slopes require contour farming and winter cover crops. Excellent yields of silage corn, grasses, and legumes can be obtained with the proper use of lime and fertilizers. Home gardens have good yields of small fruits and vegetables, but very little truck farming is done in the county. Continuous row cropping is mainly not practical because of the moderate erosion hazard. Row crops can be grown in rotation with grasses and legumes. Contour tillage and stripcropping will keep erosion to a minimum when row crops are grown.

Woodland

Fertility and moisture are favorable on this Marlow soil for high quality hardwoods. Windthrow hazard and plant competition are limitations that affect woodland management.

Windthrow hazard can be reduced by careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for most types of community development by the perched water table in the spring, a slowly permeable hardpan, and moderate frost action. Wetness is a moderate limitation for dwellings with basements. Foundation drains will help to control wetness and frost action. The dense substratum and wetness are moderate limitations for shallow excavations. There is a moderate limitation for local roads and streets due to frost action. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage.

For onsite sewage disposal, the depth to the slowly permeable hardpan is a severe limitation that can be overcome with fill to raise absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to slow permeability in the substratum. There is a moderate limitation for playgrounds and athletic fields due to slope and small stones.

Wildlife Habitat

Suitability is good for habitat areas for openland and woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IIe.

76C—Marlow fine sandy loam, 8 to 15 percent slopes

This soil is very deep, strongly sloping, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 20 acres in size. Some areas have stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—
Surface layer:

0 to 3 inches, very dark gray fine sandy loam
3 to 6 inches, gray fine sandy loam
Subsoil:
6 to 13 inches, yellowish red fine sandy loam
13 to 17 inches, light olive brown fine sandy loam
17 to 31 inches, olive gravelly fine sandy loam
Substratum:
31 to 65 inches, olive gray, very firm fine sandy loam

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. In depressions and along narrow drainageways are moderately well drained Peru soils and poorly drained Pillsbury soils. Also included are small isolated areas of Tunbridge or Lyman soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of this Marlow soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil have been cleared for farming. Some areas are reverting to woodland. Other areas have been used for residential development.

Use and Management

Farming

The erosion hazard on this strongly sloping Marlow soil is such that, even with intensive erosion control measures, row crops cannot be grown without excessive soil losses. Excellent yields of grasses and legumes can be obtained with the proper use of lime and fertilizer. Home gardens have good yields of small fruits and vegetables, but very little truck farming is done in the county.

Woodland

Fertility and moisture are favorable on this Marlow soil for high quality hardwoods. Windthrow hazard and plant competition are limitations that affect woodland management.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited by the perched water table in the spring, a slowly permeable hardpan, slope, and moderate frost action. The dense hardpan, wetness, and slope are moderate limitations for shallow excavations. Slope limitations are moderate for dwellings without basements. Wetness and slope are moderate limitations for dwellings with basements. Foundation drains will help to control wetness. There is a moderate limitation for local roads and streets due to frost action. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. Slope limitations can generally be reduced by cut and fill. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal, the depth to the slowly permeable hardpan is a severe limitation that can be overcome with fill to raise absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to slope and slow permeability in the substratum. There is a severe limitation for playgrounds and athletic fields due to slope. Hiking trails can be planned and maintained with few limitations.

Wildlife Habitat

This Marlow soil has good suitability for habitat areas for openland and woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IIIe.

76D—Marlow fine sandy loam, 15 to 25 percent slopes

This soil is very deep, moderately steep, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 20 acres in size. Some areas have stones and boulders more than 30 feet apart and mainly more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 3 inches, very dark gray fine sandy loam
3 to 6 inches, gray fine sandy loam
Subsoil:
6 to 13 inches, yellowish red fine sandy loam
13 to 17 inches, light olive brown fine sandy loam
17 to 31 inches, olive gravelly fine sandy loam
Substratum:
31 to 65 inches, olive gray, very firm fine sandy loam

Inclusions

Included with this unit are small areas with slopes of less than 15 percent or more than 25 percent. In depressions and along narrow drainageways are moderately well drained Peru soils and poorly drained Pillsbury soils. Also included are small isolated areas of Tunbridge or Lyman soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of this Marlow soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil have been cleared for farming. Some areas are reverting to woodland. Other areas have been used for residential development.

Use and Management

Farming

The erosion hazard on this moderately steep Marlow soil is such that, even with intensive erosion control measures, row crops cannot be grown without excessive soil losses. This soil is best suited for pasture because the moderately steep slopes make the operation of modern haying equipment difficult and hazardous.

Woodland

Fertility and moisture are favorable on this Marlow soil for high quality hardwoods. Erosion hazard, slope, windthrow hazard, and plant competition are factors that affect woodland management.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

The slope of this soil is a severe limitation for all phases of community development. The perched water table and frost action are additional limitations. Limitations due to slope can generally be reduced by cut and fill to level the soil. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal, the slow permeability, depth to hardpan, and slope are severe limitations that may make it necessary to use fill to raise and level absorption fields.

Recreation

This soil has severe limitations for camping areas, picnic areas, playgrounds, and athletic fields due to slope. Hiking paths and trails have moderate slope limitations.

Wildlife Habitat

Suitability is fair for habitat areas for openland wildlife and good for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IVe.

77B—Marlow fine sandy loam, 3 to 8 percent slopes, very stony

This soil is very deep, gently sloping, and well drained. It is on loamy glaciated hilltops and mountainsides. These areas are irregular in shape and range from 5 to 40 acres in size. Surface stones are mainly 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 3 inches, very dark gray fine sandy loam
3 to 6 inches, gray fine sandy loam
Subsoil:
6 to 13 inches, yellowish red fine sandy loam
13 to 17 inches, light olive brown fine sandy loam
17 to 31 inches, olive gravelly fine sandy loam
Substratum:
31 to 65 inches, olive gray, very firm fine sandy loam

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. In depressions and along narrow drainageways are moderately well drained Peru soils and poorly drained Pillsbury soils. Also included are small isolated areas of Tunbridge or Lyman soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of this Marlow soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are forested. A few areas are used as unimproved pasture or for residential developments.

Use and Management

Farming

This soil is too stony for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. If cleared of surface stones, the soil is prime farmland in this survey area. The short growing season and cool summers restrict the choice of crop varieties, but forage crops of grasses and legumes can be grown.

Woodland

Fertility and moisture are favorable on this Marlow soil for high quality hardwoods. Windthrow hazard and plant competition are limitations that affect woodland management.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for most types of community development by the perched water table in the spring, a slowly permeable hardpan, and moderate frost action. The dense hardpan and wetness are moderate limitations for shallow excavations in this soil. Wetness is a moderate limitation for dwellings with basements. Foundation drains will help to control wetness. There is a moderate limitation for local roads and streets due to frost action. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage.

For onsite sewage disposal, the slow permeability and depth to hardpan are severe limitations that may make it necessary to use fill to raise absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to slow permeability in the substratum. There is a moderate limitation for playgrounds and athletic fields due to large stones and slope. Hiking trails can be planned and maintained with few limitations.

Wildlife Habitat

Suitability is fair for habitat areas for openland wildlife and good for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

77C—Marlow fine sandy loam, 8 to 15 percent slopes, very stony

This soil is very deep, strongly sloping and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 100 acres in size. Surface stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—
Surface layer:
0 to 3 inches, very dark gray fine sandy loam
3 to 6 inches, gray fine sandy loam

Subsoil:
6 to 13 inches, yellowish red fine sandy loam
13 to 17 inches, light olive brown fine sandy loam
17 to 31 inches, olive gravelly fine sandy loam
Substratum:
31 to 65 inches, olive gray, very firm fine sandy loam

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. In depressions and along narrow drainageways are moderately well drained Peru soils and poorly drained Pillsbury soils. Also included are small isolated areas of Tunbridge or Lyman soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of this Marlow soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are forested. Other areas are used for unimproved pasture. A few areas have been used for residential or commercial developments.

Use and Management

Farming

This soil is too stony for most farming other than pasture. If cleared of surface stones, the soil is excellent grassland, but the slope and erosion hazard limit use for row crops.

Woodland

Fertility and moisture are favorable on this Marlow soil for high quality hardwoods. Windthrow hazard and plant competition are limitations that affect woodland management.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited by the perched water table in the spring, a slowly permeable hardpan, slope, and moderate frost action. The dense hardpan, wetness, and slope of this soil are moderate limitations for shallow excavations. Limitations are moderate for dwellings without basements due to slope. Wetness and slope are moderate limitations for dwellings with basements. Foundation drains will help to control wetness and reduce frost action. There is a moderate limitation for local roads and streets due to slope and frost action. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. Slope limitations can generally be reduced by cut and fill. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal, slow permeability and depth to hardpan are severe limitations that may make it necessary to use fill to raise absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to slope and to slow permeability in the substratum. There is a severe limitation for playgrounds and athletic fields due to slope. Hiking trails can be planned and maintained with few limitations.

Wildlife Habitat

Suitability is fair for habitat areas for openland wildlife and good for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

77D—Marlow fine sandy loam, 15 to 25 percent slopes, very stony

This soil is very deep, moderately steep, and well drained. It is on loamy glaciated hilltops and mountainsides. These areas are irregular in shape and range from 5 to 100 acres in size. Surface stones are mainly 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—
Surface layer:
0 to 3 inches, very dark gray fine sandy loam

3 to 6 inches, gray fine sandy loam
Subsoil:
6 to 13 inches, yellowish red fine sandy loam
13 to 17 inches, light olive brown fine sandy loam
17 to 31 inches, olive gravelly fine sandy loam
Substratum:
31 to 65 inches, olive gray, very firm fine sandy loam

Inclusions

Included with this unit are small areas with slopes of less than 15 percent or more than 25 percent. In depressions and along narrow drainageways are moderately well drained Peru soils and poorly drained Pillsbury soils. Also included are small isolated areas of Tunbridge or Lyman soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of this Marlow soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are forested. A few areas are used for unimproved pasture. Some areas have been used for residential developments.

Use and Management

Farming

This soil is too stony and steep for most farming other than pasture. Good to excellent yields of grasses and legumes are obtained with the proper use of lime and fertilizers. The slope of this soil make the operation of modern haying equipment difficult and hazardous.

Woodland

Fertility and moisture are favorable on this Marlow soil for high quality hardwoods. Erosion hazard, slope, windthrow hazard, and plant competition are factors that affect woodland management.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for community development by slope, the perched water table, and a slowly permeable hardpan. The slope of this soil is a severe limitation for dwellings with or without basements, shallow excavations, local roads, streets, lawns, and landscaping. Foundations drains will help to control wetness and frost action. Limitations due to slope can be reduced by cut and fill to level the soil. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal, the slow permeability, depth to hardpan, and slope are severe limitations that may make it necessary to use fill to raise and level absorption fields.

Recreation

This soil has severe limitations for camping areas, picnic areas, playgrounds, and athletic fields due to slope. Hiking paths and trails have moderate slope limitations.

Wildlife Habitat

Suitability is fair for habitat areas for openland wildlife and good for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

77E—Marlow fine sandy loam, 25 to 35 percent slopes, very stony

This soil is very deep, steep, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 125 acres in size. Surface stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—
Surface layer:
0 to 3 inches, very dark gray fine sandy loam

3 to 6 inches, gray fine sandy loam
Subsoil:
6 to 13 inches, yellowish red fine sandy loam
13 to 17 inches, light olive brown fine sandy loam
17 to 31 inches, olive gravelly fine sandy loam
Substratum:
31 to 65 inches, olive gray, very firm fine sandy loam

Inclusions

Included with this unit are small areas with slopes of less than 25 percent or more than 35 percent. In depressions and along narrow drainageways are moderately well drained Peru soils and poorly drained Pillsbury soils. Also included are small isolated areas of Tunbridge or Lyman soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of this Marlow soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are forested. A few areas have been developed for residential uses.

Use and Management

Farming

This soil is too stony and steep for most farming other than pasture. Good to excellent yields of grasses and legumes are obtained with the proper use of lime and fertilizers. The slopes of this soil make the operation of modern haying equipment difficult and extremely hazardous.

Woodland

Fertility and moisture are favorable on this Marlow soil for high quality hardwoods. Erosion hazard, slope, windthrow hazard, and plant competition are factors that affect woodland management.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for community development by slope, the perched water table in the spring, and a slowly permeable hardpan. The slope of this soil is a severe limitation for dwellings with or without basements, shallow excavations, local roads, streets, lawns, and landscaping. Foundation drains will help to control wetness and frost action. Limitations due to slope can be reduced by cut and fill to level the soil. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal, the slow permeability, depth to hardpan, and slope are severe limitations that may make it necessary to use fill to raise and level absorption fields.

Recreation

This soil has severe limitations for recreational uses due to slope.

Wildlife Habitat

Suitability is fair for habitat areas for openland wildlife and good for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIIs.

78B—Peru fine sandy loam, 3 to 8 percent slopes

This soil is very deep, gently sloping, and moderately well drained. It is on loamy hilltops, mountainsides, and valley floors. The areas are mainly oval and range from 5 to 75 acres in size. Some areas have stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—
Surface layer:
0 to 6 inches, very dark grayish brown fine sandy loam
Subsoil:
6 to 8 inches, dark brown fine sandy loam
8 to 12 inches, dark reddish brown fine sandy loam

12 to 18 inches, dark brown fine sandy loam
18 to 21 inches, mottled, dark brown fine sandy loam
21 to 24 inches, mottled, grayish brown fine sandy loam
Substratum:
24 to 65 inches, mottled, olive gray, firm sandy loam

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. On low mounds or narrow ridges are the well drained Marlow soils. In depressions and along narrow drainageways are the poorly drained Pillsbury soils. Also included are small isolated areas of Tunbridge or Lyman soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Peru soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum.
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 1.5 to 2.5 feet from November through May
Potential frost action: High
Flood hazard: None

Most areas of this soil are farmed. Some areas are reverting to woodland. A few areas have been used for residential developments.

Use and Management

Farming

This Peru soil is classified as prime farmland in this survey area. The short growing season and cool summers restrict the choice of crop varieties. Seasonal wetness is the main limitation for farming. Drainage of the soil will allow earlier tillage. Continuous row crops can be grown if conservation tillage and contour farming are used to control erosion. Undrained areas are best suited for hay and pasture crops (fig. 20). This soil is excellent grassland, but frost heaving and winter kill are limitations for legumes.

Woodland

Fertility and moisture are favorable for high quality hardwoods. This soil is limited for woodland management by windthrow hazard and plant competition.

Windthrow hazard can be reduced by careful thinning and by avoiding surface-root damage caused

INSERT ILLUS. 21A (42 x 24 picas)

Figure 20.— Peru fine sandy loam, 3 to 8 percent slopes, on the left and Pillsbury fine sandy loam, 0 to 3 percent slopes, very stony on the right. Both areas are used for pasture.

by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for community development by wetness, a slowly permeable hardpan, and frost action. Wetness is a severe limitation for shallow excavations and for dwellings with basements. Wetness is a moderate limitation for dwellings without basements. Foundation drains are needed to control wetness and frost action. Frost action is severe limitation for local roads and streets. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. This soil has a moderate limitation for lawns and landscaping due to wetness.

For onsite sewage disposal, wetness and the slowly permeable hardpan are severe limitations that may make it necessary to use fill to raise absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to wetness and slow permeability. Limitations are moderate for playgrounds and athletic fields due to slope, small stones, and wetness. Soil wetness is a moderate limitation for hiking paths and trails.

Wildlife Habitat

Suitability is good for habitat for openland and woodland wildlife. This moderately well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IIe.

78C—Peru fine sandy loam, 8 to 15 percent slopes

This soil is very deep, strongly sloping, and moderately well drained. It is on loamy glaciated hilltops and mountainsides. The areas are mainly long and irregular in shape and range from 5 to 50 acres in size. Some areas have stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 6 inches, very dark grayish brown fine sandy loam
Subsoil:
6 to 8 inches, dark brown fine sandy loam
8 to 12 inches, dark reddish brown fine sandy loam
12 to 18 inches, dark brown fine sandy loam
18 to 21 inches, mottled, dark brown fine sandy loam
21 to 24 inches, mottled, grayish brown fine sandy loam
Substratum:
24 to 65 inches, mottled, olive gray, firm sandy loam

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. On low mounds or narrow ridges are the well drained Marlow soils. In depressions and along narrow drainageways are the poorly drained Pillsbury soils. Also included are small isolated areas of Tunbridge or Lyman soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Peru soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 1.5 to 2.5 feet from November through May
Potential frost action: High
Flood hazard: None

Most areas of this soil are farmed. Some areas are reverting to woodland. A few areas have been used for residential developments.

Use and Management

Farming

The slope and erosion hazard limit farming of this soil to hay and pasture. Seasonal wetness is a main limitation. Drainage of the soil will allow better varieties of grass and legumes to be grown. This soil is excellent grassland, but frost heaving and winter kill are limitations for legumes.

Woodland

Fertility and moisture are favorable on this Peru soil for high quality hardwoods. This soil is limited for woodland management by windthrow hazard and plant competition.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited by wetness, a slowly permeable hardpan, slope, and frost action. Wetness is a severe limitation for dwellings with basements and for shallow excavations. Wetness and slope are moderate limitations for dwellings without basements. Foundation drains can be used to control wetness and frost action. Frost action is a severe limitation for local roads and streets. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. Wetness and slope are moderate limitations for lawns and landscaping. Slope can generally be reduced by cut and fill to level the soil. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal, wetness and slow permeability are severe limitations that may make it necessary to use fill to raise absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to slope, wetness, and slow permeability. Limitations are severe for playgrounds and athletic fields due to slope. Soil wetness is moderate limitation for hiking paths and trails.

Wildlife Habitat

Suitability is fair for habitat areas for openland wildlife and good for woodland wildlife. This soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IIIe.

79B—Peru fine sandy loam, 3 to 8 percent slopes, very stony

This soil is very deep, gently sloping, and moderately well drained. It is on loamy glaciated hilltops, mountainsides, and valley floors. The areas are mainly irregular in shape and range from 5 to 100 acres in size. Surface stones are mainly 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 6 inches, very dark grayish brown fine sandy loam

Subsoil:
6 to 8 inches, dark brown fine sandy loam
8 to 12 inches, dark reddish brown fine sandy loam
12 to 18 inches, dark brown fine sandy loam
18 to 21 inches, mottled, dark brown fine sandy loam
21 to 24 inches, mottled, grayish brown fine sandy loam

Substratum:
24 to 65 inches, mottled, olive gray, firm sandy loam

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. On low mounds or narrow ridges are the well drained Marlow soils. In depressions and along narrow drainageways are the poorly drained Pillsbury soils. Also included are small isolated areas of Tunbridge or Lyman soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Peru soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 1.5 to 2.5 feet from November through May
Potential frost action: High
Flood hazard: None

This soil is mainly forested. A few areas are used as unimproved pasture or for residential development.

Use and Management

Farming

This unit is too stony for most farming other than pasture (fig. 21). The degree of pasture improvement that can be done depends on the amount of surface stones. If cleared of surface stones, the soil is classified as prime farmland in this survey area. Seasonal wetness is a main limitation. Drainage of the soil will allow better grass and legume varieties to be grown. This is an excellent grassland soil, but frost heaving and winter kill are limitations for legumes.

Woodland

Fertility and moisture are favorable on this Peru soil for high quality hardwoods. This soil is limited for woodland management by windthrow hazard and plant competition.

Windthrow hazard can be decreased with careful

INSERT ILLUS. 22A (42 x 22½ picas)

Figure 21.— Peru fine sandy loam, 3 to 8 percent slopes, very stony, used for pasture.

thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for community development by wetness, a slowly permeable hardpan, and frost action. Wetness is a severe limitation for dwellings with basements and for shallow excavations. It is a moderate limitation for dwellings without basements. Foundation drains will help to control wetness and frost action. Frost action is a severe limitation for local roads and streets. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. This soil is limited for lawns and landscaping due to wetness and large stones.

For onsite sewage disposal, soil wetness and slow permeability are severe limitations that may make it necessary to use fill to raise absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to wetness and slow permeability. Limitations are moderate for playgrounds and athletic fields due to slope, large stones, and wetness. Soil wetness is moderate limitation for hiking paths and trails.

Wildlife Habitat

Suitability is fair for habitat areas for openland wildlife and good for woodland wildlife. The soils is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

79C—Peru fine sandy loam, 8 to 15 percent slopes, very stony

This soil is very deep, strongly sloping, and moderately well drained. It is on loamy glaciated hilltops and mountainsides. The areas are mainly oval and range from 5 to 100 acres in size. Surface stones are mainly 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 6 inches, very dark grayish brown fine sandy loam
Subsoil:
6 to 8 inches, dark brown fine sandy loam
8 to 12 inches, dark reddish brown fine sandy loam
12 to 18 inches, dark brown fine sandy loam

18 to 21 inches, mottled, dark brown fine sandy loam
21 to 24 inches, mottled, grayish brown fine sandy loam
Substratum:
24 to 65 inches, mottled, olive gray, firm sandy loam

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. On low mounds or narrow ridges are the well drained Marlow soils. In depressions and along narrow drainageways are the poorly drained Pillsbury soils. Also included are small isolated areas of Tunbridge or Lyman soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Peru soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 1.5 to 2.5 feet from November through May
Potential frost action: High
Flood hazard: None

This soil is mainly forested. A few areas are used as unimproved pasture or for residential developments.

Use and Management

Farming

This soil is too stony for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. Seasonal wetness is a main limitation. Drainage of the soil will allow better grass and legume varieties to be grown. This soil is excellent grassland, but frost heaving and winter kill are limitations for legumes.

Woodland

Fertility and moisture are favorable on this Peru soil for high quality hardwoods. This soil is limited for woodland management by windthrow hazard and plant competition.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for community development by wetness, a slowly permeable hardpan, slope, and frost action. Wetness is a severe limitation for dwellings with basements and for shallow excavations. Wetness and slope are moderate limitations for dwellings without basements. Foundation drains are needed to control wetness and frost action. Frost action is a severe limitation for local roads and streets. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. This soil has severe limitations for lawns and landscaping due to large stones, wetness, and slope. Limitations due to slope can generally be reduced by cut and fill to level the soil. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal, wetness and slow permeability are severe limitations that may make it necessary to use fill to raise absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to slope, wetness, and large stones. Limitations are severe for playgrounds and athletic field due to slope. Wetness is a moderate limitation for hiking paths and trails.

Wildlife Habitat

Suitability is fair for habitat areas for openland wildlife and good potential for woodland wildlife. This soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

79D—Peru fine sandy loam, 15 to 25 percent slopes, very stony

This soil is very deep, moderately steep, and moderately well drained. It is on loamy glaciated hilltops and mountainsides. The areas are mainly irregular or oval and range from 5 to 50 acres in size. Surface stones are mainly 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—
Surface layer:
0 to 6 inches, very dark grayish brown fine sandy loam
Subsoil:

6 to 8 inches, dark brown fine sandy loam
8 to 12 inches, dark reddish brown fine sandy loam
12 to 18 inches, dark brown fine sandy loam
18 to 21 inches, mottled, dark brown fine sandy loam
21 to 24 inches, mottled, grayish brown fine sandy loam

Substratum:
24 to 65 inches, mottled, olive gray, firm sandy loam

Inclusions

Included with this unit are small areas with slopes of less than 15 percent or more than 25 percent. On low mounds or narrow ridges are the well drained Marlow soils. In depressions and along narrow drainageways are the poorly drained Pillsbury soils. Also included are small isolated areas of Tunbridge or Lyman soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Peru soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 1.5 to 2.5 feet from November through May
Potential frost action: High
Flood hazard: None

This soil is mainly forested. A few areas are used as unimproved pasture or for residential developments.

Use and Management

Farming

This unit is too stony and steep for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones and percent slope. Seasonal wetness is a main limitation. This soil is excellent grassland, but frost heaving and winter kill are limitations for legumes.

Woodland

Fertility and moisture are favorable on this Peru soil for high quality hardwoods. This soil is limited for woodland management by erosion hazard, slope, windthrow hazard, and plant competition.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for community development by wetness, a slowly permeable hardpan, slope, and frost action. Wetness and slope are severe limitations for dwellings with basements and for shallow excavations. Slope limitations for this soil are severe for dwellings without basements. Foundation drains will help to control wetness and frost action. Frost action and slope are severe limitations for local roads and streets. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. Slope limitations are severe for lawns and landscaping. Slope limitations can generally be reduced by cut and fill to level the soil. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal, wetness and slow permeability are severe limitations that may make it necessary to use fill to raise absorption fields.

Recreation

This soil has severe limitations for camping areas, picnic areas, playgrounds, and athletic fields due to slope. Wetness and slope are moderate limitations for hiking paths and trails.

Wildlife Habitat

Suitability is fair for habitat areas for openland wildlife and good for woodland wildlife. This soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

90B—Tunbridge-Lyman complex, 3 to 8 percent slopes

The Tunbridge and Lyman soils in this unit are in such intricate patterns that it was not practical to map them separately. The Tunbridge soils are loamy, moderately deep, and well drained. The Lyman soils are loamy, shallow, and somewhat excessively drained. These soils are on undulating or gently sloping hilltops and hillsides. The areas are roughly oval or irregular in shape and range from 5 to 50 acres in size. Surface stones are more than 30 feet apart and generally more than 80 feet apart. Tunbridge soils make up about 45 percent of this unit, Lyman soils 30 percent, and other soils 25 percent of this unit.

The typical sequence, depth, and composition of the layers of the Tunbridge soil are as follows—

Surface layer:
0 to 1 inch, dark reddish brown fine sandy loam
1 to 3 inches, pinkish gray fine sandy loam
Subsoil:
3 to 11 inches, strong brown fine sandy loam
11 to 21 inches, yellowish brown fine sandy loam
Substratum:
21 to 28 inches, light yellowish brown fine sandy loam
28 inches, hard schist bedrock

In areas that have been farmed, tillage has mixed the surface layer and part of the subsoil into a dark grayish brown fine sandy loam that is 6 to 8 inches thick.

The typical soil sequence, depth, and composition of the layers of the Lyman soil are as follows—

Surface layer:
0 to 3 inches, dark reddish brown fine sandy loam
Subsoil:
3 to 7 inches, yellowish brown fine sandy loam
7 to 12 inches, yellowish red loam
12 to 16 inches, olive gravelly loam
16 inches, hard schist bedrock

In areas that have been farmed, tillage has mixed the surface layer and part of the subsoil into a dark grayish brown fine sandy loam that is 6 to 8 inches thick.

Inclusions

Included in this complex are areas of nearly level soils and areas of well drained Marlow soils or moderately well drained Peru soils. In some areas bedrock blocks the drainage patterns and the moderately deep to shallow soils are moderately well drained to poorly drained. These inclusions make up about 15 percent of this complex. Also included are small areas where the surface has stones less than 30 feet apart and occasional rock outcrops. These inclusions make up about 10 percent of this complex.

Major properties of the Tunbridge soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: 20 to 40 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Major properties of the Lyman soil

Permeability: Moderately rapid throughout
Available water capacity: Very low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this complex have been cleared for farming. Some areas are still farmed, but many are reverting to woodland. A few areas are used for residential development.

Use and Management

Farming

This complex is moderately well suited for row crops. With the proper use of lime and fertilizers, yields are good on the Tunbridge soils but only fair on the Lyman soils. The choice of crops and crop varieties is somewhat restricted by the short growing season. If row crops are grown, tillage should be on the contour. Winter cover crops help control erosion and if incorporated into surface layer, help maintain organic matter content. The soils are well suited for grasses and legumes for hay or pasture. Yield are generally good yields except on the shallow Lyman areas, where yields are only fair and stands are difficult to maintain.

Woodland

Fertility and moisture are adequate on these Tunbridge and Lyman soils for good tree growth. These soils are limited for woodland management by windthrow hazard. On areas of Lyman soils, seedling mortality and plant competition are additional limitations.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

Bedrock at a depth of less than 40 inches is the primary limiting factor for community development. Homes with basements are either located in the included very deep soils, require blasting to obtain the desired depth, or built above the rock. Foundation drains are needed to remove water on the bedrock and in the fractures. Foundation drains will also reduce the moderate frost action limitations. Gravity outlets for the drains may be difficult to locate or require additional blasting. Drilling and blasting generally are necessary for installing underground utilities.

For local roads and streets, limitations are severe on the Lyman soils due to depth to bedrock and moderate on the Tunbridge soils due to frost action and depth to bedrock. Road construction on the Lyman soils requires drilling and blasting to obtain desired grades and depths. Frost action limitations can be overcome by providing coarser grained base material to frost depth and installing drainage.

For onsite sewage disposal, the depth to bedrock is a severe limitation. Areas with sufficient depth for the system must be located, or a site must be filled to obtain adequate depth. The included areas of Marlow and Peru soils have the necessary depth but are limited by slow permeability and a seasonal water table.

Recreation

These soils have moderate to severe limitations for most recreational uses. Limitations for camp and picnic areas are moderate on areas of Tunbridge soils and severe on areas of Lyman soils due to small surface stones on the Tunbridge and the shallow depth to bedrock of the Lyman soils. These soils have severe limitations if used as a playground or athletic field due to small surface stones and depth to bedrock. Maintaining adequate grass cover on the shallow, droughty Lyman soils is also a concern.

Wildlife Habitat

Suitability for habitat areas for openland and woodland wildlife is good on areas of Tunbridge soils and poor on areas of Lyman soils. Both soils are very poorly suited for wetland wildlife habitat.

The capability subclass is IIIe.

90C—Tunbridge-Lyman complex, 8 to 15 percent slopes

The Tunbridge and Lyman soils in this unit are in such intricate patterns that it was not practical to map them separately. The Tunbridge soils are loamy, moderately deep, and well drained. The Lyman soils are loamy, shallow, and somewhat excessively drained. These soils are on rolling or strongly sloping hilltops and hillsides. The areas are roughly oval or irregular in shape and range from 5 to 75 acres in size. Surface stones are more than 30 feet apart and generally more than 80 feet apart. Tunbridge soils make up about 45 percent of this unit, Lyman soils 30 percent, and other soils 25 percent of this unit.

The typical sequence, depth, and composition of the layers of the Tunbridge soil are as follows—

Surface layer:
0 to 1 inch, dark reddish brown fine sandy loam
1 to 3 inches, pinkish gray fine sandy loam
Subsoil:
3 to 11 inches, strong brown fine sandy loam
11 to 21 inches, yellowish brown fine sandy loam
Substratum:
21 to 28 inches, light yellowish brown fine sandy loam
28 inches, hard schist bedrock

In areas that have been farmed, tillage has mixed the surface layer and part of the subsoil into a dark grayish brown fine sandy loam that is 6 to 8 inches thick.

The typical soil sequence, depth, and composition of the layers of the Lyman soil are as follows—

Surface layer:
0 to 3 inches, dark reddish brown fine sandy loam
Subsoil:
3 to 7 inches, yellowish brown fine sandy loam
7 to 12 inches, yellowish red loam
12 to 16 inches, olive gravelly loam
16 inches, hard schist bedrock

In areas that have been farmed, tillage has mixed the surface layer and part of the subsoil into a dark grayish brown fine sandy loam that is 6 to 8 inches thick.

Inclusions

Included in this complex are areas of soils with slopes of less than 8 percent or more than 15 percent and areas of well drained Marlow soils or moderately well drained Peru soils. In some areas bedrock blocks the drainage patterns and the moderately deep to shallow soils are moderately well drained to poorly drained. These inclusions make up about 15 percent of this complex. Also included are small areas where the surface has stones less than 30 feet apart and occasional rock outcrops. These inclusions make up about 10 percent of this complex.

Major properties of the Tunbridge soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: 20 to 40 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Major properties of the Lyman soil

Permeability: Moderately rapid throughout
Available water capacity: Very low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate

Flood hazard: None

Most areas of this complex have been used for farming. A few areas are still farmed, but many are reverting to woodland. A few areas are used for residential development.

Use and Management

Farming

The areas of Tunbridge soils in this complex are moderately well suited for row crops, but the areas of Lyman soils are poorly suited. Erosion and the low available water capacity of the Lyman soils are the major limitations. Contour stripcropping and winter cover crops will reduce soil losses, but the soils are best suited for grasses and legumes for hay and pasture. With the proper use of lime and fertilizers, good yields of forage crops can be obtained on the Tunbridge soils. The Lyman soils will mainly produce fair yields. Stands of deep rooted grasses and legumes may be difficult to maintain on the shallow, droughty Lyman soils.

Woodland

Fertility and moisture are adequate on these Tunbridge and Lyman soils for good tree growth. The soils are limited for woodland management by windthrow hazard. On areas of Lyman soils, seedling mortality and plant competition are additional limitations.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

Bedrock at a depth of less than 40 inches is the primary limiting factor for community development. The slope limits excavations. Road construction through the soil will mainly encounter bedrock. Drilling and blasting of the bedrock or covering with additional fill material will be required. Road construction on the Lyman soils requires drilling and blasting to obtain desired grades and depths. Moderate limitations for frost action on the Tunbridge soils can be overcome by providing coarser grained base material to frost depth and installing drainage. Drilling and blasting generally are necessary for underground utilities and home basements. Intensive site investigation and special building design may be needed for home building. Foundation drains are needed to remove water on the bedrock and in the fractures. Foundation drains will also reduce the moderate frost action. Gravity outlets for the drains may make it necessary to use additional blasting.

For onsite sewage disposal, the depth to bedrock is a severe limitation. Areas must be located with sufficient depth for the system, or a site must be filled to obtain adequate depth. The included areas of Marlow and Peru soils have the necessary depth, but have limitations of slow permeability and a seasonal water table.

Recreation

These soils have moderate to severe limitations for most recreational uses. Limitations for camp and picnic areas are moderate on areas of Tunbridge soils and severe on areas of Lyman soils due to small surface stones on the Tunbridge soils and the shallow depth to bedrock of the Lyman soils. These soils have severe limitations if used as a playground or athletic field due to small surface stones and depth to bedrock. Maintaining adequate grass cover on the shallow, droughty Lyman areas is also a concern. There are few limitations for construction and maintenance of hiking paths and trails, but they should be built on the contour to prevent erosion.

Wildlife Habitat

Suitability for habitat areas for openland and woodland wildlife is good on areas of Tunbridge soils and poor on areas of Lyman soils. Both soils are very poorly suited for wetland wildlife habitat.

The capability subclass is IVe.

90D—Tunbridge-Lyman complex, 15 to 25 percent slopes

The Tunbridge and Lyman soils in this unit are in such intricate patterns that it was not practical to map them separately. The Tunbridge soils are loamy, moderately deep, and well drained. The Lyman soils are loamy, shallow, and somewhat excessively drained. These soils are on hilly or moderately steep hilltops and mountainsides. The areas are roughly oval or irregular in shape and range from 5 to 100 acres in size. Surface stones are more than 30 feet apart and generally more than 80 feet apart. Tunbridge soils make up about 45 percent of this unit, Lyman soils 30 percent, and other soils 25 percent of this unit.

The typical sequence, depth, and composition of the layers of the Tunbridge soil are as follows—

Surface layer:

0 to 1 inch, dark reddish brown fine sandy loam

1 to 3 inches, pinkish gray fine sandy loam
Subsoil:
3 to 11 inches, strong brown fine sandy loam
11 to 21 inches, yellowish brown fine sandy loam
Substratum:
21 to 28 inches, light yellowish brown fine sandy loam
28 inches, hard schist bedrock

In areas that have been farmed, tillage has mixed the surface layer and part of the subsoil into a dark grayish brown fine sandy loam that is 6 to 8 inches thick.

The typical soil sequence, depth, and composition of the layers of the Lyman soil are as follows—
Surface layer:
0 to 3 inches, dark reddish brown fine sandy loam
Subsoil:
3 to 7 inches, yellowish brown fine sandy loam
7 to 12 inches, yellowish red loam
12 to 16 inches, olive gravelly loam
16 inches, hard schist bedrock

In areas that have been farmed, tillage has mixed the surface layer and part of the subsoil into a dark grayish brown fine sandy loam that is 6 to 8 inches thick.

Inclusions

Included in this complex are areas of soils that have slopes of less than 15 percent or more than 25 percent and areas of well drained Marlow soils or moderately well drained Peru soils. In some areas bedrock blocks the drainage patterns and the moderately deep to shallow soils are moderately well drained to poorly drained. These inclusions make up about 15 percent of this complex. Also included are small areas where the surface has stones less than 30 feet apart and occasional rock outcrops. These inclusions make up about 10 percent of this complex.

Major properties of the Tunbridge soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: 20 to 40 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Major properties of the Lyman soil

Permeability: Moderately rapid throughout
Available water capacity: Very low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this complex have been used for farming. A few areas are still farmed, but most are reverting to woodland. A few scattered areas are used for residential development.

Use and Management

Farming

Farming for row crops is limited by the moderately steep slopes and severe erosion hazard. These areas are best suited for grasses and legumes for pasture. Hay crops can be harvested, but use of modern haying equipment on the steeper slopes is hazardous. With the proper use of lime and fertilizers, fair yields of forage crops can be obtained. Stands of deep rooted grasses and legumes may be difficult to maintain on the shallow, droughty Lyman soils.

Woodland

Fertility and moisture are adequate for good tree growth. The soils are limited for woodland management by erosion hazard, slope, seedling mortality, and windthrow hazard. On areas of Lyman soils, plant competition is an additional limitation.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

Bedrock at a depth of less than 40 inches and the moderately steep slopes are severe limitations for community development on this unit. Slope limitations are severe for shallow excavations, dwellings with or without basements, and local roads and streets. Road construction through the soil will mainly encounter bedrock. Drilling and blasting generally are necessary for road construction and the installation of underground utilities. Buildings with basements mainly require special design and bedrock excavation on these shallow and moderately deep soils. Intensive site investigation may locate areas of the included very deep soils where construction will not encounter bedrock. Foundation drains are needed to remove water on the bedrock and in the fractures. Foundation drains will also reduce frost action. Gravity outlets for foundation drains may make it necessary to use additional blasting to obtain desired grade.

For onsite sewage disposal, the bedrock and moderately steep slopes are severe limitations. Areas must be located with sufficient depth for the system, or a site must be filled to obtain adequate depth. The included areas of Marlow and Peru soils have the necessary depth but have limitations of slow permeability and a seasonal water table.

Recreation

These soils have severe limitations for most recreational uses. Limitations are severe for camp and picnic areas due to the slope of this unit and depth to bedrock of the Lyman soils. These soils have severe limitations if used as a playground or athletic field due to the slope, depth to bedrock, and small surface stones. Maintaining adequate grass cover on the shallow, droughty Lyman areas is also a concern. Excavations to level the soil are limited by the shallow depth to bedrock of the Lyman soils. Limitations are moderate for hiking paths and trails due to slope. Trails with heavy use should be planned built on the contour with frequent water bars to prevent erosion.

Wildlife Habitat

Suitability for habitat areas on the Tunbridge soils is fair for openland wildlife and good for woodland wildlife. Lyman soils have poor potential for openland and woodland wildlife habitat. Both soils are very poorly suited for wetland wildlife habitat.

The capability subclass is VIe.

101—Ondawa fine sandy loam, frequently flooded

This soils is well drained, nearly level, and very deep. It is on loamy flood plains in the north, central, and eastern parts of the county. The areas are irregularly shaped and range from 5 to 45 acres in size. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 10 inches, very dark grayish brown fine sandy loam
Subsoil:
10 to 33 inches, olive brown fine sandy loam
Substratum:
33 to 65 inches, pale brown fine sand

In areas along fast-flowing streams, the substratum commonly is gravelly or very gravelly sand.

Inclusions

Included with this soil in mapping are small depressions and very narrow abandoned stream channels of moderately well drained Podunk soils and poorly drained Rumney soils. Also included are low, narrow ridges of excessively drained Sunday soils. The included soils make up about 10 percent of this unit.

Major properties of the Ondawa soil

Permeability: Moderately rapid in the surface layer and subsoil; moderately rapid to rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: At least once in 2 years from November through April. Flooding during the growing season is rare.

Most areas of this soil are farmed. Some small isolated areas or areas in a nonfarm region are forested.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. It can be used for continuous row crops if cover crops are grown to protect it from erosion during winter and early spring flooding. The short growing season and cool summers restrict the choice of crop varieties that can be grown. Good to excellent yields of silage corn, grasses, and legumes can be obtained with the proper use of lime and fertilizers. Areas subject to fast-flowing floodwaters are best suited for hay and pasture. Legumes are subject to winterkill and flooding.

Woodland

Fertility and moisture are favorable for high quality hardwoods. This soil is limited for woodland management by flood hazard and plant competition. In many areas timber quality may be reduced by ice damage during flooding. Access to some areas may be a limitation for logging operations. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This Ondawa soil has severe limitations for all types of community development due to frequent flooding.

These areas are floodwater channels, and diking to prevent flooding generally causes flooding in another area.

Flooding is a severe limitation for onsite septic systems, and there is a severe hazard of ground-water pollution because the sandy, rapidly permeable substratum may not adequately filter the effluent.

Recreation

The soil is limited for recreational use by flooding. Limitations are moderate for picnic areas and hiking paths and trails and severe for camping areas and playgrounds. These areas are subject to ice damage, erosion, or sedimentation.

Wildlife Habitat

This soil has good suitability for habitat for woodland wildlife and fair suitability for openland wildlife. It is very poorly suited for wetland wildlife habitat. Frequent flooding will severely damage water impoundments.

The capability class is I.

102—Sunday loamy sand

This soil is very deep, nearly level, and excessively drained. It is on flood plains in the northern, central, and eastern parts of the county. The areas are irregular in shape and range from 5 to 40 acres in size. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 9 inches, very dark grayish brown loamy sand

Substratum:

9 to 23 inches, very dark grayish brown loamy sand

23 to 47 inches, dark grayish brown sand

47 to 65 inches, grayish brown coarse sand

Some areas along fast-flowing streams have a gravelly or very gravelly substratum.

Inclusions

Included with this soil in mapping are areas along larger streams that are only occasionally flooded, very small or very narrow, low ridges of well drained Ondawa soils, and moderately well drained Podunk soils. Also included are areas of moderately well drained, sandy soils. The included soils make up about 10 percent of this unit.

Major properties of the Sunday soil

Permeability: Rapid to very rapid throughout

Available water capacity: Low

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: More than 6 feet

Potential frost action: Low

Flood hazard: At least once in 2 years from March through October. Flooding is rare during the growing season. Some areas in major valleys are subject to only occasional flooding.

Most areas of this soil are farmed. Areas in nonfarming regions are mainly forested. A few areas have been used as a source of sand and gravel.

Use and Management

Farming

Droughtiness, flooding, and a short growing season limit the Sunday soil for farming. The soil is suited for drought-tolerant grasses and legumes that can withstand flooding. The short growing season and cool summers restrict the choice of crop varieties that can be grown. Row crops can be grown, but yields are mainly moderate to low without irrigation and the choice of crop varieties is limited by the growing season. Heavy applications of manure will increase the available water capacity. Winter cover crops should be grown to protect the soil during flooding and then incorporated into surface layer to increase organic matter content.

Woodland

Fertility and moisture are adequate for good tree growth. This soil is limited for woodland management by flood hazard and seedling mortality. In many areas timber quality may be reduced by ice damage during early spring flooding. Access to some areas may be a limitation for logging operations. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This soil is severely limited by the flood hazard. Many areas of the soil are floodwater channels, and diking to prevent flooding generally causes flooding in another area. Construction of underground utilities through the soil is difficult because the sides of excavations tend to slough. Deep excavations mainly require special equipment.

Areas of onsite waste disposal systems have severe limitations due to flood hazard and poor filtering. The sandy, very permeable substratum does not effectively filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution.

Recreation

This soil has severe limitations for camping areas, playgrounds, and athletic fields due to flood hazard. The sandy, droughty surface layer is an additional limitation for these uses and is also a moderate limitation for picnic areas and hiking trails. Ground cover is difficult to establish and maintain on this droughty soil, and the areas are susceptible to erosion and sedimentation during flooding.

Wildlife Habitat

Suitability is poor for habitat areas for openland and woodland wildlife and very poor for wetland wildlife habitat.

The capability subclass is IIIs.

104—Podunk fine sandy loam

This soil is very deep, nearly level, and moderately well drained. It is on loamy flood plains in the northern, central, and eastern parts of the county. The areas are irregular in shape and range from 5 to 40 acres in size. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 11 inches, dark grayish brown fine sandy loam

11 to 14 inches, very dark grayish brown fine sandy loam

Subsoil:

14 to 24 inches, mottled, yellowish brown fine sandy loam

Substratum:

24 to 33 inches, brown loamy fine sand

33 to 65 inches, pale brown coarse sand

Some areas along fast-flowing streams have a gravelly subsoil and a gravelly or very gravelly substratum. Where this soil is on broad flood plains, some areas are very fine sandy loam in the surface layer and subsoil and loamy fine sand or loamy very fine sand in the substratum.

Inclusions

Included with this soil in mapping are areas of excessively drained Sunday soils, well drained Ondawa soils, and poorly drained Rumney soils. The Sunday and Ondawa soils are on low, narrow ridges or slightly higher areas. The Rumney soils are on very narrow abandoned stream channels. Also included are areas with very recent flood depositions of 4 to 5 inches of loamy sand and areas which are only occasionally flooded. The included soils make up 5 to 10 percent of this unit.

Major properties of the Podunk soil

Permeability: Moderately rapid in the surface layer and subsoil; moderately rapid to rapid in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: 1.5 to 3.0 feet from November through May

Potential frost action: High

Flood hazard: At least once in 2 years from November through April. Flooding during the growing season is rare. Some areas in major valleys are subject to only occasional flooding

Most areas of this soil are farmed. A few isolated areas or areas in a nonfarming region are forested.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. It can be used for continuous row crops, but the short growing season and cool summers restrict the choice of crop varieties. Winter cover crops and manure incorporated into the surface layer will help maintain the organic matter levels in the soil, and the cover crops will provide protection during spring flooding. Artificial drainage will permit earlier tillage in the spring, but adequate outlets may be difficult to locate.

Woodland

Fertility and moisture are favorable on for high quality hardwoods. This soil is limited for woodland management by flood hazard and plant competition. In many areas timber quality may be reduced by ice damage during flooding. Access to some areas may be a limitation for logging operations. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This soil is limited for community development by flooding, wetness, and frost action. Any type of construction must be designed to withstand flooding. The construction of underground utilities through the soil is difficult because the sides of shallow excavations tend to slough. Deep excavations mainly require special equipment and should be planned for midsummer to avoid the high water table. This soil is severely limited as a site for dwellings without basements by flooding and for dwellings with basements by flooding and wetness. Flooding and frost action are severe limitation for local roads and streets. Frost action limitations can be overcome by providing coarser grained base material to frost depth and installing drainage.

For onsite waste disposal, the flooding, wetness, and poor filtering properties of this soil are severe limitations. The sandy, very permeable subsoil and substratum do not effectively filter effluent, and there is a hazard of ground-water pollution.

Recreation

This soil has severe limitations for camp areas, playgrounds, and athletic fields due to flood hazard. Limitations are moderate for picnic areas and hiking paths and trails due to flooding and wetness. This soil is susceptible to erosion and sedimentation during flooding.

Wildlife Habitat

Suitability is fair potential for habitat areas for openland wildlife and good for woodland wildlife. This soil is poorly suited for wetland wildlife habitat.

The capability subclass is IIw.

105—Rumney loam

This soil is very deep, nearly level, and poorly drained. It is on loamy flood plains in the northern, central, and eastern parts of the county. The areas are mainly irregular in shape or narrow and curving and range in size from 5 to 25 acres. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 8 inches, very dark grayish brown loam

Subsoil:

8 to 16 inches, mottled, dark grayish brown fine sandy loam

16 to 24 inches, mottled, dark grayish brown fine sandy loam

Substratum:

24 to 65 inches, mottled, dark grayish brown loamy sand

Inclusions

Included in this unit are narrow ridges and small mounds of moderately well drained Podunk soils and well drained Ondawa soils. Also included are narrow oxbows of very poorly drained Medomak soils. Some areas of this unit are subject to only occasional flooding. The included soils make up about 10 percent of this unit.

Major properties of the Rumney soil

Permeability: Moderately rapid in the surface layer and subsoil; rapid to very rapid in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: 0 to 1.5 feet from November through May

Potential frost action: High

Flood hazard: At least once in 2 years from October through May. Some areas will flood during the summer following heavy rains.

This soil is mainly forested. Some areas have been cleared and are used for hayland or pasture. A few areas are used for row crops.

Use and Management

Farming

The soil is moderately well suited for row crops. Wetness in late spring and early fall delays tillage and planting and is a concern during harvest. The short growing season and cool summers restrict the choice of crop varieties that can be grown. The soil is well suited for use as hayland or pasture. Grasses and legumes must be able to tolerate prolonged wetness, flooding, and severe frost heaving.

Woodland

Fertility and moisture are fair to poor for hardwood growth and fair to good for softwoods, especially red spruce and balsam fir. This soil is limited for woodland management by flood hazard, slope, seedling mortality, windthrow hazard, and plant competition. In many areas timber quality may be reduced by ice damage during flooding. Access to some areas may be a limitation for logging operations.

Equipment limitations due to wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen or during the driest summer months. Seedling mortality can be reduced by special site preparation or planting species that are suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following tree harvest helps decrease invasion of undesirable species.

Community Development

This soil has severe limitations for all phases of community development due to frequent flooding, prolonged wetness, and frost action.

Limitations are severe for areas of onsite waste disposal systems due to flooding, wetness, and poor filtering properties.

The areas of this soil improve and maintain water quality by acting as natural filters to remove harmful chemicals, nutrients, and sediment. They also recharge ground-water aquifers and store runoff, which lessens flood damage.

Recreation

This soil has severe limitations for camp areas, playgrounds, and athletic fields due to flood hazard and wetness. Limitations are severe for picnic areas and hiking paths and trails due to wetness. These areas are susceptible to erosion and sedimentation during flooding.

Wildlife Habitat

Suitability is fair for woodland, openland, and wetland wildlife habitat. Water impoundments are susceptible to flood damage and sedimentation.

The capability subclass is IIIw.

108—Hadley silt loam, occasionally flooded

This soil is very deep, nearly level, and well drained. It is on the higher areas of the silty flood plains of the southern half of the Connecticut River. The areas are irregular in shape and range from 5 to 100 acres in size. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 10 inches, dark brown silt loam
Substratum:
10 to 22 inches, olive silt loam
22 to 42 inches, olive very fine sandy loam
42 to 65 inches, olive loamy fine sand

Some areas of this soil have 1 to 4 inches of recently deposited loamy fine sand or loamy very fine sand on the surface.

Inclusions

Included with this unit are small deltas of moderately well drained Pootatuck soils and well drained Occum soils deposited by small streams. Moderately well drained Winooski soils and poorly drained Limerick soils in places are in narrow depressions and old stream channels. The included soils make up about 10 percent of this unit.

Major properties of the Hadley soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 4 to 6 feet from November through April
Potential frost action: High
Flood hazard: At least once in 2 to 10 years from February through April. Flooding during the growing season is rare.

Most areas of this soil are farmed. Very few areas are forested.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. Excellent yields of silage corn, grasses, and legumes are obtained with the proper use of lime and fertilizer. When row crops are grown, winter cover crops should be used to protect this soil from erosion during flooding and then incorporated into surface layer to maintain organic matter levels.

Woodland

Fertility and moisture are favorable for high quality hardwoods. Flood hazard and plant competition are limitations that affect woodland management. In many areas timber quality may be reduced by ice damage during flooding. Access to some areas may be a limitation for logging operations. Special site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This soil has severe limitations for most phases of community development due to flooding. Any construction should be designed to withstand flooding and frost action.

Recreation

This soil has a severe limitation for camping areas and a moderate limitation for playgrounds and athletic fields due to flooding. The areas of this soil are not generally subject to flood flows but are mainly backwater areas and are subject to varying degrees of sedimentation.

Wildlife Habitat

Suitability is good for habitat for openland and woodland wildlife. The suitability for wetland wildlife habitat development is very poor. Areas adjacent to open water or wetlands may be suited for resting or nesting areas.

The capability class is I.

109—Limerick silt loam

This soil is very deep, nearly level, and poorly drained. It is on silty flood plains and oxbows along the southern half of the Connecticut River and its tributaries. The areas are irregular in shape or narrow and curving and range in size from 5 to 35 acres. Slopes range from 0 to 2 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 5 inches, dark grayish brown silt loam

Substratum:

5 to 14 inches, mottled, dark grayish brown and olive gray silt loam

14 to 65 inches, mottled, dark grayish brown very fine sandy loam

Some areas have 1 to 4 inches of recently deposited very fine sand or silt on the surface.

Inclusions

Included with this soil in mapping are narrow depressions of very poorly drained soils that may have mucky surface layer. Also included are low mounds or narrow ridges of moderately well drained Winooski soils, well drained Hadley soils, or excessively drained Suncook soils. The included soils make up about 15 percent of this unit.

Major properties of the Limerick soil

Permeability: Moderate

Available water capacity: High

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: 0.5 to 1.5 feet from November through June

Potential frost action: High

Flood hazard: At least once in 2 years from November through May. Some areas will flood during the summer following heavy rains.

Most areas of this soil are used as hayland or pasture. A few areas are used for row crops. Other areas are forested or are wetland reeds and grasses.

Use and Management

Farming

Farming of this soil is limited to hayland and pasture by the flooding and prolonged wetness. Grasses and legumes must be able to tolerate prolonged wetness, flooding, and severe frost heaving. Land shaping and smoothing to improve surface drainage will reduce winterkill of grasses and legumes.

Woodland

Fertility and moisture are fair to poor for hardwood growth and fair to good for softwoods, especially red spruce and balsam fir. Flood hazard, slope, seedling mortality, windthrow hazard, and plant competition are limitations that affect woodland management. In many areas timber quality may be reduced by ice damage during flooding. Access to some areas may be a limitation for logging operations.

Equipment limitations due to wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen or during the driest summer months. Seedling mortality can be reduced by special site preparation or by planting species that are suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following tree harvest helps decrease invasion of undesirable species.

Community Development

This soil has severe limitations for all phases of community development due to prolonged wetness and frequent flooding.

The areas of this soil improve and maintain water quality by acting as natural filters to remove harmful chemicals, nutrients, and sediment. They also recharge ground-water aquifers and store runoff, which lessens flood damage.

Recreation

This Limerick soil has severe limitations for all recreational uses due to prolonged wetness and flood hazard.

Wildlife Habitat

Suitability is fair for habitat for openland or woodland wildlife. Suitability is good for wetland wildlife habitat. Water impoundments are susceptible to flood damage and sedimentation.

The capability subclass is IVw.

114—Walpole-Binghamville complex

The Walpole and Binghamville soils in this unit are in such intricate patterns that it was not practical to map them separately. The Walpole soils are sandy, very deep, nearly level, and poorly drained. The Binghamville soils are loamy, very deep, nearly level, and poorly drained. These soils are on long, narrow terraces of the Connecticut River valley. Slopes typically are 0 to 3 percent but are as much as 5 percent. Areas of the soil range from 5 to 25 acres in size. Walpole soils make up about 45 percent of this complex, Binghamville soils 40 percent, and other soils 15 percent.

The typical sequence, depth, and composition of the layers of the Walpole soil are as follows—

Surface layer:
0 to 8 inches, very dark gray fine sandy loam
Subsoil:
8 to 13 inches, gray fine sandy loam
13 to 21 inches, dark grayish brown fine sandy loam and yellowish red and strong brown mottles
Substratum:
21 to 24 inches, light olive brown sand
24 to 30 inches, grayish brown sand
30 to 65 inches, olive gray loamy sand

The typical sequence, depth, and composition of the layers of the Binghamville soil are as follows—
Surface layer:
0 to 6 inches, very dark grayish brown silt loam
Subsoil:
6 to 10 inches, dark grayish brown silt loam
10 to 18 inches, dark grayish brown very fine sandy loam
Substratum:
18 to 65 inches, olive gray very fine sandy loam

Inclusions

Included with this complex in mapping are low depressional areas of very poorly drained, sandy or silty soils, small low mounds and ridges of moderately well drained Dartmouth and Deerfield soils, and a few areas with slopes of more than 5 percent. Also included adjacent to the glaciated hills are areas that have surface stones 5 to 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Walpole soil

Permeability: Moderately rapid in the surface layer and subsoil; rapid in the substratum
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 0 to 1.0 foot from November through May
Potential frost action: High
Flood hazard: None

Major properties of the Binghamville soil

Permeability: Moderate in the surface layer, moderate to moderately slow in the subsoil, and slow in the substratum
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 0.5 to 1.5 feet from November through June
Potential frost action: High
Flood hazard: None

Most areas of this complex are farmed. Some areas are forested, and a few have been used for residential or commercial development.

Use and Management

Farming

Farming is severely limited by seasonal wetness. The soils are moderately well suited for row crop production but are well suited for forage production for pasture. Where row crops are grown, the seasonal wetness commonly delays spring tillage and can be a concern during fall harvest. Land shaping will eliminate areas of seasonal ponding and reduce winterkill. Good yields of forage crops for hay or pasture can be obtained with proper use of lime and fertilizers.

Woodland

Fertility and moisture are fair to poor for hardwood growth and fair to good for softwoods, especially red spruce and balsam fir. These soils are limited for woodland management by slope, seedling mortality, windthrow hazard, and plant competition.

Equipment limitations due to prolonged wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen or during the driest summer months. Seedling mortality can be reduced by with site preparation or by planting species suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

These soils are limited for community development by the high water table, seasonal wetness, and frost action. Wetness is a severe limitation for shallow excavations and for dwellings with or without basements. There are severe limitations on areas of Walpole soils because the sides of excavations slough. Foundation drains are needed to control wetness and frost action. Locating drain outlets on these level and nearly level areas may be a concern. These soils have severe limitations for local roads and streets due to wetness and frost action. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. Limitations for lawns and landscaping on the soil are severe due to wetness.

These soils have severe limitations for onsite sewage disposal. In areas of Walpole soils, wetness and poor filtering are limitations. The rapidly permeable substratum may not effectively filter effluent, and there is a hazard of ground-water pollution. In areas of Binghamville soils, wetness and slow permeability are limitations. In many places the limitations can be overcome with fill to raise and increase the size of absorption fields.

The areas of these soils improve and maintain water quality by acting as natural filters to remove harmful chemicals, nutrients, and sediment. They also recharge ground-water aquifers and store runoff, which lessens flood damage.

Recreation

These soils have severe limitations for camping areas, picnic areas, playgrounds, and athletic fields due to wetness. Limitations are severe for hiking trails and paths due to wetness. Erosion hazard is an additional limitation on the silty Binghamville soils.

Wildlife Habitat

Suitability is fair on the soil for habitat for openland or woodland wildlife. The suitability for wetland wildlife habitat is good on areas of Walpole soils and fair on areas of Binghamville soils.

The capability subclass is IVw.

130A—Hitchcock silt loam, 0 to 3 percent slopes

This soil is very deep, nearly level, and well drained. It is on silty terraces along the southern half of the Connecticut River valley. The areas are long and irregular in shape and range from 5 to over 30 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 6 inches, brown silt loam
6 to 8 inches, gray silt loam
Subsoil:
8 to 13 inches, light olive brown silt loam
13 to 19 inches, light yellowish brown silt loam
Substratum:
19 to 31 inches, grayish brown silt loam
31 to 65 inches, olive gray silt

Some areas of this Hitchcock soil have a surface layer of fine sandy loam or sandy loam and a subsoil and substratum of silty clay loam or silty clay.

Inclusions

Included with this soil in mapping are small areas of moderately well drained Dartmouth soils and poorly drained Binghamville soils in depressions and along drainageways. Pockets or low mounds of well drained Agawam soils are throughout some areas of this unit. A few areas have slopes of more than 3 percent. The included areas make up about 15 percent of this unit.

Major properties of the Hitchcock soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: High
Flood hazard: None

Most areas of this soil in cropland. Some areas have been used for residential or commercial development. A few areas are woodland.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. Good to excellent yields of corn silage and hay are obtained with the proper use of lime and fertilizer. Early spring tillage and fall harvests may be hindered during wet years because when wet the soil does not support heavy equipment. Land shaping to improve surface drainage will ease this limitation and improve winter survival of legumes. Winter cover crops help protect the soil from erosion during spring runoff. Incorporating cover crop residue into the surface layer will help to maintain organic matter levels.

Woodland

Fertility and moisture are favorable on this Hitchcock soil for high quality hardwoods. Plant competition is a limitation that affects woodland management. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This Hitchcock soil has severe limitations for local roads and streets due to frost action. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage.

For onsite sewage disposal, the slowly permeable substratum is a severe limitation that can be overcome by building a larger leach field.

Recreation

This soil has moderate limitations for recreational uses due to slow permeability. The erodibility of this soil is a severe limitation for hiking paths and trails.

Wildlife Habitat

Suitability of this soil is good for habitat for openland or woodland wildlife. This soil is very poorly suited for wetland wildlife habitat except as resting or nesting areas adjacent to wetlands.

The capability class is I.

130B—Hitchcock silt loam, 3 to 8 percent slopes

This soil is very deep, gently sloping, and well drained. It is on silty terraces along the southern half of the Connecticut River valley. The areas are long and irregular in shape and range from 5 to over 40 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 6 inches, brown silt loam
6 to 8 inches, gray silt loam
Subsoil:
8 to 13 inches, light olive brown silt loam
13 to 19 inches, light yellowish brown silt loam
Substratum:
19 to 31 inches, grayish brown silt loam
31 to 65 inches, olive gray silt

Some areas of this Hitchcock soil have a surface layer of fine sandy loam or sandy loam and a subsoil and substratum of silty clay loam or silty clay.

Inclusions

Included with this soil in mapping are small areas of moderately well drained Dartmouth soils and poorly drained Binghamville soils in depressions and along drainageways. Pockets or low mounds of well drained Agawam soils are throughout some areas of this unit. A few areas have slopes of less than 3 percent or more than 8 percent. The included areas make up about 15 percent of this unit.

Major properties of the Hitchcock soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: High
Flood hazard: None

Most areas of this soil are cropland. Some areas have been used for residential or commercial development. A few areas are woodland.

Use and Management

Farming

This Hitchcock soil is suitable for farming. Good to excellent yields of corn silage and hay are obtained with the proper use of lime and fertilizer. Early spring tillage and fall harvests may be hindered during wet years because when wet the soil does not support heavy equipment. Land shaping to improve surface drainage will reduce this concern and improve winter survival of legumes. Areas of this highly erodible soil used for continuous row crops require intensive erosion control measures, including minimum tillage, cover crops, diversions, contour stripcropping, and grass waterways. Incorporating cover crop residue into the surface layer will help to maintain organic matter levels.

Woodland

Fertility and moisture are favorable on this Hitchcock soil for high quality hardwoods. Plant competition is a limitation that affects woodland management. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This Hitchcock soil has severe limitations for local roads and streets due to frost action. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. Erosion control measures are needed during construction on this erodible soil. These measures include, but are not limited to, heavy mulches, natural and artificial woven mats, hay bales, rock riprap, sediment catch basins, diversions, and construction during dry periods.

For onsite sewage disposal, the slowly permeable substratum is a severe limitation that can be overcome by building a larger leach field.

Recreation

This soil has a moderate limitation for camping and picnic areas due to slow permeability. Slope and slow permeability are moderate limitations for playgrounds and athletic fields. The erodibility of this soil is a severe limitation for hiking paths and trails.

Wildlife Habitat

Suitability of this soil is good for habitat for openland or woodland wildlife. This soil is very poorly suited for wetland wildlife habitat except as resting or nesting areas adjacent to wetlands.

The capability subclass is IIe.

130C—Hitchcock silt loam, 8 to 15 percent slopes

This soil is very deep, sloping, and well drained. It is on silty terraces along the southern half of the Connecticut River valley. The areas are irregular in shape and range from 5 to over 50 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 6 inches, brown silt loam
6 to 8 inches, gray silt loam
Subsoil:
8 to 13 inches, light olive brown silt loam
13 to 19 inches, light yellowish brown silt loam
Substratum:
19 to 31 inches, grayish brown silt loam
31 to 65 inches, olive gray silt

Some areas of this Hitchcock soil have a surface layer of fine sandy loam or sandy loam and a subsoil and substratum of silty clay loam or silty clay.

Inclusions

Included with this soil in mapping are small areas of moderately well drained Dartmouth soils and poorly drained Binghamville soils in depressions and along drainageways. Pockets or low mounds of well drained Agawam soils are throughout some areas of this unit. A few areas have slopes of less than 8 percent or more than 15 percent. The included areas make up about 15 percent of this unit.

Major properties of the Hitchcock soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: High
Flood hazard: None

Some areas of this soil are farmed. Some areas have been used for residential and commercial development, and some areas are woodland.

Use and Management

Farming

The slope and erodibility of this soil result in excessive erosion when row crops are grown. This soil is best suited for grasses and legumes. Good to excellent yields can be obtained with the proper use of lime and fertilizer.

Woodland

Fertility and moisture are favorable on this Hitchcock soil for high quality hardwoods. Erosion hazard and plant competition are limitations that affect woodland management.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This Hitchcock soil is limited by slope and frost action. This soil has a moderate slope limitation for dwellings with or without basements and for shallow excavations. Slope limitations can be reduced by using cut and fill techniques to level these sloping areas. The slope and frost action of this soil are moderate limitations for local roads and streets. Cut and fill techniques can be used to level areas, and providing coarser grained base material to frost depth and installing drainage will help overcome frost action. Erosion control measures are needed during construction on this highly erodible soil. These measures include, but are not limited to, heavy mulches, natural and artificial woven mats, hay bales, rock riprap, sediment catch basins, diversions, and construction during dry periods.

For onsite sewage disposal, the slowly permeable substratum is a severe limitation that can be overcome by building a larger leach field.

Recreation

This soil has a moderate limitation for camping and picnic areas due to slope and slow permeability. Slope is a severe limitation for playgrounds and athletic fields. The erodibility of this soil is a severe limitation for hiking paths and trails.

Wildlife Habitat

Suitability of this soil is good for habitat for openland or woodland wildlife. This soil is very poorly suited for wetland wildlife habitat except as resting or nesting areas adjacent to wetlands.

The capability subclass is IIIe.

130E—Hitchcock silt loam, 15 to 60 percent slopes

This soil is very deep, moderately steep to very steep, and well drained. It is on silty terrace escarpments along the southern half of the Connecticut River valley. The areas are long and irregular in shape and range from 5 to over 100 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 6 inches, brown silt loam
6 to 8 inches, gray silt loam
Subsoil:
8 to 13 inches, light olive brown silt loam
13 to 19 inches, light yellowish brown silt loam
Substratum:
19 to 31 inches, grayish brown silt loam
31 to 65 inches, olive gray silt

Some areas of this Hitchcock soil have a surface layer of fine sandy loam or sandy loam and a subsoil and substratum of silty clay loam or silty clay.

Inclusions

Included with this soil in mapping are small areas of moderately well drained Dartmouth soils and poorly drained Binghamville soils in depressions and along drainageways, excessively drained Windsor soils at the border of the escarpment, and a few areas of rock outcrop. A few areas have slopes of less than percent. The included areas make up about 10 percent of this unit.

Major properties of the Hitchcock soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: High
Flood hazard: None

Most areas of this soil are woodland. A few areas have been cleared and are in grass or are reverting to woodland.

Use and Management

Farming

The steep slopes and erosion hazard are severe limitations for all farming of this soil. Some of the moderately steep areas may be used for pasture, but maintenance of good quality grasses and legumes is a concern. Erosion is severe are along some livestock trails.

Woodland

Fertility and moisture are favorable on this Hitchcock soil for high quality hardwoods. Erosion hazard, slope, and plant competition are limitations that affect woodland management.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Seedling mortality can be reduced by special site preparation such as bedding or furrowing. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This Hitchcock soil has severe limitations due to the moderately steep to very steep slopes. Any activity that disturbs the plant cover of this soil risks causing excessive erosion and the resulting sedimentation of adjoining areas, streams, and lakes.

For onsite sewage disposal, the slope and slowly permeable substratum are severe limitations that can be overcome with cut and fill to level an area and by building a larger leach field.

Recreation

This soil has severe limitations for recreational uses due to the moderately steep to very steep slopes and the erodibility.

Wildlife Habitat

Suitability of this soil is poor for habitat for openland wildlife and good for woodland wildlife. This soil is very poorly suited for wetland wildlife habitat except as resting or nesting areas adjacent to wetlands.

The capability subclass is VIIe.

132A—Dartmouth silt loam, 0 to 3 percent slopes

This soil is very deep, nearly level, and moderately well drained. It is on silty terraces along the southern half of the Connecticut River valley. The areas are long and irregular in shape and range from 5 to over 100 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 11 inches, olive brown silt loam
Subsoil:
11 to 22 inches, light olive brown very fine sandy loam
Substratum:
22 to 65 inches, gray very fine sandy loam

Some areas of this Dartmouth soil are silty clay loam or silty clay in the subsoil and substratum, and some areas have a surface layer of fine sandy loam or sandy loam.

Inclusions

Included with this soil in mapping are small low mounds or pockets of well drained Hitchcock soils and poorly drained Binghamville soils in depressions and along drainageways. A few areas have slopes of more than 3 percent. The included areas make up about 15 percent of this unit.

Major properties of the Dartmouth soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 1.5 to 3.5 feet from November through April
Potential frost action: High
Flood hazard: None

Many areas of this soil are farmed. Some areas have been used for residential and commercial development. A few areas are woodland.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. Good to excellent yields of corn silage and hay are obtained with the proper use of lime and fertilizer. Early spring tillage and fall harvests may be hindered during wet years because when wet this soil does not support heavy equipment. Land shaping to improve surface drainage will reduce this limitation and improve winter survival of legumes. In areas that are row cropped, winter cover crops should be grown to prevent erosion and then incorporated into surface layer help maintain organic matter levels.

Woodland

Fertility and moisture are favorable on this Dartmouth soil for high quality hardwoods. Plant competition is a limitation that affects woodland management. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This Dartmouth soil is limited for community development by wetness and frost action. Wetness limitations are moderate for dwellings without basements and severe for dwellings with basements and for shallow excavations. Foundation drains will help to control wetness and frost action. Locating drain outlets on this nearly level soil may be a concern. Severe frost action for local roads and streets can be overcome by providing coarser grained base material to frost depth and installing drainage.

For onsite sewage disposal, wetness and slow permeability are severe limitations that can be overcome with fill to raise absorption fields.

Recreation

Limitations are moderate for camping areas, picnic areas, playgrounds, and athletic fields due to wetness and slow permeability. This soil has a severe erosion limitation for hiking paths and trails.

Wildlife Habitat

Suitability is good for habitat for openland or woodland wildlife. This soil is poorly suited for wetland wildlife except as resting or nesting areas adjacent to wetlands.

The capability subclass is IIw.

132B—Dartmouth silt loam, 3 to 8 percent slopes

This soil is very deep, gently sloping, and moderately well drained. It is on silty terraces along the southern half of the Connecticut River valley. The areas are long and irregular in shape and range from 5 to over 50 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—
Surface layer:
0 to 11 inches, olive brown silt loam
Subsoil:
11 to 22 inches, light olive brown very fine sandy loam
Substratum:
22 to 65 inches, gray very fine sandy loam

Some areas of this Dartmouth soil are silty clay loam or silty clay in the subsoil and substratum, and some areas have a surface layer of fine sandy loam or sandy loam.

Inclusions

Included with this soil in mapping are small low mounds or pockets of well drained Hitchcock soils and poorly drained Binghamville soils in depressions and along drainageways. A few areas have slopes of less than 3 percent or more than 8 percent. The included areas make up about 15 percent of this unit.

Major properties of the Dartmouth soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 1.5 to 3.5 feet from November through April
Potential frost action: High
Flood hazard: None

Many areas of this soil are farmed. Some areas have been used for residential and commercial development. A few areas are woodland.

Use and Management

Farming

Slope and erosion limit farming to hayland and pasture. Areas of row crops may require intensive erosion control measures such as stripcropping and winter cover crops. Good to excellent yields of corn silage and hay are obtained with the proper use of lime and fertilizer. Early spring tillage and fall harvests may be hindered during wet years because when wet this soil does not support heavy equipment.

Woodland

Fertility and moisture are favorable on this Dartmouth soil for high quality hardwoods. Plant competition is a limitation that affects woodland management. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This Dartmouth soil is limited for community development by wetness and frost action. Wetness limitations are moderate for dwellings without basements and severe for dwellings with basements and for shallow excavations. Foundation drains will help to control wetness and frost action. Locating drain outlets on this nearly level soil may be a concern. Severe frost action for local roads and streets can be overcome by providing coarser grained base material to frost depth and installing drainage.

For onsite sewage disposal, wetness and slow permeability are severe limitations that can be overcome with fill to raise absorption fields.

Recreation

Limitations are moderate for camping and picnic areas due to wetness and slow permeability. Limitations are moderate for playgrounds and athletic fields because of slope, wetness, and slow permeability. This soil has a severe erosion limitation for hiking paths and trails.

Wildlife Habitat

Suitability is good for habitat for openland or woodland wildlife. This soil is poorly suited for wetland wildlife except as resting or nesting areas adjacent to wetlands.

The capability subclass is IIe.

173C—Berkshire loam, 8 to 15 percent slopes, extremely stony

This soil is very deep, strongly sloping, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 20 acres in size. Surface stones are less than 5 feet apart and cover from 3 to 15 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 7 inches, very dark grayish brown loam
7 to 8 inches, pinkish gray loam
Subsoil:
8 to 12 inches, dark brown loam
12 to 18 inches, brown loam
Substratum:
18 to 65 inches, very dark grayish brown friable loam

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. In depressions and along narrow drainageways are moderately well drained Peru soils and poorly drained Pillsbury soils. Also included are small areas of Monadnock and Tunbridge soils. A few areas are essentially paved with surface stones. The included soils make up about 15 percent of this unit.

Major properties of the Berkshire soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are forested. A few areas are used for residential development.

Use and Management

Farming

The large amount of surface stones effectively prohibits any farming of this soil.

Woodland

Fertility and moisture are favorable on this Berkshire soil for high quality hardwoods. Slope limits the use of equipment.

Community Development

This soil is limited for community development by slope, frost action, and large stones. Slope limitations are moderate for shallow excavations, dwellings with or without basements, and local roads and streets. This soil has a severe limitation for small commercial buildings due to slope. Moderate frost action in this soil is an additional limitation for local roads and streets that can be reduced by providing coarser grained base material to frost depth and installing drainage. Foundation drains will reduce frost action. Slope limitations can be reduced by cut and fill to level the soil.

Slope is a moderate limitation for onsite waste disposal systems. This limitation can be reduced by cut and fill to level an area for an absorption field.

Recreation

This soil has severe limitations for picnic areas and camping areas due to large stones. Limitations are severe for playgrounds and athletic fields due to large stones and slope. The slope and large stones are moderate limitations for the design and construction of hiking paths and trails.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIIs.

173D—Berkshire loam, 15 to 25 percent slopes, extremely stony

This soil is very deep, moderately steep, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 60 acres in size. Surface stones are less than 5 feet apart and cover from 3 to 15 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 7 inches, very dark grayish brown loam
7 to 8 inches, pinkish gray loam
Subsoil:
8 to 12 inches, dark brown loam
12 to 18 inches, brown loam
Substratum:
18 to 65 inches, very dark grayish brown friable loam

Inclusions

Included with this unit are small areas with slopes of less than 15 percent or more than 25 percent. In depressions and along narrow drainageways are moderately well drained Peru soils and poorly drained Pillsbury soils. Also included are small areas of Monadnock and Tunbridge soils. A few areas are essentially paved with surface stones. The included soils make up about 15 percent of this unit.

Major properties of the Berkshire soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are forested. A few areas are used for residential development.

Use and Management

Farming

The large amount of surface stones effectively prohibits any farming of this soil.

Woodland

Fertility and moisture are favorable on this Berkshire soil for high quality hardwoods. Slope limits the use of equipment.

Community Development

This soil has limitations for community development due to slope and large stones. Limitations are severe for shallow excavations, dwellings with or without basements, and local roads and streets due to slope. Slope limitations can be reduced by cut and fill to level the soil. The large stones and slope of this soil are limitations for lawns and landscaping.

Slope is a severe limitation for onsite waste disposal systems. This limitation can be reduced by cut and fill to level an area for an absorption field.

Recreation

This soil is limited by slope and large stones for recreational uses. Limitations are severe for a picnic area, camping area, playground, or athletic field. The slope and large surface stones of this soil are moderate limitations for the design and construction of hiking paths and trails.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIIs.

173E—Berkshire loam, 25 to 35 percent slopes, extremely stony

This soil is very deep, steep, and well drained. It is on loamy glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 40 acres in size. Surface stones are less than 5 feet apart and cover from 3 to 15 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 7 inches, very dark grayish brown loam
7 to 8 inches, pinkish gray loam
Subsoil:
8 to 12 inches, dark brown loam
12 to 18 inches, brown loam
Substratum:
18 to 65 inches, very dark grayish brown friable loam

Inclusions

Included with this unit are small areas with slopes of less than 25 percent or more than 35 percent. In depressions and along narrow drainageways are moderately well drained Peru soils and poorly drained Pillsbury soils. Also included are small areas of Monadnock and Tunbridge soils. A few areas are essentially paved with surface stones. The included soils make up about 15 percent of this unit.

Major properties of the Berkshire soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are forested.

Use and Management

Farming

The large amount of surface stones and steep slopes effectively prohibit any farming of this soil.

Woodland

Fertility and moisture are favorable for high quality hardwoods.

Slope limits the use of equipment.

Community Development

This soil has limitations for community development due to slope. Slope limitations are severe for shallow excavations, dwellings with or without basements, local roads and streets, and small commercial buildings. Slope limitations can be reduced by cut and fill to level this areas.

Slope is a severe limitation for onsite waste disposal systems. This limitation can be reduced by cut and fill to level an area for an absorption field.

Recreation

This soil has a severe slope limitation for recreational developments. Large surface stones are an additional limitation for picnic areas, camping areas, playgrounds, or athletic fields.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIIs.

201—Ondawa fine sandy loam, occasionally flooded

This soil is very deep, nearly level, and well drained. It is on loamy flood plains in the northern, central, and eastern parts of the county. The areas are irregularly shaped and range from 5 to 75 acres in size. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 10 inches, very dark grayish brown fine sandy loam
Subsoil:
10 to 33 inches, olive brown fine sandy loam
Substratum:
33 to 65 inches, pale brown fine sand

In areas along fast-flowing streams, the substratum commonly is gravelly or very gravelly sand.

Inclusions

Included with this soil in mapping are small depressions and very narrow abandoned stream channels of moderately well drained Podunk soils and poorly drained Rumney soils. Also included are narrow low ridges of excessively drained Sunday soils. The included soils make up 10 percent of this unit.

Major properties of the Ondawa soil

Permeability: Moderately rapid in the surface layer and subsoil; moderately rapid to rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: At least once in 2 to 10 years from November through April. Flooding during the growing season is rare.

Most areas of this soil are farmed. Some small isolated areas or areas in a nonfarm region are forested.

Use and Management

Farming

This soil is classified as prime farmland in the survey area. It can be used for continuous row crops, but the short growing season and cool summers restrict the choice of crop varieties. Good to excellent yields of silage corn, grasses, and legumes can be obtained with the proper use of lime and fertilizers. Legumes are subject to winterkill and should be able to withstand flooding. Winter cover crops and manure incorporated into surface layer will help maintain the organic matter levels, and the cover crops will provide protection against erosion during flooding.

Woodland

Fertility and moisture are favorable for high quality hardwoods. This soil is limited for woodland management by flood hazard and plant competition. In many areas timber quality may be reduced by ice damage during flooding. Access to some areas may be a limitation for logging operations. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This Ondawa soil has severe limitations for all types of community development due to frequent flooding. Any construction must be designed to withstand flooding. Excavations in this soil tend to slough. Deep excavations generally require special equipment.

Flooding is a severe limitation for onsite septic systems, and there is a severe hazard of ground-water pollution because the sandy, rapidly permeable substratum may not adequately filter the effluent.

Recreation

These soils are limited for recreational use by flooding. Limitations are moderate for playgrounds and athletic fields and severe for camping areas. These soils are generally backwater areas that are subject to varying degrees of sedimentation.

Wildlife Habitat

Suitability for woodland and openland wildlife habitat is good. Suitability is very poor for habitat for wetland wildlife.

The capability class is I.

254B—Monadnock and Hermon soils, 3 to 8 percent slopes

This unit is on very deep, undulating glaciated hilltops and mountainsides. It consists of well drained Monadnock soils and somewhat excessively drained Hermon soils. The areas are irregular in shape and range from 5 to 15 acres in size. Some areas have stones and boulders more than 30 feet apart and generally more than 80 feet apart. Some areas are mainly Monadnock soils, some areas are mainly Hermon soils, and some are both soils. The Monadnock and Hermon soils were mapped together because they have no major differences in use and management. The total acreage of the unit is about 45 percent Monadnock soils, 40 percent Hermon soils, and 15 percent other soils.

The typical sequence, depth, and composition of the layers of the Monadnock soil are as follows—
Surface layer:
0 to 4 inches, dark grayish brown fine sandy loam
4 to 6 inches, gray fine sandy loam
Subsoil:
6 to 10 inches, yellowish red fine sandy loam
10 to 18 inches, yellowish brown very fine sandy loam
18 to 23 inches, light olive brown fine sandy loam
Substratum:
23 to 65 inches, pale olive loamy sand

The typical sequence, depth, and composition of the layers of the Hermon soil are as follows—
Surface layer:
0 to 5 inches, dark grayish brown fine sandy loam
5 to 7 inches, light gray fine sandy loam

Subsoil:
7 to 15 inches, dark yellowish brown gravelly fine sandy loam
15 to 22 inches, light olive brown gravelly loamy sand
Substratum:
22 to 65 inches, grayish brown very gravelly loamy sand

Some areas of Hermon soils have a surface layer of loamy sand.

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. In depressions and along narrow drainageways are moderately well drained Waumbek soils and poorly drained Lyme or Moosilauke soils. Some areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Monadnock soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Major properties of the Hermon soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this unit have been cleared for farming. Some areas are reverting to woodland. Other areas have been developed for residential or commercial uses.

Use and Management

Farming

This unit is well suited for row crops, but the short growing season and cool summers restrict the choice of crop varieties. Fair to good yields of silage corn, grasses, and legumes can be obtained with the proper use of lime and fertilizers. Continuous row cropping is generally not practical because of the moderate erosion hazard. Row crops can be grown in rotation with grasses and legumes. Contour tillage and winter cover crops will generally keep erosion to a minimum when row crops are grown.

Woodland

Fertility and moisture are adequate for good tree growth. These soils are limited for woodland management due to plant competition on the Monadnock soils and seedling mortality on the Hermon soils.

Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

These soils have moderate limitations due to slope for small commercial buildings. Large stones in the Hermon soils are an additional moderate limitation for small commercial buildings. Excavations in the soil for basements and underground utilities have severe limitations because the sides tend to slough. Deep excavations may require special equipment. Subsurface stones and boulders in the soil may be a concern during construction and excavation operations. In some areas there are enough subsurface stones and boulders that disposal becomes a concern. The droughty Hermon soils in this unit have moderate limitations for the establishment of lawns and landscaping.

The gravelly, very permeable subsoil and substratum in the Hermon soils do not effectively filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution.

These soils are a probable source of sand and gravel, but screening or crushing is required to remove large stones. Extensive test pitting should be done at the site.

Recreation

These soils have moderate limitations for playgrounds and athletic fields due to slope and small stones. Leveling by cut and fill may expose the stony, droughty substratum, and maintaining adequate grass cover is a concern.

Wildlife Habitat

Monadnock soils in this unit have good suitability for habitat areas for openland and woodland wildlife. Hermon soils have fair suitability for openland and woodland wildlife habitat. This unit is very poorly suited for wetland wildlife habitat.

The capability subclass is IIe.

254C—Monadnock and Hermon soils, 8 to 15 percent slopes

This unit is on very deep, rolling glaciated hilltops and mountainsides. It consists of well drained Monadnock soils and somewhat excessively drained Hermon soils. The areas are irregular in shape and range from 5 to 45 acres in size. Some areas have stones and boulders more than 30 feet apart and generally more than 80 feet apart. Some areas are mainly Monadnock soils, some areas are mainly Hermon soils, and some are both soils. The Monadnock and Hermon soils were mapped together because they have no major differences in use and management. The total acreage of the unit is about 45 percent Monadnock soils, 40 percent Hermon soils, and 15 percent other soils.

The typical sequence, depth, and composition of the layers of the Monadnock soil are as follows—

Surface layer:
0 to 4 inches, dark grayish brown fine sandy loam
4 to 6 inches, gray fine sandy loam
Subsoil:
6 to 10 inches, yellowish red fine sandy loam
10 to 18 inches, yellowish brown very fine sandy loam
18 to 23 inches, light olive brown fine sandy loam
Substratum:
23 to 65 inches, pale olive loamy sand

The typical sequence, depth, and composition of the layers of the Hermon soil are as follows—

Surface layer:
0 to 5 inches, dark grayish brown fine sandy loam
5 to 7 inches, light gray fine sandy loam
Subsoil:
7 to 15 inches, dark yellowish brown gravelly fine sandy loam
15 to 22 inches, light olive brown gravelly loamy sand
Substratum:
22 to 65 inches, grayish brown very gravelly loamy sand

Some areas of Hermon soils have a surface layer of loamy sand.

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. In depressions and along narrow drainageways are moderately well drained Waumbek soils and poorly drained Lyme or Moosilauke soils. Some areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Monadnock soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Major properties of the Hermon soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of the unit have been cleared for farming. Some areas are reverting to woodland. Other areas have been used for residential or commercial developments.

Use and Management

Farming

Slope, erosion hazard, the moderate to low available water capacity, and the short growing season are the main limitations. Intensive erosion control measures such as diversions, contour stripcropping, and winter cover crops are necessary to prevent excessive erosion. These areas are best suited for cool-season, drought-tolerant legumes and grasses. The deep root zone and excellent surface drainage make the soils very well suited for alfalfa production. Good to excellent yields of alfalfa and alfalfa-grass mixtures are obtained with the proper use of lime and fertilizers.

Woodland

Fertility and moisture are adequate on for good tree growth. These soils are limited for woodland management due to plant competition on the Monadnock soils and seedling mortality on the Hermon soils.

Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

The slope of these Monadnock and Hermon soils is a moderate limitation for many phases of community development and a severe limitation for most commercial developments. Slope limitations on this unit can be reduced by cut and fill techniques. Excavations for basements and underground utilities have severe limitations because the sides tend to slough. Deep excavations may require special equipment. In some areas there are enough subsurface stones and boulders that disposing of them becomes a concern. Moderate erosion control measures should be used during periods of construction. Road cuts will be difficult to shape in the stony subsoil, and the droughtiness of the exposed underlying material is a limitation for revegetating these cuts. Lawns and landscaping have moderate limitations on this unit due to slope and a moderate limitation on the Hermon soil due to its droughty conditions.

The soils in this unit have limitations if used for onsite sewage disposal. The slope of the Monadnock soils is a moderate limitation. Areas of Hermon soils have severe limitations due to the gravelly, very permeable subsoil and substratum that do not effectively filter the effluent, resulting in a hazard of ground-water pollution.

These soils are a probable source of sand and gravel, but screening or crushing is required to remove large stones. Extensive test pitting should be done at the site.

Recreation

The slope limits recreational developments. Limitations are severe for playgrounds and athletic fields and moderate for picnic and camping areas. Hiking trails can be planned and maintained with few limitations.

Wildlife Habitat

Monadnock soils in this unit have good suitability for habitat areas for openland and woodland wildlife. Hermon soils have fair suitability for openland and woodland wildlife habitat. These soils are very poorly suited for wetland wildlife habitat.

The capability subclass is IIIe.

254D—Monadnock and Hermon soils, 15 to 25 percent slopes

This unit is on very deep, hilly glaciated uplands and mountainsides. It consists of well drained Monadnock soils and somewhat excessively drained Hermon soils. The areas are irregular in shape and range from 5 to 15 acres in size. Some areas have stones and boulders more than 30 feet apart and generally more than 80 feet apart. Some areas are mainly Monadnock soils, some areas are mainly Hermon soils, and some are both soils. The Monadnock and Hermon soils were mapped together because they have no major differences in use and management. The total acreage of the unit is about 45 percent Monadnock soils, 40 percent Hermon soils, and 15 percent other soils.

The typical sequence, depth, and composition of the layers of the Monadnock soil are as follows—

Surface layer:
0 to 4 inches, dark grayish brown fine sandy loam
4 to 6 inches, gray fine sandy loam
Subsoil:
6 to 10 inches, yellowish red fine sandy loam
10 to 18 inches, yellowish brown very fine sandy loam
18 to 23 inches, light olive brown fine sandy loam
Substratum:
23 to 65 inches, pale olive loamy sand

The typical sequence, depth, and composition of the layers of the Hermon soil are as follows—

Surface layer:
0 to 5 inches, dark grayish brown fine sandy loam
5 to 7 inches, light gray fine sandy loam
Subsoil:
7 to 15 inches, dark yellowish brown gravelly fine sandy loam
15 to 22 inches, light olive brown gravelly loamy sand
Substratum:
22 to 65 inches, grayish brown very gravelly loamy sand

Some areas of Hermon soils have a surface layer of loamy sand.

Inclusions

Included with this unit are small areas with slopes of less than 15 percent or more than 25 percent. In depressions and along narrow drainageways are moderately well drained Waumbek soils and poorly drained Lyme or Moosilauke soils. Some areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Monadnock soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Major properties of the Hermon soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of the unit have been cleared for farming. Some areas are reverting to woodland. Other areas have been used for residential or commercial developments.

Use and Management

Farming

These soils have severe limitations for farming due to slope, erosion hazard, the moderate to low available water capacity, and short growing season. Intensive erosion control measures such as diversions, contour stripcropping, and winter cover crops are necessary to prevent excessive erosion. These areas are best suited for cool-season, drought-tolerant legumes and grasses. The deep root zone and excellent surface drainage make the soils very well suited for alfalfa production. Fair to good yields of alfalfa and alfalfa-grass mixtures are obtained with the proper use of lime and fertilizers. These areas are best suited for pasture because the slopes make the operation of haying equipment hazardous.

Woodland

Fertility and moisture are adequate on these Monadnock and Hermon soils for good tree growth. Erosion hazard and equipment limitations are moderate limitations. Additional management concerns are moderate plant competition on the Monadnock soils and moderate seedling mortality on the Hermon soils.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

The slope of these Monadnock and Hermon soils is a severe limitation for all phases of community development.

Excavations for basements and underground utilities have severe limitations because the sides tend to slough. Deep excavations may require special equipment. In some areas there are enough subsurface stones and boulders that disposing of them becomes a concern. Slope limitations on this unit can be reduced by cut and fill techniques. Erosion control measures such as sediment catch basins, heavy mulches, straw bales, terraces, and diversions should be used during periods of construction. Road cuts will be difficult to shape in the stony subsoil. The droughtiness of the Hermon soil and the slope of this unit are severe limitations for establishing vegetation for lawns, landscaping, and road cuts.

For onsite sewage disposal, the slope of the soil is a severe limitation. Areas of Hermon soils have severe limitations due to the gravelly, very permeable subsoil and substratum that do not effectively filter the effluent, resulting in a hazard of ground-water pollution.

These soils are a probable source of sand and gravel, but screening or crushing is required to remove large stones. Extensive test pitting should be done at the site.

Recreation

The slope limits recreational developments. Limitations are severe for camping areas, picnic areas, playgrounds, and athletic fields. These soils have moderate limitations for hiking paths and trails.

Wildlife Habitat

These soils have fair suitability for habitat areas for openland wildlife. Suitability for habitat areas for woodland wildlife is good on areas of Monadnock soils and fair on areas of Hermon soils. The potential for wetland wildlife habitat on these well drained and somewhat excessively drained soils is very poor.

The capability subclass is IVe.

255B—Monadnock and Hermon soils, 3 to 8 percent slopes, very stony

This unit is on very deep, undulating glaciated hilltops and mountainsides. It consists of well drained Monadnock soils and somewhat excessively drained Hermon soils. The areas are irregular in shape and range from 5 to 29 acres in size. Stones and boulders are 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. Some areas are mainly Monadnock soils, some areas are mainly Hermon soils, and some are both soils. The Monadnock and Hermon soils were mapped together because they have no major differences in use and management. The total acreage of the unit is about 45 percent Monadnock soils, 40 percent Hermon soils, and 15 percent other soils.

The typical sequence, depth, and composition of the layers of the Monadnock soil are as follows—

Surface layer:
0 to 4 inches, dark grayish brown fine sandy loam
4 to 6 inches, gray fine sandy loam
Subsoil:
6 to 10 inches, yellowish red fine sandy loam
10 to 18 inches, yellowish brown very fine sandy loam
18 to 23 inches, light olive brown fine sandy loam
Substratum:
23 to 65 inches, pale olive loamy sand

The typical sequence, depth, and composition of the layers of the Hermon soil are as follows—
Surface layer:
0 to 5 inches, dark grayish brown fine sandy loam
5 to 7 inches, light gray fine sandy loam
Subsoil:
7 to 15 inches, dark yellowish brown gravelly fine sandy loam
15 to 22 inches, light olive brown gravelly loamy sand
Substratum:
22 to 65 inches, grayish brown very gravelly loamy sand

Some areas of Hermon soils have a surface layer of loamy sand.

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. In depressions and along narrow drainageways are moderately well drained Waumbek soils and poorly drained Lyme or Moosilauke soils. Some areas have surface stones less than 5 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Monadnock soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Major properties of the Hermon soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this unit are forested. A few areas are used as pasture, and some areas have been used for residential development.

Use and Management

Farming

These Monadnock and Hermon soils are too stony for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. Even if these areas are cleared of surface stones, the short growing season and cool summers restricts the choice of crop varieties. The moderate erosion hazard limits the use of this unit for row crops, but forage crops of grasses and legumes can be grown.

Woodland

Fertility and moisture are adequate on these Monadnock and Hermon soils for good tree growth. These soils are limited for woodland management due to plant competition on the Monadnock soils and seedling mortality on the Hermon soils.

Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

These soils have moderate limitations due to slope and surface stoniness for most phases of community development. Excavations for basements and underground utilities have severe limitations because the sides tend to slough. Deep excavations may require special equipment. In many areas the large stones and boulders in the substratum are an additional limitation for excavations. Road cuts will be difficult to shape in the stony subsoil and substratum. The droughtiness of the Hermon soil and surface stones on this unit are moderate limitations for the establishment of vegetation along road cuts and for lawns and landscaping.

In the Hermon soils, the gravelly, very permeable subsoil and substratum do not effectively filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution.

These soils are a probable source of sand and gravel, but screening or crushing is required to remove large stones. Extensive test pitting should be done at the site.

Recreation

These soils have limitations for most recreational uses due to surface stones. Limitations are moderate for picnic and camping areas and severe for playgrounds and athletic fields. Hiking paths and trails have moderate limitations on areas of Hermon soils.

Wildlife Habitat

These soils have poor suitability for openland wildlife habitat development. Suitability for habitat areas for woodland wildlife is good on areas of Monadnock soils and fair on areas of Hermon soils. The suitability for wetland wildlife habitat on the soils is very poor.

The capability subclass is VIs.

255C—Monadnock and Hermon soils, 8 to 15 percent slopes, very stony

This unit is on very deep, rolling glaciated hilltops and mountainsides. It consists of well drained Monadnock soils and somewhat excessively drained Hermon soils. The areas are irregular in shape and range from 5 to 125 acres in size. Stones and boulders are 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. Some areas are mainly Monadnock soils, some areas are mainly Hermon soils, and some are both soils. The Monadnock and Hermon soils were mapped together because they have no major differences in use and management. The total acreage of the unit is about 45 percent Monadnock soils, 40 percent Hermon soils, and 15 percent other soils.

The typical sequence, depth, and composition of the layers of the Monadnock soil are as follows—

Surface layer:
0 to 4 inches, dark grayish brown fine sandy loam
4 to 6 inches, gray fine sandy loam
Subsoil:
6 to 10 inches, yellowish red fine sandy loam
10 to 18 inches, yellowish brown very fine sandy loam
18 to 23 inches, light olive brown fine sandy loam
Substratum:
23 to 65 inches, pale olive loamy sand

The typical sequence, depth, and composition of the layers of the Hermon soil are as follows—

Surface layer:
0 to 5 inches, dark grayish brown fine sandy loam
5 to 7 inches, light gray fine sandy loam
Subsoil:
7 to 15 inches, dark yellowish brown gravelly fine sandy loam
15 to 22 inches, light olive brown gravelly loamy sand
Substratum:
22 to 65 inches, grayish brown very gravelly loamy sand

Some areas of Hermon soils have a surface layer of loamy sand.

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. In depressions and along narrow drainageways are moderately well drained Waumbek soils and poorly drained Lyme or Moosilauke soils. Some areas have surface stones less than 5 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Monadnock soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Major properties of the Hermon soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this unit are forested. A few areas are used as pasture, and some areas have been used for residential development.

Use and Management

Farming

These Monadnock and Hermon soils are too stony for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. Even if these areas are cleared of surface stones, the slope and erosion hazard severely limit the use of this unit for row crops, but forage crops of grasses and legumes can be grown.

Woodland

Fertility and moisture are adequate on these Monadnock and Hermon soils for good tree growth. These soils are limited for woodland management due to plant competition on the Monadnock soils and seedling mortality on the Hermon soils.

Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can

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Figure 22.— This area of Hermon soils in an area of Monadnock and Hermon soils, 8 to 15 percent slopes, is used as a source of sand and gravel for use in construction.

be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

The slope and surface stoniness are limitations for most phases of community development. Slope limitations on this unit can be reduced by cut and fill techniques. Excavations for basements and underground utilities have severe limitations because the sides tend to slough. Deep excavations may require special equipment. In many areas the large stones and boulders in the substratum are an additional limitation for excavations. Erosion control measures such as sediment catch basins, heavy mulches, straw bales, terraces, and diversions should be used during periods of construction. Road cuts will be difficult to shape in the stony subsoil and substratum. The droughtiness of the Hermon soil, surface stones, and slope are moderate limitations for the establishment of vegetation along road cuts and for lawns and landscaping.

The soils in this unit have limitations for onsite sewage disposal. The slope of the Monadnock soils is a moderate limitation. Areas of Hermon soils have severe limitations due to the gravelly, very permeable subsoil and substratum that do not effectively filter the effluent, resulting in a hazard of ground-water pollution.

These soils are a probable source of sand and gravel, but screening or crushing is required to remove large stones. Extensive test pitting should be done at the site (fig. 22).

Recreation

These Monadnock and Hermon soils are limited by slope and stoniness for most recreational development. Limitations are moderate for picnic and camping areas and severe for playgrounds and athletic fields. Hiking paths and trails have moderate limitations on the Hermon soils due to large stones.

Wildlife Habitat

Monadnock soils in this unit are poorly suited for habitat areas for openland wildlife. The Hermon soils have fair suitability for openland and woodland wildlife habitat. These soils are very poorly suited for wetland wildlife habitat.

The suitability for wetland wildlife habitat on the soil is very poor.

The capability subclass is VIs.

255D—Monadnock and Hermon soils, 15 to 25 percent slopes, very stony

This unit is on very deep, hilly glaciated uplands and mountainsides. It consists of well drained Monadnock soils and somewhat excessively drained Hermon soils. The areas are irregular in shape and range from 5 to 150 acres in size. Stones and boulders are 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. Some areas are mainly Monadnock soils, some areas are mainly Hermon soils, and some are both soils. The Monadnock and Hermon soils were mapped together because they have no major differences in use and management. The total acreage of the unit is about 45 percent Monadnock soils, 40 percent Hermon soils, and 15 percent other soils.

The typical sequence, depth, and composition of the layers of the Monadnock soil are as follows—

Surface layer:

0 to 4 inches, dark grayish brown fine sandy loam

4 to 6 inches, gray fine sandy loam

Subsoil:

6 to 10 inches, yellowish red fine sandy loam

10 to 18 inches, yellowish brown very fine sandy loam

18 to 23 inches, light olive brown fine sandy loam

Substratum:

23 to 65 inches, pale olive loamy sand

The typical sequence, depth, and composition of the layers of the Hermon soil are as follows—

Surface layer:

0 to 5 inches, dark grayish brown fine sandy loam

5 to 7 inches, light gray fine sandy loam

Subsoil:

7 to 15 inches, dark yellowish brown gravelly fine sandy loam

15 to 22 inches, light olive brown gravelly loamy sand

Substratum:

22 to 65 inches, grayish brown very gravelly loamy sand

Some areas of Hermon soils have a surface layer of loamy sand.

Inclusions

Included with this unit are small areas with slopes of less than 15 percent or more than 25 percent. In depressions and along narrow drainageways are moderately well drained Waumbek soils and poorly drained Lyme or Moosilauke soils. Some areas have surface stones less than 5 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Monadnock soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: More than 6 feet

Potential frost action: Low

Flood hazard: None

Major properties of the Hermon soil

Permeability: Rapid throughout

Available water capacity: Low

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: More than 6 feet

Potential frost action: Low

Flood hazard: None

Most areas of this unit are forested. A few areas are used as pasture, and some areas have been used for residential development.

Use and Management

Farming

These Monadnock and Hermon soils are too stony for farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. Even if the soils are cleared of surface stones, slope and erosion hazard severely limit the use of this unit for row crops, but forage crops of grasses and legumes can be grown. These areas are best suited for pasture because the slopes make the operation of haying equipment hazardous.

Woodland

Fertility and moisture are adequate on these Monadnock and Hermon soils for good tree growth. These soils are limited for woodland management due to erosion hazard and equipment limitations. Additional management concerns are plant competition on the Monadnock soils and seedling mortality on the Hermon soils.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

The slope and surface stoniness of these Monadnock and Hermon soils are severe limitations for most phases of community development. Excavations for basements and underground utilities have severe limitations because the sides tend to slough. Deep excavations may require special equipment. In many areas the large stones and boulders in the substratum are an additional limitation for excavations. Slope limitations on this unit can be reduced by cut and fill techniques. Erosion control measures such as sediment catch basins, heavy mulches, straw bales, terraces, and diversions should be used during periods of construction. Road cuts will be difficult to shape in the stony subsoil and substratum. The droughtiness of the Hermon soil along with the surface stones and slope are moderate to severe limitations for the establishment of vegetation along road cuts and for lawns and landscaping.

For onsite sewage disposal, the slope of the soil is a severe limitation. Areas of Hermon soils have severe limitations due to the gravelly, very permeable subsoil and substratum that do not effectively filter the effluent, resulting in a hazard of ground-water pollution.

These soils are a probable source of sand and gravel, but screening or crushing is required to remove large stones. Extensive test pitting should be done at the site.

Recreation

The slope limit recreational developments. Limitations are severe for camping areas, picnic areas, playgrounds, and athletic fields. These soils have moderate limitations for the layout and use of hiking paths and trails.

Wildlife Habitat

These soils are poorly suited for habitat areas for openland wildlife. Suitability for habitat areas for woodland wildlife is good on areas of Monadnock soils and fair on areas of Hermon soils. The suitability for wetland wildlife habitat on these well drained and somewhat excessively drained soils is very poor.

The capability subclass is VIs.

255E—Monadnock and Hermon soils, 25 to 35 percent slopes, very stony

This unit is on very deep, steep glaciated hilltops and mountainsides. It consists of well drained Monadnock soils and somewhat excessively drained Hermon soils. The areas are irregular in shape and range from 5 to 150 acres in size. Stones and boulders are 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. Some areas are mainly Monadnock soils, some areas are mainly Hermon soils, and some are both soils. The Monadnock and Hermon soils were mapped together because they have no major differences in use and management. The total acreage of the unit is about 45 percent Monadnock soils, 40 percent Hermon soils, and 15 percent other soils.

The typical sequence, depth, and composition of the layers of the Monadnock soil are as follows—

Surface layer:
0 to 4 inches, dark grayish brown fine sandy loam
4 to 6 inches, gray fine sandy loam
Subsoil:
6 to 10 inches, yellowish red fine sandy loam
10 to 18 inches, yellowish brown very fine sandy loam
18 to 23 inches, light olive brown fine sandy loam
Substratum:
23 to 65 inches, pale olive loamy sand

The typical sequence, depth, and composition of the layers of the Hermon soil are as follows—

Surface layer:
0 to 5 inches, dark grayish brown fine sandy loam
5 to 7 inches, light gray fine sandy loam
Subsoil:
7 to 15 inches, dark yellowish brown gravelly fine sandy loam
15 to 22 inches, light olive brown gravelly loamy sand
Substratum:
22 to 65 inches, grayish brown very gravelly loamy sand

Some areas of Hermon soils have a surface layer of loamy sand.

Inclusions

Included with this unit are small areas with slopes of less than 25 percent or more than 35 percent. In depressions and along narrow drainageways are moderately well drained Waumbek soils and poorly drained Lyme or Moosilauke soils. Some areas have surface stones less than 5 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Monadnock soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Major properties of the Hermon soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this unit are forested.

Use and Management

Farming

These Monadnock and Hermon soils are too stony and steep for most farming.

Woodland

Fertility and moisture are adequate on these Monadnock and Hermon soils for good tree growth. These soils are limited for woodland management due to erosion hazard and slope. Additional management concerns are plant competition on the areas of Monadnock soils and seedling mortality on the Hermon soils.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

The slope of these Monadnock and Hermon soils is a severe limitation for most phases of community development. Excavations for basements and underground utilities have severe limitations because the sides tend to slough. Deep excavations may require special equipment. In many areas the large stones and boulders in the substratum are an additional limitation for excavations. Slope limitations can be reduced by cut and fill to level the soil. Erosion control measures such as sediment catch basins, heavy mulches, straw bales, terraces, and diversions should be used during periods of construction. Road cuts will be difficult to shape in the stony subsoil and substratum. The droughtiness of the Hermon soils and the slope and stoniness are limitations for landscaping and the establishment of vegetation along road cuts.

For onsite sewage disposal, the slope of the soil is a severe limitation. Areas of Hermon soils have severe limitations due to the gravelly, very permeable subsoil and substratum that do not effectively filter the effluent, resulting in a hazard of ground-water pollution.

These soils are a probable source of sand and gravel, but screening or crushing is required to remove large stones. Extensive test pitting should be done at the site.

Recreation

These Monadnock and Hermon soils have severe slope limitations for camp and picnic areas. The slope and stoniness of the soil are severe limitations for playgrounds or athletic fields. These soils have moderate limitations for the design and construction of hiking paths and trails, and the large stones on Hermon soils are an additional limitation.

Wildlife Habitat

These soils are poorly suited for habitat areas for openland wildlife. Suitability for habitat areas for woodland wildlife is good on areas of Monadnock soils and fair on areas of Hermon soils. The suitability for wetland wildlife habitat on these well drained and somewhat excessively drained soils is very poor.

The capability subclass is VIIs.

295—Greenwood mucky peat

This is a very deep, nearly level, and very poorly drained organic soil. It is in depressions on terraces and outwash plains and in upland valleys. The areas are irregularly shaped and range from 5 to 150 acres in size. Slopes range from 0 to 2 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 10 inches, dark reddish brown and black partially decomposed herbaceous and woody materials
Subsurface layer:
10 to 19 inches, black and very dark brown highly decomposed herbaceous and woody materials
19 to 38 inches, dark reddish brown and very dark brown partially decomposed herbaceous and woody materials

Substratum:
38 to 45 inches, very dusky red and very dark brown slightly decomposed herbaceous and woody materials
45 to 65 inches, reddish brown and very dusky brown partially decomposed herbaceous and woody materials

Inclusions

Included with this soil in mapping are areas of Chocorua, Ossipee, and Peacham soils on similar landscapes and small areas of open water. The included soils make up about 10 percent of this unit.

Major properties of the soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 1 foot above the surface to 1.0 foot below all year
Potential frost action: High
Flood hazard: None

Most areas of this soil are water-tolerant woodland or open bogs.

Use and Management

Farming

This soil is severely limited for farming by wetness.

Woodland

Fertility and moisture are so variable on this Greenwood soil that an onsite investigation is required to assess the potential. Equipment limitations, seedling mortality, windthrow hazard, and plant competition affect woodland management. Access to some areas may be a limitation for logging operations.

Equipment limitations due to wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen. Seedling mortality can be reduced by special site preparation or by planting species that are suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following tree harvest helps decrease invasion of undesirable species.

Community Development

This Greenwood soil has severe limitations for all phases of community development due to wetness, ponding, excess humus, subsidence, low strength, and frost action. Typically, there are no corrective measures to reduce these limitations.

The areas of this soil improve and maintain water quality by acting as natural filters to remove harmful chemicals, nutrients, and sediment. They also recharge ground-water aquifers and store runoff, which lessens flood damage.

Recreation

This very poorly drained soil has severe limitations for recreational developments due to ponding and excess humus.

Wildlife Habitat

This soil is poorly suited for habitat for openland or woodland wildlife. Suitability for wetland wildlife habitat is good.

The capability subclass is VIIw.

298—Pits, gravel

This unit consists of areas from which gravel or sand has been removed for construction purposes. The excavations are commonly 10 to 40 feet deep and have steep sides and a nearly level floor. They are irregularly shaped and range from 3 to about 50 acres in size. Some have been partially filled and used as a dump. Some other areas of this unit have small pools of water.

Very low available water holding capacity makes this unit droughty. Runoff is generally slow. Permeability varies but is commonly moderately rapid to very rapid.

A few areas of this unit have been reclaimed and planted with eastern white pine or used for homesites and recreational areas. Most other areas are either still active pits or have been abandoned and have a sparse vegetation of woody bushes, grasses, and annuals.

The very low available water capacity makes this unit generally unsuited for farming and woodland. A hazard of ground-water pollution limits the unit for waste disposal. Onsite investigation is needed to determine the suitability of the gravel pit for most uses and to determine the method of reclamation.

Capability subclass: not assigned.

299—Udorthents, smoothed

This unit consists of soil material that has been reworked by machinery. Most of the areas consist of cuts and fills associated with borrow pits and quarries and construction sites for industrial, commercial, and residential buildings, highways, and airports. These areas are dominantly nearly level, but along the perimeter of the unit they are typically strongly sloping to very steep. They range in size from about 5 to 115 acres.

The soil material in this unit is variable and ranges from sandy or loamy glacial till to sand and gravel. Some areas consist of boulders, stones, and cobbles that have been separated from finer material. Other areas have old building materials, stumps, pieces of asphalt, and other rubble mixed with soil material.

Inclusions

Included with this unit are small borrow pits or quarries, areas that have been covered with an impermeable surface, and small areas of undisturbed soils that commonly are compacted and shaped to some extent but otherwise resemble the undisturbed soils surrounding areas of Udorthents. Included areas make up about 10 percent of this unit.

The permeability of the material in this unit ranges from very rapid to slow. The available water capacity of the unit ranges from very low to moderate. Depth to bedrock is generally more than 65 inches.

Because of the variability of this unit, onsite investigation is needed to evaluate the potential of the unit for any use.

Capability subclass: not assigned.

310A—Quonset loamy sand, 0 to 3 percent slopes

This soil is very deep, nearly level, and excessively drained. It is on gravelly stream terraces and outwash plains along the southern half of the Connecticut River valley. The areas are irregular in shape and range from 5 to 50 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 8 inches, dark brown loamy sand
Subsoil:
8 to 20 inches, yellowish brown very gravelly sand
Substratum:
20 to 24 inches, light olive brown very gravelly sand
24 to 44 inches, olive brown very gravelly coarse sand
44 to 65 inches, brown sand

In some areas the layers range from extremely gravelly to nongravelly. Some areas have a gravelly or very gravelly surface layer.

Inclusions

Included with this soil in mapping are areas of excessively drained Windsor soils and depressions or narrow drainageways of moderately well drained Deerfield soils. Also included are small areas with slopes of more than 3 percent. The included soils make up about 10 percent of this unit.

Major properties of the soil

Permeability: Moderately rapid to rapid in the surface layer and subsoil; very rapid in the substratum
Available water capacity: Very low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil have been cleared for farming. A few areas are still farmed. Many areas are reverting to woodland or are used for residential or commercial development. Many of the commercial sand and gravel operations in Grafton County are in this unit.

Farming

The droughtiness of this soil is the primary limitation for farming. The soil is moderately well suited for row crops. Heavy applications of manure and winter cover crops incorporated into the surface layer will help maintain and increase the organic matter level and the available water capacity. Even with the proper use of lime and fertilizer, only fair yields of silage corn, grasses, and legumes are generally obtained without irrigation. Winterkill of legumes is a concern in depressions on this nearly level soil because of ice coverage following midwinter thaws.

Woodland

Moisture content is adequate for good softwood growth, especially eastern white pine.

This soil is limited for woodland management by seedling mortality. This limitation can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This soil has few limitations for most phases of community development. The sides of excavations tend to slough, and deep excavations may require special equipment. After construction, the droughtiness is a severe limitation for the establishment of lawns and landscaping.

For onsite waste disposal, there is a severe limitation because the gravelly, very permeable subsoil and substratum do not effectively filter the effluent, and there is a hazard of ground-water pollution.

This soil is a probable source of gravel, but extensive test pitting should be done at the site.

Recreation

This soil has moderate limitations for playgrounds and athletic fields due to small stones. Maintaining adequate grass cover on athletic fields is a concern on this droughty soil.

Wildlife Habitat

Suitability is poor for habitat areas for openland or woodland wildlife. This soil is very poorly suited for wetland wildlife except as resting or nesting areas adjacent to wetlands.

The capability subclass is IIIs.

310B—Quonset loamy sand, 3 to 8 percent slopes

This soil is very deep, undulating, and excessively drained. It is on gravelly stream terraces and outwash plains along the southern half of the Connecticut River valley. The areas are irregular in shape and range from 5 to 75 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 8 inches, dark brown loamy sand
Subsoil:
8 to 20 inches, yellowish brown very gravelly sand
Substratum:
20 to 24 inches, light olive brown very gravelly sand
24 to 44 inches, olive brown very gravelly coarse sand
44 to 65 inches, brown sand

In some areas the layers range from extremely gravelly to nongravelly. Some areas have a gravelly or very gravelly surface layer.

Inclusions

Included with this soil in mapping are areas of excessively drained Windsor soils and depressions or narrow drainageways of moderately well drained Deerfield soils. Also included are small areas with slopes of less than 3 percent or more than 8 percent. The included soils make up about 10 percent of this unit.

Major properties of the soil

Permeability: Moderately rapid to rapid in the surface layer and subsoil; very rapid in the substratum
Available water capacity: Very low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil have been cleared for farming. A few areas are still farmed. Many areas are reverting to woodland or are used for residential or commercial development. Many of the commercial sand and gravel operations in the county are in this unit.

Use and Management

Farming

The droughtiness of this soil is the primary limitation for farming. The soil is moderately well suited for row crops. Heavy applications of manure and winter cover crops incorporated into the surface layer will help maintain and increase the organic matter level and the available water capacity. Winter cover crops and contour tillage will help control erosion. Even with the proper use of lime and fertilizer, only fair yields of silage corn, grasses, and legumes are generally obtained without irrigation.

Woodland

Moisture content is adequate for good softwood growth, especially eastern white pine.

This soil is limited for woodland management by seedling mortality. This limitation can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This Quonset soil has few limitations for most phases of community development. Erosion is a concern during construction. This can be controlled by limiting the area of exposed soil. This soil has severe limitations for excavations because the sides of excavations tend to slough. Deep excavations may require special equipment. After construction, the droughtiness is a severe limitation for the establishment of lawns and landscaping.

For onsite waste disposal, there is a severe limitation because the gravelly, very permeable subsoil and substratum do not effectively filter the effluent, and there is a hazard of ground-water pollution.

This soil is a probable source of gravel, but extensive test pitting should be done at the site.

Recreation

This soil has moderate limitations for playgrounds and athletic fields due to slope and small stones. Maintaining adequate grass cover on athletic fields is a concern on this droughty soil.

Wildlife Habitat

Suitability is poor for habitat areas for openland or woodland wildlife. This soil is very poorly suited for wetland wildlife except as resting or nesting areas adjacent to wetlands.

The capability subclass is IIIs.

310C—Quonset loamy sand, 8 to 15 percent slopes

This soil is very deep, rolling, and excessively drained. It is on gravelly stream terraces and outwash plains along the southern half of the Connecticut River valley. The areas are irregular in shape and range from 5 to 25 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 8 inches, dark brown loamy sand
Subsoil:
8 to 20 inches, yellowish brown very gravelly sand
Substratum:
20 to 24 inches, light olive brown very gravelly sand
24 to 44 inches, olive brown very gravelly coarse sand
44 to 65 inches, brown sand

In some areas the layers range from extremely gravelly to nongravelly. Some areas have a gravelly or very gravelly surface layer.

Inclusions

Included with this soil in mapping are areas of excessively drained Windsor soils and depressions or narrow drainageways of moderately well drained Deerfield soils. Also included are small areas with slopes of less than 8 percent or more than 15 percent. The included soils make up about 10 percent of this unit.

Major properties of the soil

Permeability: Moderately rapid to rapid in the surface layer and subsoil; very rapid in the substratum
Available water capacity: Very low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil have been cleared for farming. A few areas are still farmed. Many areas are reverting to woodland or are used for residential or commercial development. Many of the commercial sand and gravel operations in the county are in this unit.

Use and Management

Farming

The droughtiness of this soil is the primary limitation for farming. The slope and erosion hazard make this soil poorly suited for row crops. Yields of grasses and legumes are only fair on soil even with the proper use of lime and fertilizer. Areas used as pasture may require careful stocking or rotation grazing. Overgrazing will allow low quality grasses and forbes to take over and reduce the forage quality.

Woodland

Moisture content is adequate for good softwood growth, especially eastern white pine.

This soil is limited for woodland management by seedling mortality. This limitation can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This soil is limited for community development by slope and erosion. Limitations are severe for excavations because the sides tend to slough, and deep excavations may require special equipment. The slope of this soil is a moderate limitations for dwellings with or without basements and a severe limitation for small commercial buildings. This soil has moderate slope limitations for roads and streets, and the resulting cuts and side slopes are difficult to stabilize and revegetate on this droughty soil. Erosion is a concern during periods of construction but can generally be controlled with a few simple measures. After construction, the droughtiness is a severe limitation for the establishment of lawns and landscaping.

For onsite sewage disposal, there is a severe limitation because the gravelly, very permeable subsoil and substratum do not effectively filter the effluent, and there is a hazard of ground-water pollution.

This soil is a probable source of gravel, but extensive test pitting should be done at the site.

Recreation

The slope of this soil is a limitation for most recreational uses. Soil limitations are moderate for camp and picnic areas and severe for playgrounds and athletic fields. There are few limitations for hiking paths and trails, but areas of heavy use should be designed to prevent erosion.

Wildlife Habitat

Suitability is poor for habitat areas for openland or woodland wildlife. This soil is very poorly suited for wetland wildlife except as resting or nesting areas adjacent to wetlands.

The capability subclass is IVs.

310E—Quonset loamy sand, 15 to 60 percent slopes

This soil is very deep, moderately steep to very steep, and excessively drained. It is on gravelly escarpment of stream terraces and in deep ravines in outwash plains along the southern half of the Connecticut River valley. The areas are irregular in shape and range from 5 to 75 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 8 inches, dark brown loamy sand
Subsoil:
8 to 20 inches, yellowish brown very gravelly sand
Substratum:
20 to 24 inches, light olive brown very gravelly sand
24 to 44 inches, olive brown very gravelly coarse sand
44 to 65 inches, brown sand

In some areas the layers range from extremely gravelly to nongravelly. Some areas have a gravelly or very gravelly surface layer.

Inclusions

Included with this soil in mapping are small areas along narrow ravines where the soil has been entrenched to bedrock or to the stony glacial till and areas along the lower part of the escarpment that are sandy or silty. Also included are small areas with slopes of less than 15 percent or more than 60 percent. The included soils make up about 15 percent of this unit.

Major properties of the soil

Permeability: Moderately rapid to rapid in the surface layer and subsoil; very rapid in the substratum
Available water capacity: Very low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil are woodland.

Use and Management

Farming

The steep slopes and erosion hazard are severe limitations for all farming of the soil. Operation of modern farming equipment on these slopes is hazardous. Some of the moderately steep areas can be used for pasture, but maintenance of good quality grasses and legumes is a concern. Severe erosion may develop along cattle trails.

Woodland

Moisture content is adequate for good softwood growth, especially eastern white pine, but this soil is limited for woodland management by erosion hazard, slope, and seedling mortality.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with drought-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by the use of track equipment and careful planning to avoid steepest areas. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This soil is limited for community development by slope and erosion. Limitations are severe for excavations because the sides tend to slough, and deep excavations may require special equipment. Erosion is a concern during periods of construction but can generally be controlled with a few simple measures. The slope of this soil is a severe limitation for dwellings with or without basements and for small commercial buildings. This soil has severe slope limitations for roads and streets, and the resulting cuts and side slopes are difficult to stabilize and revegetate on this droughty soil.

For onsite waste disposal, there is a severe limitation because the gravelly, very permeable subsoil and substratum do not effectively filter the effluent, and there is a hazard of ground-water pollution. The slope of the soil is an additional limitation.

This soil is a probable source of gravel, but extensive test pitting should be done at the site.

Recreation

The slope of this soil is a severe limitation for most recreational uses.

Wildlife Habitat

Suitability is poor for habitat areas for openland or woodland wildlife. This soil is very poorly suited for wetland wildlife except as resting or nesting areas adjacent to wetlands.

The capability subclass is VIIs.

313—Deerfield fine sandy loam

This soil is very deep, nearly level, and moderately well drained. It is on loamy terraces along the Connecticut River valley. Slopes are 0 to 3 percent. The areas are long and narrow and range from 5 to 30 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 9 inches, very dark grayish brown fine sandy loam
Subsoil:
9 to 16 inches, yellowish brown loamy fine sand
16 to 27 inches, light olive brown loamy fine sand
Substratum:
27 to 65 inches, grayish brown fine sand

Inclusions

Included with this soil in mapping are small or narrow depressions of Walpole and Binghamville soils, low mounds or narrow ridges of well drained Windsor or Agawam soils, and a few areas with slopes of more than 3 percent. Also included are areas with a gravelly subsoil and gravelly or very gravelly substratum. The included soils make up about 15 percent of this unit.

Major properties of the Deerfield soil

Permeability: Rapid in the surface layer and subsoil; very rapid in the substratum
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 1.5 to 3.0 feet from December through April
Potential frost action: Moderate
Flood hazard: None

Most areas of this Deerfield soil are farmed. A few areas are forested, and some have been used for residential or commercial development.

Use and Management

Farming

This soil has fair suitability for farming. Droughtiness may be a concern during dry years, and legumes such as alfalfa may be difficult to maintain. Surface and subsurface drainage will allow earlier spring tillage, eliminate some of the harvesting concerns of a wet autumn, and improve legume survival. Fair to good yields of silage corn, grasses, and legumes can be obtained with the proper management.

Woodland

Soil moisture is adequate for good softwood growth, especially eastern white pine, on this Deerfield soil.

Seedling mortality and plant competition are limitations that affect woodland management.

Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This soil is limited by a seasonal high water table and frost action. The sides of excavations tend to slough and fill with water. Deep excavations may require special equipment. Wetness is a severe limitation for dwellings with basements and a moderate limitations for dwellings without basements and for small commercial buildings. Foundation drains will help to control wetness and frost action. The moderate limitations for local roads and streets can be overcome by providing coarser grained base material to frost depth and installing drainage.

Wetness and the poor filtering properties of this soil are severe limitations for onsite waste disposal systems. The very permeable subsoil and substratum do not effectively filter effluent, and there is a hazard of ground-water pollution.

This soil is a probable source of sand, but extensive test pitting should be done at the site.

Recreation

This soil has moderate limitations for camp and picnic areas due to wetness. Limitations are moderate for playgrounds and athletic fields due to wetness and slope.

Wildlife Habitat

Suitability is fair for habitat for openland wildlife and poor for woodland wildlife. This soil is poorly suited for wetland wildlife except as resting or nesting areas adjacent to wetlands.

The capability subclass is IIIw.

330B—Bernardston silt loam, 3 to 8 percent slopes

This soil is very deep, gently sloping, and well drained. It is on silty glaciated hills in the southwestern part of the county. The areas are irregular in shape and range from 5 to 25 acres in size. Some areas have stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 6 inches, dark grayish brown silt loam
Subsoil:
6 to 11 inches, olive brown silt loam
11 to 16 inches, light olive brown silt loam
Substratum:
16 to 28 inches, olive gray silt loam
28 to 65 inches, mottled, olive gray, firm silt loam

Some areas are fine sandy loam throughout.

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. In depressions and along narrow drainageways are moderately well drained Pittstown soils and poorly drained Stissing soils. Also included are small isolated areas of well drained Cardigan soils or somewhat excessively Kearsarge soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Bernardston soil

Permeability: Moderate in the surface layer and subsoil; slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 16 to 36 inches to hardpan
Depth to water table: 1.5 to 3.0 feet from February through April
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil have been cleared for farming. Some areas are reverting to woodland. Other areas have been used for residential development.

Use and Management

Farming

Bernardston soil is classified as prime farmland in this survey area. Excellent yields of silage corn, grasses, and legumes can be obtained with the proper use of lime and fertilizers. Home gardens have good yields of small fruits and vegetables, but very little truck farming is done in the county. Areas used for continuous row cropping should be contour farmed and have winter cover crops to prevent erosion and help maintain organic matter levels. Contour tillage and stripcropping will help reduce soil losses where row crops are grown.

Woodland

Fertility and moisture are favorable on this Bernardston soil for high quality hardwoods. Windthrow hazard and plant competition are limitations that affect woodland management.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited by a perched water table in the spring, a slowly permeable hardpan, and frost action. Wetness and the dense hardpan are moderate limitations for shallow excavations. There is a moderate wetness limitation for dwellings with or without basements. Foundation drains will help to control wetness and frost action. There is a moderate limitation for local roads and streets due to wetness and frost action. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage.

For onsite sewage disposal, the depth to the slowly permeable hardpan is a severe limitation that can be overcome with fill to raise and increase the size of absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to wetness and small stones. Limitations are severe for playgrounds and athletic fields due to small stones.

Wildlife Habitat

Suitability is good for habitat areas for openland and woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IIe.

330C—Bernardston silt loam, 8 to 15 percent slopes

This soil is very deep, strongly sloping, and well drained. It is on silty glaciated hills in the southwestern part of the county. The areas are irregular in shape and range from 5 to 35 acres in size. Some areas have stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 6 inches, dark grayish brown silt loam
Subsoil:
6 to 11 inches, olive brown silt loam
11 to 16 inches, light olive brown silt loam
Substratum:
16 to 28 inches, olive gray silt loam
28 to 65 inches, mottled, olive gray, firm silt loam

Some areas are fine sandy loam throughout.

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. In depressions and along narrow drainageways are moderately well drained Pittstown soils and poorly drained Stissing soils. Also included are small isolated areas of well drained Cardigan soils or somewhat excessively Kearsarge soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Bernardston soil

Permeability: Moderate in the surface layer and subsoil; slow in the substratum.
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 16 to 36 inches to hardpan
Depth to water table: 1.5 to 3.0 feet from February through April
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil have been cleared for farming. Some areas are reverting to woodland. Other areas have been used for residential development.

Farming

The slope and erosion hazard of this Bernardston soil limit its use for row crops. Excellent yields of grasses and legumes can be obtained with the proper use of lime and fertilizers. Home gardens have good yields of adapted small fruits and vegetables, but very little truck farming is done in the county. If areas are used for continuous row cropping, they should be contour farmed and have winter cover crops to prevent erosion and help maintain organic matter levels. Contour tillage and stripcropping will help reduce soil losses where row crops are grown.

Woodland

Fertility and moisture are favorable on this Bernardston soil for high quality hardwoods. Windthrow hazard and plant competition are limitations that affect woodland management.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited by a perched water table in the spring, a slowly permeable hardpan, slope, and frost action. Wetness, the hardpan, and slope are moderate limitations for shallow excavations. There are moderate wetness and slope limitations for dwellings with or without basements. Foundation drains will help to control wetness and frost action. There is a moderate limitation for local roads and streets due to wetness, slope, and frost action. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. Slope limitations can be reduced by using cut and fill to level these strongly sloping areas. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal, the depth to the slowly permeable hardpan is a severe limitation that can be overcome with fill to raise and increase the size of absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to slope, small stones, and wetness. Limitations are severe for playgrounds and athletic fields due to slope and small stones.

Wildlife Habitat

Suitability is good for habitat areas for openland and woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IIIe.

330D—Bernardston silt loam, 15 to 25 percent slopes

This soil is very deep, moderately steep, and well drained. It is on glaciated hills in the southwestern part of the county. The areas are irregular in shape and range from 5 to 25 acres in size. Some areas have stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 6 inches, dark grayish brown silt loam

Subsoil:

6 to 11 inches, olive brown silt loam

11 to 16 inches, light olive brown silt loam

Substratum:

16 to 28 inches, olive gray silt loam

28 to 65 inches, mottled, olive gray, firm silt loam

Some areas are fine sandy loam throughout.

Inclusions

Included with this unit are small areas with slopes of less than 15 percent or more than 25 percent. In depressions and along narrow drainageways are moderately well drained Pittstown soils and poorly drained Stissing soils. Also included are small isolated areas of well drained Cardigan soils or somewhat excessively Kearsarge soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Bernardston soil

Permeability: Moderate in the surface layer and subsoil; slow in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: 16 to 36 inches to hardpan

Depth to water table: 1.5 to 3.0 feet from February through April

Potential frost action: Moderate

Flood hazard: None

Most areas of this soil have been cleared for farming. Many areas are reverting to woodland. A few areas have been used for residential development.

Use and Management

Farming

The slope and erosion hazard generally limit the farming of this Bernardston soil to pasture. A few areas are used for hayland, but the operation of modern hay equipment is hazardous on these slopes. Good yields of grasses and legumes can be obtained with the proper use of lime and fertilizers.

Woodland

Fertility and moisture are favorable on this Bernardston soil for high quality hardwoods. Slope, windthrow hazard, and plant competition are limitations that affect woodland management.

Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This Bernardston soil is severely limited for community development by moderately steep slopes. Slope limitations can be reduced by using cut and fill to level this area. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal, the depth to the slowly permeable hardpan is a severe limitation that can be overcome with fill to raise and increase the size of absorption fields.

Recreation

This soil has severe limitations for camping and picnic areas due to slope. Limitations are severe for playgrounds and athletic fields due to slope and small stones. There is a moderate limitation for hiking trails due to slope.

Wildlife Habitat

Suitability is fair for habitat areas for openland wildlife and good for woodland wildlife. This soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IVe.

331B—Bernardston silt loam, 3 to 8 percent slopes, very stony

This soil is very deep, gently sloping, and well drained. It is on glaciated hills in the southwestern part of the county. The areas are irregular in shape and range from 5 to 35 acres in size. Stones on the surface are 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 6 inches, dark grayish brown silt loam

Subsoil:

6 to 11 inches, olive brown silt loam

11 to 16 inches, light olive brown silt loam

Substratum:

16 to 28 inches, olive gray silt loam

28 to 65 inches, mottled, olive gray, firm silt loam

Some areas are fine sandy loam throughout.

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. In depressions and along narrow drainageways are moderately well drained Pittstown soils and poorly drained Stissing soils. Also included are small isolated areas of well drained Cardigan soils or somewhat excessively Kearsarge soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Bernardston soil

Permeability: Moderate in the surface layer and subsoil; slow in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: 16 to 36 inches to hardpan

Depth to water table: 1.5 to 3.0 feet from February through April

Potential frost action: Moderate

Flood hazard: None

Most areas of this soil are forested. A few areas that are farmed are used for pasture. Some areas have been developed for residential uses.

Use and Management

Farming

This soil is too stony for most farming other than pasture. The surface stones are generally small and scattered enough that some of the pastures have been improved by broadcasting lime and fertilizer without tillage. If cleared of surface stones, the soil meets the criteria for prime farmland.

Woodland

Fertility and moisture are favorable on this Bernardston soil for high quality hardwoods. Windthrow hazard and plant competition are limitations that affect woodland management.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited by a perched water table in the spring, a slowly permeable hardpan, and frost action. There is a moderate wetness limitation for shallow excavations and dwellings with or without basements. The dense hardpan in the substratum is an additional limitation for shallow excavations. Foundation drains will help to control wetness and frost action. There is a moderate limitation for local roads and streets due to wetness and frost action. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage.

For onsite sewage disposal, the depth to the slowly permeable hardpan is a severe limitation that can be overcome with fill to raise and increase the size of absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to large stones and slow permeability in the substratum. Limitations are severe for playgrounds and athletic fields due to large and small stones. Hiking paths and trails can be planned and maintained with few limitations.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and good for woodland wildlife. This soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

331C—Bernardston silt loam, 8 to 15 percent slopes, very stony

This soil is very deep, strongly sloping, and well drained. It is on silty glaciated hills in the southwestern part of the county. The areas are irregular in shape and range from 5 to 35 acres in size. Stones on the surface are 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the

layers of this soil are as follows—
Surface layer:
0 to 6 inches, dark grayish brown silt loam
Subsoil:
6 to 11 inches, olive brown silt loam
11 to 16 inches, light olive brown silt loam
Substratum:
16 to 28 inches, olive gray silt loam
28 to 65 inches, mottled, olive gray, firm silt loam
Some areas are fine sandy loam throughout.

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. In depressions and along narrow drainageways are moderately well drained Pittstown soils and poorly drained Stissing soils. Also included are small isolated areas of well drained Cardigan soils or somewhat excessively Kearsarge soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Bernardston soil

Permeability: Moderate in the surface layer and subsoil; slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 16 to 36 inches to hardpan
Depth to water table: 1.5 to 3.0 feet from February through April
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are forested. Other areas are used for pasture or have been developed for residential or commercial uses.

Use and Management

Farming

This soil is too stony for most farming other than pasture. Pastures may be improved by broadcasting lime and fertilizer without tillage. If cleared of surface stones, the soil is good grassland, but the slope and erosion hazard limit use for row crops.

Woodland

Fertility and moisture are favorable on this Bernardston soil for high quality hardwoods. Windthrow hazard and plant competition are limitations that affect woodland management.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited by a perched water table in the spring, a slowly permeable hardpan, slope, and frost action. The seasonal wetness, the hardpan, and slope of this soil are moderate limitations for shallow excavations. The dense hardpan in the substratum is an additional limitation for shallow excavations. There are moderate wetness and slope limitations for dwellings with or without basements. Foundation drains will help to control wetness and frost action. There is a moderate limitation for local roads and streets due to wetness, slope, and frost action. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. Limitations due to slope can be reduced by cut and fill. However, in areas cut into slopes below hardpan layers, water moves on the hardpan during wet times of the year.

For onsite sewage disposal, the depth to the slowly permeable hardpan is a severe limitation that can be overcome with fill to raise and increase the size of absorption fields.

Recreation

This soil has moderate limitations for camping areas and picnic areas due to large stones and slow permeability. Limitations are severe for playgrounds and athletic fields due to large stones, slope, and small stones.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and good for woodland wildlife. This soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

331D—Bernardston silt loam, 15 to 25 percent slopes, very stony

This soil is very deep, moderately steep, and well drained. It is on glaciated hills in the southwestern part of the county. The areas are irregular in shape and range from 5 to 60 acres in size. Stones on the surface are 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the

layers of this soil are as follows—
Surface layer:
0 to 6 inches, dark grayish brown silt loam
Subsoil:
6 to 11 inches, olive brown silt loam
11 to 16 inches, light olive brown silt loam
Substratum:
16 to 28 inches, olive gray silt loam
28 to 65 inches, mottled, olive gray, firm silt loam

Some areas are fine sandy loam throughout.

Inclusions

Included with this unit are small areas with slopes of less than 15 percent or more than 25 percent. In depressions and along narrow drainageways are moderately well drained Pittstown soils and poorly drained Stissing soils. Also included are small isolated areas of well drained Cardigan soils or somewhat excessively Kearsarge soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Bernardston soil

Permeability: Moderate in the surface layer and subsoil; slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 16 to 36 inches to hardpan
Depth to water table: 1.5 to 3.0 feet from February through April
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are forested. A few areas are used for unimproved pasture or have been developed for residential uses.

Use and Management

Farming

This soil is too stony and steep for most farming other than pasture. Even if the soil is cleared of surface stones, the high erosion hazard limits use to improved pasture. Good yields of grasses and legumes are obtained with the proper use of lime and fertilizers. The slope of this soil makes the operation of modern haying equipment difficult and hazardous.

Woodland

Fertility and moisture are favorable on this Bernardston soil for high quality hardwoods. Slope, windthrow hazard, and plant competition are limitations that affect woodland management.

Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited by slope for most phases of community development. Severe slope limitations can be reduced by using cut and fill to level this area. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal, the depth to the slowly permeable hardpan and slope are severe limitations that can be overcome with fill to raise, level, and increase the size of absorption fields.

Recreation

This soil has severe limitations for camping areas and picnic areas due to slope. Soil limitations are severe for playgrounds and athletic fields due to large stones, slope, and small stones. Limitations are moderate for hiking paths and trails due to slope.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and good for woodland wildlife. This soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

331E—Bernardston silt loam, 25 to 35 percent slopes, very stony.

This soil is very deep, steep, and well drained. It is on glaciated hills in the southwestern part of the county. The areas are irregular in shape and range from 5 to 100 acres in size. Stones on the surface are 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—
Surface layer:
0 to 6 inches, dark grayish brown silt loam
Subsoil:
6 to 11 inches, olive brown silt loam
11 to 16 inches, light olive brown silt loam

Substratum:
16 to 28 inches, olive gray silt loam
28 to 65 inches, mottled, olive gray, firm silt loam
Some areas are fine sandy loam throughout.

Inclusions

Included with this unit are small areas with slopes of less than 25 percent or more than 35 percent. In depressions and along narrow drainageways are moderately well drained Pittstown soils and poorly drained Stissing soils. Also included are small isolated areas of well drained Cardigan soils or somewhat excessively Kearsarge soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Bernardston soil

Permeability: Moderate in the surface layer and subsoil; slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 16 to 36 inches to hardpan
Depth to water table: 1.5 to 3.0 feet from February through April
Potential frost action: Moderate
Flood hazard: None
Most areas of this steep are forested.

Use and Management

Farming

The steep slopes and surface stones make this soil unsuited for farming.

Woodland

Fertility and moisture are favorable on this Bernardston soil for high quality hardwoods. Slope, windthrow hazard, and plant competition are limitations that affect woodland management.

Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This Bernardston soil is severely limited for most phases of community development by steep slopes. Slope limitations can be reduced by using cut and fill to level these steep areas. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal, the depth to the slowly permeable hardpan and steep slopes are severe limitations that can be overcome with fill to raise, level, and increase the size of absorption fields.

Recreation

Recreational developments have severe limitations due to slope. This soil has an additional limitation for playgrounds and athletic fields due to surface stones.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and good for woodland wildlife. This soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIIs.

334B—Pittstown loam, 3 to 8 percent slopes

This soil is very deep, gently sloping, and moderately well drained. It is on glaciated hills in the southwestern part of the county. The areas are broad and irregular in shape and range from 5 to 60 acres in size. Some areas have stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—
Surface layer:
0 to 8 inches, very dark grayish brown loam
Subsoil:
8 to 11 inches, olive brown loam
11 to 19 inches, light olive brown loam with yellowish brown, yellowish red, and reddish gray mottles
Substratum:
19 to 25 inches, olive gray loam
25 to 65 inches, olive, firm loam

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. In depressions and along narrow drainageways are poorly drained areas of Stissing soils and low mounds and ridges of well drained Bernardston soils. Also included are small isolated areas of well drained Cardigan soils or somewhat excessively drained Kearsarge soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Pittstown soil

Permeability: Moderate in the surface layer and subsoil; slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 1.5 to 3.0 feet from November through April
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil have been cleared for farming. A few areas are reverting to woodland. Some areas have been used for residential development.

Use and Management

Farming

This Pittstown soil is classified as prime farmland in this survey area. Good to excellent yields of silage corn, grasses, and legumes can be obtained with the proper use of lime and fertilizers. Seasonal wetness may delay spring tillage and be a concern during fall harvest. It can be alleviated with surface or subsurface drainage. Areas used for continuous row cropping should be contour farmed and have winter cover crops to prevent erosion and help maintain organic matter levels. Contour tillage and stripcropping will help reduce soil losses where row crops are grown.

Woodland

Fertility and moisture are favorable on this Pittstown soil for high quality hardwoods. This soil is limited for woodland management by windthrow hazard and plant competition.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited by wetness and frost action. Wetness is a moderate limitation for dwellings without basements. Wetness is a severe limitation for dwellings with basements and for shallow excavations. Foundation drains will help to control wetness and frost action. Wetness and frost action are severe limitations for local roads and streets. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage.

For onsite sewage disposal, wetness and slow permeability are severe limitations that may make it necessary to use fill to raise and increase in the size of absorption fields.

Recreation

This soil has moderate limitations for camping areas, picnic areas, and hiking paths and trails due to wetness. Limitations are moderate for playgrounds and athletic fields due to slope, wetness, and small stones.

Wildlife Habitat

Suitability is good for habitat for openland wildlife and fair for woodland wildlife. This soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IIe.

334C—Pittstown loam, 8 to 15 percent slopes

This soil is very deep, strongly sloping, and moderately well drained. It is on glaciated hills in the southwestern part of the county. The areas are broad and irregular in shape and range from 5 to 50 acres in size. Some areas have stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 8 inches, very dark grayish brown loam
Subsoil:
8 to 11 inches, olive brown loam
11 to 19 inches, light olive brown loam with yellowish brown, yellowish red, and reddish gray mottles
Substratum:
19 to 25 inches, olive gray loam
25 to 65 inches, olive, firm loam

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. In depressions and along narrow drainageways are poorly drained areas of Stissing soils and low mounds and ridges of well drained Bernardston soils. Also included are small isolated areas of well drained Cardigan soils or somewhat excessively drained Kearsarge soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Pittstown soil

Permeability: Moderate in the surface layer and subsoil; slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 1.5 to 3.0 feet from November through April
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil have been cleared for farming. A few areas are reverting to woodland. Some areas have been used for residential development.

Use and Management

Farming

Farming of this soil is generally limited to hay and pasture. The erosion hazard on this strongly sloping soil is severe for normal row crop production. Seasonal wetness is an additional limitation. Drainage of the soil will allow better varieties of grasses and legumes to be grown. Good to excellent yields of grasses and legumes can be obtained with the proper use of lime and fertilizers.

Woodland

Fertility and moisture are favorable on this Pittstown soil for high quality hardwoods. This soil is limited for woodland management by windthrow hazard and plant competition.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for community development by wetness, slope, and frost action. Wetness is a moderate limitation for dwellings without basements. Wetness is a severe limitation for dwellings with basements and for shallow excavations. Foundation drains will help to control wetness and frost action. Wetness, slope, and frost action are moderate limitations for local roads and streets. Frost action and wetness limitations can be overcome by providing coarser grained base material to frost depth and installing drainage. Slope limitations on this unit can be reduced by cut and fill to level the soil. However, cuts made into slopes into hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal, wetness and slow permeability are severe limitations that may make it necessary to use fill to raise and increase the size of absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to slope and wetness. Limitations are severe for playgrounds and athletic fields due to slope. Wetness is a moderate limitation for hiking trails and paths.

Wildlife Habitat

Suitability is good for habitat areas for openland wildlife and fair for woodland wildlife. This soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IIIe.

336B—Pittstown loam, 3 to 8 percent slopes, very stony

This soil is very deep, gently sloping, and moderately well drained. It is on glaciated hills in the southwestern part of the county. The areas are broad and irregular in shape and range from 5 to 60 acres in size. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 8 inches, very dark grayish brown loam.
Subsoil:
8 to 11 inches, olive brown loam.
11 to 19 inches, light olive brown loam with yellowish brown, yellowish red, and reddish gray mottles.

Substratum:
19 to 25 inches, olive gray loam.
25 to 65 inches, olive, firm loam.

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. In depressions and along narrow drainageways are poorly drained areas of Stissing soils and low mounds and ridges of well drained Bernardston soils. Also included are small isolated areas of well drained Cardigan soils or somewhat excessively drained Kearsarge soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Pittstown soil

Permeability: Moderate in the surface layer and subsoil; slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 1.5 to 3.0 feet from November through April
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are forested. A few areas are used as unimproved pasture or developed for residential uses.

Use and Management

Farming

This unit is too stony for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. If cleared of surface stones, the soil is classified as prime farmland. Seasonal wetness is an additional limitation. Drainage of the soil will allow better varieties of grasses and legumes to be grown.

Woodland

Fertility and moisture are favorable on these Pittstown soils for high quality hardwoods. This soil is limited for woodland management by windthrow hazard and plant competition.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for community development by wetness and frost action. Wetness is a moderate limitation for dwellings without basements. Wetness is a severe limitation for dwellings with basements and for shallow excavations. Foundation drains will help control wetness and frost action. Wetness and frost action are moderate limitations for local roads and streets. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. Limitations are moderate for lawns and landscaping due to large stones.

For onsite sewage disposal, wetness and slow permeability are severe limitations that may make it necessary to use fill to raise and increase the size of absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to wetness and large stones. Limitations for this soil are severe for playgrounds and athletic fields due to large and small stones. Wetness is a moderate limitation for hiking trails and paths.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. This soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

336C—Pittstown loam, 8 to 15 percent slopes, very stony

This soil is very deep, strongly sloping, and moderately well drained. It is on glaciated hills in the southwestern part of the county. The areas are broad and irregular in shape and range from 5 to 60 acres in size. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—
Surface layer:
0 to 8 inches, very dark grayish brown loam
Subsoil:
8 to 11 inches, olive brown loam
11 to 19 inches, light olive brown loam with yellowish brown, yellowish red, and reddish gray mottles
Substratum:
19 to 25 inches, olive gray loam
25 to 65 inches, olive, firm loam

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. In depressions and along narrow drainageways are poorly drained areas of Stissing soils and low mounds and ridges of well drained Bernardston soils. Also included are small isolated areas of well drained Cardigan soils or somewhat excessively drained Kearsarge soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Pittstown soil

Permeability: Moderate in the surface layer and subsoil; slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 1.5 to 3.0 feet from November through April
Potential frost action: Moderate
Flood hazard: None

This soil is generally forested. A few areas are used as unimproved pasture or for residential development.

Use and Management

Farming

This unit is too stony and sloping for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones.

Woodland

Fertility and moisture are favorable for high quality hardwoods. This soil is limited for woodland management by windthrow hazard and plant competition.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for community development by wetness, slope, and frost action. Wetness is a moderate limitation for dwellings without basements. Wetness is a severe limitation for dwellings with basements and for shallow excavations. Foundation drains will help control wetness and frost action. Wetness, slope, and frost action are moderate limitations for local roads and streets. Frost action and wetness can be reduced by providing coarser grained base material to frost depth and installing drainage. Slope limitations can be reduced by using cut and fill to level these strongly sloping areas. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year. Lawns and landscaping have a moderate limitation due to slope and large stones.

For onsite sewage disposal, wetness and slow permeability are severe limitations that may make it necessary to use fill to raise and increase the size of absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to slope and large stones. Limitations are severe for playgrounds and athletic fields due to slope and stones. This soil has moderate limitations for hiking paths and trails due to wetness.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. The soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

336D—Pittstown loam, 15 to 25 percent slopes, very stony

This soil is very deep, moderately steep, and moderately well drained. It is on glaciated hills in the southwestern part of the county. The areas are broad and irregular in shape and range from 5 to 60 acres in size. Some areas have stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—
Surface layer:
0 to 8 inches, very dark grayish brown loam
Subsoil:
8 to 11 inches, olive brown loam
11 to 19 inches, light olive brown loam with yellowish brown, yellowish red, and reddish gray mottles
Substratum:
19 to 25 inches, olive gray loam
25 to 65 inches, olive, firm loam

Inclusions

Included with this unit are small areas with slopes of less than 15 percent or more than 25 percent. In depressions and along narrow drainageways are poorly drained areas of Stissing soils and low mounds and ridges of well drained Bernardston soils. Also included are small isolated areas of well drained Cardigan soils or somewhat excessively drained Kearsarge soils and a few areas where the hardpan is more than 40 inches below the surface. A few areas have been cleared of stones or have surface stones less than 5 feet or more than 30 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Pittstown soil

Permeability: Moderate in the surface layer and subsoil; slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 1.5 to 3.0 feet from November through April
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil are forested. A few areas are used as unimproved pasture or for residential development.

Farming

This unit is too stony and steep for most farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones.

Woodland

Fertility and moisture are favorable for high quality hardwoods. This soil is limited for woodland management by erosion hazard, slope, windthrow hazard, and plant competition.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for community development by slope and wetness. Slope is a severe limitation for dwellings without basements. Slope and wetness are severe limitations for dwellings with basements and for shallow excavations. Foundation drains will help control wetness and frost action. Slope is a severe limitation for local roads and streets. Slope limitations can be reduced by using cut and fill to level these moderately steep areas. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal, the slope, wetness and slow permeability are severe limitations that may make it necessary to use special designs and fill to level, raise, and increase the size of absorption fields.

Recreation

This soil has severe limitations for camping and picnic areas due to slope. Limitations are severe for playgrounds and athletic fields due to slope and stones. This soil has moderate limitations for hiking paths and trails due to slope and wetness.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. This soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

341A—Stissing silt loam, 0 to 3 percent slopes, very stony

This soil is very deep, level to nearly level, and poorly drained. It is on glaciated hilltops and in valleys in the southwestern part of the county. The areas are irregular in shape and range from 5 to 40 acres in size. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 10 inches, very dark brown silt loam
Subsoil:
10 to 20 inches, 60 percent dark gray and 40 percent dark brown gravelly loam
Substratum:
20 to 65 inches, olive gray, very firm loam with dark brown mottles

Some areas are fine sandy loam throughout the soil.

Inclusions

Included with this unit are small areas with slopes of more than 3 percent, very poorly drained depressions with a thin black organic surface layer, and low mounds or ridges of moderately well drained Pittstown soils. Also included are areas that have been cleared of surface stones for farming and areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 5 feet apart. Some areas are periodically ponded by beaver dams. The included soils make up about 15 percent of this unit.

Major properties of the Stissing soil

Permeability: Moderate in the surface layer and subsoil; slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches to hardpan
Depth to water table: 0 to 1.5 feet from October through May
Potential frost action: High
Flood hazard: None

Most areas of this soil are forested. A few areas have been cleared for farming, but many are abandoned and are reverting to woodland.

Farming

This unit is too wet and stony for most farming other than unimproved pasture. The few areas that have been cleared of surface stones are producing fair yields of silage corn, grasses, and legumes.

Woodland

Fertility and moisture are fair to poor for hardwood growth and fair to good for softwoods, especially red spruce and balsam fir. This soil is limited for woodland management by slope, seedling mortality, windthrow hazard, and plant competition.

Equipment limitations due to wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen or during the driest summer months. Seedling mortality can be reduced by special site preparation or by planting species that are suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following tree harvest helps decrease invasion of undesirable species.

Community Development

This soil is limited for community development by wetness, a slowly permeable hardpan, and frost action. Wetness is a severe limitation for dwellings with or without basements and for shallow excavations. Foundation drains will help to control wetness and frost action. Locating drain outlets on these level and nearly level areas may be a concern. Wetness and frost action are severe limitations for local roads and streets. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. This soil is limited for lawns and landscaping due to wetness.

For onsite sewage disposal, wetness and slow permeability are severe limitations that may make it necessary to use fill to raise and increase the size absorption fields.

The areas of this soil improve and maintain water quality by acting as natural filters to remove harmful chemicals, nutrients, and sediment. They also recharge ground-water aquifers and store runoff, which lessens flood damage.

Recreation

This soil has severe limitations for camping areas, picnic areas, and hiking paths and trails due to wetness. Limitations are severe for playgrounds and athletic fields due to small stones and wetness.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. Suitability is fair for wetland wildlife habitat.

The capability subclass is VIIs.

341B—Stissing silt loam, 3 to 8 percent slopes, very stony

This soil is very deep, gently sloping, and poorly drained. It is on glaciated hilltops and in valleys in the southwestern part of the county. The areas are irregular in shape and range from 5 to 50 acres in size. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 10 inches, very dark brown silt loam
Subsoil:
10 to 20 inches, 60 percent dark gray and 40 percent dark brown gravelly loam
Substratum:
20 to 65 inches, olive gray, very firm loam with dark brown mottles

Some areas are fine sandy loam throughout the soil.

Inclusions

Included with this unit are small areas with slopes less than 3 percent or more than 8 percent, very poorly drained depressions with a thin black organic surface layer, and low mounds or ridges of moderately well drained Pittstown soils. Also included are areas that have been cleared of surface stones for farming and areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 5 feet apart. Some areas are periodically ponded by beaver dams. The included soils make up about 15 percent of this unit.

Major properties of the Stissing soil

Permeability: Moderate in the surface layer and subsoil; slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches to hardpan
Depth to water table: 0 to 1.5 feet from October through May
Potential frost action: High
Flood hazard: None

Most areas of this soil are forested. A few areas have been cleared for farming, but many are abandoned and are reverting to woodland.

Use and Management

Farming

This unit is too wet and stony for most farming other than unimproved pasture. The few areas that have been cleared of surface stones are producing fair yields of silage corn, grasses, and legumes.

Woodland

Fertility and moisture are fair to poor for hardwood growth and fair to good for softwoods, especially red spruce and balsam fir. This soil is limited for woodland management by slope, seedling mortality, windthrow hazard, and plant competition.

Equipment limitations due to wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen or during the driest summer months. Seedling mortality can be reduced by special site preparation or by planting species that are suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following tree harvest helps decrease invasion of undesirable species.

Community Development

This soil is limited for community development by wetness, a slowly permeable hardpan, and frost action. Wetness is a severe limitation for dwellings with or without basements and for shallow excavations. Foundation drains will help to control wetness and frost action. Wetness and frost action are severe limitations for local roads and streets. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. This soil is limited for lawns and landscaping due to wetness.

For onsite sewage disposal, wetness and slow permeability are severe limitations that may make it necessary to use fill to raise and increase the size of absorption fields.

The areas of this soil improve and maintain water quality by acting as natural filters to remove harmful chemicals, nutrients, and sediment. They also recharge ground-water aquifers and store runoff, which lessens flood damage.

Recreation

This soil has severe limitations for camping areas, picnic areas, and hiking paths and trails due to wetness. Limitations are severe for playgrounds and athletic fields due to small stones and wetness.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. Suitability is very poor for wetland wildlife habitat.

The capability subclass is VIIs.

347A—Lyme and Moosilauke soils, 0 to 3 percent slopes, very stony

These very deep, poorly drained soils are on nearly level valley floors in the glaciated uplands. The areas of the unit are long and narrow and range from 5 to 100 acres in size. Stones are 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 55 percent Lyme soils, 30 percent Moosilauke soils, and 15 percent other soils.

The Lyme and Moosilauke soils are mapped together because they have no significant differences in use and management.

The typical sequence, depth, and composition of the layers of the Lyme soil are as follows—
Surface layer:
1 inch to 0, undecomposed leaves and twigs
0 to 2 inches, partially decomposed leaves and twigs

2 to 6 inches, black highly decomposed organic material
Subsoil:
6 to 11 inches, gray cobbly fine sandy loam with olive mottles
11 to 23 inches, olive cobbly fine sandy loam with light olive brown mottles
Substratum:
23 to 65 inches, olive gray gravelly fine sandy loam

The typical sequence, depth, and composition of the layers of the Moosilauke soil are as follows—
Surface layer:
2 inches to 0, partially decomposed needles, leaves, and twigs
0 to 5 inches, very dark gray fine sandy loam
Subsoil:
5 to 11 inches, gray sandy loam
11 to 22 inches, light olive brown fine sandy loam with olive gray and yellowish brown mottles
Substratum:
22 to 65 inches, dark grayish brown sand

Inclusions

Included in mapping are small or narrow areas of very poorly drained soils, low mounds or ridges of moderately well drained soils, and small areas with slopes of more than 3 percent. Also included are small, poorly drained areas that are shallow or moderately deep to bedrock and a few areas that have been cleared of surface stones for farming. A few areas have surface stones less than 5 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Lyme soil

Permeability: Moderate or moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 0 to 1.5 feet from November through May
Potential frost action: High
Flood hazard: None

Major properties of the Moosilauke soil

Permeability: Moderately rapid in the surface layer and subsoil; rapid in the substratum
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 0 to 1.5 feet from November through May
Potential frost action: High
Flood hazard: None

Most areas of this soil are forested. A few areas have been cleared for farming and are used for pasture. Other areas have been developed for residential or commercial use.

Farming

This unit is generally too wet and stony for farming. Even if cleared of stones, the soil is suited only to pasture.

Woodland

Fertility and moisture are fair to poor for hardwood growth and fair to good for softwoods, especially red spruce and balsam fir. Slope, seedling mortality, windthrow hazard, and plant competition are limitations that affect woodland management.

Equipment limitations due to wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen or during the driest summer months. Seedling mortality can be reduced by special site preparation or by planting species that are suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following tree harvest helps decrease invasion of undesirable species.

Community Development

These soils have severe limitations for most phases of community development due to wetness and frost action. In addition, there are severe limitations during construction because the sides of excavations tend to slough and fill with water. Deep excavations may require special equipment. Foundation drains will help to control wetness and frost action. Locating drain outlets on these nearly level areas may be a concern. In many areas the large stones and boulders in the substratum are an additional limitation for excavations. Severe limitations on the soil for local roads and streets can be overcome by providing coarser grained base material to frost depth. Limitations are severe for onsite waste disposal systems. The wetness limitation may make it necessary to use fill to raise absorption fields. There is an additional hazard of ground-water pollution on areas of Moosilauke soils because the rapidly permeable substratum may not adequately filter the effluent.

The areas of these soils improve and maintain water quality by acting as natural filters to remove harmful chemicals, nutrients, and sediment. They also recharge ground-water aquifers and store runoff, which lessens flood damage.

Recreation

These soils have severe limitations for recreational developments due to wetness. Small stones are an additional severe limitation for playgrounds and athletic fields.

Wildlife Habitat

These soils are poorly suited for habitat for openland wildlife, and suitability is fair for the development for openland wildlife. The suitability for development of wetland wildlife habitat is very poor.

The capability subclass is VIIs.

347B—Lyme and Moosilauke soils, 3 to 8 percent slopes, very stony

These very deep, poorly drained soils are on gently sloping valley floors in the glaciated uplands. The areas of the unit are long and narrow and range from 5 to 100 acres in size. Stones are 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 55 percent Lyme soils, 30 percent Moosilauke soils, and 15 percent other soils.

The Lyme and Moosilauke soils are mapped together because they have no significant differences in use and management.

The typical sequence, depth, and composition of the layers of the Lyme soil are as follows—

Surface layer:

1 inch to 0, undecomposed leaves and twigs

0 to 2 inches, partially decomposed leaves and twigs

2 to 6 inches, black highly decomposed organic material

Subsoil:

6 to 11 inches, gray cobbly fine sandy loam with olive mottles

11 to 23 inches, olive cobbly fine sandy loam with light olive brown mottles

Substratum:

23 to 65 inches, olive gray gravelly fine sandy loam

The typical sequence, depth, and composition of the layers of the Moosilauke soil are as follows—

Surface layer:

2 inches to 0, partially decomposed needles, leaves, and twigs

0 to 5 inches, very dark gray fine sandy loam

Subsoil:

5 to 11 inches, gray sandy loam

11 to 22 inches, light olive brown fine sandy loam with olive gray and yellowish brown mottles

Substratum:

22 to 65 inches, dark grayish brown sand

Inclusions

Included in mapping are small or narrow areas of very poorly drained soils, low mounds or ridges of moderately well drained soils, and small areas with slopes of less than 3 percent or more than 8 percent. Also included are small, poorly drained areas that are shallow or moderately deep to bedrock and a few areas that have been cleared of surface stones for farming. A few areas have surface stones less than 5 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Lyme soil

Permeability: Moderate or moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 0 to 1.5 feet from November through May
Potential frost action: High
Flood hazard: None

Major properties of the Moosilauke soil

Permeability: Moderately rapid in the surface layer and subsoil; rapid in the substratum
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 0 to 1.5 feet from November through May
Potential frost action: High
Flood hazard: None

Most areas of this unit are forested. A few areas have been cleared for farming and are used primarily for pasture. Other areas have been developed for residential or commercial use.

Use and Management

Farming

This unit is too wet and stony for farming. Even if cleared of stones, the soils are suited only to pasture.

Woodland

Fertility and moisture are fair to poor for hardwood growth and fair to good for softwoods, especially red spruce and balsam fir. Slope, seedling mortality, windthrow hazard, and plant competition are limitations that affect woodland management.

Equipment limitations due to wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen or during the driest summer months. Seedling mortality can be reduced by special site preparation or by planting species that are suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following tree harvest helps decrease invasion of undesirable species.

Community Development

Wetness and frost action on the soil are limitations for most phases of community development. In addition, there are severe limitations during construction because the sides of excavations tend to slough and fill with water. Deep excavations may require special equipment. Foundation drains will help to control wetness and frost action. In many areas the large stones and boulders in the substratum are an additional concern for excavations. Severe limitations on the soil for local roads and streets can be overcome by providing coarser grained base material to frost depth.

Limitations are severe for onsite waste disposal systems on this unit. Wetness limitations may make it necessary to use fill to raise absorption fields. There is an additional hazard of ground-water pollution on areas of Moosilauke soils because the rapidly permeable substratum may not adequately filter the effluent.

The areas of these soils improve and maintain water quality by acting as natural filters to remove harmful chemicals, nutrients, and sediment. They also recharge ground-water aquifers and store runoff, which lessens flood damage.

Recreation

These soils have severe limitations for recreational developments due to wetness. Small stones are an additional severe limitation for playgrounds and athletic fields.

Wildlife Habitat

These soils are poorly suited for habitat for openland wildlife, and suitability is fair for the development for openland wildlife. The suitability for development of wetland wildlife habitat is very poor.

The capability subclass is VIIs.

355C—Hermon fine sandy loam, 8 to 15 percent slopes, extremely bouldery

This soil is very deep, rolling, and somewhat excessively drained. It is on loamy glaciated hills and mountainsides. The areas are irregular in shape and range from 10 to 30 acres in size. Stones and boulders are less than 5 feet apart and cover 3.0 to 15 percent of the surface (fig. 23).

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 5 inches, dark brown fine sandy loam
5 to 7 inches, light gray fine sandy loam
Subsoil:
7 to 15 inches, dark yellowish brown gravelly fine sandy loam
15 to 22 inches, light olive brown gravelly loamy sand
Substratum:
22 to 65 inches, grayish brown very gravelly loamy sand

In some areas the surface layer or upper part of the subsoil is loamy sand.

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. In depressions and along narrow drainageways are moderately well drained Waumbek soils and poorly drained Lyme soils. The included soils make up about 15 percent of this unit.

Major properties of the Hermon soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil are forested. A few areas are used for residential development.

Use and Management

Farming

The surface stones and boulders make this soil unsuited for most farming.

Woodland

Fertility and moisture are adequate on this Hermon soil for good tree growth, but boulders and seedling mortality are factors that restrict woodland. The boulders limit the use of equipment. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This soil is limited by slope and surface stones and boulders for most phases of community development. Limitations are severe for excavations because the sides tend to slough. Deep excavations may require special equipment. In many areas the large stones and

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Figure 23.— Hermon fine sandy loam, 15 to 25 percent slopes, extremely bouldery. These areas are severely limited for most uses due to boulders and stones.

boulders in the substratum are an additional concern for excavations. Erosion control measures such as sediment catch basins, heavy mulches, straw bales, terraces, and diversions should be used during periods of construction. Road cuts in this soil are difficult to shape in the stony subsoil and substratum, and droughtiness is a concern when revegetating these cuts. Most slope limitations can be reduced by cut and fill techniques.

For onsite waste disposal, this rapidly permeable soil may not effectively filter the effluent, and there is a severe hazard of ground-water pollution.

This soil is a probable source of sand and gravel, but screening or crushing is required to remove large stones and boulders. Extensive test pitting should be done at the site.

Recreation

This soil has severe limitations for recreational developments. Large stones limit the use of this soil for camping areas, picnic areas, and hiking paths and trails.

Large stones, slope, and small stones are limitations for playgrounds and athletic fields.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. This soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIIs.

355D—Hermon fine sandy loam, 15 to 25 percent slopes, extremely bouldery

This soil is very deep, hilly, and somewhat excessively drained. It is on loamy glaciated hills and mountainsides. The areas are irregular in shape and range from 10 to 50 acres in size. Stones and boulders are less than 5 feet apart and cover 3.0 to 15 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 5 inches, dark brown fine sandy loam

5 to 7 inches, light gray fine sandy loam

Subsoil:

7 to 15 inches, dark yellowish brown gravelly fine sandy loam

15 to 22 inches, light olive brown gravelly loamy sand

Substratum:

22 to 65 inches, grayish brown very gravelly loamy sand

In some areas the surface layer or upper part of the subsoil is loamy sand.

Inclusions

Included with this unit are small areas with slopes of less than 15 percent or more than 25 percent. In depressions and along narrow drainageways are moderately well drained Waumbek soils and poorly drained Lyme soils. The included soils make up about 15 percent of this unit.

Major properties of the soil

Permeability: Rapid throughout

Available water capacity: Low

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: More than 6 feet

Potential frost action: Low

Flood hazard: None

Most areas of this soil are forested. A few areas are used for residential development.

Use and Management

Farming

The surface stones and boulders make this soil unsuited for most farming.

Woodland

Fertility and moisture are adequate on this Hermon soil for good tree growth, but erosion, equipment limitations, and seedling mortality are factors that restrict woodland management.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with drought-tolerant grasses after logging is completed. Equipment limitations are due to the extremely bouldery surface. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This Hermon soil is severely limited by slope for all phases of community development. Excavations for basements and underground utilities tend to slough, and deep excavations may need special equipment. In many areas large stones and boulders in the substratum are an additional concern for excavations. Erosion control measures such as sediment catch basins, heavy mulches, straw bales, terraces, and diversions should be used during periods of construction. Road cuts in this soil will be difficult to shape in the stony subsoil and substratum, and the droughtiness of the exposed substratum is a concern when revegetating these cuts. Most slope limitations can be reduced by cut and fill techniques to level areas.

For onsite waste disposal, there are severe limitations due to poor filtering properties and slope. The sandy, very permeable subsoil and substratum do not effectively filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution.

This soil is a probable source of sand and gravel, but screening or crushing is required to remove large stones and boulders. Extensive test pitting should be done at the site.

Recreation

This soil is severely limited by slope and large stones and boulders for camp areas, picnic areas, playgrounds, and athletic fields. Large surface stones and boulders are severe limitations for the design and construction of hiking paths and trails.

Wildlife Habitat

Suitability is poor for habitat for openland wildlife and fair for woodland wildlife. This soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIIs.

355E—Hermon fine sandy loam, 25 to 35 percent slopes, extremely bouldery

This soil is very deep, steep, and somewhat excessively drained. It is on loamy glaciated hills and mountainsides. The areas are irregular in shape and range from 10 to 60 acres in size. Stones and boulders are less than 5 feet apart and cover 3.0 to 15 percent of the surface.

The typical sequence, depth, and composition of the

layers of this soil are as follows—
Surface layer:
0 to 5 inches, dark brown fine sandy loam
5 to 7 inches, light gray fine sandy loam
Subsoil:
7 to 15 inches, dark yellowish brown gravelly fine sandy loam
15 to 22 inches, light olive brown gravelly loamy sand
Substratum:
22 to 65 inches, grayish brown very gravelly loamy sand

In some areas the surface layer or upper part of the subsoil is loamy sand.

Inclusions

Included with this unit are small areas with slopes of less than 25 percent or more than 35 percent. In depressions and along narrow drainageways are moderately well drained Waumbek soils and poorly drained Lyme soils. The included soils make up about 15 percent of this unit.

Major properties of the soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Most areas of this soil are forested. A few areas are used for residential development.

Use and Management

Farming

The surface stones and boulders and the slope make this soil unsuited for farming.

Woodland

Fertility and moisture are adequate on this Hermon soil, but erosion, equipment limitations, and seedling mortality are factors that restrict woodland management.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with drought-tolerant grasses after logging is completed. Equipment limitations are due to the extremely bouldery surface. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Community Development

This soil has severe limitations for all phases of community and commercial development due to steep slopes and large stones and boulders. Most slope limitations on this unit can be reduced by cut and fill techniques to level areas.

For onsite waste disposal, there are severe limitations due to poor filtering properties and slope. The sandy, very permeable subsoil and substratum do not effectively filter the effluent from onsite waste disposal systems, and there is a hazard of ground-water pollution.

This soil is a probable source of sand and gravel, but screening or crushing is required to remove large stones and boulders. The steep slopes and large stones and boulders may severely limit access to the soil.

Recreation

This soil has severe limitations for all types of recreational developments due to steep slopes and large stones and boulders.

Wildlife Habitat

Suitability of this soil is poor for habitat for openland wildlife and fair for woodland wildlife. This soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIIs.

360B—Cardigan-Kearsarge complex, 3 to 8 percent slopes

The Cardigan and Kearsarge soils in this unit are in such intricate patterns that it was not practical to map them separately. The Cardigan soils are silty, moderately deep, and well drained. The Kearsarge soils are silty, shallow, and somewhat excessively drained. The soils are on undulating or gently sloping hilltops and hillsides. The areas are oval or irregular in shape and range from 5 to 50 acres in size. Some areas have stones and boulders more than 30 feet apart and generally more than 80 feet apart. Cardigan soils make up about 45 percent of this unit, Kearsarge soils 30 percent, and other soils 25 percent.

The typical sequence, depth, and composition of the layers of the Cardigan soil are as follows—
Surface layer:
0 to 6 inches, dark brown silt loam
Subsoil:
6 to 23 inches, yellowish brown friable loam
23 inches, hard schist bedrock

Some areas are fine sandy loam throughout.

The typical sequence, depth, and composition of the layers of the Kearsarge soil are as follows—

Surface layer:

0 to 4 inches, very dark grayish brown silt loam

Subsoil:

4 to 12 inches, dark yellowish brown silt loam

Substratum:

12 to 15 inches, olive gray friable loam

15 inches, hard schist bedrock

Some areas are fine sandy loam throughout.

Use and Management

Included with this complex are areas of well drained Bernardston soils or moderately well drained Pittstown soils, small areas of very shallow soils, and areas with surface stones less than 30 feet apart. These inclusions make up about 15 percent of this complex. Also included are occasional rock outcrops, small areas with slopes of less than 3 percent or more than 8 percent, and small areas where bedrock blocks the drainage patterns and the shallow and moderately deep soils are moderately well drained to poorly drained. These inclusions make up about 10 percent of this complex.

Major properties of the Cardigan soil

Permeability: Moderate throughout

Available water capacity: Moderate

Depth to bedrock: 20 to 40 inches

Depth to water table: More than 6 feet

Potential frost action: Moderate

Flood hazard: None

Major properties of the Kearsarge soil

Permeability: Moderate throughout

Available water capacity: Low

Depth to bedrock: 10 to 20 inches

Depth to water table: More than 6 feet

Potential frost action: Moderate

Flood hazard: None

Most areas of this complex have been cleared for farming. Some areas are still farmed, but many are reverting to woodland. A few areas are used for residential development.

Use and Management

Farming

This complex is moderately well suited for row crops. With the proper use of lime and fertilizers, good yields are obtained on the Cardigan soils but only fair yields on the shallow, droughty Kearsarge soils. If row crops are grown, tillage should be on the contour and winter cover crops should be used to control erosion and then incorporated into surface layer to maintain organic matter content. These soils are well suited for grasses and legumes for hay or pasture. Good yields are obtained except on the shallow Kearsarge areas, where yields are only fair and stands are difficult to maintain.

Woodland

Fertility and moisture are adequate on these Cardigan and Kearsarge soils for good tree growth. Seedling mortality and windthrow hazard are limitations that affect woodland management. On areas of Cardigan soils in this complex, plant competition is an additional limitation.

Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

Bedrock at a depth of less than 40 inches is the primary limiting factor for community development. Foundation drains will help to control wetness to remove water on the bedrock and in the fractures. Foundation drains will also reduce frost action. Gravity outlets for the drains may make it necessary to use additional blasting. Drilling and blasting generally are necessary for road construction and underground utilities. These soils have limitations for local roads and streets due to frost action and depth to rock. Frost action can be reduced by providing coarser grained base material to frost depth and installing drainage.

Limitations are severe for septic tank absorption fields. Areas with sufficient depth for a system must be located, or a site can be filled to obtain adequate depth. The included areas of Bernardston and Pittstown soils have the necessary depth, but have limitations of slow permeability and a seasonal water table.

Recreation

Areas of Kearsarge soils have severe limitations for camp or picnic areas due to the shallow depth to bedrock. If this complex is used as a playground or athletic field, the areas of Cardigan soils have moderate limitations due to the slope and depth to bedrock, while limitations are severe on areas of Kearsarge soils due to the depth to bedrock. Maintaining adequate grass cover on the shallow, droughty Kearsarge soils is an additional concern.

These soils have severe limitations for the design, layout, and maintenance of hiking paths and trails due to erodibility.

Wildlife Habitat

Suitability on the Cardigan soils is fair for habitat areas for openland and woodland wildlife. Suitability on the Kearsarge soils is poor for openland wildlife habitat and fair for woodland wildlife habitat. The suitability for wetland wildlife habitat on this complex is very poor.

The capability subclass is IIIe.

360C—Cardigan-Kearsarge complex, 8 to 15 percent slopes

The Cardigan and Kearsarge soils in this unit are in such intricate patterns that it was not practical to map them separately. The Cardigan soils are silty, moderately deep, and well drained. The Kearsarge soils are silty, shallow, and somewhat excessively drained. The soils are on rolling or strongly sloping hilltops and hillsides. The areas are oval or irregular in shape and range from 5 to 50 acres in size. Some areas have stones and boulders more than 30 feet apart and generally more than 80 feet apart. Cardigan soils make up about 45 percent of this unit, Kearsarge soils 30 percent, and other soils 25 percent.

The typical sequence, depth, and composition of the layers of the Cardigan soil are as follows—

Surface layer:

0 to 6 inches, dark brown silt loam

Subsoil:

6 to 23 inches, yellowish brown friable loam

23 inches, hard schist bedrock

Some areas are fine sandy loam throughout.

The typical sequence, depth, and composition of the layers of the Kearsarge soil are as follows—

Surface layer:

0 to 4 inches, very dark grayish brown silt loam

Subsoil:

4 to 12 inches, dark yellowish brown silt loam

Substratum:

12 to 15 inches, olive gray friable loam

15 inches, hard schist bedrock

Some areas are fine sandy loam throughout.

Inclusions

Included with this complex are areas of well drained Bernardston soils or moderately well drained Pittstown soils, small areas of very shallow soils, and areas with surface stones less than 30 feet apart. These inclusions make up about 15 percent of this complex. Also included are occasional rock outcrops, small areas with slopes of less than 8 percent or more than 15 percent, and small areas where bedrock blocks the drainage patterns and the shallow and moderately deep soils are moderately well drained to poorly drained. These inclusions make up about 10 percent of this complex.

Major properties of the Cardigan soil

Permeability: Moderate throughout
Available water capacity: Moderate
Depth to bedrock: 20 to 40 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Major properties of the Kearsarge soil

Permeability: Moderate throughout
Available water capacity: Low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this complex have been cleared for farming. Some areas are still farmed, but many are reverting to woodland. A few areas are used for residential development.

Use and Management

Farming

This complex is moderately well to poorly suited for row crop production because of the erosion hazard. Row crops can be grown in a long term rotation where the area is used for hay and pasture crops most of the time. Even then, intensive erosion control measures such as contour stripcropping and winter cover crops are required to keep erosion within allowable limits. These areas are best suited for the production of grasses and legumes for hay and pasture. With the proper use of lime and fertilizers, good yields are obtained except on the shallow, droughty Kearsarge soils, where yields are only fair and stands are difficult to maintain.

Woodland

Fertility and moisture are adequate on these Cardigan and Kearsarge soils for good tree growth. Seedling mortality and windthrow hazard are limitations that affect woodland management. Plant competition is an additional limitation on areas of Cardigan soils.

Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

Bedrock at a depth of less than 40 inches and slope are the primary limiting factors for the soils of this complex. Foundation drains will help to control wetness to remove water on the bedrock and in the fractures. Foundation drains will also reduce frost action. Gravity outlets for the drains may make it necessary to use additional blasting. These soils have limitations for local roads and streets due to depth to rock, slope, and frost action. Road construction through the soil will often encounter bedrock. Either drilling and blasting of the bedrock or covering with additional fill material will be needed. Frost action on the soil can be reduced by providing coarser grained base material to frost depth and installing drainage. Careful planning and location of roads will reduce limitations.

Limitations are severe for septic tank absorption field. Deeper areas must be located, or a site can be filled to obtain adequate depth. The included areas of Bernardston and Pittstown soils have the necessary depth, but have limitations of slow permeability and seasonal water table.

Recreation

Areas of Cardigan soils have moderate limitations for camp or picnic areas due to slope. Kearsarge soils in this complex have severe limitations for camp or picnic areas due to the shallow depth to bedrock. Limitations are severe for a playground or athletic field due to slope and depth to bedrock. Maintaining adequate grass cover on the droughty Kearsarge soils is an additional concern. The soils have severe limitations for the design, layout, and maintenance of hiking paths and trails due to erodibility.

Wildlife Habitat

Suitability on the Cardigan soils is fair for habitat areas for openland and woodland wildlife. Suitability on the Kearsarge soils is poor for openland wildlife habitat and fair for woodland wildlife habitat. The suitability for wetland wildlife habitat on this complex is very poor.

The capability subclass is IVe.

360D—Cardigan-Kearsarge complex, 15 to 25 percent slopes.

The Cardigan and Kearsarge soils in this unit are in such intricate patterns that it was not practical to map them separately. The Cardigan soils are silty, moderately deep, and well drained. The Kearsarge soils are silty, shallow, and somewhat excessively drained. The soils are on hilly or moderately steep hilltops and hillsides. The areas are oval or irregular in shape and range from 5 to 25 acres in size. Some areas have stones and boulders more than 30 feet apart and generally more than 80 feet apart. Cardigan soils make up about 45 percent of this unit, Kearsarge soils 30 percent, and other soils 25 percent.

The typical sequence, depth, and composition of the layers of the Cardigan soil are as follows—

Surface layer:
0 to 6 inches, dark brown silt loam
Subsoil:
6 to 23 inches, yellowish brown friable loam
23 inches, hard schist bedrock

Some areas are fine sandy loam throughout.

The typical sequence, depth, and composition of the layers of the Kearsarge soil are as follows—

Surface layer:
0 to 4 inches, very dark grayish brown silt loam
Subsoil:
4 to 12 inches, dark yellowish brown silt loam
Substratum:
12 to 15 inches, olive gray friable loam
15 inches, hard schist bedrock

Some areas are fine sandy loam throughout.

Inclusions

Included with this complex are areas of well drained Bernardston soils or moderately well drained Pittstown soils, small areas of very shallow soils, and areas with surface stones less than 30 feet apart. These inclusions make up about 15 percent of this complex. Also included are occasional rock outcrops, small areas with slopes of less than 15 percent or more than 25 percent, and small areas where bedrock blocks the drainage patterns and the shallow and moderately deep soils are moderately well drained to poorly drained. These inclusions make up about 10 percent of this complex.

Major properties of the Cardigan soil

Permeability: Moderate throughout
Available water capacity: Moderate
Depth to bedrock: 20 to 40 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Major properties of the Kearsarge soil

Permeability: Moderate throughout
Available water capacity: Low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet

Potential frost action: Moderate
Flood hazard: None

Most areas of this complex have been cleared for farming. Some areas are still farmed, but many are reverting to woodland. A few areas are used for residential development.

Use and Management

Farming

This complex are not suited for row crops due to the moderately steep slopes and severe erosion hazard. The soils will produce fair yields of grasses and legumes with the proper use of lime and fertilizers. The soils are best suited for use as pasture. Hay crops can be harvested, but the use of modern equipment on these slopes is hazardous.

Woodland

Fertility and moisture are adequate on these Cardigan and Kearsarge soils for good tree growth. Erosion hazard, slope, seedling mortality, and windthrow hazard are limitations that affect woodland management. On areas of Cardigan soils, plant competition is an additional limitation.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

The soils of this complex have severe limitations for all phases of community development because of bedrock at a depth of less than 40 inches and the slope. Drilling and blasting generally are necessary for road construction and the installation of underground utilities. Homes with basements require special design to fit these slopes and may need blasting to obtain the desired depths. Foundation drains will help to control wetness to remove water on the bedrock and in the fractures.

Depth to bedrock and slope are severe limitations for septic tank absorption fields. Areas with sufficient depth for a system must be located or a site can be filled to obtain adequate depth. The included areas of Bernardston and Pittstown soils have the necessary depth, but have limitations of slow permeability and seasonal water table.

Recreation

These soils have severe limitations for recreational uses due to slope, depth to bedrock, and erodibility. Hiking paths and trails crossing the soil require careful planning and water bars to control erosion.

Wildlife Habitat

Suitability is fair on the Cardigan soils in this complex for habitat areas for openland and woodland wildlife. Suitability is poor on the Kearsarge soils for openland wildlife habitat and fair for woodland wildlife habitat. The suitability for wetland wildlife habitat on this complex is very poor.

The capability subclass is VIe.

361B—Cardigan-Kearsarge-Rock outcrop complex, 3 to 8 percent slopes

The Cardigan and Kearsarge soils and rock outcrop in this unit are in such intricate patterns that it was not practical to map them separately. The Cardigan soils are silty, moderately deep, and well drained. The Kearsarge soils are silty, shallow, and somewhat excessively drained. The areas of rock outcrop are less than 100 feet apart. The unit is on undulating or gently sloping hilltops and hillsides. The areas are oval or irregular in shape and range from 5 to 25 acres in size. Stones are generally 5 to 30 feet apart on the surface and cover from less than 1 percent to 3 percent of the surface. The Cardigan soils make up about 40 percent of this unit, Kearsarge soils 30 percent, rock outcrops 15 percent, and other soils 15 percent.

The typical sequence, depth, and composition of the layers of the Cardigan soil are as follows—
Surface layer:
0 to 6 inches, dark brown silt loam
Subsoil:
6 to 23 inches, yellowish brown friable loam
23 inches, hard schist bedrock

Some areas are fine sandy loam throughout.

The typical sequence, depth, and composition of the layers of the Kearsarge soil are as follows—
Surface layer:
0 to 4 inches, very dark grayish brown silt loam
Subsoil:
4 to 12 inches, dark yellowish brown silt loam
Substratum:
12 to 15 inches, olive gray friable loam
15 inches, hard schist bedrock

Some areas are fine sandy loam throughout.

Inclusions

Included with this complex are areas of well drained Bernardston soils or moderately well drained Pittstown soils and small areas of soils with slopes of less than 3 percent or more than 8 percent. These inclusions make up about 5 percent of the unit. Also included are small areas of very shallow soils and small areas where bedrock blocks the drainage patterns and the shallow and moderately deep soils are moderately well drained to poorly drained. These inclusions make up about 10 percent of this complex.

Major properties of the Cardigan soil

Permeability: Moderate throughout
Available water capacity: Moderate
Depth to bedrock: 20 to 40 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Major properties of the Kearsarge soil

Permeability: Moderate throughout
Available water capacity: Low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this complex are forested. A few areas have been cleared for pasture, but most of these have been abandoned and have reverted to woodland. Some areas are used for residential development.

Use and Management

Farming

This complex is not suited for farming other than pasture due to surface stones and rock outcrops. In some areas the spacing of the surface stones and the position of the rock outcrops may allow limited pasture improvement by broadcasting lime and fertilizer without tillage. Erosion is a concern in areas adjoining broad, smooth outcrops because the soil is generally too shallow to support adequate plant cover.

Woodland

Fertility and moisture are adequate on these Cardigan and Kearsarge soils for good tree growth, but seedling mortality and windthrow hazard on the soil are limitations that affect woodland management. Plant competition is an additional limitation on areas of Cardigan soils in this complex.

Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Roads are limited in some areas because of the size, shape, or slope of the rock outcrop.

Community Development

Bedrock at a depth of less than 40 inches, rock outcrops, frost action, and surface stones are the major limiting factors for the soils of this complex. Foundation drains are needed to remove water on the bedrock and in the fractures. Foundation drains will also reduce the frost action. Gravity outlets for these drains may be difficult to locate or require additional blasting. Drilling and blasting generally are necessary for road construction and the installation of underground utilities

The soils also have moderate limitations for local roads and streets due to frost action. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage.

For onsite waste disposal, the depth to bedrock is a severe limitation. Areas with sufficient depth for the system must be located, or a site can be filled to obtain adequate depth. The included areas of Bernardston and Pittstown soils have the necessary depth, but have limitations of slow permeability and seasonal water table.

Recreation

The soils in this complex have limitations for most recreational uses. There is a moderate limitation on the Cardigan soils for camp or picnic areas due to large stones. On areas of Kearsarge soils or rock outcrop, limitations for camp or picnic areas are severe due to the shallow depth to bedrock. For playground or athletic fields, there are severe limitations due to small stones on the Cardigan soils. Limitations for playgrounds and athletic fields on the Kearsarge soils are severe due to small stones and depth to bedrock. Maintaining adequate grass cover on the shallow, droughty Kearsarge areas is also a limitation.

Wildlife Habitat

Suitability is fair on the Cardigan soils for openland wildlife habitat and good for woodland wildlife habitat. Suitability is poor on the Kearsarge soils for openland wildlife habitat and fair for woodland wildlife habitat. The suitability for wetland wildlife habitat on this complex is very poor.

The capability subclass is VIs.

361C—Cardigan-Kearsarge-Rock outcrop complex, 8 to 15 percent slopes

The Cardigan and Kearsarge soils and rock outcrop in this unit are in such intricate patterns that it was not practical to map them separately. The Cardigan soils are silty, moderately deep, and well drained. The Kearsarge soils are silty, shallow, and somewhat excessively drained. The rock outcrops are less than 100 feet apart. The unit is on rolling or strongly sloping hilltops and hillsides. The areas are oval or irregular in shape and range from 5 to 75 acres in size. Stones are generally 5 to 30 feet apart on the surface and cover from less than 1 percent to 3 percent of the surface. The Cardigan soils make up about 40 percent of this unit, Kearsarge soils 30 percent, rock outcrops 15 percent, and other soils 15 percent.

The typical sequence, depth, and composition of the layers of the Cardigan soil are as follows—

Surface layer:
0 to 6 inches, dark brown silt loam
Subsoil:
6 to 23 inches, yellowish brown friable loam
23 inches, hard schist bedrock

Some areas are fine sandy loam throughout.

The typical sequence, depth, and composition of the layers of the Kearsarge soil are as follows—

Surface layer:
0 to 4 inches, very dark grayish brown silt loam
Subsoil:
4 to 12 inches, dark yellowish brown silt loam
Substratum:
12 to 15 inches, olive gray friable loam
15 inches, hard schist bedrock

Some areas are fine sandy loam throughout.

Inclusions

Included with this complex are areas of well drained Bernardston soils or moderately well drained Pittstown soils and areas of soils that have slopes of less than 8 percent or more than 15 percent. These inclusions make up about 5 percent of the unit. Also included are small areas of very shallow soils and small areas where bedrock blocks the drainage patterns and the shallow and moderately deep soils are moderately well drained to poorly drained. These inclusions make up about 10 percent of this complex.

Major properties of the Cardigan soil

Permeability: Moderate throughout
Available water capacity: Moderate
Depth to bedrock: 20 to 40 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Major properties of the Kearsarge soil

Permeability: Moderate throughout
Available water capacity: Low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this complex are forested. A few areas have been cleared for pasture, but most of these have been abandoned and have reverted to woodland. Some areas are used for residential development.

Use and Management

Farming

This complex is not suited for farming other than pasture due to surface stones, rock outcrops, and erosion hazard. In some areas the spacing of the surface stones and the position of the rock outcrops may allow limited pasture improvement by broadcasting lime and fertilizer without tillage. Erosion is a concern in areas adjoining broad, smooth outcrops because the soil is generally too shallow to support adequate plant cover.

Woodland

Fertility and moisture are adequate on these Cardigan and Kearsarge soils for good tree growth, but seedling mortality and windthrow hazard on the soil are limitations that affect woodland management. On areas of Cardigan soils in this complex, plant competition is an additional limitation.

Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Roads are limited in some areas because of the size, shape, or slope of the rock outcrop.

Community Development

Bedrock at a depth of less than 40 inches, rock outcrops, slope, frost action, and surface stones are the major limiting factors. Limitations are moderate on the Cardigan soils and severe on Kearsarge soils for dwellings without basements. Limitations are severe for shallow excavations and dwellings with basements due to the depth to bedrock. Foundation drains are needed to remove water on the bedrock and in the fractures.

Foundation drains will also reduce the moderate frost action of the soil. Gravity outlets for drains may be difficult to locate or require additional blasting. Limitations are moderate on the Cardigan soils for local roads and streets due to depth to bedrock, slope, and frost action and severe on the Kearsarge soils due to the depth to bedrock. Road construction through the soil will often encounter bedrock. Drilling and blasting generally are necessary for road construction and the installation of underground utilities. For onsite waste disposal, the depth to bedrock is a severe limitation. Areas with sufficient depth for the system must be located, or a site can be filled to obtain adequate depth. The included areas of Bernardston and Pittstown soils have the necessary depth, but have limitations of slow permeability and seasonal water table.

Recreation

The soils of this complex have limitations for most recreational uses. There is a moderate limitation on the Cardigan soils for camp or picnic areas due to slope and large stones. On areas of Kearsarge soils or rock outcrop, limitations for camp or picnic areas are severe due to the shallow depth to bedrock. Limitations are severe for a playground or athletic field due to the slope, small stones, and depth to bedrock. Maintaining adequate grass cover on the droughty Kearsarge soils is an additional limitation.

Wildlife Habitat

Suitability on the Cardigan soils is fair for openland wildlife habitat and good for woodland wildlife habitat. Suitability on the Kearsarge soils is poor for openland wildlife habitat and fair for woodland wildlife habitat. The suitability for wetland wildlife habitat on this complex is very poor.

The capability subclass is VIs.

361D—Cardigan-Kearsarge-Rock outcrop complex, 15 to 25 percent slopes

The Cardigan and Kearsarge soils and rock outcrop in this unit are in such intricate patterns that it was not practical to map them separately. The Cardigan soils are silty, moderately deep, and well drained. The Kearsarge soils are silty, shallow, and somewhat excessively drained. The rock outcrops are less than 100 feet apart. The unit is on hilly or moderately steep hilltops and hillsides. The areas are oval or irregular in shape and range from 5 to 100 acres in size. Stones are generally 5 to 30 feet apart on the surface and cover from less than 1 percent to 3 percent of the surface. The Cardigan soils make up about 40 percent of this unit, Kearsarge soils 30 percent, rock outcrops 15 percent, and other soils 15 percent.

The typical sequence, depth, and composition of the layers of the Cardigan soil are as follows—

Surface layer:
0 to 6 inches, dark brown silt loam.
Subsoil:
6 to 23 inches, yellowish brown friable loam.
23 inches, hard schist bedrock.

Some areas are fine sandy loam throughout.

The typical sequence, depth, and composition of the layers of the Kearsarge soil are as follows—

Surface layer:
0 to 4 inches, very dark grayish brown silt loam
Subsoil:
4 to 12 inches, dark yellowish brown silt loam
Substratum:
12 to 15 inches, olive gray friable loam
15 inches, hard schist bedrock

Some areas are fine sandy loam throughout.

Inclusions

Included with this complex are areas of well drained Bernardston soils or moderately well drained Pittstown soils and areas of soils that have slopes of less than 15 percent or more than 25 percent. These inclusions make up about 5 percent of the unit. Also included are small areas of very shallow soils and small areas where bedrock blocks the drainage patterns and the shallow and moderately deep soils are moderately well drained to poorly drained. These inclusions make up about 10 percent of this complex.

Major properties of the Cardigan soil

Permeability: Moderate throughout
Available water capacity: Moderate
Depth to bedrock: 20 to 40 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Major properties of the Kearsarge soil

Permeability: Moderate throughout
Available water capacity: Low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Most areas of this complex are forested. Some areas are used for residential development.

Use and Management

Farming

This complex is not suited for farming other than pasture due to surface stones, rock outcrops, and erosion hazard. Some areas are suitable for unimproved pasture. Erosion is a concern in areas adjoining broad, smooth outcrops because the soil is generally too shallow to support adequate plant cover.

Woodland

Fertility and moisture are adequate on these Cardigan and Kearsarge soils for good tree growth, but slope, erosion, seedling mortality, and windthrow hazard on the soil are limitations that affect woodland management. On areas of Cardigan soils in this complex, plant competition is an additional limitation.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes and with frequent water bars and culverts, then seeding with drought-tolerant grasses after logging is completed. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Roads are limited in some areas because of the size, shape, or slope of the rock outcrop.

Community Development

Bedrock at a depth of less than 40 inches, rock outcrops, slope, frost action, and surface stones are the major limiting factors. Limitations are moderate on the Cardigan soils and severe on Kearsarge soils for dwellings without basements. Limitations are severe for shallow excavations and dwellings with basements due to the depth to bedrock. Foundation drains are needed to remove water on the bedrock and in the fractures. Foundation drains will also reduce the moderate frost action of the soil. Gravity outlets for drains may be difficult to locate or require additional blasting. Limitations are severe for local roads and streets due to depth to bedrock, slope, and frost action. Road construction through the soil will often encounter bedrock. Drilling and blasting generally are necessary for road construction and the installation of underground utilities. For onsite waste disposal, slope and the depth to bedrock are severe limitations. Areas with sufficient depth for the system must be located, or a site can be filled to obtain adequate depth. The included areas of Bernardston and Pittstown soils have the necessary depth, but have limitations of slow permeability and seasonal water table.

Recreation

The soils of this complex have limitations for most recreational uses. There is a severe limitation on the Cardigan soils for camp or picnic areas due to slope and large stones. On areas of Kearsarge soils or rock outcrop, limitations for camp or picnic areas are severe due to the shallow depth to bedrock and the slope. Limitations are severe for a playground or athletic field due to the slope, small stones, and depth to bedrock. Maintaining adequate grass cover on the droughty Kearsarge soils is an additional limitation. Slope is a moderate limitation for hiking paths and trails.

Wildlife Habitat

Suitability is poor for openland wildlife habitat and fair for woodland wildlife habitat. The suitability for wetland wildlife habitat on this complex is very poor.

The capability subclass is VIs.

361E—Cardigan-Kearsarge-Rock outcrop complex, 25 to 60 percent slopes

The Cardigan and Kearsarge soils and rock outcrop in this unit are in such intricate patterns that it was not practical to map them separately. The Cardigan soils are silty, moderately deep, and well drained. The Kearsarge soils are silty, shallow, and somewhat excessively drained. The rock outcrops are less than 100 feet apart. The unit is on steep to very steep hillsides. The areas are oval or irregular in shape and range from 5 to 100 acres in size. Stones are generally 5 to 30 feet apart on the surface and cover from less than 1 percent to 3 percent of the surface. The Cardigan soils make up about 40 percent of this unit, Kearsarge soils 30 percent, rock outcrops 15 percent, and other soils 15 percent.

The typical sequence, depth, and composition of the layers of the Cardigan soil are as follows—

Surface layer:
0 to 6 inches, dark brown silt loam
Subsoil:
6 to 23 inches, yellowish brown friable loam
23 inches, hard schist bedrock

Some areas are fine sandy loam throughout.

The typical sequence, depth, and composition of the layers of the Kearsarge soil are as follows—

Surface layer:
0 to 4 inches, very dark grayish brown silt loam
Subsoil:
4 to 12 inches, dark yellowish brown silt loam

Substratum:
12 to 15 inches, olive gray friable loam
15 inches, hard schist bedrock

Some areas are fine sandy loam throughout.

Inclusions

Included with this complex are areas of well drained Bernardston soils or moderately well drained Pittstown soils and areas of soils that have slopes of less than 25 percent or more than 60 percent. These inclusions make up about 5 percent of the unit. Also included are small areas of very shallow soils and small areas where bedrock blocks the drainage patterns and the shallow and moderately deep soils are moderately well drained to poorly drained. These inclusions make up about 10 percent of this complex.

Major properties of the Cardigan soil

Permeability: Moderate throughout
Available water capacity: Moderate
Depth to bedrock: 20 to 40 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Major properties of the Kearsarge soil

Permeability: Moderate throughout
Available water capacity: Low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

This complex is forested.

Use and Management

Farming

The steep and very steep slopes, surface stones, and frequent rock outcrops prohibit farming of the soil.

Woodland

Fertility and moisture are adequate on these Cardigan and Kearsarge soils, but erosion, slope, seedling mortality, and windthrow hazard are limitations that affect woodland management. On areas of the Cardigan soils, plant competition is an additional limitation.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Roads are limited in some areas because of the size, shape, or slope of the outcrop.

Community Development

Bedrock at a depth of less than 40 inches, rock outcrops, steep and very steep slopes, and surface stones are major limiting factors. Specialized methods of construction are required, and intensive erosion control measures will be needed. Any type of excavation is likely to encounter bedrock and may require drilling and blasting to obtain desired grades and depths. These soils have severe limitations for the construction of local roads and streets due to slope, stoniness, and depth to bedrock.

For onsite waste disposal, the depth to bedrock and slope are severe limitations. Areas with sufficient depth for the system must be located, or a site can be filled and leveled to obtain adequate depth. The included areas of Bernardston and Pittstown soils have the necessary depth, but have limitations of slow permeability and seasonal water table.

Recreation

These soils have severe limitations for all recreational uses due to steep slopes and shallow depth to bedrock. Hiking paths and trails should be planned across these slopes with frequent water bars to prevent excessive erosion. They should avoid crossing broad, smooth, steep areas of rock outcrop because the soil can be very slippery. Revegetation of these steep and very steep slopes is very difficult on the shallow soils, and erosion is a severe hazard.

Wildlife Habitat

Suitability on the soil is poor for openland wildlife habitat and fair for woodland wildlife habitat. The suitability for wetland wildlife habitat on this complex is very poor.

The capability subclass is VIIs.

395—Chocorua mucky peat

This is a very deep, nearly level, and very poorly drained organic soil. It is in depressions on sandy terraces and in sandy upland valleys. The areas are irregularly shaped and range from 5 to 75 acres in size. Slopes range from 0 to 2 percent.

The typical sequence, depth, and composition of the

layers of this soil are as follows—
Surface layer:
0 to 5 inches, black partially decomposed herbaceous and woody materials
Subsurface layer:
5 to 26 inches, black partially decomposed herbaceous and woody materials
Substratum:
26 to 30 inches, greenish gray fine sand
30 to 65 inches, greenish gray sand

Inclusions

Included with this soil in mapping are areas of Greenwood and Searsport soils, areas where the underlying sandy material is stony glacial till, and small areas of open water. The included soils make up about 15 percent of this unit.

Major properties of the Chocorua soil

Permeability: Moderate to moderately rapid in the organic layers and rapid to very rapid in the mineral substratum
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 1 foot above the surface to a depth of 0.5 foot from January through December
Potential frost action: High
Flood hazard: None

Most areas of this soil water-tolerant woodland or open bogs of reeds and sedges.

Use and Management

Farming

Wetness is s severe limitation.

Woodland

Fertility and moisture are so variable on this Chocorua soil that an onsite investigation is required to assess the potential. Wetness, seedling mortality, windthrow hazard, and plant competition affect woodland management. Access to some areas may be a limitation for logging operations.

Equipment limitations due to wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen. Seedling mortality can be reduced by special site preparation or by planting species that are suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following tree harvest helps decrease invasion of undesirable species.

Community Development

This Chocorua soil has severe limitations for all phases of community development due to wetness, ponding, poor filtering properties, excess humus, low bearing strength, frost action, and high shrink-swell. Typically, there are no corrective measures to reduce these limitations.

The areas of this soil improve and maintain water quality by acting as natural filters to remove harmful chemicals, nutrients, and sediment. They also recharge ground-water aquifers and store runoff, which lessens flood damage.

Recreation

This soil has severe limitations for all recreational developments due to ponding, excess humus, and wetness.

Wildlife Habitat

This soil is poorly suited for habitat for openland or woodland wildlife. The suitability for development of wetland wildlife habitat is good.

The capability subclass is VIIIw.

398—Pits, quarry

This unit consists of areas from which rock, feldspar, and mica have been removed for construction material or industrial raw material. The excavations are commonly 20 to 100 feet deep and have steep sides and a nearly level floor. They are irregular in shape and range in size from 5 to about 30 acres. Some areas of the unit have filled with water.

Most of these quarries are inactive. Almost all of the quarries are abandoned.

Inclusions

Included in the mapping of this unit are small areas of mine spoil consisting of waste rock from the quarrying operation and small pools of water at the bottom of some quarries.

An onsite investigation is needed to determine the suitability of this unit for any use. When used as a dump, there is a hazard of ground-water pollution.

Capability subclass: not assigned.

401—Occum fine sandy loam, occasionally flooded

This soil is very deep, nearly level, and well drained. It is on loamy flood plains along the southern half of the Connecticut River and its tributaries. The areas are generally long and narrow. Where tributaries enter the main valley the areas are fan-shaped deltas. Areas of this soil range from 5 to 50 acres in size. Slopes range from 0 to 3 percent.

The typical sequence, depth, and composition of the layers of this soil is as follows—

Surface layer:

0 to 8 inches, very dark grayish brown fine sandy loam

Subsoil:

8 to 25 inches, brown fine sandy loam

Substratum:

25 to 44 inches, olive brown loamy fine sand

44 to 65 inches, olive fine sand

Some areas are underlain by sand and gravel at a depth of 20 to 36 inches.

Inclusions

Included with this soil in the mapping are low ridges of excessively drained Suncook soils and narrow drainageways of moderately well drained Pootatuck soils or poorly drained Rippowam soils. Also included adjacent to fast-flowing streams are small areas that are gravelly and very gravelly fine sandy loam throughout and areas with 1 to 4 inches of recently deposited loamy fine sand over the original surface. Included soils make up about 10 percent of this unit.

Major properties of the Occum soil

Permeability: Moderately rapid in the surface layer and subsoil; rapid in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: 4 to 6 feet

Potential frost action: Moderate

Flood hazard: At least once in 2 to 10 years from November April. Flooding during the growing season is rare.

Most areas of this soil are farmed. Some small isolated areas or areas in a nonfarm region are forested.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. It can be used for continuous row crops, and good yields of silage corn, grasses and legumes are obtained with the proper use of lime and fertilizers. A few produce excellent yields of small fruits and vegetables. Erosion by flooding is not generally a concern, but winter cover crops should be grown and then incorporated into surface layer to maintain the organic matter levels when the soil is used for continuous row crops.

Woodland

Fertility and moisture are favorable for high quality hardwoods. This soil is limited for woodland management by flood hazard and plant competition. In many areas timber quality may be reduced by ice damage during flooding. Access to some areas may be a limitation for logging operations. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This Occum soil has severe limitations for all types of community development due to flooding. Any structures built on the soil should be designed to withstand flooding.

Flooding is a severe limitation for onsite septic system, and there is a severe hazard of ground-water pollution because the sandy, rapidly permeable substratum may not adequately filter the effluent.

Recreation

This soil is limited by the flood hazard for most recreational uses. Limitations are severe for camp areas and moderate for playgrounds or athletic fields. These areas are subject to ice damage, erosion, and sedimentation.

Wildlife Habitat

This soil has good suitability for habitat for openland or woodland wildlife. It is very poorly suited for wetland wildlife habitat. Frequent flooding will severely damage water impoundments.

The capability class is I.

406—Medomak silt loam

This soil is very deep, nearly level, and very poorly drained. It formed in silty alluvial deposits in depressions and drainageways on flood plains along major streams. The areas are irregular or narrow and curving and range from 5 to 25 acres in size. Slopes range from 0 to 2 percent.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 11 inches, very dark grayish brown silt loam

Substratum:

11 to 65 inches, mottled, greenish gray very fine sandy loam

Some areas are fine sandy loam throughout, and some areas along fast-flowing streams are underlain by sand and gravel at a depth of more than 20 inches. Recent depositions of silt or very fine sand 1 to 4 inches thick are common.

Inclusions

Included with this soil in mapping are small areas of poorly drained Rumney soils and moderately well drained Podunk soils. These areas are generally narrow, low ridges surrounded by the wetter Medomak soils. The included soils make up about 10 percent of this unit.

Major properties of the Medomak soil

Permeability: Moderate in the silt loam and very fine sandy loam; rapid to very rapid in underlying sandy and gravelly material
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 1 foot above the surface to 0.5 foot below from September through June
Potential frost action: High
Flood hazard: More than once in 2 years from March through October. These areas are under water for periods of a week to a month.

The areas of this soil are water-tolerant woodland or have a cover of marshgrass and sedges.

Use and Management

Farming

This soil is severely limited for farming by flooding and the prolonged wetness.

Woodland

Fertility and moisture are so variable that an onsite investigation is required to assess the potential. Flood hazard, slope, seedling mortality, windthrow hazard, and plant competition are limitations that affect woodland management. In many areas timber quality may be reduced by ice damage during flooding. Access to some of the soil may be a limitation for logging operations.

Equipment limitations due to wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen. Seedling mortality can be reduced by site preparation or by planting species that are suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following tree harvest helps decrease invasion of undesirable species.

Community Development

This soil has severe limitations for all phases of community development due to prolonged wetness, flooding, and frost action.

Limitations are severe for onsite sewage disposal due to flooding and ponding.

The areas of this soil improve and maintain water quality by acting as natural filters to remove harmful chemicals, nutrients, and sediment. They also recharge ground-water aquifers and store runoff, which lessens flood damage.

Recreation

This Medomak soil has severe limitations for all recreational uses due to flood hazard and ponding.

Wildlife Habitat

This soil is poorly suited for habitat for openland or woodland wildlife. It has fair suitability for wetland wildlife habitat. Water impoundments are susceptible to flood damage and sedimentation.

The capability subclass is VIw.

534—Binghamville silt loam

This soil is very deep, nearly level, and poorly drained. It is on silty terraces along the southern half of the Connecticut River valley. Slopes range from 0 to 3 percent. The areas are long and narrow and range from 5 to 50 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—
Surface layer:
0 to 6 inches, very dark grayish brown silt loam
Subsoil:
6 to 10 inches, dark grayish brown silt loam
10 to 18 inches, dark gray very fine sandy loam
Substratum:
18 to 65 inches, olive gray very fine sandy loam with olive brown mottles

Some areas are silty clay or clay in the substratum.

Inclusions

Included with this soil in mapping are depressions of very poorly drained, silty soils, small mounds or ridges of moderately well drained Dartmouth soils, and small areas with slopes of more than 3 percent. Also included are a few areas that are moderately deep over medium glacial till. The included soils make up about 10 percent of this unit.

Major properties of the soil

Permeability: Moderate in the surface layer; moderate to moderately slow in the subsoil; slow in the substratum
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 0.5 to 1.5 feet from November through June
Potential frost action: High
Flood hazard: None

Some areas of this soil are subject to ponding during the spring thaw and periods of intense rainfall.

Many areas of this soil are farmed. Some areas are forested, and a few have been used for residential or commercial development.

Use and Management

Farming

Seasonal wetness is a severe limitation. The soil is poorly suited for row crop production but well suited for forage production for pasture. Where row crops are grown, the seasonal wetness often delays spring tillage and can be a concern during fall harvest. Land shaping to improve surface drainage will reduce this limitation, eliminate areas of seasonal ponding, and reduce winterkill. Good yields of forage crops for hay or pasture can be obtained with proper use of lime and fertilizers. The poor drainage of this soil restricts the choices of legumes that can be grown.

Woodland

Fertility and moisture are fair to poor for hardwood growth and fair to good for softwoods, especially red spruce and balsam fir. Seedling mortality, windthrow hazard, and plant competition are limitations that affect woodland management.

Equipment limitations due to prolonged wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen or during the driest summer months. Seedling mortality can be reduced by with site preparation or by planting species suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This soil is severely limited by wetness and frost action. Foundation drains will help to control wetness and frost action. Locating drain outlets on this nearly level soil may be a concern. Limitations for local roads and streets can be overcome by providing coarser grained base material to frost depth and installing drainage.

For onsite sewage disposal, wetness and slow permeability are severe limitations that can be overcome with special designs.

The areas of this soil improve and maintain water quality by acting as natural filters to remove harmful chemicals, nutrients, and sediment. They also recharge ground-water aquifers and store runoff, which lessens flood damage.

Recreation

This soil has severe limitations for recreational uses due to wetness. Erosion is an additional limitation for hiking paths and trails.

Wildlife Habitat

Suitability is fair for habitat for openland, woodland, or wetland wildlife.

The capability subclass is IVw.

558B—Skerry fine sandy loam, 3 to 8 percent slopes

This soil is very deep, gently sloping, and moderately well drained. It is on glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 30 acres in size. Some areas have stones and boulders more than 30 feet apart and generally more than 80 feet apart.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 12 inches, very dark grayish brown fine sandy loam
Subsoil:
12 to 15 inches, dark brown fine sandy loam
15 to 21 inches, reddish brown fine sandy loam and light yellowish brown and very pale brown mottles
Substratum:
21 to 28 inches, light gray, very firm gravelly loamy fine sand and olive gray and yellowish brown mottles
28 to 65 inches, brown, firm gravelly loamy fine sand and light gray and light olive brown mottles

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. In depressions and along narrow drainageways are poorly drained Pillsbury soils. On low mounds or ridges are well drained Becket soils. Also included are small isolated areas of rock outcrop and shallow or moderately deep soils. The included soils make up about 15 percent of this unit.

Major properties of the Skerry soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 1.5 to 2.5 feet from November through May
Potential frost action: High
Flood hazard: None

Most areas of this soil have been cleared for farming. Some areas are reverting to woodland. Other areas have been used for residential or commercial developments.

Use and Management

Farming

This unit is classified as prime farmland in this survey area. The short growing season and cool summers restrict the choice of crop varieties. Seasonal wetness is a main limitation. Drainage of the soil will allow earlier tillage. Continuous row crops can be grown if conservation tillage and contour farming are used to control erosion. Good yields of silage corn and excellent yields of grasses and legumes can be obtained with the proper use of lime and fertilizers. Legumes such as alfalfa may be difficult to maintain because of the frost action. Land shaping and drainage will improve survival rates.

Woodland

Fertility and moisture are favorable on for high quality hardwoods. This soil is limited for woodland management by windthrow hazard and plant competition.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for community development by wetness from the perched water table in the spring and frost action. Wetness is a severe limitation for dwellings with basements and for shallow excavations. Wetness is a moderate limitation for dwellings without basements. Foundation drains will help to control wetness and frost action. Frost action is a severe limitation for local roads and streets. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. This soil is limited for lawns and landscaping due to wetness and small stones.

For onsite sewage disposal, soil wetness and slow permeability are severe limitations that may make it necessary to use fill to raise and increase the size of absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to wetness and slow permeability. Limitations are moderate for playgrounds and athletic fields due to slope, small stones, and slow permeability. This soil has a moderate wetness limitation for hiking trails and paths.

Wildlife Habitat

Suitability is good for habitat areas for openland and woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is IIe.

559B—Skerry fine sandy loam, 3 to 8 percent slopes, very stony

This soil is very deep, gently sloping, and moderately well drained. It is on glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 30 acres in size. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 12 inches, very dark grayish brown fine sandy loam
Subsoil:
12 to 15 inches, dark brown fine sandy loam
15 to 21 inches, reddish brown fine sandy loam and light yellowish brown and very pale brown mottles
Substratum:
21 to 28 inches, light gray, very firm gravelly loamy fine sand and olive gray and yellowish brown mottles
28 to 65 inches, brown, firm gravelly loamy fine sand and light gray and light olive brown mottles

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent. In depressions and along narrow drainageways are poorly drained Pillsbury soils. On low mounds or ridges are well drained Becket soils. Also included are small isolated areas of rock outcrop and shallow or moderately deep soils and a few areas where the stones on the surface are less than 5 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Skerry soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 1.5 to 2.5 feet from November through May
Potential frost action: High
Flood hazard: None

Most areas of this unit are forested. A few areas are used as unimproved pasture, and some have been used for residential or commercial development.

Use and Management

Farming

This unit is generally too stony for farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. If cleared of surface stones, the soil meets the criteria for prime farmland. The short growing season and cool summers restrict the choice of crop varieties. Seasonal wetness is a main limitation. Drainage of the soil will allow better grass and legume varieties to be grown. This soil is excellent grassland, but frost heaving and winterkill are limitations for legumes.

Woodland

Fertility and moisture are favorable on for high quality hardwoods. This soil is limited for woodland management by windthrow hazard and plant competition.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for community development by the wetness from the perched water table in the spring and frost action. Wetness is a severe limitation for dwellings with basements and for shallow excavations. Wetness is a moderate limitation for dwellings without basements. Foundation drains will help to control wetness and frost action. Frost action is a severe limitation for local roads and streets. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. This soil is limited for lawns and landscaping due to wetness and large stones.

For onsite sewage disposal, wetness and slow permeability are severe limitations that may make it necessary to use fill to raise and increase the size of absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to wetness and large stones. Limitations are moderate for playgrounds and athletic fields due to slope and large stones. This soil has a moderate wetness limitation for hiking trails and paths.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

559C—Skerry fine sandy loam, 8 to 15 percent slopes, very stony

This soil is very deep, strongly sloping, and moderately well drained. It is on glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 100 acres in size. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 12 inches, very dark grayish brown fine sandy loam
Subsoil:
12 to 15 inches, dark brown fine sandy loam
15 to 21 inches, reddish brown fine sandy loam and light yellowish brown and very pale brown mottles
Substratum:
21 to 28 inches, light gray, very firm gravelly loamy fine sand and olive gray and yellowish brown mottles

28 to 65 inches, brown, firm gravelly loamy fine sand and light gray and light olive brown mottles

Inclusions

Included with this unit are small areas with slopes of less than 8 percent or more than 15 percent. In depressions and along narrow drainageways are poorly drained Pillsbury soils. On low mounds or ridges are well drained Becket soils. Also included are small isolated areas of rock outcrop and shallow or moderately deep soils and small areas that have been cleared of stones. The included soils make up about 15 percent of this unit.

Major properties of the Skerry soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 1.5 to 2.5 feet from November through May
Potential frost action: High
Flood hazard: None

Most areas of this unit are forested. A few areas are used as unimproved pasture, and some areas have been developed for residential or commercial uses.

Use and Management

Farming

This unit is generally too stony for farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. Even if the soil is cleared of surface stones, the slope and erosion hazard make this soil best suited for hayland and pasture.

Woodland

Fertility and moisture are favorable for high quality hardwoods. This soil is limited for woodland management by windthrow hazard and plant competition.

Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for community development by wetness from the perched water table in the spring, slope, and frost action. Wetness is a severe limitation for dwellings with basements and for shallow excavations. Wetness is a moderate limitation for dwellings without basements. Foundation drains will help to control wetness and frost action. Frost action is a severe limitation for local roads and streets. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. This soil is limited for lawns and landscaping due to wetness, slope, and large stones. Slope limitations can be reduced by cut and fill. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal, wetness and slow permeability are severe limitations that may make it necessary to use fill to raise and increase the size of absorption fields.

Recreation

This soil has moderate limitations for camping and picnic areas due to slope, wetness, and large stones. Limitations are severe for playgrounds and athletic fields due to slope. This soil has a moderate wetness limitation for hiking trails and paths.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

559D—Skerry fine sandy loam, 15 to 25 percent slopes, very stony

This soil is very deep, moderately steep, and moderately well drained. It is on glaciated hilltops and mountainsides. The areas are irregular in shape and range from 5 to 30 acres in size. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—
Surface layer:
0 to 12 inches, very dark grayish brown fine sandy loam
Subsoil:
12 to 15 inches, dark brown fine sandy loam

15 to 21 inches, reddish brown fine sandy loam and light yellowish brown and very pale brown mottles

Substratum:

21 to 28 inches, light gray, very firm gravelly loamy fine sand and olive gray and yellowish brown mottles

28 to 65 inches, brown, firm gravelly loamy fine sand and light gray and light olive brown mottles

Inclusions

Included with this unit are small areas with slopes of less than 15 percent or more than 25 percent. In depressions and along narrow drainageways are poorly drained Pillsbury soils. On low mounds or ridges are well drained Becket soils. Also included are small isolated areas of rock outcrop and shallow or moderately deep soils and a few areas where the stones on the surface are less than 5 feet apart. The included soils make up about 15 percent of this unit.

Major properties of the Skerry soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: 18 to 36 inches

Depth to water table: 1.5 to 2.5 feet from November through May

Potential frost action: High

Flood hazard: None

Most areas of this unit are forested. A few areas have been used for residential or commercial developments.

Use and Management

Farming

This unit is generally too steep, stony, and erodible for farming other than pasture. The degree of pasture improvement that can be done depends on the amount of surface stones. This soil is excellent grassland, but frost heaving and winterkill are limitations for legumes.

Woodland

Fertility and moisture are favorable on for high quality hardwoods. This soil is limited for woodland management by erosion hazard, slope, windthrow hazard, and plant competition.

Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for community development by wetness from the perched water table in the spring, slope, and frost action. Wetness is a severe limitation for dwellings with or without basements and for shallow excavations. Foundation drains will help to control wetness and frost action. Slope and frost action are severe limitations for local roads and streets. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. This soil is limited for lawns and landscaping due to slope. Slope limitations can be reduced by cut and fill. However, cuts made into slopes below hardpan layers may make it necessary to use drainage to remove the water on the hardpan during wet times of the year.

For onsite sewage disposal, wetness, slow permeability, and slope are severe limitations that may make it necessary to use fill to raise, level, and increase the size of absorption fields.

Recreation

This soil has severe limitations for camping and picnic areas due to slope. Limitations are severe for playgrounds and athletic fields due to slope. This soil has moderate wetness and slope limitations for hiking trails and paths.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. This well drained soil is very poorly suited for wetland wildlife habitat.

The capability subclass is VIs.

613—Croghan loamy fine sand

This soil is very deep, nearly level, and moderately well drained. It is in slight depressions and on areas along drainageways on sandy terraces and outwash plains. Slopes range from 0 to 3 percent. The areas are irregularly shaped and range from 5 to 20 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 10 inches, very dark grayish brown loamy fine sand
Subsoil:
10 to 11 inches, gray fine sand
11 to 13 inches, dark reddish brown loamy fine sand
13 to 18 inches, dark brown loamy fine sand
18 to 23 inches, mottled, strong brown loamy fine sand
23 to 28 inches, olive gray sand
Substratum:
28 to 31 inches, olive gray fine sand
31 to 36 inches, light gray coarse sand
36 to 65 inches, olive gray sand

Some areas of this Croghan soil are underlain by gravelly or very gravelly layers.

Inclusions

Included with this soil in mapping are small depressions of poorly drained Kinsman soils and very poorly drained Searsport soils. Also included are slightly higher areas of excessively drained Adams and Colton soils and areas with slopes of up to 5 percent. The included soils make up about 15 percent of this unit.

Major properties of the Croghan soil

Permeability: Rapid in the surface layer and very rapid in the subsoil and substratum
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 1.5 to 2.0 feet from November through May
Potential frost action: Moderate
Flood hazard: None

Most areas of this soil were cleared for farming, but many have reverted to woodland. Some areas are still farmed, and some areas have been used for residential development.

Use and Management

Farming

The seasonal wetness in undrained areas and short growing season restrict the choice of crops. The seasonal wetness also delays cultivation in the spring and may impede fall harvest. Some areas that have been artificially drained are used for continuous row crops. Because of the low available water capacity, droughtiness may be a concern during dry seasons and irrigation may be needed. Incorporating manure and crop residues into surface layer will increase the organic matter content of the soil and improve the water holding capacity.

Woodland

Soil moisture is adequate for good softwood growth, especially eastern white pine.

Seedling mortality and plant competition are limitations that affect woodland management.

Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This soil is limited by a seasonal high water table and frost action. Wetness is a moderate limitation for dwellings without basements and a severe limitation for dwellings with basements and for shallow excavations. Foundation drains will help to control wetness and frost action. Locating drain outlets on these nearly level areas may be a concern. The sides of excavations tend to slough, and deep excavations may require special equipment. The moderate limitations for local roads and streets can be overcome by providing coarser grained base material to frost depth and installing drainage. After construction, droughtiness is a severe limitation for the establishment and maintenance of lawns.

For onsite sewage disposal, wetness is a severe limitation. Wetness limitations can be overcome with fill to raise absorption fields. There is an additional hazard of ground-water pollution because the rapidly permeable substratum may not adequately filter the effluent.

This soil is a probable source of sand, but extensive test pitting should be done at the site.

Recreation

This soil has moderate limitations for camping areas, picnic areas, playgrounds, and athletic fields due to wetness. In addition, slope is moderate limitation for playgrounds and athletic fields. Maintaining adequate grass cover for playgrounds and athletic fields is a concern on this droughty soil.

Wildlife Habitat

Suitability of this soil is fair for habitat areas for openland and woodland wildlife. This moderately well drained soil is poorly suited for wetland wildlife habitat.

The capability subclass is IIw.

614—Kinsman sand

This soil is very deep, nearly level, and poorly drained. It is in depressional areas of sandy terraces.

Slopes are 0 to 3 percent. The areas are long and narrow and range from 5 to 50 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

2 inches to 0, undecomposed sphagnum fibers

0 to 5 inches, black highly decomposed organic material

5 to 8 inches, light brownish gray sand

Subsoil:

8 to 10 inches, black loamy sand

10 to 17 inches, dark reddish brown sand

17 to 20 inches, dark brown sand

20 to 24 inches, olive gray sand

Substratum:

24 to 65 inches, olive brown gravelly sand

Inclusions

Included with this soil in mapping are small or very narrow areas of very poorly drained Searsport or Chocorua soils, small mounds of moderately well drained Croghan soils, and areas with slopes of more than 3 percent. The included soils make up about 10 percent of this unit.

Major properties of the Kinsman soil

Permeability: Rapid throughout

Available water capacity: Low

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: 0 to 1.5 feet from November through May

Potential frost action: Moderate

Flood hazard: None

Areas of this Kinsman soil are subject to ponding during the spring thaw.

Most areas of this soil are forested. Some areas are used for hay or pasture. A few areas have been used for residential or commercial development.

Use and Management

Farming

Wetness is a severe limitation. Land shaping will improve yields and increase the choice of crops. Grasses and legumes planned for this area must be able to tolerate prolonged wetness.

Woodland

Fertility and moisture are fair to poor for hardwoods and fair to good for softwoods, especially red spruce and balsam fir. Seedling mortality, windthrow hazard, and plant competition are limitations that affect woodland management.

Equipment limitations due to prolonged wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen or during the driest summer months. Seedling mortality can be reduced by with site preparation or by planting species suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

The seasonal high water and sandy texture of this Kinsman soil are limitations for community development. The sides of excavations tend to slough and fill with water. Deep excavations may require special equipment. Limitations are severe due to wetness for dwellings with or without basements and local roads and streets.

Limitations are severe for areas of onsite waste disposal systems. Wetness limitations may make it necessary to use fill to raise absorption fields. There is an additional hazard of ground-water pollution because the rapidly permeable substratum may not adequately filter the effluent.

The areas of this soil improve and maintain water quality by acting as natural filters to remove harmful chemicals, nutrients, and sediment. They also recharge ground-water aquifers and store runoff, which lessens flood damage.

This soil is a probable source of sand, but extensive test pitting should be done at the site.

Recreation

This soil has severe limitations for recreational uses due to wetness and the sandy texture.

Wildlife Habitat

Suitability is fair for openland, woodland, or wetland wildlife habitat.

The capability subclass is IVw.

632A—Nicholville very fine sandy loam, 0 to 3 percent slopes.

This soil is very deep, nearly level, and moderately well drained. It is on silty terraces in the northern, central, and eastern parts of Grafton County. The areas are narrow, irregularly shaped strips or broad ovals. They range in size from 5 to 100 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:

0 to 7 inches, dark brown very fine sandy loam

7 to 9 inches, light gray very fine sandy loam
Subsoil:
9 to 15 inches, strong brown and dark reddish brown very fine sandy loam
15 to 22 inches, mottled, olive very fine sandy loam
Substratum:
22 to 65 inches, mottled, olive gray very fine sandy loam

Some areas have a surface layer of fine sandy loam.

Inclusions

Included in this unit are small or narrow depressions of poorly drained Pemi soils and high knobs or ridges of well drained Groveton soils. Also included are small areas with slopes of more 3 percent. Small areas of moderately well drained Croghan or excessively drained Adams soils in places are near terrace breaks or escarpments. The included soils make up about 15 percent of this unit.

Major properties of the Nicholville soil

Permeability: Moderate throughout
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 1.5 to 2.0 feet from November through May
Potential frost action: High
Flood hazard: None

Many areas of this soil are farmed. Some areas have been used for residential or commercial development, and a few areas are forested.

Use and Management

Farming

This soil is classified as prime farmland in this survey area. It is suited for silage corn, small grains, grasses, and vegetables. It can be cropped continuously. However, the short growing season and cool summers restrict the choice of crop varieties. Good yields of grasses and legumes can be obtained with the proper use of lime and fertilizer. Artificial drainage will allow earlier tillage in the spring. The high potential for frost action may result in severe winterkill of legumes. The organic matter content can be maintained by incorporating crop residue, winter cover crops, and manure into surface layer.

Woodland

Fertility and moisture are favorable for high quality hardwoods. The soil is limited for woodland management by plant competition. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This Nicholville soil is limited for most phases of community development by wetness and frost action. Limitations for this soil are severe due to frost action for dwellings without basements and for roads and streets. For dwellings with basements and for shallow excavations, this soil has severe limitations. Foundation drains will help to control wetness and frost action. Locating drain outlets on these nearly level areas may be a concern. Frost heaving on roads can be overcome by providing coarser grained base material to frost depth and installing drainage.

For onsite sewage disposal, the high water table of this soil is a severe limitation that may make it necessary to use fill to raise absorption fields.

Recreation

This soil has few limitations for recreational uses. Crowning of athletic fields and playgrounds will improve surface drainage and reduce ponding after heavy rains.

Wildlife Habitat

This soil has good suitability for habitat for openland or woodland wildlife. It is poorly suited for wetland wildlife habitat.

The capability subclass is IIw.

632B—Nicholville very fine sandy loam, 3 to 8 percent slopes.

This soil is very deep, gently sloping, and moderately well drained. It is on silty terraces in the northern, central, and eastern parts of the county. The areas are narrow, irregularly shaped strips or broad ovals. They range in size from 5 to 50 acres.

The typical sequence, depth, and composition of the layers of this soil are as follows—
Surface layer:
0 to 7 inches, dark brown very fine sandy loam
7 to 9 inches, light gray very fine sandy loam
Subsoil:
9 to 15 inches, strong brown and dark reddish brown very fine sandy loam
15 to 22 inches, mottled, olive very fine sandy loam
Substratum:
22 to 65 inches, mottled, olive gray very fine sandy loam

Some areas have a surface layer of fine sandy loam.

Inclusions

Included in this unit are small or narrow depressions of poorly drained Pemi soils and high knobs or ridges of well drained Groveton soils. Also included are small areas with slopes of less than 3 percent or more 8 percent. Small areas of moderately well drained Croghan or excessively drained Adams soils in places are near terrace breaks or escarpments. The included soils make up about 15 percent of this unit.

Major properties of the Nicholville soil

Permeability: Moderate throughout
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 1.5 to 2.0 feet from November through May
Potential frost action: High
Flood hazard: None

Many areas of this soil are farmed. Some areas have been used for residential and commercial development, and a few areas are forested.

Use and Management

Farming

The slope and erosion hazard of this soil generally limits its use to hayland and pasture. Areas used for row crops may require intensive erosion control measures such as contour stripcropping and winter cover crops to prevent excessive loss. Good yields of grasses and legumes can be obtained with the proper use of lime and fertilizer. However, the short growing season and cool summers restrict the choice of crop varieties. Artificial drainage will allow earlier tillage in the spring. Frost action may result in severe winterkill of legumes. The organic matter content can be maintained by incorporating crop residue, winter cover crops, and manure into surface layer.

Woodland

Fertility and moisture are favorable for high quality hardwoods. This soil is limited for woodland management by plant competition. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This Nicholville soil is limited for most phases of community development by wetness and frost action. Limitations are severe due to frost action for dwellings without basements and for roads and streets. For dwellings with basements and for shallow excavations, this soil has severe limitations. Foundation drains will help to control wetness and frost action. Frost heaving on roads can be overcome by providing coarser grained base material to frost depth and installing drainage.

For onsite sewage disposal, the high water table of this soil is a severe limitation that may make it necessary to use fill to raise absorption fields.

Recreation

This Nicholville soil has moderate slope limitations for playgrounds or athletic fields.

Wildlife Habitat

This soil has good suitability for habitat for openland or woodland wildlife. It is poorly suited for wetland wildlife habitat.

The capability subclass is IIe.

633—Pemi silt loam

This soil is very deep, level to nearly level, and poorly drained. It is on silty terraces in the northern, central, and eastern parts of the county. Slopes range from 0 to 3 percent. The areas are generally long and narrow and range from 5 to more than 50 acres in size.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 6 inches, dark grayish brown silt loam
Subsoil:
6 to 11 inches, mottled, grayish brown silt loam
Substratum:
11 to 18 inches, light olive gray silt loam with light olive brown and gray mottles
18 to 25 inches, light olive gray very fine sandy loam with light yellowish brown and gray mottles
25 to 65 inches, light olive gray silt with light yellowish brown and light gray mottles

Some areas have silty clay or clay in the substratum.

Inclusions

Included with this soil in mapping are depressions of very poorly drained silty soils, small mounds or ridges of moderately well drained Nicholville soils, and small areas with slopes of more than 3 percent. Also included are a few areas that are moderately deep over medium glacial till. The included soils make up about 15 percent of this unit.

Major properties of the Pemi soil

Permeability: Moderate in the surface layer; moderate to moderately slow in the subsoil; slow in the substratum

Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches.
Depth to water table: 0.5 to 1.5 feet from November through May
Potential frost action: High
Flood hazard: None

Some areas of this soil are subject to ponding during the spring thaw and in periods of intense rainfall.

Most areas of this soil are farmed. Some areas are forested, and a few have been used for residential or commercial development.

Use and Management

Farming

The main limitation is seasonal wetness. Land shaping will eliminate areas of seasonal ponding and reduce winterkill. Row crops are generally not grown because the prolonged wetness in the spring and early summer make tillage difficult. Good yields of forage crops for hay or pasture can be obtained with proper use of lime and fertilizers.

Woodland

Fertility and moisture are fair to poor for hardwoods and fair to good for softwoods, especially red spruce and balsam fir. This soil is limited for woodland management by seedling mortality, windthrow hazard, and plant competition.

Equipment limitations due to prolonged wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen or during the driest summer months. Seedling mortality can be reduced with site preparation or by planting species suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Community Development

This soil has severe limitations for community development due to the high water table, seasonal wetness, and frost action. Wetness is a limitation for shallow excavations. Dwellings with or without basements will also encounter wetness. Foundation drains will reduce wetness and frost action. Locating drain outlets on these level and nearly level areas may be a concern. Wetness and frost action are limitations for local roads and streets. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. Wetness is a severe limitation for lawns and landscaping.

For onsite sewage disposal, wetness and slow permeability are severe limitations that may make it necessary to use special designs and fill to raise absorption fields.

The areas of this soil improve and maintain water quality by acting as natural filters to remove harmful chemicals, nutrients, and sediment. They also recharge ground-water aquifers and store runoff, which lessens flood damage.

Recreation

The soil has severe limitations for camping areas, picnic areas, playgrounds, and athletic fields due to wetness. Wetness and erosion hazard are severe limitations for hiking paths and trails.

Wildlife Habitat

Suitability is fair for habitat for openland, woodland, or wetland wildlife.

The capability subclass is IVw.

647A—Pillsbury fine sandy loam, 0 to 3 percent slopes, very stony

This soil is very deep, level to nearly level, and poorly drained. It is on hills and valley floors of the glaciated uplands. The areas are elongated and irregular in shape and range from 5 to 40 acres in size. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 7 inches, very dark brown fine sandy loam
Subsoil:
7 to 11 inches, gray fine sandy loam with yellowish red mottles
11 to 30 inches, olive fine sandy loam with brown and gray mottles
Substratum:
30 to 65 inches, light olive brown, firm gravelly loam with black and gray mottles

Inclusions

Included with this unit are small areas with slopes of more than 3 percent, small depressions of Peacham soils, and low mounds or ridges of moderately well drained Peru or Skerry soils. Also included are areas that have been cleared of surface stones for farming and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up 10 percent of this unit.

Major properties of the Pillsbury soil

Permeability: Moderate in the surface layer and subsoil; slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 0 to 1.5 feet from November through May
Potential frost action: High
Flood hazard: None

Most areas of this soil are forested. A few areas have been cleared for farming, but many are reverting to woodland.

Use and Management

Farming

This unit is too wet and stony for most farming other than unimproved pasture. The few areas that have been cleared of surface stones are producing fair yields of grasses and legumes. Frost heaving and winterkill are limitations for legumes on the soil.

Woodland

Fertility and moisture are fair to poor for hardwoods and fair to good for softwoods, especially red spruce and balsam fir. This soil is limited for woodland management by seedling mortality, windthrow hazard, and plant competition.

Equipment limitations due to wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen or during the driest summer months. Seedling mortality can be reduced by special site preparation or by planting species that are suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following tree harvest helps decrease invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for community development by the wetness and frost action. Wetness is a severe limitation for dwellings with or without basements. Foundation drains will help to control wetness and frost action. Locating drain outlets on these level and nearly level areas may be a concern. Wetness is also a severe limitation for shallow excavations. Wetness and frost action are severe limitations for local roads and streets. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. Wetness is a severe limitation for lawns and landscaping.

For onsite sewage disposal, wetness and slow permeability are severe limitations that may make it necessary to use special designs and fill to raise absorption fields.

The areas of this soil improve and maintain water quality by acting as natural filters to remove harmful chemicals, nutrients, and sediment. They also recharge ground-water aquifers and store runoff, which lessens flood damage.

Recreation

This soil has severe limitations for camping areas, picnic areas, and hiking paths and trails due to wetness. Limitations are severe for playgrounds and athletic fields due to small stones and wetness.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. Suitability is good for wetland wildlife habitat.

The capability subclass is VIIs.

647B—Pillsbury fine sandy loam, 3 to 8 percent slopes, very stony

This soil is very deep, gently sloping, and poorly drained. It is on hills and valley floors in the glaciated uplands. The areas are elongated and irregular in shape and range from 5 to 55 acres in size. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface.

The typical sequence, depth, and composition of the layers of this soil are as follows—

Surface layer:
0 to 7 inches, very dark brown fine sandy loam
Subsoil:
7 to 11 inches, gray fine sandy loam with yellowish red mottles
11 to 30 inches, olive fine sandy loam with brown and gray mottles
Substratum:
30 to 65 inches, light olive brown, firm gravelly loam with black and gray mottles

Inclusions

Included with this unit are small areas with slopes of less than 3 percent or more than 8 percent, small depressions of Peacham soils, and low mounds or ridges of moderately well drained Peru or Skerry soils. Also included are areas that have been cleared of surface stones for farming and a few areas where the hardpan is more than 40 inches below the surface. A few areas have surface stones less than 5 feet or more than 30 feet apart. The included soils make up 10 percent of this unit.

Major properties of the soil

Permeability: Moderate in the surface layer and subsoil; slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 0 to 1.5 feet from November through May
Potential frost action: High
Flood hazard: None

Most areas of this soil are forested. A few areas have been cleared for farming, but many are reverting to woodland.

Use and Management

Farming

This unit is too wet and stony for most farming other than unimproved pasture. The few areas that have been cleared of surface stones are producing fair yields of grasses and legumes. Frost heaving and winterkill are limitations for legumes on the soil.

Woodland

Fertility and moisture are fair to poor for hardwoods and fair to good for softwoods, especially red spruce and balsam fir. This soil is limited for woodland management by seedling mortality, windthrow hazard, and plant competition.

Equipment limitations due to wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen or during the driest summer months. Seedling mortality can be reduced by special site preparation or by planting species that are suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following tree harvest helps decrease invasion of undesirable species.

In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Community Development

This soil is limited for community development by the wetness and frost action. Wetness is a severe limitation for dwellings with or without basements and for shallow excavations. Foundation drains will help to control wetness and frost action. Wetness and frost action are severe limitations for local roads and streets. This limitation can be overcome by providing coarser grained base material to frost depth and installing drainage. Wetness is a severe limitation for lawns and landscaping.

For onsite sewage disposal, wetness and slow permeability are severe limitations that may make it necessary to use special designs and fill to raise absorption fields.

The areas of this soil improve and maintain water quality by acting as natural filters to remove harmful chemicals, nutrients, and sediment. They also recharge ground-water aquifers and store runoff, which lessens flood damage.

Recreation

The soil has severe limitations for camping areas, picnic areas, and hiking paths and trails due to wetness. Limitations are severe for playgrounds and athletic fields due to small stones and wetness.

Wildlife Habitat

Suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. These soils are very poorly suited for wetland wildlife habitat.

The capability subclass is VIIs.

701B—Becket-Skerry association, gently sloping, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep, gently sloping soils on uplands. The well drained Becket soils are typically on smooth, convex slopes. The moderately well drained Skerry soils are typically on concave slopes or foot slopes or near drainageways. The areas of the unit are irregular in shape and range from 10 to 100 acres in size. Slopes range from 0 to 15 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 40 percent drained Becket soils, 40 percent Skerry soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Becket soil are as follows—
Surface layer:
0 to 7 inches, dark yellowish brown fine sandy loam
Subsoil:
7 to 14 inches, dark brown fine sandy loam
14 to 18 inches, strong brown fine sandy loam
18 to 22 inches, light olive brown fine sandy loam

Substratum:
22 to 65 inches, olive gray, firm gravelly loamy fine sand

The typical sequence, depth, and composition of the layers of the Skerry soil are as follows—
Surface layer:
0 to 12 inches, very dark grayish brown fine sandy loam
Subsoil:
12 to 15 inches, dark brown fine sandy loam
15 to 21 inches, reddish brown fine sandy loam with light yellowish brown and very pale brown mottles
Substratum:
21 to 28 inches, light gray, very firm gravelly loamy fine sand with olive gray and yellowish brown mottles
28 to 65 inches, brown, firm gravelly loamy fine sand with light gray and light olive brown mottles

Inclusions

Included in this unit are well drained Monadnock soils and somewhat excessively drained Hermon soils on undulating and rolling slopes that make up about 10 percent of this unit. About 5 percent of this unit is moderately well drained Waumbek soils on concave slopes and benches, somewhat excessively drained, shallow Lyman soils throughout the unit, and poorly drained Pillsbury soils in depressions and along drainageways. Also included with this unit are small areas with slopes of more than 15 percent that make up about 5 percent of this unit.

Major properties of the Becket soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None

Major properties of the Skerry soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 1.5 to 2.5 feet from November through May
Potential frost action: High
Flood hazard: None

This unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland Fertility and moisture are favorable for high quality hardwoods. These soils are limited for woodland management by windthrow hazard and plant competition. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Recreation

The Skerry soils in this unit have moderate limitations for hiking paths and trails due to wetness. Careful planning and placement to avoid wet areas will reduce limitations.

Wildlife Habitat

Wildlife habitat suitability for habitat areas is poor for openland wildlife and fair for woodland wildlife. These soils are very poorly suited for wetland wildlife habitat.

Community development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIs.

703D—Becket-Monadnock association, moderately steep, very stony.

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep, moderately steep soils on uplands. The well drained Becket soils are typically on smooth, convex slopes. The well drained Monadnock soils are typically on hilly areas with complex slopes. The areas are irregular in shape and range from 20 to 100 acres in size. Slopes range from 15 to 35 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 45 percent Becket soils, 35 percent Monadnock soils and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Becket soil are as follows—
Surface layer:
0 to 7 inches, dark yellowish brown fine sandy loam

Subsoil:
7 to 14 inches, dark brown fine sandy loam
14 to 18 inches, strong brown fine sandy loam
18 to 22 inches, light olive brown fine sandy loam
Substratum:
22 to 65 inches, olive gray, firm gravelly loamy fine sand

The typical sequence, depth, and composition of the layers of the Monadnock soil are as follows—
Surface layer:
0 to 4 inches, dark brown fine sandy loam
4 to 6 inches, gray fine sandy loam
Subsoil:
6 to 10 inches, yellowish red fine sandy loam
10 to 18 inches, yellowish brown very fine sandy loam
18 to 23 inches, light olive brown sandy loam
Substratum:
23 to 65 inches, pale olive loamy sand

The depth of the fine sandy loam material ranges from 15 to 36 inches in this Monadnock soil, but some areas have fine sandy loam to a depth of 40 inches or more. The substratum of many areas ranges from 15 to 40 percent gravel, cobbles, and stones.

Inclusions

Included in this unit are the moderately well drained Skerry soils on slightly concave slopes, around drainageways, and at the base of slopes. They make about 5 percent of this unit. The somewhat excessively drained Hermon soils on convex slopes and hilly areas and the somewhat excessively drained, shallow Lyman soils along slope breaks and on the crests of ridges make up about 5 percent each. Also included with this unit are small areas with slopes of less than 15 percent or more than 35 percent that make up about 5 percent of this unit. Some units have a higher percentage of Monadnock soils than Becket soils.

Major properties of the Becket soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None

Major properties of the Monadnock soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

This unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Becket and Monadnock soils for good tree growth. These soils are limited for woodland management by erosion hazard, slope, and plant competition. Windthrow hazard is an additional limitation on areas of Becket soils. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Site preparation following harvest helps reduce the invasion of undesirable species. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. In areas of Becket soils where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Recreation

These soils have a severe limitation for paths and hiking trails due to moderately steep slopes. Designing paths and trails to conform to the natural slope, and proper placement of water bars will reduce erosion.

Wildlife Habitat

Wildlife habitat suitability for habitat areas for openland wildlife is poor on the soil. Suitability for habitat for woodland wildlife habitat is fair on areas of the Becket soil and good on the Monadnock soil. These soils are very poorly suited for wetland wildlife habitat.

Community development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIs.

703E—Becket-Monadnock association, steep, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep, steep soils on uplands. The well drained Becket soils are typically on smooth, convex slopes. The well drained Monadnock soils are typically on steep, complex side slopes. The areas of the unit are irregular in shape and range from 20 to 150 acres in size. Slopes range from 35 to 60 percent. Stones are generally 5 to 30 feet apart and cover from 1 to 3 percent of the surface. This unit consists of about 45 percent Becket soils, 35 percent Monadnock soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Becket soil are as follows—

Surface layer:

0 to 7 inches, dark yellowish brown fine sandy loam

Subsoil:

7 to 14 inches, dark brown fine sandy loam

14 to 18 inches, strong brown fine sandy loam

18 to 22 inches, light olive brown fine sandy loam

Substratum:

22 to 65 inches, olive gray, firm gravelly loamy fine sand

The typical sequence, depth, and composition of the layers of the Monadnock soil are as follows—

Surface layer:

0 to 4 inches, dark brown fine sandy loam

4 to 6 inches, gray fine sandy loam

Subsoil:

6 to 10 inches, yellowish red fine sandy loam

10 to 18 inches, yellowish brown very fine sandy loam

18 to 23 inches, light olive brown sandy loam

Substratum:

23 to 65 inches, pale olive loamy sand

The depth of the fine sandy loam ranges to 40 inches or more.

Inclusions

Included in this unit are the moderately well drained Skerry soils on slightly concave slopes, around drainageways, and at the base of slopes. They make about 10 percent of this unit. The somewhat excessively drained Hermon soils on convex slopes and hilly areas and the somewhat excessively drained, shallow Lyman soils along slope breaks and on the crests of ridges make up about 5 percent. Also included with this unit are small areas with slopes of less than 35 percent that make up about 5 percent of this unit. Some units have a higher percentage of Monadnock soils than Becket soils.

Major properties of the Becket soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: 18 to 36 inches

Depth to water table: 2.0 to 3.5 feet from March through April

Potential frost action: Moderate

Flood hazard: None

Major properties of the Monadnock soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: More than 6 feet

Potential frost action: Low

Flood hazard: None

These soils are managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Becket and Monadnock soils, but these soils are limited for woodland management by erosion hazard, slope, and plant competition. Windthrow hazard is an additional limitation on areas of Becket soils. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by the use of track equipment and careful planning to avoid steepest areas. Site preparation following harvest helps reduce the invasion of undesirable species. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. In areas of Becket soils where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Recreation

These soils have a severe limitation for paths and hiking trails due to steep slopes. Designing paths and trails to conform to the natural slope and proper placement of water bars will reduce erosion.

Wildlife Habitat

Wildlife habitat suitability for habitat areas for openland wildlife is poor. Suitability for habitat for woodland wildlife habitat is fair on areas of the Becket soil and good on areas of the Monadnock soil. These soils are very poorly suited for wetland wildlife habitat.

Community development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

709D—Becket-Tunbridge association, hilly, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep Becket soils and moderately deep Tunbridge soils on hilly uplands. The well drained Becket soils are typically on smooth, convex slopes. The well drained Tunbridge soils typically are throughout the unit. The areas of the unit are irregular in shape and range from 20 to 150 acres in size. Slopes range from 15 to 35 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 45 percent Becket soils, 35 percent Tunbridge soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Becket soil are as follows—

Surface layer:

0 to 7 inches, dark yellowish brown fine sandy loam

Subsoil:

7 to 14 inches, dark brown fine sandy loam
14 to 18 inches, strong brown fine sandy loam
18 to 22 inches, light olive brown fine sandy loam

Substratum:

22 to 65 inches, olive gray, firm gravelly loamy fine sand

The typical sequence, depth, and composition of the layers of the Tunbridge soil are as follows—

Surface layer:

0 to 1 inch, dark reddish brown fine sandy loam
1 to 3 inches, pinkish gray fine sandy loam

Subsoil:

3 to 11 inches, strong brown fine sandy loam
11 to 21 inches, yellowish brown fine sandy loam

Substratum:

21 to 28 inches, light yellowish brown fine sandy loam
28 inches, hard schist bedrock

Inclusions

Included in about 10 percent of this unit are very deep, well drained Monadnock soils on hilly slopes and moderately well drained Skerry soils on slightly concave slopes around drainageways and at the base of slopes. Somewhat excessively drained, shallow Lyman soils and rock outcrops throughout the unit and poorly drained Pillsbury soils in depressions and along drainageways make up about 5 percent of this unit. Also included with this unit are small areas with slopes of less than 15 percent or more than 35 percent. They make up about 5 percent of the unit.

Major properties of the Becket soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None

Major properties of the Tunbridge soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: 20 to 40 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

This unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Becket and Tunbridge soils for good tree growth. These soils are limited for woodland management by erosion hazard, slope, and windthrow hazard. Additional limitations are plant competition on areas of Becket soils and seedling mortality on areas of Tunbridge soils. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. In areas of Becket soils where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Recreation

These soils have severe limitations for hiking paths and trails due to slope. Careful planning to avoid steepest areas and proper placement of water bars will reduce this limitation and decrease erosion.

Wildlife Habitat

Wildlife habitat suitability for habitat areas is poor for openland wildlife and fair for woodland wildlife. These soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

709E—Becket-Tunbridge association, steep, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep Becket soils and moderately deep Tunbridge soils on hilly uplands. The well drained Becket soils are typically on smooth, convex slopes. The well drained Tunbridge soils typically are throughout the unit. The areas of the unit are irregular in shape and range from 10 to 150 acres in size. Slopes range from 35 to 70 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 45 percent Becket soils, 35 percent Tunbridge soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Becket soil are as follows—

Surface layer:

0 to 7 inches, dark yellowish brown fine sandy loam

Subsoil:

7 to 14 inches, dark brown fine sandy loam

14 to 18 inches, strong brown fine sandy loam

18 to 22 inches, light olive brown fine sandy loam

Substratum:

22 to 65 inches, olive gray, firm gravelly loamy fine sand

The typical sequence, depth, and composition of the layers of the Tunbridge soil are as follows—

Surface layer:

0 to 1 inch, dark reddish brown fine sandy loam

1 to 3 inches, pinkish gray fine sandy loam

Subsoil:

3 to 11 inches, strong brown fine sandy loam

11 to 21 inches, yellowish brown fine sandy loam

Substratum:

21 to 28 inches, light yellowish brown fine sandy loam

28 inches, hard schist bedrock

Inclusions

Included in about 10 percent of this unit are very deep, well drained Monadnock soils on steep slopes and moderately well drained Skerry soils on slightly concave slopes around drainageways and at the base of slopes. Somewhat excessively drained, shallow Lyman soils and rock outcrops throughout the unit and poorly drained Pillsbury soils in depressions and along drainageways make up about 5 percent of this unit. Also included with this unit are small areas with slopes of less than 35 percent or more than 70 percent. They make up about 5 percent of the unit.

Major properties of the Becket soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: 18 to 36 inches

Depth to water table: 2.0 to 3.5 feet from March through April

Potential frost action: Moderate

Flood hazard: None

Major properties of the Tunbridge soil

Permeability: Moderate to moderately rapid throughout

Available water capacity: Moderate

Depth to bedrock: 20 to 40 inches

Depth to water table: More than 6 feet

Potential frost action: Moderate

Flood hazard: None

This unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Becket and Tunbridge soils for good tree growth. These soils are limited for woodland management by erosion hazard, slope, and windthrow hazard. Additional limitations are plant competition on areas of

Becket soils and seedling mortality on areas of Tunbridge soils. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. In areas of Becket soils where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Recreation

These soils have severe limitations for hiking paths and trails due to slope. Careful planning to avoid steepest areas and proper placement of water bars will reduce this limitation and decrease erosion.

Wildlife Habitat

Wildlife habitat suitability for habitat areas is poor for openland wildlife and fair for woodland wildlife. These soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

710D—Becket-Lyman-Rock outcrop complex, hilly

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep Becket soils, shallow Lyman soils, and rock outcrop on glaciated uplands. The well drained Becket soils are typically on smooth, convex side slopes. The somewhat excessively drained Lyman soils and the rock outcrops typically are throughout the unit. The areas of the unit are irregular in shape and range from 10 to 100 acres in size. Slopes range from 15 to 35 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 35 percent Becket soils, 30 percent Lyman soils, 20 percent rock outcrop, and 15 percent other soils.

The typical sequence, depth, and composition of the layers of the Becket soil are as follows—

Surface layer:
0 to 7 inches, dark yellowish brown fine sandy loam
Subsoil:
7 to 14 inches, dark brown fine sandy loam
14 to 18 inches, strong brown fine sandy loam
18 to 22 inches, light olive brown fine sandy loam
Substratum:
22 to 65 inches, olive gray, firm gravelly loamy fine sand

The typical sequence, depth, and composition of the layers of the Lyman soil are as follows—

Surface layer:
0 to 3 inches, dark reddish brown fine sandy loam
3 to 7 inches, yellowish brown fine sandy loam
Subsoil:
7 to 12 inches, yellowish red loam
12 to 16 inches, olive gravelly loam
16 inches, hard schist bedrock

Inclusions

Included in this unit are very deep, well drained Monadnock soils on hilly side slopes and moderately well drained Skerry soils on concave slopes. They make up about 5 percent of this unit. Well drained, moderately deep Tunbridge soils throughout the unit and poorly drained Pillsbury soils in depressions and along drainageways make up about 5 percent of this unit. Also included are small areas with slopes of less than 15 percent and more than 35 percent that make up about 5 percent of this unit.

Major properties of the Becket soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None

Major properties of the Lyman soil

Permeability: Moderately rapid throughout
Available water capacity: Very low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

This unit is managed primarily for forestry, recreation, and wildlife habitat.

Woodland

Woodland fertility and moisture are adequate on these Becket and Lyman soils. The soils are limited for woodland management by erosion hazard, slope, windthrow hazard, and plant competition. An additional limitation is seedling mortality on areas of Lyman soils. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. In areas of Becket soils where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action. In some areas the rock outcrops limit the layout of roads.

Recreation

These soils have severe limitations for hiking paths and trails due to slope. The paths and trails that cross broad, smooth, steep rock outcrops can be very slippery. Careful planning to avoid steepest areas and proper placement of water bars will reduce this limitation and prevent erosion.

Wildlife Habitat

Wildlife habitat suitability for habitat areas for openland wildlife is poor on the soil. Suitability for habitat for woodland wildlife habitat is fair on areas of Becket soil and poor on areas of Lyman soil. The soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

710E—Becket-Lyman-Rock outcrop complex, steep

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep Becket soils, shallow Lyman soils, and rock outcrop on glaciated uplands. The well drained Becket soils are typically on smooth, convex side slopes. The somewhat excessively drained Lyman soils and the rock outcrops typically are throughout the unit. The areas of the unit are irregular in shape and range from 10 to 100 acres in size. Slopes range from 35 to 60 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 35 percent Becket soils, 30 percent Lyman soils, 20 percent rock outcrop, and 15 percent other soils.

The typical sequence, depth, and composition of the layers of the Becket soil are as follows—

Surface layer:
0 to 7 inches, dark yellowish brown fine sandy loam
Subsoil:
7 to 14 inches, dark brown fine sandy loam
14 to 18 inches, strong brown fine sandy loam
18 to 22 inches, light olive brown fine sandy loam
Substratum:
22 to 65 inches, olive gray, firm gravelly loamy fine sand

The typical sequence, depth, and composition of the layers of the Lyman soil are as follows—

Surface layer:
0 to 3 inches, dark reddish brown fine sandy loam
3 to 7 inches, yellowish brown fine sandy loam
Subsoil:
7 to 12 inches, yellowish red loam
12 to 16 inches, olive gravelly loam
16 inches, hard schist bedrock

Inclusions

Included in this unit are very deep, well drained Monadnock soils on hilly side slopes and moderately well drained Skerry soils on concave slopes. They make up about 5 percent of this unit. Well drained, moderately deep Tunbridge soils throughout the unit and poorly drained Pillsbury soils in depressions and along drainageways make up about 5 percent of this unit. Also included are small areas with slopes of less than 35 percent and more than 60 percent that make up about 5 percent of this unit.

Major properties of the Becket soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None

Major properties of the Lyman soil

Permeability: Moderately rapid throughout
Available water capacity: Very low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

This unit is managed primarily for forestry, recreation, and wildlife habitat

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Becket and Lyman soils. The soils are limited for woodland management by erosion hazard, slope, windthrow hazard, and plant competition. An additional limitation is seedling mortality on areas of Lyman soils. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. In areas of Becket soils where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action. In some areas the rock outcrops limit the layout of roads.

Recreation

These soils have severe limitations for hiking paths and trails due to slope. The paths and trails that cross broad, smooth, steep rock outcrops can be very slippery. Careful planning to avoid steepest areas and proper placement of water bars will reduce this limitation and prevent erosion.

Wildlife Habitat

Wildlife habitat suitability for habitat areas for openland wildlife is poor on the soil. Suitability for habitat for woodland wildlife habitat is fair on areas of Becket soil and poor on areas of Lyman soil. The soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

711B—Monadnock-Hermon association, undulating, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep soils on glaciated uplands. The Monadnock and Hermon soils are typically on undulating slopes throughout the unit. The areas are irregular in shape and range from 10 to 200 acres in size. Slopes range from 0 to 15 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of this surface. This unit consists of about 45 percent well drained Monadnock soils, 35 percent somewhat excessively drained Hermon soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Monadnock soil are as follows—
Surface layer:
0 to 4 inches, dark brown fine sandy loam
4 to 6 inches, gray fine sandy loam
Subsoil:
6 to 10 inches, yellowish red fine sandy loam
10 to 18 inches, yellowish brown very fine sandy loam
18 to 23 inches, light olive brown fine sandy loam
Substratum:
23 to 65 inches, pale olive loamy sand

Some areas are fine sandy loam to a depth of 40 inches or more.

The typical sequence, depth, and composition of the layers of the Hermon soil are as follows—
Surface layer:
0 to 5 inches, dark brown fine sandy loam
5 to 7 inches, light gray fine sandy loam
Subsoil:
7 to 15 inches, dark yellowish brown gravelly fine sandy loam
15 to 22 inches, light olive brown gravelly loamy sand
Substratum:
22 to 65 inches, grayish brown very gravelly loamy sand

Some areas have a surface layer of loamy sand.

Inclusions

Included in this unit are about 5 percent well drained Becket soils on smooth, gently sloping areas; 5 percent moderately well drained Waumbek soils at the base of slopes and along the back of benches and the poorly drained Lyman soils around drainageways; 5 percent somewhat excessively drained, shallow Lyman soils along slope breaks and on the crests of ridges; and 5 percent small areas with slopes of more than 15 percent.

Major properties of the Monadnock soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Major properties of the Hermon soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

This unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Monadnock and Hermon soils for good tree growth. These soils are limited for woodland management by plant competition on the Monadnock soils and seedling mortality on the Hermon soils. Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Recreation

These soils have moderate limitations for hiking paths and trails due to the large number of surface stones. Designing paths and trails to conform to the natural slope and proper placement of water bars will reduce erosion.

Wildlife Habitat

Wildlife habitat suitability for habitat areas is poor for openland wildlife. Suitability for habitat areas for woodland wildlife is good on areas of Monadnock soils and fair on areas of Hermon soils. The soils are very poorly suited for wetland wildlife habitat.

Community Development

Determination of the suitability for any use requires onsite investigation.

The capability subclass is VIs.

711D—Monadnock-Hermon association, hilly, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep, hilly soils on glaciated uplands. The Monadnock and Hermon soils are typically on hills and mountainsides throughout the unit. The areas of the unit are irregular in shape and range from 10 to 200 acres in size. Slopes range from 15 to 35 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 45 percent well drained Monadnock soils, 35 percent somewhat excessively drained Hermon soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Monadnock soil are as follows—
Surface layer:
0 to 4 inches, dark brown fine sandy loam
4 to 6 inches, gray fine sandy loam
Subsoil:
6 to 10 inches, yellowish red fine sandy loam
10 to 18 inches, yellowish brown very fine sandy loam
18 to 23 inches, light olive brown fine sandy loam
Substratum:
23 to 65 inches, pale olive loamy sand

Some areas are fine sandy loam to a depth of 40 inches or more.

The typical sequence, depth, and composition of the layers of the Hermon soil are as follows—
Surface layer:
0 to 5 inches, dark brown fine sandy loam
5 to 7 inches, light gray fine sandy loam
Subsoil:
7 to 15 inches, dark yellowish brown gravelly fine sandy loam
15 to 22 inches, light olive brown gravelly loamy sand
Substratum:
22 to 65 inches, grayish brown very gravelly loamy sand

Some areas of have a surface layer of loamy sand.

Inclusions

Included in this unit are about 5 percent well drained Becket soils on smooth, gently sloping areas; 5 percent moderately well drained Waumbek soils at the base of slopes and along the back of benches and the poorly drained Lyman soils around drainageways; 5 percent somewhat excessively drained, shallow Lyman soils along slope breaks and on the crests of ridges; and 5 percent small areas with slopes of less than 15 percent or more than 35 percent.

Major properties of the Monadnock soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Major properties of the Hermon soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

This unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Monadnock and Hermon soils for good tree growth. These soils are limited for woodland management by erosion hazard and slope. Additional management concerns are plant competition on the Monadnock soils and seedling mortality on the Hermon soils. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Recreation

These soils have severe limitations for hiking paths and trails due to slope. Careful planning to avoid steepest areas and proper placement of water bars will reduce this limitation and decrease erosion.

Wildlife Habitat

Wildlife habitat suitability for habitat areas is poor for openland wildlife. Suitability for habitat areas for woodland wildlife is good on areas of Monadnock soils and fair on areas of Hermon soils. The soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

711E—Monadnock-Hermon association, steep, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep, steep soils on glaciated uplands. The Monadnock and Hermon soils are typically on hills and mountainsides throughout the unit. The areas of the unit are irregular in shape and range from 10 to 200 acres in size. Slopes range from 35 to 60 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 45 percent well drained Monadnock soils, 35 percent somewhat excessively drained Hermon soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Monadnock soil are as follows—
Surface layer:
0 to 4 inches, dark brown fine sandy loam
4 to 6 inches, gray fine sandy loam
Subsoil:
6 to 10 inches, yellowish red fine sandy loam
10 to 18 inches, yellowish brown very fine sandy loam
18 to 23 inches, light olive brown fine sandy loam
Substratum:
23 to 65 inches, pale olive loamy sand

Some areas are fine sandy loam to a depth of 40 inches or more.

The typical sequence, depth, and composition of the layers of the Hermon soil are as follows—
Surface layer:
0 to 5 inches, dark brown fine sandy loam
5 to 7 inches, light gray fine sandy loam
Subsoil:
7 to 15 inches, dark yellowish brown gravelly fine sandy loam
15 to 22 inches, light olive brown gravelly loamy sand
Substratum:
22 to 65 inches, grayish brown very gravelly loamy sand

Some areas of have a surface layer of loamy sand.

Inclusions

Included in this unit are about 5 percent well drained Becket soils on smooth, gently sloping areas; 5 percent moderately well drained Waumbek soils at the base of slopes and along the back of benches and the poorly drained Lyman soils around drainageways; 5 percent somewhat excessively drained, shallow Lyman soils along slope breaks and on the crests of ridges; and 5 percent small areas with slopes of less than 15 percent or more than 35 percent.

Major properties of the Monadnock soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Major properties of the Hermon soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

This unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Monadnock and Hermon soils for good tree growth. These soils are limited for woodland management by erosion hazard and slope. Additional management concerns are plant competition on the Monadnock soils and seedling mortality on the Hermon soils. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

Recreation

These soils have severe limitations for hiking paths and trails due to slope. Careful planning to avoid steepest areas and proper placement of water bars will reduce this limitation and decrease erosion.

Wildlife Habitat

Wildlife habitat suitability for habitat areas is poor for openland wildlife. Suitability for habitat areas for woodland wildlife is good on areas of Monadnock soils and fair on areas of Hermon soils. The soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

712B—Hermon-Monadnock association, undulating, extremely bouldery

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep, undulating soils on glaciated uplands. The Hermon soils typically are on undulating convex lower side slopes. The Monadnock soils typically are on undulating convex upper side slopes. The areas of the unit are irregular in shape and range from 10 to 150 acres in size. Slopes range from 0 to 15 percent. Boulders and stones are generally less than 5 feet apart and cover from 3 to 15 percent of the surface. This unit consists of about 40 percent somewhat excessively drained Hermon soils, 40 percent well drained Monadnock soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Monadnock soil are as follows—
Surface layer:
0 to 4 inches, dark brown fine sandy loam
4 to 6 inches, gray fine sandy loam
Subsoil:
6 to 10 inches, yellowish red fine sandy loam
10 to 18 inches, yellowish brown very fine sandy loam
18 to 23 inches, light olive brown fine sandy loam
Substratum:
23 to 65 inches, pale olive loamy sand

Some areas are fine sandy loam to a depth of 40 inches or more.

The typical sequence, depth, and composition of the layers of the Hermon soil are as follows—
Surface layer:
0 to 5 inches, dark brown fine sandy loam
5 to 7 inches, light gray fine sandy loam
Subsoil:

7 to 15 inches, dark yellowish brown gravelly fine sandy loam.
15 to 22 inches, light olive brown gravelly loamy sand.
Substratum:
22 to 65 inches, grayish brown very gravelly loamy sand

Some areas of have a surface layer of loamy sand.

Inclusions

Included in this unit are about 5 percent well drained Becket soils on smooth, gently sloping areas; 5 percent moderately well drained Waumbek soils at the base of slopes and along the back of benches and the poorly drained Lyman soils around drainageways; 5 percent somewhat excessively drained, shallow Lyman soils along slope breaks and on the crests of ridges; and 5 percent small areas with slopes of more than 15 percent.

Major properties of the Monadnock soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Major properties of the Hermon soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

This unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Hermon and Monadnock soils. These soils are limited for woodland management by boulders. Additional limitations are seedling mortality on areas of Hermon soils and plant competition on areas of Monadnock soils. Equipment limitations are due to the extremely bouldery surface. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Site preparation following harvest helps reduce the invasion of undesirable species.

Recreation

These soils are limited for hiking paths and trails due to the large number of surface boulders and stones. Limitations are severe on areas of Hermon soils and moderate on areas of Monadnock soils. Careful location of paths and trails and proper placement of water bars will reduce these limitations and the possibility of erosion.

Wildlife Habitat

Wildlife habitat suitability for habitat areas is poor for openland wildlife. Suitability for habitat areas for woodland wildlife is fair on areas of Hermon soils and very poor on areas of Monadnock soils. The soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

712D—Hermon-Monadnock association, hilly, extremely bouldery

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep, hilly soils on glaciated uplands. The Hermon soils typically are on hilly convex lower side slopes of hills and mountains. The Monadnock soils typically are on hilly convex upper side slopes of hills and mountains. The areas of the unit are irregular in shape and range from 20 to 125 acres in size. Slopes range from 15 to 35 percent. Boulders and stones are generally less than 5 feet apart and cover from 3 to 15 percent of the surface. This unit consists of about 40 percent somewhat excessively drained Hermon soils, 40 percent well drained Monadnock soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Monadnock soil are as follows—
Surface layer:
0 to 4 inches, dark brown fine sandy loam
4 to 6 inches, gray fine sandy loam
Subsoil:
6 to 10 inches, yellowish red fine sandy loam
10 to 18 inches, yellowish brown very fine sandy loam
18 to 23 inches, light olive brown fine sandy loam
Substratum:
23 to 65 inches, pale olive loamy sand

Some areas are fine sandy loam to a depth of 40 inches or more.

The typical sequence, depth, and composition of the layers of the Hermon soil are as follows—

Surface layer:
0 to 5 inches, dark brown fine sandy loam
5 to 7 inches, light gray fine sandy loam
Subsoil:
7 to 15 inches, dark yellowish brown gravelly fine sandy loam.
15 to 22 inches, light olive brown gravelly loamy sand
Substratum:
22 to 65 inches, grayish brown very gravelly loamy sand

Some areas of have a surface layer of loamy sand.

Inclusions

Included in this unit are about 5 percent moderately well drained Waumbek soils in concave areas, at the base of slopes, and along the back of benches and the poorly drained Lyman soils around drainageways; 5 percent moderately well drained Skerry soils on smooth, concave slopes and somewhat excessively drained, shallow Lyman soils along slope breaks and on the crests of ridges; and 5 percent small areas with slopes of less than 15 percent or more than 35 percent.

Major properties of the Monadnock soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Major properties of the Hermon soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

This unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Hermon and Monadnock soils. These soils are limited for woodland management by erosion and boulders. Additional limitations are seedling mortality on areas of Hermon soils and plant competition on areas of Monadnock soils. Equipment limitations are due to the extremely bouldery surface. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Site preparation following harvest helps reduce the invasion of undesirable species.

Recreation

These soils are limited for hiking paths and trails due to the large number of surface boulders and stones. Limitations are severe on areas of Hermon soils and moderate on areas of Monadnock soils. Careful location of paths and trails and proper placement of water bars will reduce these limitations and the possibility of erosion.

Wildlife Habitat

Wildlife habitat suitability for habitat areas is poor for openland wildlife. Suitability for habitat areas for woodland wildlife is fair on areas of Hermon soils and very poor on areas of Monadnock soils. The soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

712E—Hermon-Monadnock association, steep, extremely bouldery

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep, steep soils on glaciated uplands. The Hermon soils typically are on steep convex lower side slopes of hills and mountains. The Monadnock soils typically are on steep convex upper side slopes of hills and mountains. The areas of the unit are irregular in shape and range from 10 to 75 acres in size. Slopes range from 35 to 60 percent. Boulders and stones are generally less than 5 feet apart and cover from 3 to 15 percent of the surface. This unit consists of about 40 percent somewhat excessively drained Hermon soils, 40 percent well drained Monadnock soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Monadnock soil are as follows—
Surface layer:
0 to 4 inches, dark brown fine sandy loam
4 to 6 inches, gray fine sandy loam

Subsoil:
6 to 10 inches, yellowish red fine sandy loam
10 to 18 inches, yellowish brown very fine sandy loam
18 to 23 inches, light olive brown fine sandy loam
Substratum:
23 to 65 inches, pale olive loamy sand

Some areas are fine sandy loam to a depth of 40 inches or more.

The typical sequence, depth, and composition of the layers of the Hermon soil are as follows—
Surface layer:
0 to 5 inches, dark brown fine sandy loam
5 to 7 inches, light gray fine sandy loam
Subsoil:
7 to 15 inches, dark yellowish brown gravelly fine sandy loam
15 to 22 inches, light olive brown gravelly loamy sand
Substratum:
22 to 65 inches, grayish brown very gravelly loamy sand

Some areas of have a surface layer of loamy sand.

Inclusions

Included in this unit are about 5 percent moderately well drained Waumbek soils in concave areas, at the base of slopes, and along the back of benches and the poorly drained Lyman soils around drainageways; 5 percent moderately well drained Skerry soils on smooth, concave slopes and somewhat excessively drained, shallow Lyman soils along slope breaks and on the crests of ridges; and 5 percent small areas with slopes of less than 35 percent or more than 60 percent.

Major properties of the Monadnock soil

Permeability: Moderate in the surface layer and subsoil; moderately rapid in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Major properties of the Hermon soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

This unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Hermon and Monadnock soils. These soils are limited for woodland management by erosion hazard and boulders. Additional limitations are seedling mortality on areas of Hermon soils and plant competition on areas of Monadnock soils. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations are due to the extremely bouldery surface. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Site preparation following harvest helps reduce the invasion of undesirable species.

Recreation

These soils have severe limitations for hiking paths and trails due to slope and the large number of surface boulders and stones. Careful planning to avoid steep and bouldery areas will reduce these limitations. Proper placement of water bars will reduce the possibility of erosion.

Wildlife Habitat

Wildlife habitat suitability on the soil is poor for habitat areas for openland wildlife. Suitability for habitat areas for woodland wildlife is fair on areas of Hermon soils and very poor on areas of Monadnock soils. These soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

713B—Hermon-Waumbek association, undulating, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep, undulating soils on glaciated uplands. The Hermon soils typically are on steeper slopes and on crests of benches and high knobs. The Waumbek soils typically are on concave slopes and in the middle position of benches and undulations. The areas of the unit are irregular in shape and range from 10 to 200 acres in size. Slope range from 0 to 15 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 45 percent somewhat excessively drained Hermon soils, 35 percent moderately well drained Waumbek soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Hermon soil are as follows—

Surface layer:

0 to 5 inches, dark brown fine sandy loam

5 to 7 inches, light gray fine sandy loam

Subsoil:

7 to 15 inches, dark yellowish brown gravelly fine sandy loam

15 to 22 inches, light olive brown gravelly loamy sand

Substratum:

22 to 65 inches, grayish brown very gravelly loamy sand

Some areas of have a surface layer of loamy sand.

The typical sequence, depth, and composition of the layers of the Waumbek soil are as follows—

Surface layer:

1 inch to 0, slightly decomposed needles, moss, leaves, and twigs

0 to 4 inches, black partially decomposed herbaceous and woody material

4 to 9 inches, light brownish gray loamy sand

Subsoil:

9 to 10 inches, dark reddish brown loamy sand

10 to 13 inches, dark reddish brown cobbly loamy sand

13 to 20 inches, strong brown very cobbly loamy sand

20 to 25 inches, dark yellowish brown very cobbly loamy sand with gray mottles

Substratum:

25 to 41 inches, dark grayish brown very cobbly loamy sand

41 to 65 inches, grayish brown very cobbly loamy sand

Inclusions

Included in this unit are 5 percent poorly drained Lyme soils on low undulating areas, at the base of slopes, and around drainageways; 5 percent poorly drained Pillsbury soils in depressions and along drainageways and very poorly drained Peacham in nearly level depressions; 5 percent well drained Becket soils on smooth, gently sloping areas and moderately well drained Skerry soils on the lower part of concave slopes and along the middle of benches; and 5 percent small areas with slopes of more than 15 percent.

Major properties of the Hermon soil

Permeability: Rapid throughout

Available water capacity: Low

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: More than 6 feet

Potential frost action: Low

Flood hazard: None

Major properties of the Waumbek soil

Permeability: Moderately rapid to rapid in the surface layer and subsoil; rapid in the substratum

Available water capacity: Very low

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: 1.5 to 2.5 feet from November through May

Potential frost action: Moderate

Flood hazard: None

The unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Hermon and Waumbek soils for good tree growth. These soils are limited for woodland management by seedling mortality on areas of Hermon soils and by windthrow hazard and plant competition on the Waumbek soils. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Recreation

These soils have moderate limitations for hiking paths and trails. Hermon soils have limitations due to large stones, and the Waumbek soils are limited due to wetness. Designing paths and trails to avoid wet spots and stony areas will reduce these limitations.

Wildlife Habitat

Wildlife habitat suitability of the soil is poor for habitat areas for openland wildlife and fair for woodland wildlife. These soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIs.

713D—Hermon-Waumbek association, hilly, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep, hilly soils on glaciated uplands. The Hermon soils typically are on steeper slopes and on crests of benches and high knobs. The Waumbek soils typically are on the more gradual concave slopes and in the middle position of benches and undulations. The areas are irregular in shape and range from 20 to 200 acres in size. Slopes range from 15 to 35 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 45 percent somewhat excessively drained Hermon soils, 35 percent moderately well drained Waumbek soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Hermon soil are as follows—

Surface layer:

0 to 5 inches, dark brown fine sandy loam

5 to 7 inches, light gray fine sandy loam

Subsoil:

7 to 15 inches, dark yellowish brown gravelly fine sandy loam

15 to 22 inches, light olive brown gravelly loamy sand

Substratum:

22 to 65 inches, grayish brown very gravelly loamy sand

Some areas of have a surface layer of loamy sand.

The typical sequence, depth, and composition of the layers of the Waumbek soil are as follows—

Surface layer:

1 inch to 0, slightly decomposed needles, moss, leaves, and twigs

0 to 4 inches, black partially decomposed herbaceous and woody material

4 to 9 inches, light brownish gray loamy sand

Subsoil:

9 to 10 inches, dark reddish brown loamy sand

10 to 13 inches, dark reddish brown cobbly loamy sand

13 to 20 inches, strong brown very cobbly loamy sand

20 to 25 inches, dark yellowish brown very cobbly loamy sand with gray mottles

Substratum:

25 to 41 inches, dark grayish brown very cobbly loamy sand

41 to 65 inches, grayish brown very cobbly loamy sand

Inclusions

Included in this unit are 5 percent poorly drained Lyme soils on low undulating areas, on toe slopes, at the base of slopes, and around drainageways; 5 percent poorly drained Pillsbury soils in depressions and along drainageways and very poorly drained Peacham in nearly level depressions; 5 percent well drained Becket soils on smooth, gently sloping areas and moderately well drained Skerry soils on the lower part of concave slopes and along the middle of benches; and 5 percent small areas with slopes of less than 15 percent or more than 35 percent.

Major properties of the Hermon soil

Permeability: Rapid throughout
Available water capacity: Low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Major properties of the Waumbek soil

Permeability: Moderately rapid to rapid in the surface layer and subsoil; rapid in the substratum
Available water capacity: Very low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 1.5 to 2.5 feet from November through May
Potential frost action: Moderate
Flood hazard: None

The unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Hermon and Waumbek soils for good tree growth. These soils are limited for woodland management by erosion hazard, slope, and seedling mortality on the Hermon soils and by windthrow hazard and plant competition on the Waumbek soils. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with drought-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Recreation

These soils have limitations for hiking paths and trails due to slope, large stones, and wetness. Limitations are severe on the Hermon soils due to slope and large stones. Limitations are moderate on the Waumbek soils due to wetness and large stones. Designing paths and trails to conform to the natural slope and avoiding wet and stony areas will reduce these limitations. The proper placement of water bars will reduce the possibility of erosion.

Wildlife Habitat

Wildlife habitat suitability of the soil is poor for habitat areas for openland wildlife and fair for woodland wildlife. These soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIs.

717—Lyme-Peacham association, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep, nearly level and undulating soils on glaciated uplands. The poorly drained Lyme soils are typically in slightly concave areas and along drainageways. The very poorly drained Peacham soils typically are in depressions and along drainageways. The areas are irregular in shape and range from 10 to 75 acres in size. Slopes range from 0 to 8 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 45 percent Lyme soils, 35 percent Peacham soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Lyme soil are as follows—

Surface layer:

1 inch to 0, undecomposed leaves and twigs

0 to 2 inches, partially decomposed leaves and twigs

2 to 6 inches, black highly decomposed organic material

Subsoil:

6 to 11 inches, gray cobbly fine sandy loam with olive mottles

11 to 23 inches, olive cobbly fine sandy loam with light olive brown mottles

Substratum:

23 to 65 inches, olive gray gravelly fine sandy loam

The typical sequence, depth, and composition of the layers of this Peacham soil are as follows—

Surface layer:

0 to 7 inches, very dark grayish brown highly decomposed muck

Subsoil:

7 to 15 inches, dark grayish brown gravelly fine sandy loam

15 to 30 inches, dark grayish brown gravelly sandy loam

Substratum:

30 to 65 inches, dark grayish brown, firm sandy loam

Inclusions

Included in this unit are about 5 percent poorly drained Pillsbury soils in depressions and along drainageways; 5 percent moderately well drained Waumbek and Peru soils on higher undulating areas, low ridges, and knobs; 5 percent very poorly drained Ossipee and Chocorua soils in depressions and adjacent to streams and other bodies of water; and small areas with slopes of more than 8 percent.

Major properties of the Lyme soil

Permeability: Moderately rapid throughout

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: 0 to 1.5 feet from November through May

Potential frost action: High

Flood hazard: None

Major properties of the Peacham soil

Permeability: Moderate to moderately slow in the surface layer and subsoil; slow to very slow in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: 18 to 36 inches

Depth to water table: 1 foot above the surface to a depth of 0.5 feet from October through June

Potential frost action: High

Flood hazard: None

The unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are fair to poor for hardwoods and fair to good for softwoods, especially red spruce and balsam fir. These soils are limited for woodland management by wetness, seedling mortality, windthrow hazard and plant competition. Equipment limitations due to wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen or during the driest summer months. Seedling mortality can be reduced by special site preparation or by planting species that are suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following tree harvest helps decrease invasion of undesirable species.

Recreation

These soils have severe limitations for hiking paths and trails. Limitations on the Lyme soils are due to wetness, and Peacham soils are limited due to ponding and excess humus. Careful planning and placement to avoid wettest areas will reduce this limitation.

Wildlife Habitat

Wildlife habitat suitability is poor for habitat areas for openland wildlife. Suitability for development of woodland wildlife habitat is fair on Lyme soils and poor on Peacham soils. The suitability for wetland wildlife habitat is good on Lyme soils and fair on Peacham soils.

Community Development and Farming

Determination of the suitability for any use requires onsite investigation. The areas of this unit improve and maintain water quality by acting as natural filters to remove harmful chemicals, nutrients, and sediment. They also recharge ground-water aquifers and store runoff, which lessens flood damage.

The capability subclass is VIIs.

719D—Marlow-Tunbridge association, hilly, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep Marlow soils and moderately deep Tunbridge soils on hilly glaciated uplands. The well drained Marlow soils are typically on smooth, convex side slopes and benched areas. The well drained Tunbridge soils typically are throughout the unit. The areas are irregular in shape and range from 20 to 150 acres in size. Slopes range from 15 to 35 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 45 percent Marlow soils, 35 percent Tunbridge soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Marlow soil are as follows—

Surface layer:
0 to 3 inches, very dark gray fine sandy loam
3 to 6 inches, gray fine sandy loam
Subsoil:
6 to 13 inches, yellowish red fine sandy loam
13 to 17 inches, light olive brown fine sandy loam
17 to 31 inches, olive gravelly fine sandy loam
Substratum:
31 to 65 inches, olive gray, very firm fine sandy loam

The typical sequence, depth, and composition of the layers of the Tunbridge soil are as follows—

Surface layer:
0 to 1 inch, dark reddish brown fine sandy loam
1 to 3 inches, pinkish gray fine sandy loam
Subsoil:
3 to 11 inches, strong brown fine sandy loam
11 to 21 inches, yellowish brown fine sandy loam
Substratum:
21 to 28 inches, light yellowish brown fine sandy loam
28 inches, hard schist bedrock

Inclusions

Included with this unit are about 5 percent very deep, well drained Marlow and Berkshire soils on moderately steep and hilly slopes; 5 percent moderately well drained Peru soils and poorly drained Pillsbury soils on plane benches, in depressions, and along drainageways; 5 percent somewhat excessively drained, shallow Lyman soils and rock outcrops throughout the unit; and 5 percent small areas with slopes of less than 15 percent or more than 35 percent.

Major properties of the Marlow soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None

Major properties of the Tunbridge soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: 20 to 40 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

This unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Marlow and Tunbridge soils for good tree growth. These soils are limited for woodland management by erosion hazard, slope, and windthrow hazard. Additional limitations are plant competition on areas of Marlow soils and seedling mortality on areas of Tunbridge soils. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. In areas of Marlow soils where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Recreation

These soils have severe limitations for hiking paths and trails due to slope. Careful planning and placement to avoid steepest areas will reduce this limitation.

Wildlife Habitat

Wildlife habitat suitability is fair for habitat areas for openland wildlife on Marlow soils and poor on areas of Tunbridge soils. Suitability for habitat areas for woodland wildlife is good on areas of Marlow soils and fair on areas of Tunbridge soils. The soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

719E—Marlow-Tunbridge association, steep, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep Marlow soils and moderately deep Tunbridge soils on steep glaciated uplands. The well drained Marlow soils are typically on smooth, convex side slopes and benched areas. The well drained Tunbridge soils typically are throughout the unit. The areas of the unit are irregular in shape and range from 25 to 150 acres in size. Slopes range from 35 to 60 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 45 percent Marlow soils, 35 percent Tunbridge soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Marlow soil are as follows—

Surface layer:
0 to 3 inches, very dark gray fine sandy loam
3 to 6 inches, gray fine sandy loam
Subsoil:
6 to 13 inches, yellowish red fine sandy loam
13 to 17 inches, light olive brown fine sandy loam
17 to 31 inches, olive gravelly fine sandy loam
Substratum:
31 to 65 inches, olive gray, very firm fine sandy loam

The typical sequence, depth, and composition of the layers of the Tunbridge soil are as follows—

Surface layer:
0 to 1 inch, dark reddish brown fine sandy loam
1 to 3 inches, pinkish gray fine sandy loam
Subsoil:
3 to 11 inches, strong brown fine sandy loam
11 to 21 inches, yellowish brown fine sandy loam
Substratum:
21 to 28 inches, light yellowish brown fine sandy loam
28 inches, hard schist bedrock

Inclusions

Included with this unit are about 5 percent very deep, well drained Marlow and Berkshire soils on moderately steep and hilly slopes; 5 percent moderately well drained Peru soils and poorly drained Pillsbury soils on plane benches, in depressions, and along drainageways; 5 percent somewhat excessively drained, shallow Lyman soils and rock outcrops throughout the unit; and 5 percent small areas with slopes of less than 35 percent or more than 60 percent.

Major properties of the Marlow soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None

Major properties of the Tunbridge soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: 20 to 40 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

This unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Marlow and Tunbridge soils for good tree growth. These soils are limited for woodland management by erosion hazard, slope, and windthrow hazard. Additional limitations are plant competition on areas of Marlow soils and seedling mortality on areas of Tunbridge soils. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by the use of track equipment and careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains.

In areas of Marlow soils where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Recreation

These soils have severe limitations for hiking paths and trails due to slope. Careful planning and placement to avoid steepest areas will reduce this limitation.

Wildlife Habitat

Wildlife habitat suitability is poor for habitat areas for openland wildlife. Suitability for habitat areas for woodland wildlife is good on areas of Marlow soils and fair on areas of Tunbridge soils. The soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

720D—Marlow-Lyman-Rock outcrop complex, hilly

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep Marlow soils, shallow Lyman soils, and rock outcrop on hilly uplands. The well drained Marlow soils are typically on smooth, convex side slopes and benched areas. The somewhat excessively drained Lyman soils and rock outcrops typically are throughout the unit. The areas of the unit are irregular in shape and range from 25 to 150 acres in size. Slopes range from 15 to 35 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 35 percent Marlow soils, 30 percent Lyman soils, 20 percent rock outcrop, and 15 percent other soils.

The typical sequence, depth, and composition of the layers of the Marlow soil are as follows—
Surface layer:
0 to 3 inches, very dark gray fine sandy loam
3 to 6 inches, gray fine sandy loam
Subsoil:
6 to 13 inches, yellowish red fine sandy loam
13 to 17 inches, light olive brown fine sandy loam
17 to 31 inches, olive gravelly fine sandy loam
Substratum:
31 to 65 inches, olive gray, very firm fine sandy loam

The typical sequence, depth, and composition of the layers of the Lyman soil are as follows—
Surface layer:
0 to 3 inches, dark reddish brown fine sandy loam
3 to 7 inches, yellowish brown fine sandy loam
Subsoil:
7 to 12 inches, yellowish red loam
12 to 16 inches, olive gravelly loam
16 inches, hard schist bedrock

Inclusions

Included with this unit are about 5 percent well drained, moderately deep Tunbridge soils; 5 percent very deep, moderately well drained Peru soils and poorly drained Pillsbury soils on plane benches, in depressions, and along drainageways; and 5 percent small areas with slopes of less than 15 percent and more than 35 percent.

Major properties of the Marlow soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate

Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None

Major properties of the Lyman soil

Permeability: Moderately rapid
Available water capacity: Very low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

This unit managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Marlow and Lyman soils for good tree growth. These soils are limited for woodland management by erosion hazard, slope, windthrow hazard, and plant competition. Seedling mortality is an additional limitation on areas of Lyman soils. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. In areas of Marlow soils where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action. In some areas the layout of roads is limited by the size, shape, or slope of the rock outcrops.

Recreation

These soils have moderate limitations for hiking paths and trails due to slope. Careful planning and placement to avoid steepest areas will reduce this limitation.

Wildlife Habitat

Wildlife habitat suitability is poor for habitat areas for openland wildlife. Suitability for habitat areas for woodland wildlife is good on areas of Marlow soils and poor on areas of Lyman soils. These soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

720E—Marlow-Lyman-Rock outcrop complex, steep

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep Marlow soils, shallow Lyman soils, and rock outcrops on steep glaciated uplands. The well drained Marlow soils are typically on smooth, convex side slopes and benched areas. The somewhat excessively drained Lyman soils and rock outcrops typically are throughout the unit. The areas of the unit are irregular in shape and range from 25 to 150 acres in size. Slopes range from 35 to 60 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 35 percent Marlow soils, 30 percent Lyman soils, 20 percent rock outcrop, and 15 percent other soils.

The typical sequence, depth, and composition of the layers of the Marlow soil are as follows—

Surface layer:
0 to 3 inches, very dark gray fine sandy loam
3 to 6 inches, gray fine sandy loam
Subsoil:
6 to 13 inches, yellowish red fine sandy loam
13 to 17 inches, light olive brown fine sandy loam
17 to 31 inches, olive gravelly fine sandy loam
Substratum:
31 to 65 inches, olive gray, very firm fine sandy loam

The typical sequence, depth, and composition of the layers of the Lyman soil are as follows—

Surface layer:
0 to 3 inches, dark reddish brown fine sandy loam
3 to 7 inches, yellowish brown fine sandy loam
Subsoil:
7 to 12 inches, yellowish red loam
12 to 16 inches, olive gravelly loam
16 inches, hard schist bedrock

Inclusions

Included with this unit are about 5 percent well drained, moderately deep Tunbridge soils; 5 percent very deep, moderately well drained Peru soils on concave slopes and poorly drained Pillsbury soils on plane benches, in depressions, and along drainageways; and 5 percent small areas with slopes of less than 35 percent or more than 60 percent.

Major properties of this Marlow soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None

Major properties of the Lyman soil

Permeability: Moderately rapid
Available water capacity: Very low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

The unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Marlow and Lyman soils for good tree growth. These soils are limited for woodland management by erosion hazard, slope, windthrow hazard, and plant competition. Seedling mortality is an additional limitation on areas of Lyman soils. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by the use of track equipment and careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. In areas of Marlow soils where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

In some areas the layout of roads is limited by the size, shape, or slope of the rock outcrop.

Recreation

These soils have severe limitations for hiking paths and trails due to slope. Careful planning and placement to avoid steepest areas will reduce this limitation.

Wildlife Habitat

Wildlife habitat suitability is poor for habitat areas for openland wildlife. Suitability for habitat areas for woodland wildlife is good on areas of Marlow soils and poor on areas of Lyman soils. The soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

721B—Peru-Marlow association, gently sloping, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep Peru and Marlow soils on gently sloping glaciated uplands. The moderately well drained Peru soils are typically on smooth, concave side slopes, in saddles, or along the base of slopes. The well drained Marlow soils typically are on smooth, convex side slopes. The areas of the unit are irregular in shape and range from 50 to 200 acres in size. Slopes range from 0 to 15 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 45 percent Peru soils, 40 percent Marlow soils, and 15 percent other soils.

The typical sequence, depth, and composition of the layers of this Peru soil are as follows—
Surface layer:
0 to 6 inches, very dark grayish brown fine sandy loam
Subsoil:
6 to 8 inches, dark brown fine sandy loam
8 to 12 inches, dark reddish brown fine sandy loam
12 to 18 inches, dark brown fine sandy loam
18 to 21 inches, dark brown fine sandy loam with grayish brown mottles
21 to 24 inches, grayish brown fine sandy loam with yellowish red and brown mottles
Substratum:
24 to 65 inches, olive gray firm sandy loam with gray and dark yellowish brown mottles

The typical sequence, depth, and composition of the layers of the Marlow soil are as follows—
Surface layer:
0 to 3 inches, very dark gray fine sandy loam
3 to 6 inches, gray fine sandy loam

Subsoil:
6 to 13 inches, yellowish red fine sandy loam
13 to 17 inches, light olive brown fine sandy loam
17 to 31 inches, olive gravelly fine sandy loam
Substratum:
31 to 65 inches, olive gray, very firm fine sandy loam

Inclusions

Included with this unit are about 5 percent poorly drained Pillsbury soils on plane benches, in depressions, and along drainageways; 5 percent somewhat excessively drained, shallow Lyman soils and rock outcrops throughout the unit; and 5 percent small areas with slopes of more than 15 percent.

Major properties of the Peru soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the dense hardpan
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches to hardpan
Depth to water table: 1.5 to 2.5 feet from November through May
Potential frost action: High
Flood hazard: None

Major properties of the Marlow soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches to hardpan
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None

This unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are favorable on these Peru and Marlow soils for high quality hardwoods. These soils are limited for woodland management by windthrow hazard and plant competition. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Recreation

The Peru soils in this unit have moderate limitations for hiking paths and trails due to wetness. Careful planning and placement to avoid wet areas will reduce this limitation.

Wildlife Habitat

Wildlife habitat suitability for habitat areas is poor for openland wildlife and good for woodland wildlife. These soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIs.

722D—Marlow-Berkshire association, moderately steep, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep Marlow and Berkshire soils on moderately steep glaciated uplands. The well drained Marlow soils typically are smooth, convex slopes. The well drained Berkshire soils are typically on hilly convex slopes. The areas of the unit are irregular in shape and range from 50 to 200 acres in size. Slopes range from 15 to 35 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 45 percent Marlow soils, 35 percent Berkshire soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Marlow soil are as follows—
Surface layer:
0 to 3 inches, very dark gray fine sandy loam
3 to 6 inches, gray fine sandy loam
Subsoil:
6 to 13 inches, yellowish red fine sandy loam
13 to 17 inches, light olive brown fine sandy loam
17 to 31 inches, olive, very firm gravelly fine sandy loam
Substratum:
31 to 65 inches, olive gray fine sandy loam

The typical sequence, depth, and composition of the layers of the Berkshire soil are as follows—
Surface layer:
0 to 7 inches, very dark grayish brown loam

7 to 8 inches, pinkish gray loam
Subsoil:
8 to 12 inches, dark brown loam
12 to 18 inches, brown loam
Substratum:
18 to 65 inches, very dark grayish brown loam

Inclusions

Included with this unit are the moderately well drained Peru soils on smooth concave slopes, saddles, and benches, making up about 5 percent of this unit. The poorly drained Pillsbury soils on flat benches, in depressions and along drainageways, making up about 5 percent of this unit. The somewhat excessively drained, shallow, Lyman soils and rock outcrops throughout the area, making up about 5 percent of this unit. Also included with this unit are small areas with slopes of less than 15 percent or more than 35 percent, that make up about 5 percent of this unit.

Major properties of the Marlow soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 2.0 to 3.5 feet from March through April
Potential frost action: Moderate
Flood hazard: None.

Major properties of the Berkshire soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

The unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are favorable on these Marlow and Berkshire soils for high quality hardwoods. These soils are limited for woodland management by slope. Additional limitations are erosion hazard, windthrow hazard, and plant competition on areas of Marlow soils. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. In areas of Marlow soils where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Recreation

These soils have severe limitations for hiking paths and trails due to slope. Careful planning and placement to avoid steepest areas will reduce this limitation.

Wildlife Habitat

Wildlife habitat suitability is fair for habitat areas for openland wildlife on Marlow soils and poor on Berkshire soils. Suitability for habitat areas for woodland wildlife is good on areas of Marlow soils and fair on Berkshire soils. The soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

723B—Peru-Pillsbury association, gently sloping, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep Peru and Pillsbury soils on gently sloping glaciated uplands. The moderately well drained Peru soils are typically on smooth concave side slopes, in saddles, or along the base of slopes. The poorly drained and somewhat poorly drained Pillsbury soils typically are on toe slopes, along drainageways, and on nearly level areas. The areas of the unit are irregular in shape and range from 20 to 150 acres in size. Slopes range from 0 to 15 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 45 percent Peru soils, 35 percent Pillsbury soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Peru soil are as follows—
Surface layer:
0 to 6 inches, very dark grayish brown fine sandy loam

Subsoil:
6 to 8 inches, dark brown fine sandy loam
8 to 12 inches, dark reddish brown fine sandy loam
12 to 18 inches, dark brown fine sandy loam
18 to 21 inches, dark brown fine sandy loam with grayish brown mottles
21 to 24 inches, grayish brown fine sandy loam with yellowish red and brown mottles
Substratum:
24 to 65 inches, olive gray, firm sandy loam with gray and dark yellowish brown mottles

The typical sequence, depth, and composition of the layers of the Pillsbury soil are as follows—
Surface layer:
0 to 7 inches, very dark brown fine sandy loam
Subsoil:
7 to 11 inches, gray fine sandy loam with yellowish red mottles
11 to 30 inches, olive fine sandy loam with brown and gray mottles
Substratum:
30 to 65 inches, light olive brown, very firm gravelly loam with black and gray mottles

Inclusions

Included with this unit are about 10 percent well drained Marlow soils on convex slopes and benches, 5 percent very poorly drained Peacham soils in depressions and along drainageways, and 5 percent small areas with slopes of more than 15 percent.

Major properties of this Peru soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the dense substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches to hardpan
Depth to water table: 1.5 to 2.5 feet from November through May
Potential frost action: High
Flood hazard: None

Major properties of the Pillsbury soil

Permeability: Moderate in the surface layer and subsoil; slow in the dense substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches to hardpan
Depth to water table: 0 to 1.5 feet from November through May
Potential frost action: High
Flood hazard: None

This unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are fair to poor for hardwoods and fair to good for softwoods, especially red spruce and balsam fir. These soils are limited for woodland management by windthrow hazard and plant competition. Additional management concerns are slope and seedling mortality on areas of Pillsbury soils. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following tree harvest helps decrease invasion of undesirable species. Equipment limitations due to wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen or during the driest summer months. Seedling mortality can be reduced by special site preparation or by planting species that are suited for wet sites. In areas where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Recreation

These soils are limited for hiking paths and trails due to wetness. The limitation is moderate on Peru soils and severe on Pillsbury soils. Careful planning and placement to avoid wettest areas will reduce this limitation.

Wildlife Habitat

Wildlife habitat suitability for habitat areas for openland wildlife is fair on Peru soils and poor on Pillsbury soils. For woodland wildlife habitat development, the suitability is good on Peru soils and fair on Pillsbury soils. The suitability for wetland wildlife habitat is very poor on Peru soils and good on Pillsbury soils.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

724B—Skerry-Tunbridge association, undulating, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep Skerry soils and moderately deep Tunbridge soils on undulating glaciated uplands. The moderately well drained Skerry soils are typically on concave side slopes and between ridges. The well drained Tunbridge soils typically are throughout the unit. The areas of the unit are irregular in shape and range from 20 to 150 acres in size. Slopes range from 0 to 15 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 45 percent Skerry soils, 35 percent Tunbridge soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Skerry soil are as follows—

Surface layer:

0 to 12 inches, very dark grayish brown fine sandy loam

Subsoil:

12 to 15 inches, dark brown fine sandy loam

15 to 21 inches, reddish brown fine sandy loam with light yellowish brown mottles

Substratum:

21 to 28 inches, light gray, very firm gravelly loamy fine sand with olive gray and yellowish brown mottles

28 to 65 inches, brown, firm gravelly loamy fine sand with light gray and light olive brown mottles

The typical sequence, depth, and composition of the layers of the Tunbridge soil are as follows—

Surface layer:

0 to 1 inch, dark reddish brown fine sandy loam

1 to 3 inches, pinkish gray fine sandy loam

Subsoil:

3 to 11 inches, strong brown fine sandy loam

11 to 21 inches, yellowish brown fine sandy loam

Substratum:

21 to 28 inches, light yellowish brown fine sandy loam

28 inches, hard schist bedrock

Inclusions

Included with this unit are about 10 percent very deep, well drained Monadnock soils on undulating and rolling slopes; 5 percent somewhat excessively drained, shallow Lyman soils throughout the unit and poorly drained Pillsbury soils in depressions and along drainageways; and 5 percent small areas with slopes of more than 15 percent.

Major properties of the Skerry soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: 18 to 36 inches

Depth to water table: 1.5 to 2.5 feet from November through May

Potential frost action: High

Flood hazard: None

Major properties of the Tunbridge soil

Permeability: Moderate to moderately rapid

Available water capacity: Moderate

Depth to bedrock: 20 to 40 inches

Depth to water table: More than 6 feet

Potential frost action: Moderate

Flood hazard: None

The unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Skerry and Tunbridge soils for good tree growth. These soils are limited for woodland management by windthrow hazard. On areas of Skerry soils, plant competition is an additional limitation. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Recreation

The Skerry soils in this unit have moderate limitations for hiking paths and trails due to wetness. Careful planning and placement to avoid wet areas will reduce this limitation.

Wildlife Habitat

Wildlife habitat suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. The suitability for wetland wildlife habitat is very poor.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIs.

726D—Rock outcrop-Lyman complex, hilly

This unit is in remote parts of the county or in areas that have limited access. It consists of rock outcrop and shallow Lyman soils on hilly uplands. The rock outcrops typically are on tops of ridges, knobs, and spines and along side slopes. The somewhat excessively drained Lyman soils typically are on side slopes and between rock outcrops. The areas of the unit are irregular in shape and range from 20 to 150 acres in size. Slopes range from 15 to 35 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 50 percent rock outcrop, 35 percent Lyman soils, and 15 percent other soils.

The typical sequence, depth, and composition of the layers of the Lyman soil are as follows—

Surface layer:
0 to 3 inches, dark reddish brown fine sandy loam
3 to 7 inches, yellowish brown fine sandy loam

Subsoil:
7 to 12 inches, yellowish red loam
12 to 16 inches, olive gravelly loam
16 inches, hard schist bedrock

Inclusions

Included in this unit are 5 percent well drained, moderately deep Tunbridge soils; 5 percent poorly drained Lyme soils in depressions and sags and along drainageways; and 5 percent small areas with slopes of less than 15 percent or more than 35 percent.

Major properties of the Lyman soil

Permeability: Moderately rapid throughout
Available water capacity: Very low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

The unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are so variable on this Lyman soil that an onsite investigation is required to assess the potential. The soil is limited for woodland management by erosion hazard, slope, seedling mortality, windthrow hazard, and plant competition. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. In some areas the layout of roads is limited by the size, shape, or slope of the rock outcrop.

Recreation

This unit is severely limited for hiking paths and trails due to slope and the rock outcrops. Careful planning and placement to avoid the outcrops and the steepest areas will reduce this limitation. Proper placement of water bars will reduce the possibility of erosion.

Wildlife Habitat

Wildlife habitat suitability for habitat areas for openland and woodland wildlife is poor. The suitability for wetland wildlife habitat is very poor.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

726E—Rock outcrop-Lyman complex, steep

This unit is in remote parts of the county or in areas that have limited access. It consists of rock outcrop and shallow Lyman soils on steep uplands. The rock outcrops typically are on tops of ridges, knobs, and spines and along side slopes. The somewhat excessively drained Lyman soils typically are on side slopes and between rock outcrops. The areas of the unit are irregular in shape and range from 20 to 150 acres in size. Slopes range from 35 to 60 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 50 percent rock outcrop, 35 percent Lyman soils, and 15 percent other soils.

The typical sequence, depth, and composition of the layers of the Lyman soil are as follows—

Surface layer:
0 to 3 inches, dark reddish brown fine sandy loam
3 to 7 inches, yellowish brown fine sandy loam

Subsoil:
7 to 12 inches, yellowish red loam
12 to 16 inches, olive gravelly loam
16 inches, hard schist bedrock

Inclusions

Included in this unit are 5 percent well drained, moderately deep Tunbridge soils; 5 percent poorly drained Lyme soils in depressions and sags and along drainageways; and 5 percent small areas with slopes of less than 35 percent or more than 60 percent.

Major properties of the Lyman soil

Permeability: Moderately rapid throughout
Available water capacity: Very low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

The unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are so variable on this Lyman soil that an onsite investigation is required to assess the potential. The soil is limited for woodland management by erosion hazard, slope, seedling mortality, windthrow hazard, and plant competition. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. In some areas the layout of roads is limited by the size, shape, or slope of the rock outcrop.

Recreation

This unit is severely limited for hiking paths and trails due to slope and the rock outcrops. Careful planning and placement to avoid the outcrops and the steepest areas will reduce this limitation. Proper placement of water bars will reduce the possibility of erosion.

Wildlife Habitat

Wildlife habitat suitability for habitat areas for openland and woodland wildlife is poor. The suitability for wetland wildlife habitat is very poor.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

727—Rubble land

This unit is in remote parts of the county or in areas that have limited access. It consists of areas where more than 75 percent of the surface is covered with stones and boulders. It is primarily on strongly sloping to very steep mountainsides, at the base of mountain slopes, and below bedrock escarpments. The areas of the unit are irregular in shape and range from 20 to 100 acres in size. Slopes range from 15 to 60 percent. This unit consists of about 85 percent Rubble land and 15 percent other soils.

Inclusions

Included in this unit are about 5 percent areas of somewhat excessively drained, strongly sloping to steep Hermon and Redstone soils; 5 percent somewhat excessively drained, steep to very steep Canaan and Lyman soils; and 5 percent small areas with slopes of less than 15 percent or more than 60 percent.

Vegetation on this unit consists of is sparse mosses and lichens and small, scrubby trees on the included soils.

Use and Management

This unit is unsuitable for most uses other than esthetic value and recreation. Determination of the suitability for most uses requires onsite investigation.

Capability subclass: not assigned.

729B—Waumbek-Lyme association, undulating, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep, undulating soils on glaciated uplands. The moderately well drained Waumbek soils typically are on concave slopes, between knobs, and on foot slopes. The poorly drained Lyme soils are typically in depressions, in low areas, at the base of slopes, and along drainageways. The areas of the unit are irregular in shape and range from 20 to 100 acres in size. Slopes range from 0 to 15 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 45 percent moderately well drained Waumbek soils, 35 percent poorly drained Lyme soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Waumbek soil are as follows—

Surface layer:

1 inch to 0, slightly decomposed needles, moss, leaves, and twigs

0 to 4 inches, black partially decomposed herbaceous and woody material
4 to 9 inches, light brownish gray loamy sand
Subsoil: 9 to 10 inches, dark reddish brown loamy sand
10 to 13 inches, dark reddish brown cobbly loamy sand
13 to 20 inches, strong brown very cobbly loamy sand
20 to 25 inches, dark yellowish brown very cobbly loamy sand with gray mottles
Substratum:
25 to 41 inches, dark grayish brown very cobbly loamy sand
41 to 65 inches, grayish brown very cobbly loamy sand

The typical sequence, depth, and composition of the layers of the Lyme soil are as follows—
Surface layer:
1 inch to 0, undecomposed leaves and twigs
0 to 2 inches, partially decomposed leaves and twigs
2 to 6 inches, black highly decomposed organic material
Subsoil:
6 to 11 inches, gray cobbly fine sandy loam with olive mottles
11 to 23 inches, olive cobbly fine sandy loam with light olive brown mottles
Substratum:
23 to 65 inches, olive gray gravelly fine sandy loam

Inclusions

Included with this unit are about 5 percent somewhat excessively drained Hermon soils and well drained Monadnock soils on convex slopes, hummocks, and ridges; 5 percent very poorly drained Peacham soils in nearly level, low pockets; 5 percent very poorly drained Chocorua soils in depressional areas; and 5 percent small areas with slopes of more than 15 percent.

Major properties of the Waumbek soil

Permeability: Moderately rapid to rapid in the surface layer and subsoil; rapid in the substratum
Available water capacity: Very low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 1.5 to 2.5 feet from November through May
Potential frost action: Moderate
Flood hazard: None

Major properties of the Lyme soil

Permeability: Moderate or moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 0 to 1.5 feet from November through May
Potential frost action: High
Flood hazard: None

The unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are fair to poor for hardwoods and fair to good for softwoods, especially red spruce and balsam fir. These soils are limited for woodland management by windthrow hazard and plant competition. Additional management concerns are slope and seedling mortality on areas of Lyme soils. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation following tree harvest helps decrease invasion of undesirable species. Equipment limitations due to wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen or during the driest summer months. Seedling mortality can be reduced by special site preparation or by planting species that are suited for wet sites.

Recreation

These soils are limited for hiking paths and trails due to wetness. The limitation is moderate on Waumbek soils and severe on the Lyme soils. Careful planning and placement to avoid wettest areas will reduce this limitation.

Wildlife Habitat

Wildlife habitat suitability is poor for habitat areas for openland wildlife and fair for woodland wildlife. The suitability for wetland wildlife habitat is very poor.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

730B—Skerry-Lyman-Rock outcrop complex, undulating

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep Skerry soils, shallow Lyman soils, and rock outcrop on undulating glaciated uplands. The moderately well drained Skerry soils are typically on concave side slopes and between ridges. The somewhat excessively drained Lyman soils and rock outcrops typically are throughout the unit. The areas of the unit are irregular in shape and range from 10 to 100 acres in size. Slopes range from 0 to 15 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 35 percent Skerry soils, 30 percent Lyman soils, 20 percent rock outcrop, and 15 percent other soils.

The typical sequence, depth, and composition of the layers of the Skerry soil are as follows—

Surface layer:

0 to 12 inches, very dark grayish brown fine sandy loam

Subsoil:

12 to 15 inches, dark brown fine sandy loam

15 to 21 inches, reddish brown fine sandy loam and light yellowish brown and very pale brown mottles

Substratum:

21 to 28 inches, light gray, very firm gravelly loamy fine sand and olive gray and yellowish brown mottles

28 to 65 inches, brown, firm gravelly loamy fine sand and light gray and light olive brown mottles

The typical sequence, depth, and composition of the layers of the Lyme soil are as follows—

Surface layer:

1 inch to 0, undecomposed leaves and twigs

0 to 2 inches, partially decomposed leaves and twigs

2 to 6 inches, black highly decomposed organic material

Subsoil:

6 to 11 inches, gray cobbly fine sandy loam with olive mottles

11 to 23 inches, olive cobbly fine sandy loam with light olive brown mottles

Substratum:

23 to 65 inches, olive gray gravelly fine sandy loam

Inclusions

Included in this unit are about 5 percent very deep, well drained, gently sloping Becket soils; 5 percent well drained, moderately deep Tunbridge soils throughout the unit and poorly drained Pillsbury soils in depressions and along drainageways; and 5 percent small areas with slopes of more than 15 percent.

Major properties of the Skerry soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: 18 to 36 inches

Depth to water table: 1.5 to 2.5 feet from November through May

Potential frost action: High

Flood hazard: None

Major properties of the Lyme soil

Permeability: Moderate or moderately rapid throughout

Available water capacity: Moderate

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: 0 to 1.5 feet from November through May

Potential frost action: High

Flood hazard: None

The unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Skerry and Lyman soils for good tree growth. These soils are limited for woodland management by windthrow hazard and plant competition. On areas of Lyman soils seedling mortality is an additional limitation. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rain. In some areas the layout of roads is limited by the size, shape, or slope of the rock outcrop.

Recreation

The Skerry soils in this unit have moderate limitations for hiking paths and trails due to wetness. Careful planning and placement to avoid wet areas will reduce this limitation.

Wildlife Habitat

Wildlife habitat suitability for habitat areas for openland wildlife is poor on the soil. For woodland wildlife habitat development, the suitability is fair on areas of Skerry soils and poor on Lyman soils. The suitability for wetland wildlife habitat is very poor.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

731—Peacham and Ossipee soils, very stony

These very deep, very poorly drained soils are on level to nearly level glaciated uplands. The Peacham soils typically are in depressions and along drainageways. The Ossipee soils typically are in ponded depressions. The areas of the unit are irregular in shape and range from 5 to 75 acres in size. Slopes range from 0 to 2 percent. Stones on the Peacham soils are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. Some areas of the unit are dominantly Peacham soils, some areas are dominantly Ossipee soils, and some are both soils. The Peacham and Ossipee soils were mapped together because they have no major differences in use and management. The total acreage of the unit is about 40 percent Peacham soils, 40 percent Ossipee soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Peacham soil are as follows—

Surface layer:
0 to 7 inches, very dark grayish brown muck
Subsoil:
7 to 15 inches, dark grayish brown gravelly fine sandy loam
15 to 30 inches, dark grayish brown gravelly sandy loam
Substratum:
30 to 65 inches, dark grayish brown, firm sandy loam

The typical sequence, depth, and composition of the layers of the Ossipee soil are as follows—

Surface layer:
0 to 6 inches, black slightly decomposed herbaceous and woody materials
Subsurface layer:
6 to 25 inches, dark reddish brown partially decomposed herbaceous and woody materials
25 to 41 inches, black partially decomposed herbaceous and woody materials *Substratum:*
41 to 46 inches, dark grayish brown silt loam
46 to 65 inches, greenish gray silt loam

Inclusions

Included in this unit are 10 percent very poorly drained, nearly level Greenwood soils depressional areas, 5 percent poorly drained Lyme and Pillsbury soils at the base of slopes and along drainageways, and 5 percent areas with dense basal till more than 40 inches below the surface and small areas of open water.

Major properties of the Peacham soil

Permeability: Moderate in the surface layer and subsoil; very slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 1 foot above the surface to a depth of 0.5 foot from October through June
Potential frost action: High
Flood hazard: None

Major properties of the Ossipee soil

Permeability: Moderate to moderately rapid in the surface layer and subsoil; moderate to moderately slow in the substratum
Available water capacity: High
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: 1 foot above the surface to a depth of 0.5 foot from January through December
Potential frost action: High
Flood hazard: None

These soils are forested with water-tolerant trees or have a marshgrass and sedge cover.

Use and Management

Farming

These soils are too wet for farming.

Woodland

Fertility and moisture are so variable on these Peacham and Ossipee soils that an onsite investigation is required to assess the potential. These soils are limited for woodland management by wetness, seedling mortality, windthrow hazard, and plant competition. Access to some areas may be a limitation for logging operations.

Equipment limitations due to wetness are reduced if tree harvesting and management operations are restricted to times when the ground is frozen. Seedling mortality can be reduced by special site preparation or by planting species that are suited for wet sites. Windthrow hazard can be reduced by careful thinning to avoid surface-root damage caused by harvesting equipment. Site preparation after tree helps decrease invasion of undesirable species.

Community Development

These soils are severely limited for all phases of community development due to ponding, high water table, frost action, and organic material in the surface and subsurface layers. Typically, there are no corrective measures to reduce these limitations.

Limitations are severe for onsite waste disposal systems due to ponding and slow permeability.

The areas of this unit improve and maintain water quality by acting as natural filters to remove harmful chemicals, nutrients, and sediment. They also recharge ground-water aquifers and store runoff, which lessens flood damage.

Recreation

These soils have severe limitations for recreational uses due to ponding, slow permeability, excess humus, and large stones.

Wildlife Habitat

Suitability is poor on the soil for habitat areas for openland and woodland wildlife. Suitability for development of wetland wildlife habitat is fair on areas of Peacham soils and good on areas of Ossipee soils.

The capability subclass is VIIIw.

734D—Surplus-Sisk association, moderately steep, very stony

This unit is at an elevation of more than 2,500 feet in remote parts of the county or in areas that have limited access. It consists of very deep Surplus and Sisk soils on moderately steep glaciated uplands. The moderately well drained Surplus soils are typically on smooth, concave benched areas and lesser slopes within the unit. The well drained Sisk soils typically are on smooth, convex side slopes and steeper areas within the unit. The areas of the unit are irregular in shape and range from 25 to 200 acres in size. Slopes range from 15 to 35 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 40 percent Surplus soils, 30 percent Sisk soils, and 30 percent other soils.

The typical sequence, depth, and composition of the layers of the Surplus soil are as follows—

Surface layer:
1 inch to 0, slightly decomposed twigs and needles
0 to 3 inches, very dusky red highly decomposed organic material
3 to 6 inches, gray fine sandy loam
Subsoil:
6 to 8 inches, dark reddish brown fine sandy loam
8 to 13 inches, dark brown fine sandy loam
13 to 18 inches, dark yellowish brown fine sandy loam
18 to 23 inches, dark yellowish brown fine sandy loam with yellowish red mottles
Substratum:
23 to 65 inches, olive firm, gravelly fine sandy loam

The typical sequence, depth, and composition of the layers of the Sisk soil are as follows—

Surface layer:
1 inch to 0, loose leaves and needles
0 to 4 inches, black highly decomposed organic material
4 to 5 inches, grayish brown fine sandy loam
Subsoil:
5 to 8 inches, dark reddish brown fine sandy loam
8 to 10 inches, dark brown fine sandy loam
10 to 19 inches, dark yellowish brown fine sandy loam
19 to 24 inches, yellowish brown fine sandy loam
Substratum:
24 to 65 inches, olive, firm sandy loam

Inclusions

Included with this unit are about 10 percent well drained, shallow Saddleback and well drained, very shallow Ricker soils on ridges, hilltops and knobs; 5 percent poorly drained soils on flat benches, in depressions, and along drainageways; 5 percent deep, well drained and moderately well drained loose till; 5 percent of this unit rock outcrops throughout the areas; and 5 percent small areas with slopes of less than 15 percent or more than 35 percent.

Major properties of the Surplus soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum.
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: 1.0 to 2.0 feet from October through May
Potential frost action: High
Flood hazard: None

Major properties of the Sisk soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

The unit is managed primarily for forestry, recreation, and wildlife habitat (fig. 24).

Use and Management

Woodland

Woodland fertility and moisture are favorable on these Surplus and Sisk soils for good tree growth. These soils are limited for woodland management by erosion hazard, slope, and windthrow hazard. Plant

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Figure 24.— Surplus-Sisk association, moderately steep, very stony (foreground), Saddleback-Ricker-Rock outcrop complex, steep (background). These areas are used primarily for woodland, wildlife habitat and recreation.

competition on areas of Surplus soils is an additional limitation. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. In areas of where road beds are cut below the hardpan, drainage is necessary to remove the water on the hardpan during wet times of the year. Access roads may require coarser grained base material to frost depth and drainage to reduce frost action.

Recreation

These soils have severe limitations for hiking paths and trails due to slope. Careful planning and placement to avoid steepest areas will reduce this limitation. Proper placement of water bars will reduce erosion.

Wildlife Habitat

Wildlife habitat suitability for habitat areas for openland wildlife is fair on Surplus soils and poor on Sisk soils. Suitability for woodland wildlife habitat development is fair. The suitability for wetland wildlife habitat is very poor.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

735E—Saddleback-Ricker-Rock outcrop complex, steep

This unit is at an elevation of more than 2,500 feet in remote parts of the county or in areas that have limited access. It consists of shallow Saddleback soils, very shallow to moderately deep Ricker soils, and rock outcrops on steep glaciated uplands. The well drained Saddleback soils typically are on benches between outcrops and on interledge areas. The well drained Ricker soils typically are on crests of ridges, on side slopes, or around rock outcrops. The rock outcrops typically are on ridges, knobs, and spines and along side slopes. The areas of the unit are irregular in shape and range from 25 to 200 acres in size. Slopes range from 35 to 60 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 30 percent Saddleback soils, 30 percent Ricker soils, 20 percent rock outcrop, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Saddleback soil are as follows—

Surface layer:

0 to 2 inches, dark reddish brown partially decomposed organic material
2 to 4 inches, black highly decomposed organic material
4 to 7 inches, 70 percent brown and 30 percent gray fine sandy loam
Subsoil:
7 to 10 inches, reddish black sandy loam
10 to 14 inches, mixed black and dark reddish brown sandy loam
14 to 17 inches, dark reddish brown sandy loam
17 to 20 inches, brown sandy loam
20 inches, hard quartz-monzonite bedrock

The typical sequence, depth, and composition of the layers of the Ricker soil are as follows—
Surface layer:
0 to 2 inches, dark reddish brown slightly decomposed organic material
2 to 6 inches, dark red and dusky red partially decomposed organic material
6 to 10 inches, black highly decomposed organic material
10 inches, quartz-monzonite bedrock

Inclusions

Included in this unit are about 5 percent well drained, moderately deep soils in interledge and benched areas; 5 percent very deep, well drained and moderately well drained Sisk and Surplus soils on side slopes and benched areas; 5 percent poorly drained soils in depressions and along drainageways; and 5 percent small areas with slopes of less than 35 percent or more than 60 percent.

Major properties of the Saddleback soil

Permeability: Moderate throughout
Available water capacity: Moderate
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

Major properties of the Ricker soil

Permeability: Moderately rapid in the organic layers
Available water capacity: Moderate
Depth to bedrock: 1 to 26 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

The unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are so variable on these Saddleback and Ricker soils that an onsite investigation is required to assess the potential. These soils are limited for woodland management by erosion hazard, slope, seedling mortality, windthrow hazard, and plant competition. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with shade-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by the use of track equipment and careful planning to avoid steepest areas. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. In some areas the layout of roads is limited by the size, shape, or slope of the rock outcrops.

Recreation

These soils are severely limited for hiking paths and trails due to slope, excess humus, and depth to bedrock. Careful planning to avoid steepest areas will reduce this limitation.

Wildlife Habitat

Wildlife habitat suitability for habitat areas for openland wildlife is poor on Saddleback soils and very poor on Ricker soils. For woodland wildlife habitat development, the suitability is fair on Saddleback soils and poor on Ricker soils. The suitability for wetland wildlife habitat is very poor.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

740D—Hermon-Redstone association, hilly, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep, hilly soils on glaciated uplands. The somewhat excessively drained Hermon and Redstone soils typically are throughout the unit on convex side slopes of hills and mountains. The areas of the unit are irregular in shape and range from 25 to 150 acres in size. Slopes range from 15 to 35 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 45 percent Hermon soils, 35 percent Redstone soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Hermon soil are as follows—

Surface layer:

0 to 5 inches, dark brown fine sandy loam

5 to 7 inches, light gray fine sandy loam

Subsoil:

7 to 15 inches, dark yellowish brown gravelly fine sandy loam

15 to 22 inches, light olive brown gravelly loamy sand

Substratum:

22 to 65 inches, grayish brown very gravelly loamy sand

Some areas of Hermon soils have a surface layer of loamy sand.

The typical sequence, depth, and composition of the layers of the Redstone soil are as follows—

Surface layer:

0 to 1 inch, black sandy loam

1 to 2 inches, pinkish gray sandy loam

Subsoil:

2 to 4 inches, very dusky red sandy loam

4 to 7 inches, red sandy loam

7 to 12 inches, reddish brown sandy loam

12 to 18 inches, dark brown loamy sand

18 to 22 inches, yellowish brown gravelly loamy sand

Substratum:

22 to 28 inches, olive gravel

28 to 65 inches, 80 percent light gray and 20 percent dark gray gravel

Inclusions

Included in this unit are 5 percent shallow, somewhat excessively drained Canaan soils on side slopes; 10 percent shallow, somewhat excessively drained Lyman soils and rock outcrops along slope breaks and on the crests of ridges; and 5 percent small areas with slopes of less than 15 percent or more than 35 percent.

Major properties of the Hermon soil

Permeability: Rapid throughout

Available water capacity: Low

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: More than 6 feet

Potential frost action: Low

Flood hazard: None

Major properties of the Redstone soil

Permeability: Moderately rapid in the surface layer and subsoil; rapid in the substratum

Available water capacity: Very low

Depth to bedrock: More than 65 inches

Depth to dense basal till: More than 65 inches

Depth to water table: More than 6 feet

Potential frost action: Low

Flood hazard: None

The unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Hermon and Redstone soils for good tree growth. These soils are limited for woodland management by erosion hazard, slope, and seedling mortality. Additional management concerns are windthrow hazard and plant competition on the Redstone soils. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with water bars and culverts, then seeding with drought-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Recreation

These soils have severe limitations for hiking paths and trails due to slope. Careful planning to avoid steepest areas will reduce this limitation. Proper placement of water bars will reduce the possibility of erosion.

Wildlife Habitat

Wildlife habitat suitability of the soil is poor for habitat areas for openland wildlife. Suitability for habitat areas for woodland wildlife is fair Hermon soils and poor on Redstone soils. The soils are very poorly suited for wetland wildlife habitat.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

741D—Redstone-Canaan-Rock outcrop complex, hilly

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep Redstone soils, shallow Canaan soils, and rock outcrops on hilly glaciated uplands. The well drained Redstone soils are typically on convex side slopes and benched areas of hills and mountains. The somewhat excessively drained Canaan soils are typically on ridges and upper side slopes. The rock outcrops typically are at the top of knobs, on crests of ridges and mountaintops, and along streambeds. The areas of the unit are irregular in shape and range from 25 to 150 acres in size. Slopes range from 15 to 35 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 30 percent Redstone soils, 30 percent Canaan soils, 20 percent rock outcrop and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Redstone soil are as follows—

Surface layer:
0 to 1 inch, black sandy loam
1 to 2 inches, pinkish gray sandy loam
Subsoil:
2 to 4 inches, very dusky red sandy loam
4 to 7 inches, red sandy loam
7 to 12 inches, reddish brown sandy loam
12 to 18 inches, dark brown loamy sand
18 to 22 inches, yellowish brown gravelly loamy sand
Substratum:
22 to 28 inches, olive gravel
28 to 65 inches, 80 percent light gray and 20 percent dark gray gravel

The typical sequence, depth, and composition of the layers of the Canaan soil are as follows—

Surface layer:
0 to 2 inches, black partially decomposed leaf litter
2 to 5 inches, light brownish gray gravelly loamy sand
Subsoil:
5 to 9 inches, dark reddish brown gravelly sandy loam
9 to 19 inches, dark reddish brown very gravelly sandy loam
19 inches, hard granite bedrock

Inclusions

Included with this unit are about 5 percent somewhat excessively drained Hermon soils on side slopes and between ridges, 10 percent shallow and deep, poorly drained soils on benches and along streams, and 5 percent small areas with slopes of less than 15 percent or more than 35 percent.

Major properties of the Redstone soil

Permeability: Moderately rapid in the surface layer and subsoil; rapid in the substratum
Available water capacity: Very low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Major properties of the Canaan soil

Permeability: Moderately rapid to rapid throughout
Available water capacity: Very low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

The unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Redstone and Canaan soils. These soils are limited for woodland management by erosion hazard, slope, seedling mortality, windthrow hazard, and plant competition. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with drought-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by careful planning to avoid steepest areas. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. In some areas the layout of roads is limited by the size, shape, or slope of the rock outcrop.

Recreation

These soils are severely limited for hiking paths and trails due to slope and rock outcrops. Careful planning and placement to avoid steepest areas will reduce this limitation. Proper placement of water bars will reduce the possibility of erosion.

Wildlife Habitat

Wildlife habitat suitability for habitat areas for openland and woodland wildlife on the soil is poor. The suitability for wetland wildlife habitat on the soil is very poor.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

741E—Redstone-Canaan-Rock outcrop complex, steep

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep Redstone soils, shallow Canaan soils, and rock outcrops on steep uplands. The well drained Redstone soils are typically on convex side slopes and between ridges. The somewhat excessively drained Canaan soils are typically on ridges and upper side slopes. The rock outcrops typically are at the top of knobs, on crests of ridges and mountaintops, and along stream beds. The areas of the unit are irregular in shape and range from 25 to 150 acres in size. Slopes range from 35 to 70 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 30 percent Redstone soils, 30 percent Canaan soils, 20 percent rock outcrop and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Redstone soil are as follows—

Surface layer:

0 to 1 inch, black sandy loam
1 to 2 inches, pinkish gray sandy loam

Subsoil:

2 to 4 inches, very dusky red sandy loam
4 to 7 inches, red sandy loam
7 to 12 inches, reddish brown sandy loam
12 to 18 inches, dark brown loamy sand
18 to 22 inches, yellowish brown gravelly loamy sand

Substratum:

22 to 28 inches, olive gravel
28 to 65 inches, 80 percent light gray and 20 percent dark gray gravel

The typical sequence, depth, and composition of the layers of the Canaan soil are as follows—

Surface layer:

0 to 2 inches, black partially decomposed leaf litter
2 to 5 inches, light brownish gray gravelly loamy sand

Subsoil:

5 to 9 inches, dark reddish brown gravelly sandy loam
9 to 19 inches, dark reddish brown very gravelly sandy loam
19 inches, hard granite bedrock

Inclusions

Included with this unit are about 5 percent somewhat excessively drained Hermon soils on side slopes and between ridges, 10 percent shallow and deep, poorly drained soils on benches and along streams, and 5 percent small areas with slopes of less than 35 percent or more than 70 percent.

Major properties of the Redstone soil

Permeability: Moderately rapid in the surface layer and subsoil; rapid in the substratum
Available water capacity: Very low
Depth to bedrock: More than 65 inches
Depth to dense basal till: More than 65 inches
Depth to water table: More than 6 feet
Potential frost action: Low
Flood hazard: None

Major properties of the Canaan soil

Permeability: Moderately rapid to rapid throughout
Available water capacity: Very low
Depth to bedrock: 10 to 20 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

The unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Redstone and Canaan soils. These soils are limited for woodland management by erosion hazard, slope, seedling mortality, windthrow hazard, and plant competition. Erosion along roads and skid trails can be reduced by building the roads and trails across slopes with frequent water bars and culverts, then seeding with drought-tolerant grasses after logging is completed. Equipment limitations due to slope can be reduced by the use of track equipment and careful planning to avoid steepest areas. Seedling mortality can be reduced by planting seedlings in the spring to obtain sufficient moisture from early-season rains. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species. In some areas the layout of roads is limited by the size, shape, or slope of the rock outcrop.

Recreation

These soils are severely limited for hiking paths and trails due to slope and rock outcrops. Careful planning and placement to avoid steepest areas will reduce this limitation. Proper placement of water bars will reduce the possibility of erosion.

Wildlife Habitat

Wildlife habitat suitability for habitat areas for openland and woodland wildlife on the soils is poor. The suitability for wetland wildlife habitat is very poor.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIIs.

819B—Peru-Tunbridge association, undulating, very stony

This unit is in remote parts of the county or in areas that have limited access. It consists of very deep Peru soils and moderately deep Tunbridge soils on undulating glaciated uplands. The moderately well drained Peru soils are typically on smooth, concave side slopes or in saddles. The well drained Tunbridge soils typically are throughout the unit. The areas of the unit are irregular in shape and range from 20 to 200 acres in size. Slopes range from 0 to 15 percent. Stones are generally 5 to 30 feet apart and cover from less than 1 percent to 3 percent of the surface. This unit consists of about 45 percent Peru soils, 35 percent Tunbridge soils, and 20 percent other soils.

The typical sequence, depth, and composition of the layers of the Peru soil are as follows—

Surface layer:
0 to 6 inches, very dark grayish brown fine sandy loam
Subsoil:
6 to 8 inches, dark brown fine sandy loam
8 to 12 inches, dark reddish brown fine sandy loam
12 to 18 inches, dark brown fine sandy loam
18 to 21 inches, dark brown fine sandy loam with grayish brown mottles
21 to 24 inches, grayish brown fine sandy loam with yellowish red and brown mottles
Substratum:
24 to 65 inches, olive gray, firm sandy loam with gray and dark yellowish brown mottles

The typical sequence, depth, and composition of the layers of the Tunbridge soil are as follows—

Surface layer:
0 to 1 inch, dark reddish brown fine sandy loam
1 to 3 inches, pinkish gray fine sandy loam
Subsoil:
3 to 11 inches, strong brown fine sandy loam
11 to 21 inches, yellowish brown fine sandy loam
Substratum:
21 to 28 inches, light yellowish brown fine sandy loam
28 inches, hard schist bedrock

Inclusions

Included with this unit are about 5 percent very deep, well drained, gently sloping and undulating Marlow and Berkshire soils; 5 percent somewhat excessively drained, shallow Lyman soils and rock outcrops throughout the unit; 5 percent poorly drained and somewhat poorly drained Pillsbury soils on flat benches, in depressions, and along drainageways; and 5 percent small areas with slopes of more than 15 percent.

Major properties of the Peru soil

Permeability: Moderate in the surface layer and subsoil; moderately slow to slow in the dense substratum
Available water capacity: Moderate
Depth to bedrock: More than 65 inches
Depth to dense basal till: 18 to 36 inches to hardpan
Depth to water table: 1.5 to 2.5 feet from November through May
Potential frost action: High
Flood hazard: None

Major properties of the Tunbridge soil

Permeability: Moderate to moderately rapid throughout
Available water capacity: Moderate
Depth to bedrock: 20 to 40 inches
Depth to water table: More than 6 feet
Potential frost action: Moderate
Flood hazard: None

The unit is managed primarily for forestry, recreation, and wildlife habitat.

Use and Management

Woodland

Woodland fertility and moisture are adequate on these Peru and Tunbridge soils for good tree growth. These soils are limited for woodland management by windthrow hazard. On areas of Peru soils plant competition is an additional limitation. Windthrow hazard can be decreased with careful thinning and by avoiding surface-root damage caused by harvesting equipment. Site preparation following harvest helps reduce the invasion of undesirable species.

Recreation

Wetness is a moderate limitation for hiking paths and trails on the Peru soils. Careful planning and placement to avoid wet areas will reduce this limitation.

Wildlife Habitat

Wildlife habitat suitability for habitat areas for openland wildlife is fair on Peru soils and poor on Tunbridge soils. For woodland wildlife habitat development the suitability is good on Peru soils and fair on Tunbridge soils. The suitability for wetland wildlife habitat is very poor.

Community Development and Farming

Determination of the suitability for any use requires an onsite investigation.

The capability subclass is VIs.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in providing the Nation’s short- and long-range needs for food and fiber. Because the supply of high quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation’s prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is the land that is best suited to food, feed, forage, fiber, and oilseed crops. It may be cultivated land, pasture, woodland, or other land, but it is not urban and built-up land or water areas. It either is used for food or fiber crops or is available for those crops. The soil qualities, growing season, and moisture supply are those needed for a well managed soil to produce a sustained high yield of crops in an economic manner. Prime farmland produces the highest yields with minimal inputs of energy and economic resources, and farming it results in the least damage to the environment.

Prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable. The level of acidity or alkalinity is acceptable. Prime farmland has few or no rocks and is permeable to water and air. It is not excessively erodible or saturated with water for long periods and is not frequently flooded during the growing season. The slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

About 21,200 acres in the survey area, or nearly 3 percent of the total acreage, meets the soil requirements for prime farmland. Scattered areas of this land are throughout the survey area, but most are in the west and east parts.

The map units in the survey area that are considered prime farmland are listed in table 5. This list does not constitute a recommendation for a particular land use. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps at the back of this publication. The soil qualities that affect use and management are described under the heading “Detailed Soil Map Units.”

Soils that have limitations, such as a seasonal high water table, frequent flooding during the growing season, or inadequate rainfall, qualify for prime farmland only in areas where these limitations have been overcome by such measures as drainage, flood control, or irrigation. The need for these measures is indicated after the map unit name in table 5. Onsite evaluation is needed to determine whether or not these limitations have been overcome by corrective measures.

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help avoid soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavior characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreation facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Crops and Pasture

The crops or pasture plants best suited to the soils, including some not commonly grown in the survey area, are identified in this section; the system of land capability classification used by the Natural Resources Conservation Service is explained; and the estimated yields of the main crops and hay and pasture plants are listed for each soil.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under “Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation Service or the University of New Hampshire Cooperative Extension Service.

The 1987 Census of Agriculture shows 30,100 acres of cropland in Grafton County. Of that, about 3,291 acres was used for silage corn, 18,942 acres for hay, 7,198 for pasture, 154 acres for vegetables for sale, and 134 acres for apple orchards.

The specialty crops commonly grown in the county are small fruits, vegetables, and apples. The common small fruits are strawberries, raspberries, and blueberries. The common commercial vegetables are sweet corn, beans, peas, squash, tomatoes, and cabbage.

Yields Per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 6. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of each map unit also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 6 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the University of New Hampshire Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for woodland and for engineering purposes.

In the capability system, soils are generally grouped at three levels: capability class, subclass, and unit. Only class and subclass are used in this survey. These levels are defined in the following paragraphs.

Capability classes, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class I soils have few limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class IV soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class V soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

Class VII soils have very severe limitations that make them unsuitable for cultivation.

Class VIII soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class I there are no subclasses because the soils of this class have few limitations. Class V contains only the subclasses indicated by *w, s,* or *c* because the soils in class V are subject to little or no erosion. They have other limitations that restrict their use to pasture, woodland, wildlife habitat, or recreation.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, IIe-4 or IIIe-6.

The capability classification of each map unit is given in table 6.

Woodland Management and Productivity

James Spielman, forester, Natural Resources Conservation Service, helped to prepare this section.

Woodland covers 90 percent of the land area of Grafton County, or approximately 1.1 million acres (*10*). Of that total, 53 percent is in the beech-birch-maple type, 18 percent is white pine-red pine, 16 percent is spruce-balsam fir, 7 percent is oak-hickory-pine, and 6 percent is aspen-birch.

In 1983, 55 percent of the timberland in Grafton County was stocked with sawtimber-size stands, 38 percent with pole-size stands, and 7 percent with sapling- and seedling-size stands.

Table 7 can be used by woodland owners or forest managers in planning the use of soils for wood crops.

Only those soils suitable for wood crops are listed. The table lists both the ordination symbol and the important forest soil group for each soil. *Ordination symbol* is a national woodland rating system and *important forest soil group* is a system developed for use in New Hampshire. Soils assigned the same ordination symbol require the same general management and have about the same potential productivity.

Ordination Symbol

The first part of the *ordination symbol,* a number, indicates the potential productivity of the soils for an indicator tree species. The number indicates the volume, in cubic meters per hectare per year, which the indicator species can produce in a pure stand under natural conditions. The number 1 indicates low potential productivity; 2 or 3, moderate; 4 or 5, moderately high; 6 to 8, high; 9 to 11, very high; and 12 to 39, extremely high. The second part of the symbol, a letter, indicates the major kind of soil limitation. The letter *R* indicates steep slopes; *X*, stoniness or rockiness; *W*, excess water in or on the soil; *T*, toxic substances in the soil; *D*, restricted rooting depth; *C*, clay in the upper part of the soil; *S*, sandy texture; *F*, a high content of rock fragments in the soil; *L*, low strength; and *N*, snowpack. The letter *A* indicates that limitations or restrictions are insignificant. If a soil has more than one limitation, the priority is as follows: R, X, W, T, D, C, S, F, L, and N.

Important Forest Soil Group

Important forest soil groups have been developed in New Hampshire to help land users and managers evaluate the relative productivity of soils and to better understand patterns of plant succession and how soil and site interactions influence management decisions.

Group IA consists of the deeper, loamy, moderately well drained and well drained soils. Generally, these soils are more fertile and have the most favorable soil moisture relationships.

Successional trends on these soils are toward climax stands of shade tolerant hardwoods, such as sugar maple and beech. Early successional stands frequently contain a variety of hardwoods such as sugar maple, beech, red maple, yellow, gray, and white birch, aspen, white ash, and northern red oak in varying combinations with red and white spruce, balsam fir, hemlock, and white pine.

The soils in this group are well suited for growing high quality hardwood veneer and sawtimber, especially, sugar maple, white ash, yellow birch, and northern red oak. Softwoods are usually less abundant and are best managed as a minor component of predominantly hardwood stands.

Hardwood competition is severe on these soils. Successful natural regeneration of softwoods and the establishment of softwood plantations are dependent upon intensive management.

Group IB generally consists of soils that are moderately well drained and well drained, sandy or loamy over sandy, and slightly less fertile than those in group 1A. Soil moisture is adequate for good tree growth, but may not be quite as abundant as in group 1A.

Successional trends and the trees common in early successional stands are similar to those in group IA. However, beech is usually more abundant on group IB and is the dominant species in climax stands.

Group IB soils are well suited for growing less nutrient- and moisture demanding hardwoods such as white birch and northern red oak. Softwoods generally are scarce to moderately abundant and managed in groups or as part of a mixed stand.

Hardwood competition is moderate to severe on these soils. Successful regeneration of softwoods and the establishment of softwood plantations are dependent upon intensive management. The deeper, coarser textured, and better drained soils in this group are generally suitable for conversion to intensive softwood production.

The soils in group IC are derived from glacial outwash sand and gravel. The soils are coarse textured and are somewhat excessively drained to excessively drained and moderately well drained. Soil moisture and fertility are adequate for good softwood growth but are limiting for hardwoods.

Successional trends on these soils are toward stands of shade-tolerant softwoods, such as red spruce and hemlock. White pine, northern red oak, red maple, aspen, gray birch, and paper birch are common in early successional stands.

These soils are well suited for high quality softwood sawtimber, especially white pine, in nearly pure stands. Less site-demanding hardwoods such as northern red oak and white birch have fair to good growth on sites where soil moisture is more abundant.

Hardwood competition is moderate to slight on these soils. With modest levels of management, white pine can be maintained and reproduced. Although chemical control of woody and herbaceous vegetation may be desirable in some situations, softwood production is possible without it.

Group IIA consists of diverse soils and includes many of the soils that are in groups IA and IB. The soils in IIA, however, have limitations such as steep slopes, bedrock outcrops, erodibility, surface boulders, and extreme stoniness. Productivity of these soils is not greatly affected by those limitations, but management activities such as tree planting, thinning, and harvesting are more difficult and more costly.

The soils in group IIB are poorly drained. The seasonal high water table is generally at a depth of 12 inches or less. Productivity is lower than in IA, IB, or IC. Fertility is adequate for softwoods but is a limitation for hardwoods.

Successional trends are toward climax stands of shade-tolerant softwoods, such as red spruce and hemlock. Balsam fir is a persistent component in nearly all stands. Early successional stands frequently contain a variety of hardwoods such as red maple, yellow, gray, and paper birch, aspen, and white and brown ash in varying mixtures with red spruce, hemlock, balsam fir, and white pine.

These soils are well suited for spruce and balsam fir pulpwood and sawtimber. Advanced regeneration is usually adequate to fully stock a stand. Hardwood competition is not usually a major limitation, but intensive management by chemical control of competing woody and herbaceous vegetation may be desirable.

Several mapping units in Grafton County are either so variable or have such a limited potential for commercial production of forest products that they have not been placed in a group. Examples are very poorly drained soils and soils at high elevations.

Management Concerns

In table 7, *slight, moderate,* and *severe* indicate the degree of the major soil limitations to be considered in management.

Erosion hazard is the probability that damage will occur as a result of site preparation and cutting where the soil is exposed along roads, skid trails, fire lanes, and log-handling areas. Forests that have been burned or overgrazed are also subject to erosion. Ratings of the erosion hazard are based on the percent of the slope. A rating of *slight* indicates that no particular prevention measures are needed under ordinary conditions. A rating of *moderate* indicates that erosion-control measures are needed in certain silvicultural activities. A rating of *severe* indicates that special precautions are needed to control erosion in most silvicultural activities.

Equipment limitation reflects the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. The chief characteristics and conditions considered in the ratings are slope, stones on the surface, rock outcrops, soil wetness, and texture of the surface layer. A rating of *slight* indicates that under normal conditions the kind of equipment or season of use is not significantly restricted by soil factors. Soil wetness can restrict equipment use, but the wet period does not exceed 1 month. A rating of *moderate* indicates that equipment use is moderately restricted because of one or more soil factors. If the soil is wet, the wetness restricts equipment use for a period of 1 to 3 months. A rating of *severe* indicates that equipment use is severely restricted either as to the kind of equipment that can be used or the season of use. If the soil is wet, the wetness restricts equipment use for more than 3 months.

Seedling mortality refers to the death of naturally occurring or planted tree seedlings, as influenced by the kinds of soil, soil wetness, or topographic conditions. The factors used in rating the soils for seedling mortality are texture of the surface layer, depth to a seasonal high water table and the length of the period when the water table is high, rock fragments in the surface layer, effective rooting depth, and slope aspect. A rating of *slight* indicates that seedling mortality is not likely to be a problem under normal conditions. Expected mortality is less than 25 percent. A rating of *moderate* indicates that some problems from seedling mortality can be expected. Extra precautions are advisable. Expected mortality is 25 to 50 percent. A rating of *severe* indicates that seedling mortality is a serious problem. Extra precautions are important. Replanting may be necessary. Expected mortality is more than 50 percent.

Windthrow hazard is the likelihood that trees will be uprooted by the wind because the soil is not deep enough for adequate root anchorage. The main restrictions that affect rooting are a seasonal high water table and the depth to bedrock, a fragipan, or other limiting layers. A rating of *slight* indicates that under normal conditions no trees are blown down by the wind. Strong winds may damage trees, but they do not uproot them. A rating of *moderate* indicates that some trees can be blown down during periods when the soil is wet and winds are moderate or strong. A rating of *severe* indicates that many trees can be blown down during these periods.

Plant competition ratings indicate the degree to which undesirable species are expected to invade and grow when openings are made in the tree canopy. The main factors that affect plant competition are the depth to the water table and the available water capacity. A rating of *slight* indicates that competition from undesirable plants is not likely to prevent natural regeneration or suppress the more desirable species. Planted seedlings can become established without undue competition. A rating of *moderate* indicates that competition may delay the establishment of desirable species. Competition may hamper stand development, but it will not prevent the eventual development of fully stocked stands. A rating of *severe* indicates that competition can be expected to prevent regeneration unless precautionary measures are applied.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a *site index* and as a *productivity class* number. The site index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

The *productivity class*, a number, is the yield likely to be produced by the most important trees. This number, expressed as cubic meters per hectare per year, indicates the amount of fiber produced at the age of culmination of mean annual increment on a fully stocked, unmanaged stand.

The first species listed under *common trees* for a soil is the indicator species for that soil. It is the dominant species on the soil.

Trees to plant are those that are suitable for commercial wood production.

Recreation

The soils of the survey area are rated in table 8 according to limitations that affect their suitability for recreation. The ratings are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important. Soils subject to flooding are limited for recreation use by the duration and intensity of flooding and the season when flooding occurs. In planning recreation facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

In table 8, the degree of soil limitation is expressed as slight, moderate, or severe. *Slight* means that soil properties are generally favorable and that limitations are minor and easily overcome. *Moderate* means that limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or by a combination of these measures.

The information in table 8 can be supplemented by other information in this survey, for example, interpretations for septic tank absorption fields in table 11 and interpretations for dwellings without basements and for local roads and streets in table 10.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils have mild slopes and are not wet or subject to flooding during the period of use. The surface has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing campsites.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for picnic areas are firm when wet, are not dusty when dry, are not subject to flooding during the period of use, and do not have slopes or stones or boulders that increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones and boulders, is firm after rains, and is not dusty when dry. If grading is needed, the depth of the soil over bedrock or a firm, dense layer should be considered.

Paths and trails for hiking and horseback riding should require little or no cutting and filling. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to flooding more than once a year during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. The best soils for use as golf fairways are firm when wet, are not dusty when dry, and are not subject to prolonged flooding during the period of use. They have moderate slopes and no stones or boulders on the surface. The suitability of the soil for tees or greens is not considered in rating the soils.

Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 9, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flood hazard, and slope. Soil temperature and soil moisture are also considerations. Examples of grasses and legumes are fescue, lovegrass, bromegrass, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of wild herbaceous plants are mustard, goldenrod, thistle, and milkweed.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, apple, hawthorn, dogwood, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are Russian-olive, autumn-olive, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, fir, cedar, and juniper.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, wildrice, saltgrass, cordgrass, rushes, and sedges.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The wildlife attracted to these areas include bobolink, hawk, pheasant, meadowlark, field sparrow, and deer.

Habitat for woodland wildlife consists of areas of deciduous plants or coniferous plants or both and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, red fox, raccoon, moose, deer, and bear.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are mallards, black duck, wood ducks, geese, shore birds, muskrat, mink, and beaver.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. The ratings are given in the following tables: Building site development, Sanitary facilities, Construction materials, and Water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the “Soil Properties” section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section.

Local ordinances and regulations need to be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kind of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to (1) evaluate the potential of areas for residential, commercial, industrial, and recreation uses; (2) make preliminary estimates of construction conditions; (3) evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; (4) evaluate alternative sites for septic tank absorption fields and sewage lagoons; (5) plan detailed onsite investigations of soils and geology; (6) locate potential sources of gravel, sand, earthfill, and topsoil; (7) plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and (8) predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Table 10 shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, and other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to bedrock, a cemented pan, or a very firm dense layer; stone content; soil texture; and slope. The time of the year that excavations can be made is affected by the depth to a seasonal high water table and the susceptibility of the soil to flooding.

The resistance of the excavation walls or banks to sloughing or caving is affected by soil texture and the depth to the water table.

Dwellings and small commercial buildings are structures built on shallow foundations on undisturbed soil. The load limit is the same as that for single-family dwellings no higher than three stories. Ratings are made for small commercial buildings without basements, for dwellings with basements, and for dwellings without basements. The ratings are based on soil properties, site features, and observed performance of the soils. A high water table, flooding, shrink-swell potential, and organic layers can cause the movement of footings. A high water table, depth to bedrock or to a cemented pan, large stones, slope, and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and ills of more than 5 to 6 feet are not considered.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material, a base of gravel, crushed rock, or stabilized soil material, and a flexible or rigid surface. Cuts and fills are generally limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils. Depth to bedrock or to a cemented pan, a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, frost action potential, and depth to a high water table affect the traffic supporting capacity.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, a high water table, depth to bedrock, and the available water capacity in the upper 40 inches affect plant growth. Flooding, wetness, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

Sanitary Facilities

Table 11 shows the degree and kind of soil limitations that affect septic tank absorption fields and sewage lagoons. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 72 inches is evaluated. The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, a high water table, depth to bedrock, and flooding affect absorption of the effluent. Large stones and bedrock interfere with installation.

Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand and gravel or fractured bedrock is less than 4 feet below the base of the absorption field, if slope is excessive, or if the water table is near the surface. There must be unsaturated soil material beneath the absorption field to filter the effluent effectively. Many local ordinances require that this material be of a certain thickness.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil.

Lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water.

Table 11 gives ratings for the natural soil that makes up the lagoon floor. The surface layer and, generally, 1 or 2 feet of soil material below the surface layer are excavated to provide material for the embankments. The ratings are based on soil properties, site features, and observed performance of the soils. Considered in the ratings are slope, permeability, a high water table, depth to bedrock, flooding, large stones, and content of organic matter.

Excessive seepage due to rapid permeability of the soil or a water table that is high enough to raise the level of sewage in the lagoon causes a lagoon to function unsatisfactorily. Pollution results if seepage is excessive or if floodwater overtops the lagoon. A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope and bedrock can cause construction problems, and large stones can hinder compaction of the lagoon floor.

Construction Materials

Table 12 gives information about the soils as a source of roadfill, sand, gravel, and topsoil. The soils are rated *good, fair,* or *poor* as a source of roadfill and topsoil. They are rated as a *probable* or *improbable* source of sand and gravel. The ratings are based on soil properties and site features that affect the removal of the soil and its use as construction material. Normal compaction, minor processing, and other standard construction practices are assumed. Each soil is evaluated to a depth of 5 or 6 feet.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be mixed during excavating and spreading. Many soils have layers of contrasting suitability within their profile. The table showing engineering index properties provides detailed information about each soil layer. This information can help determine the suitability of each layer for use as roadfill. The performance of soil after it is stabilized with lime or cement is not considered in the ratings.

The ratings are based on soil properties, site features, and observed performance of the soils. The thickness of suitable material is a major consideration. The ease of excavation is affected by large stones, a high water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the engineering classification of the soil) and shrink-swell potential.

Soils rated *good* contain significant amounts of sand or gravel or both. They have at least 5 feet of suitable material, low shrink-swell potential, few cobbles and stones, and slopes of 15 percent or less. Depth to the water table is more than 3 feet. Soils rated *fair* are more than 35 percent silt- and clay-sized particles and have a plasticity index of less than 10. They have moderate shrink-swell potential, slopes of 15 to 25 percent, or many stones. Depth to the water table is 1 to 3 feet. Soils rated *poor* have a plasticity index of more than 10, a high shrink-swell potential, many stones, or slopes of more than 25 percent. They are wet, and the depth to the water table is less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

Sand and gravel are natural aggregates suitable for commercial use with a minimum of processing. Sand and gravel are used in many kinds of construction. Specifications for each use vary widely. In table 12, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material.

The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the engineering classification of the soil), the thickness of suitable material, and the content of rock fragments. Kinds of rock, acidity, and stratification are given in the soil series descriptions. Gradation of grain sizes is given in the table on engineering index properties.

A soil rated as a probable source has a layer of clean sand or gravel or a layer of sand or gravel that is up to 12 percent silty fines. This material must be at least 3 feet thick and less than 50 percent, by weight, large stones. All other soils are rated as an improbable source. Coarse fragments of soft bedrock, such as shale and siltstone, are not considered to be sand and gravel.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area.

Plant growth is affected by toxic material and by such properties as soil reaction, available water capacity, and fertility. The ease of excavating, loading, and spreading is affected by rock fragments, slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, bedrock, and toxic material.

Soils rated *good* have friable loamy material to a depth of at least 40 inches. They are free of stones and cobbles, have little or no gravel, and have slopes of less than 8 percent. They are naturally fertile or respond well to fertilizer and are not so wet that excavation is difficult.

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, soils that have an appreciable amount of gravel or stones or soils that have slopes of 8 to 15 percent. The soils are not so wet that excavation is difficult.

Soils rated *poor* are very sandy or clayey, have less than 20 inches of suitable material, have a large amount of gravel or stones, have slopes of more than 15 percent, or have a seasonal water table at or near the surface.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 13 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

This table also gives for each soil the restrictive features that affect drainage, terraces and diversions, and grassed waterways.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders or organic matter. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table and permeability of the aquifer. Depth to bedrock and the content of large stones affect the ease of excavation.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, to a cemented pan, or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and potential frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity. Availability of drainage outlets is not considered in the ratings.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to reduce erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock affect the construction of grassed waterways. Low available water capacity, restricted rooting depth, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classifications, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

Engineering Index Properties

Table 14 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given for each soil series under "Soil Series and Their Morphology."

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is as much as about 15 percent, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (*2*) and the system adopted by the American Association of State Highway and Transportation Officials (*1*).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

Rock fragments larger than 3 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in the table.

Physical and Chemical Properties

Table 15 shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, and plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3 bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In this table, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability refers to the ability of a soil to transmit water or air. The estimates indicate the rate of downward movement of water when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems, septic tank absorption fields, and construction where the rate of water movement under saturated conditions affects behavior.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each major soil layer. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Shrink-swell potential is the potential for volume change in a soil with a loss or gain in moisture. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on measurements of similar soils.

If the shrink-swell potential is rated moderate to very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed.

Shrink-swell potential classes are based on the change in length of an unconfined clod as moisture content is increased from air-dry to field capacity. The change is based on the soil fraction less than 2 millimeters in diameter. The classes are *low*, a change of less than 3 percent; *moderate*, 3 to 6 percent; and *high*, more than 6 percent. *Very high*, greater than 9 percent, is sometimes used.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter (up to 4 percent) and on soil structure and permeability. Values of K range from 0.05 to 0.69. The higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Organic matter is the plant and animal residue in the various stages of decomposition. In table 15, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. Organic matter content is given for map units that have no stones on the surface.

The content of organic matter in a soil can be maintained or increased by returning crop residue to the soil. Organic matter affects the available water capacity, infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

Soil and Water Features

Table 16 gives estimates of various soil and water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are used to estimate runoff from precipitation. Soils not protected by vegetation are assigned to one of four groups. They are grouped according to the intake of water when the soils are thoroughly wet and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a permanent high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Flooding, the temporary inundation of an area, is caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, nor is water in swamps and marshes.

Table 16 gives the frequency and duration of flooding and the time of year when flooding is most likely.

Frequency, duration, and probable dates of occurrence are estimated. Frequency is expressed as none, rare, occasional, and frequent. *None* means that flooding is not probable; *rare* that it is unlikely but possible under unusual weather conditions; *occasional* that it occurs, on the average, once or less in 2 years; and *frequent* that it occurs, on the average, more than once in 2 years. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, and *long* if more than 7 days. Probable dates are expressed in months; November-May, for example, means that flooding can occur during the period November through May.

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic distinctive horizons that form in soils that are not subject to flooding.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

High water table (seasonal) is the highest level of a saturated zone in the soil in most years. The depth to a seasonal high water table applies to undrained soils. The estimates are based mainly on the evidence of a saturated zone, namely grayish colors or mottles in the soil. Indicated in table 16 are the depth to the seasonal high water table; the kind of water table that is, perched or apparent; and the months of the year that the water table commonly is high. A water table that is seasonally high for less than 1 month is not indicated in table 16.

An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Only saturated zones within a depth of about 6 feet are indicated. A plus sign preceding the range in depth indicates that the water table is above the surface of the soil. The first numeral in the range indicates how high the water rises above the surface. The second numeral indicates the depth below the surface.

Depth to bedrock is given if bedrock is within a depth of 5 feet. The depth is based on many soil borings and on observations during soil mapping. The rock is either soft or hard. If the rock is soft or fractured, excavations can be made with trenching machines, backhoes, or small rippers. If the rock is hard or massive, blasting or special equipment generally is needed for excavation.

Potential frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage mainly to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors creates a severe corrosion environment. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion is also expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (*8*). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 17 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Ten soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Entisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Aquept (*Aqu*, meaning water, plus *ent*, from Entisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Haplaquents (*Hapl*, meaning minimal horizonation, plus *aquent*, the suborder of the Entisols that have an aquic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the great group; it is not necessarily the most extensive. Integrades are transitions to other others, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that is less wet than is typical of the great group. An example is Typic Haplaquents.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Mostly the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, depth of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, nonacid, mesic Typic Haplaquents.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. The descriptions are arranged in alphabetic order.

Characteristics of the soil and the material in which it formed are identified for each series. The soil is compared with similar soils and with nearby soils of other series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the *Soil Survey Manual* (*9*). Many of the technical terms used in the descriptions are defined in *Soil Taxonomy* (*8*). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units of each soil series are described in the section Detailed Soil Map Units.

Adams Series

The Adams series consists of very deep, excessively drained soils on stream terraces, kames, and eskers. Adams soils formed in stratified, water-deposited sandy sediments. Slopes range from 0 to 15 percent on the terraces and from 15 to 60 percent on escarpments.

Adams soils are associated on the landscape with Colton, Croghan, Groveton, Hermon, Kinsman, Madawaska, Nicholville, and Ondawa soils. Colton and Hermon soils have more than 35 percent rock fragments in the particle-size control section. Croghan and Madawaska soils have a thicker solum than Adams soils and have low-chroma mottles in the subsoil. Groveton and Ondawa soils have a coarse-loamy particle-size control section, and Ondawa soils are subject to flooding.

The poorly drained Kinsman soils are in wetter, slightly concave areas. Nicholville soils have a coarse-silty particle-size control section.

Typical pedon of Adams loamy sand, 3 to 8 percent slopes, cultivated, in the town of Rumney, 1,600 feet north of the outlet of Stinson Lake and 300 feet west of a paved road:

Ap—0 to 6 inches; dark brown (10YR 3/3) loamy sand; weak very fine granular structure; very friable; many fine and medium roots; strongly acid; abrupt smooth boundary.

Bs—6 to 10 inches; strong brown (7.5YR 5/8) loamy sand; few medium faint yellowish red (5YR 4/6) streaks; weak very fine granular structure; very friable; many fine and medium roots; strongly acid; abrupt wavy boundary.

BC—10 to 26 inches; light yellowish brown (10YR 6/4) sand; single grain; loose; common fine and medium roots; strongly acid; abrupt smooth boundary.

C—26 to 65 inches; pale yellow (2.5Y 7/4) sand; single grain; loose; few strata of coarse sand up to $1^1/_2$ inches thick; slightly acid.

Thickness of the solum ranges from 16 to 30 inches. Rock fragment content is less than 5 percent throughout the solum, but some pedons may have gravelly layers in the substratum. Reaction is very strongly acid to moderately acid in the solum and ranges to slightly acid in the C horizon.

The Ap horizon has hue of 10YR, value of 2 to 4, and chroma of 2 or 3. The Ap horizon is loamy sand or loamy fine sand. Some pedons have an A horizon with hue of 10YR, value of 2 or 3, and chroma of 1 and textures similar to those of the Ap horizon.

Some pedons have an E horizon with hue of 10YR or 7.5YR, value of 5 to 7, and chroma of 1 or 2. The E horizon is sand, loamy sand, or loamy fine sand. The E horizon commonly has tongues extending into the B horizons.

Some pedons have a Bh or Bhs horizon with hue of 2.5YR to 7.5YR, value of 2 or 3, and chroma of 1 to 3. The Bh or Bhs horizon is sand or loamy sand.

The Bs horizon has hue of 10YR to 5YR, value of 3 to 5, and chroma of 4 to 8. The Bs horizon in cultivated areas commonly is mixed with the Ap horizon. Fragments of ortstein are in some pedons.

The BC horizon has hue of 10YR or 7.5YR, value of 3 to 6, and chroma of 4 to 8. It is sand or loamy sand.

The C horizon has hue of 2.5Y or 10YR, value of 5 to 7, and chroma of 2 to 4. The C horizon mainly is sand or fine sand. Thin strata of silt or very fine sand are in some pedons, and some pedons have gravelly strata.

Agawam Series

The Agawam series consists of very deep, well drained soils on outwash and high stream terraces. Agawam soils formed in stratified, water-deposited, loamy sediments underlain by sandy sediments. Slopes range from 0 to 15 percent.

Agawam soils are associated on the landscape with Dartmouth, Deerfield, Hitchcock, Quonset, Walpole, and Windsor soils. Dartmouth and Hitchcock soils have more silt throughout and Dartmouth soils are moderately well drained. Deerfield soils have coarser textures in the solum and are moderately well drained. Quonset soils have a sandy-skeletal particle-size control section. Walpole soils are poorly drained. Windsor soils have coarser textures in the solum and are excessively drained.

Typical pedon of Agawam fine sandy loam, 0 to 3 percent slopes, cultivated, in the town of Orford, 1.5 miles south of the junction of NH-25A and NH-10, and 150 feet east of NH-10:

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) fine sandy loam; light brownish gray (10YR 6/2) dry; weak fine granular structure; very friable; many fine roots; moderately acid; abrupt smooth boundary.

Bw—10 to 19 inches; strong brown (7.5YR 5/8) fine sandy loam; weak fine granular structure; very friable; common fine roots; strongly acid; abrupt wavy boundary.

BC—19 to 23 inches; light olive brown (2.5Y 5/6) sandy loam; weak fine granular structure; very friable; few fine roots; strongly acid; abrupt smooth boundary.

2C—23 to 65 inches; light yellowish brown (2.5Y 6/4) loamy coarse sand; single grain, loose; strongly acid.

The solum thickness ranges from 15 to 35 inches. The content of coarse fragments ranges from 0 to 5 percent in the A horizon, 0 to 10 percent in the B horizon, and 0 to 30 percent in the C horizon. Reaction ranges from very strongly acid to slight acid.

The Ap horizon has hue of 10YR or 7.5YR, value of 3 or 4, and chroma of 2 to 4. The Ap horizon is fine sandy loam, very fine sandy loam, or loam.

Some pedons have an E horizon with hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 1 or 2. The texture of the E horizon is similar to that of the A horizon.

The Bw horizon has hue of 2.5Y to 7.5YR, value of 4 to 6, and chroma of 4 to 8. The Bw horizon is fine sandy loam, very fine sandy loam, or loam.

The BC horizon has hue of 5Y to 10YR, value of 4 to 6, and chroma of 3 to 8. The BC horizon is loamy sand, loamy fine sand, or sandy loam.

The 2C horizon has hue of 5Y or 2.5Y, value of 4 to 6, and chroma of 1 to 4. The 2C horizon is coarse sand, sand, fine sand, loamy coarse sand, loamy sand, or loamy fine sand in the fine-earth fraction and is stratified.

Becket Series

The Becket series consists of very deep, well drained soils on drumlins and glaciated uplands. Becket soils formed in loamy sediments underlain by compact, loamy, very firm basal till. Permeability is moderate in the solum and moderately slow to slow in the compact substratum. Slopes range from 3 to 60 percent.

Becket soils are associated on the landscape with Hermon, Lyman, Monadnock, Pillsbury, Skerry, and Tunbridge soils. Hermon soils have a sandy-skeletal particle-size control section. Lyman soils have bedrock at a depth of 20 inches or less. Monadnock soils have a coarse-loamy over sandy or sandy-skeletal particle-size control section. Pillsbury soils are poorly drained. Skerry soils are moderately well drained. Tunbridge soils have bedrock at a depth of 20 to 40 inches.

Typical pedon of Becket fine sandy loam, 3 to 8 percent slopes, cultivated, in the town of Campton, 1,700 feet north of the Campton-Holderness townline, 2,000 feet east of NH-175, and 250 feet south of a paved road:

Ap—0 to 7 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine granular structure; very friable; many fine roots; 5 percent rock fragments $^{1}/_{4}$ to 1 inch in diameter; strongly acid; abrupt smooth boundary.

Bs1—7 to 14 inches; dark brown (7.5YR 4/4) fine sandy loam; weak fine granular structure; very friable; common fine roots; 8 percent rock fragments; very strongly acid; clear wavy boundary.

Bs2—14 to 18 inches; strong brown (7.5YR 5/6) fine sandy loam; weak fine granular structure; very friable; common fine roots; 8 percent rock fragments; very strongly acid; clear wavy boundary.

Bw—18 to 22 inches; light olive brown (2.5Y 5/4) fine sandy loam; weak fine granular structure; friable; common fine roots; 10 percent rock fragments; very strongly acid; abrupt smooth boundary.

Cd—22 to 65 inches; olive gray (5Y 5/2) gravelly loamy fine sand; weak coarse plates with thin (1 to 2 mm) lenses of pale olive (5Y 6/3) medium and fine sand between plates; very firm; 15 percent rock fragments $^{1}/_{4}$ to 4 inches in diameter; strongly acid.

Thickness of the solum ranges from 18 to 35 inches. The content of rock fragments ranges from 5 to 30 percent in the solum and from 5 to 40 percent in the substratum. Reaction ranges from very strongly acid to moderately acid throughout the soil.

Some pedons have an O horizon with hue of 10YR to 5YR or neutral, value of 2 to 4 and chroma of 1 to 4.

The Ap horizon has hue of 10YR of 7.5YR, value of 3 or 4, and chroma of 2 to 4. Some pedons have an A horizon with hue of 10YR or 7.5YR, value of 2 or 3, and chroma of 1 or 2. The Ap and A horizons are sandy loam, fine sandy loam, or loam.

Some pedons have a discontinuous E horizon with hue of 2.5Y or 10YR, value of 5 or 6, and chroma of 1 or 2. The E horizon is sandy loam or fine sandy loam and their gravelly analogs.

Some pedons have a Bh or Bhs horizon with hue of 7.5YR to 2.5YR, value of 2 or 3, and chroma of 1 to 3. Texture is sandy loam, fine sandy loam, or loam and their gravelly analogs.

The Bs horizon has hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 4 to 8. The Bw horizon has hue of 10YR or 2.5Y and value and chroma of 4 to 6. The Bs or Bw horizon is sandy loam or fine sandy loam and their gravelly analog.

Some pedons have a BC horizon with hue of 5Y or 2.5Y, value of 5 or 6, and chroma of 4 to 6. The BC horizon is similar in texture to the Bs or Bw horizon but includes loamy fine sand or loamy sand.

The Cd horizon has hue of 5Y or 2.5Y, value of 5 or 6, and chroma of 2 to 4. The Cd horizon is loamy sand, loamy fine sand, sandy loam, or fine sandy loam and their gravelly or very gravelly analogs. The Cd horizon has weak or moderate, thin to thick plates or is massive. It is firm or very firm. Loose or friable, horizontal lenses of sand or loamy sand separate the structural plates and make up 20 to 80 percent of the

Cd horizon. Thickness of the lenses ranges from less than 1/16 inch to 1 inch.

Berkshire Series

The Berkshire series consists of very deep, well drained soils on glaciated uplands. Berkshire soils formed in loamy glacial till. Slopes range from 3 to 60 percent.

Berkshire soils are associated on the landscape with Lyman, Lyme, Marlow, Monadnock, Moosilauke, Peru, and Tunbridge soils. Lyman soils have bedrock at a depth of 20 inches or less. Lyme and Moosilauke soils are poorly drained. Marlow soils have a compact substratum with moderately slow to slow permeability. Monadnock soils are coarse-loamy over sandy or sandy-skeletal in the particle-size control section. Peru soils are moderately well drained. Tunbridge soils have bedrock at a depth of 20 to 40 inches.

Typical pedon of Berkshire loam in an area of Berkshire loam, 8 to 15 percent slopes, very stony, forested, in the town of Littleton, 2.5 miles northeast of the junction of NH-116 and US-302, 1.7 miles north of NH-116, 100 feet northeast of a dirt road:

A—0 to 7 inches; very dark grayish brown (10YR 3/2) loam; moderate fine granular structure; friable; many fine roots; 5 percent rock fragments; strongly acid; abrupt wavy boundary.

E—7 to 8 inches; pinkish gray (7.5YR 6/2) loam; moderate fine granular structure; friable; many fine roots; 5 percent rock fragments; strongly acid; abrupt broken boundary.

Bs—8 to 12 inches; dark brown (7.5YR 4/4) loam; moderate fine granular structure; friable; many fine roots; 7 percent rock fragments; moderately acid; abrupt wavy boundary.

Bw—12 to 18 inches; brown (10YR 4/3) loam; weak fine granular structure; friable; many fine roots; 7 percent rock fragments; moderately acid; abrupt wavy boundary.

C—18 to 65 inches; very dark grayish brown (2.5Y 3/2) loam; weak medium plates; friable; 14 percent rock fragments; moderately acid.

Thickness of the solum ranges from 16 to 36 inches. The solum contains 5 to 20 percent gravel, 0 to 10 percent cobbles, and 0 to 5 percent stones. The C horizon contains 10 to 20 percent gravel, 0 to 10 percent cobbles, and 0 to 5 percent stones. Reaction throughout ranges from very strongly acid to moderately acid.

The A horizon has hue of 10YR to 5YR, value of 2 or 3, and chroma of 1 or 2. Some pedons have an Ap horizon with hue of 10YR to 5YR and value and chroma of 2 to 4. The A and Ap horizons are sandy loam, fine sandy loam, loam, or silt loam.

The E horizon has hue of 2.5Y to 2.5YR or is neutral, value of 4 to 6, and chroma of 1 or 2. The E horizon is sandy loam, fine sandy loam, loam, or silt loam. In some pedons the E horizon has tongues extending into the B horizon and is mainly discontinuous.

The Bs horizon has hue of 10YR to 5YR, value of 3 to 5, and chroma of 2 to 6. The Bw horizon has hue of 2.5Y or 10YR, value of 3 to 5, and chroma of 2 to 4. Some pedons have a BC horizon with hue of 5Y or 2.5Y, value of 4 or 5, and chroma of 4. Some pedons have a discontinuous Bh horizon with hue of 7.5YR to 2.5YR, value of 2 or 3, and chroma of 1 to 3. The B horizon is sandy loam, fine sandy loam, or loam and their gravelly analogs.

The C horizon has hue of 5Y or 2.5Y, value of 4 or 5, and chroma of 2 to 4. The C horizon is sandy loam, fine sandy loam, or loam and their gravelly analogs.

Bernardston Series

The Bernardston series consists of very deep, well drained soils on glaciated uplands and drumlins. Bernardston soils formed in silty glacial till underlain by compact, silty basal till. Permeability is moderate in the solum and slow in the compact substratum. Slopes range from 3 to 35 percent.

Bernardston soils are associated on the landscape with Cardigan, Charlton, Kearsarge, Pittstown, and Stissing soils. Cardigan soils have bedrock at a depth of 20 to 40 inches. Charlton soils have moderate permeability throughout. Kearsarge soils have bedrock at a depth of 20 inches or less. Pittstown soils are moderately well drained. Stissing soils are poorly drained.

Typical pedon of Bernardston silt loam, 15 to 25 percent slopes, forested, in the town of Lyme, 3,380 feet southwest of the Lyme-Orford townline and 1,320 feet southeast of the Connecticut River:

Ap—0 to 6 inches; dark grayish brown (2.5Y 4/2) silt loam; moderate medium granular structure; friable; common medium and fine roots; 3 percent rock fragments; moderately acid; abrupt smooth boundary.

Bw1—6 to 11 inches; olive brown (2.5Y 4/4) silt loam; moderate medium granular structure; friable; few medium and fine roots; 3 percent rock fragments; moderately acid; abrupt smooth boundary.

Bw2—11 to 16 inches; light olive brown (2.5Y 5/3) silt loam; moderate medium granular structure; friable; few fine roots; 3 percent rock fragments; moderately acid; abrupt smooth boundary.

Cd1—16 to 28 inches; olive gray (5Y 5/2) silt loam; moderate medium plates; firm, brittle; few fine roots; 5 percent rock fragments; moderately acid; abrupt smooth boundary.

Cd2—28 to 65 inches; olive gray (5Y 5/2) silt loam; few fine prominent yellowish brown (10YR 5/8) mottles; moderate medium plates; firm, brittle; 8 percent rock fragments; moderately acid.

The solum thickness ranges from 15 to 30 inches. The content of rock fragments ranges from 3 to 15 percent in the solum and from 5 to 20 percent in the C horizon. Texture throughout mainly is silt loam or loam but includes very fine sandy loam. Reaction ranges from very strongly acid to moderately acid throughout.

The A horizon has hue of 2.5Y or 10YR, value of 3 or 4, and chroma of 2 or 3.

The Bw horizon has hue of 5Y or 2.5Y, value of 4 or 5, and chroma of 3 or 4. Structure of the B horizon is weak or moderate, fine or medium granular. Consistence is friable.

Some pedons have a BC horizon with hue of 5Y or 2.5Y, value of 3 to 5, and chroma of 2 to 4. Structure of the BC horizon mainly is weak or moderate, fine or medium granular and ranges to weak, medium or coarse platy. Consistence is friable.

The Cd horizon has hue of 5Y or 2.5Y, value of 3 to 5, and chroma of 2 or 3. The Cd horizon has weak or moderate, medium or thick plates. Consistence is firm or very firm.

Binghamville Series

The Binghamville series consists of very deep, poorly drained soils on glaciolacustrine terraces. Binghamville soils formed in silty lacustrine deposits. Slopes range from 0 to 5 percent.

Binghamville soils are associated on the landscape with Dartmouth, Deerfield, Hitchcock, and Walpole soils. Hitchcock soils are well drained. Dartmouth and Deerfield soils are moderately well drained. Walpole soils have coarser textures throughout.

Typical pedon of Binghamville silt loam in a pasture in the town of Haverhill, 4,220 feet southeast on NH-116 from the Junction of NH-10, and 300 feet north of NH-116:

Ap—0 to 6 inches; very dark grayish brown (2.5Y 3/2) silt loam; moderate fine granular structure; friable; medium fine roots; moderately acid; abrupt smooth boundary.

Bg1—6 to 10 inches; dark grayish brown (2.5Y 4/2) silt loam; few faint dark gray (5Y 4/1) mottles; weak fine granular structure; friable; common fine roots; slightly acid; clear wavy boundary.

Bg2—10 to 18 inches; dark gray (5Y 4/1) very fine sandy loam; weak fine granular structure; friable; few fine roots; slightly acid; clear wavy boundary.

Cg—18 to 65 inches; olive gray (5Y 4/2) very fine sandy loam; faint moderate fine olive brown (2.5Y 4/4) mottles; massive; firm; slightly acid.

The solum thickness ranges from 15 to 30 inches. Reaction ranges from strongly acid to neutral throughout the soil.

The Ap horizon has hue of 10YR to 5Y, value of 3 or 4, and chroma of 2. It is silt loam or very fine sandy loam.

The Bg horizon has hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 1 or 2. It is silt loam or very fine sandy loam.

The Cg horizon has hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 1 or 2. It mainly is very fine sandy loam or silt loam. Thin strata of silt or silty clay loam are in some pedons.

Canaan Series

The Canaan series consists of shallow, somewhat excessively drained soils on mountainsides. Canaan soils formed in sandy glacial till and, in some places, frost-fractured residuum. Slopes range from 15 to 70 percent.

Canaan soils are associated on the landscape with Hermon, Lyman, Monadnock, and Redstone soils. All of the associated soils except Lyman soils are deeper than 60 inches to bedrock. Lyman soils have less than 35 percent rock fragments.

Typical pedon of Canaan gravelly loamy sand in an area of Redstone-Canaan-Rock outcrop complex, hilly, forested, in the town of Franconia, 1,380 feet north of the Franconia-Lincoln townline and 180 feet east of US-3:

Oe—0 to 2 inches; black (5YR 2/1) partially decomposed leaf litter; common fine and medium roots; very strongly acid; abrupt wavy boundary.

E—2 to 5 inches; light brownish gray (2.5Y 6/2) gravelly loamy sand; weak fine granular structure; friable; common fine and medium roots; 20 percent rock fragments; very strongly acid; abrupt broken boundary.

Bh—5 to 9 inches; dark reddish brown (5YR 2/2) gravelly sandy loam; moderate medium granular structure; friable; common fine and medium roots;

30 percent rock fragments; strongly acid; abrupt wavy boundary.

Bs1—9 to 12 inches; dark reddish brown (2.5YR 3/4) very gravelly sand loam; moderate medium granular structure; friable; common fine and medium roots; 40 percent rock fragments; strongly acid; abrupt wavy boundary.

Bs2—12 to 19 inches; dark reddish brown (5YR 3/4) very gravelly sandy loam; weak moderate granular structure; common fine and medium roots; 50 percent rock fragments; strongly acid; abrupt smooth boundary.

R—19 inches; hard granite bedrock.

The solum thickness and depth to bedrock range from 10 to 20 inches. The content of rock fragments ranges from 20 to 40 percent in the surface layer and from 35 to 60 percent in the subsoil. Reaction ranges from very strongly acid to moderately acid throughout the soil.

The E horizon has hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 1 or 2. The E horizon commonly is coarser than the underlying horizons and includes sandy loam, loamy fine sand, and loamy sand in the fine-earth fraction.

The Bh horizon has hue of 2.5YR or 5YR, value of 2 or 3, and chroma of 1 to 3.

The Bs horizon has hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 4 to 6.

The B horizon is fine sandy loam or sandy loam in the fine-earth fraction.

The R layer is granite or gneiss.

Cardigan Series

The Cardigan series consists of moderately deep, well drained soils on glaciated uplands. Cardigan soils formed in silty glacial till underlain by bedrock at a depth of 20 to 40 inches. Slopes range from 3 to 60 percent.

Cardigan soils are associated on the landscape with Bernardston, Charlton, Kearsarge, Pittstown, and Stissing soils. All of these soils are deeper than 60 inches to bedrock except Kearsarge soils. Kearsarge soils are underlain by bedrock at a depth of 10 to 20 inches.

Typical pedon of Cardigan silt loam in an area of Cardigan-Kearsarge complex, 8 to 15 percent slopes, in a hayfield, in the town of Orford, 1.6 miles east-northeast of the village of Orford, 2.0 miles north northwest of the village of Orfordville and 1,000 feet west of a dirt road on Blackberry Hill:

Ap—0 to 6 inches; dark brown (10YR 3/3) silt loam; moderate fine and medium granular structure; friable; many fine and common medium roots; 3 percent rock fragments; moderately acid; abrupt smooth boundary.

Bw—6 to 23 inches; yellowish brown (10YR 5/6) loam; weak moderate granular structure; friable; common fine and few medium roots; 3 percent rock fragments; moderately acid; abrupt smooth boundary.

R—23 inches; hard schist bedrock.

The solum thickness ranges from 20 to 36 inches. Depth to bedrock ranges from 20 to 40 inches. The content of rock fragments ranges from 3 to 20 percent in the solum and from 10 to 30 percent in the substratum. Rock fragments are dominantly gravel or channers and some cobbles, flagstones, and stones. Reaction ranges from very strongly acid to moderately acid unless the soil is limed.

The Ap horizon has hue of 10YR and value and chroma of 3 or 4. Some pedons have an A horizon with hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 1 to 3. The A horizon is silt loam or loam and their gravelly or channery analogs.

The Bw horizon has hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 4 to 6. The B horizon is silt loam, loam, or very fine sandy loam and their gravelly or channery analogs.

Some pedons have a C horizon with hue of 10YR to 5Y, value or 4 or 5, and chroma of 2 to 4. The C horizon is silt loam, loam, or fine sandy loam and their gravelly or channery analogs.

The R layer is phyllite, schist, or slate bedrock.

Charlton Series

The Charlton series consists of very deep, well drained soils on glaciated uplands. Charlton soils formed in loamy sediments. Slopes range from 3 to 35 percent.

Charlton soils are associated on the landscape with Bernardston, Cardigan, Kearsarge, Pittstown, and Stissing soils. Bernardston, Pittstown, and Stissing soils are underlain by slowly permeable, dense basal till. Stissing soils are also poorly drained. Cardigan soils have bedrock at depth of 20 to 40 inches. Kearsarge soils have bedrock at a depth of 10 to 20 inches.

Typical pedon of Charlton fine sandy loam in an area of Charlton fine sandy loam, 25 to 35 percent slopes, very stony, forested, in the town of Lyme, 1 mile south of Post Pond and 1,900 feet east of NH-10:

Oi—1 to 0 inches; loose leaves and twigs.

A—0 to 6 inches; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; friable; many fine and medium roots; 5 percent rock fragments; very strongly acid; abrupt wavy boundary.

Bw1—6 to 11 inches; dark yellowish brown (10YR 4/6) gravelly fine sandy loam; weak fine and medium granular structure; friable; many fine and common medium roots; 20 percent rock fragments; strongly acid; clear wavy boundary.

Bw2—11 to 23 inches; yellowish brown (10YR 5/6) gravelly fine sandy loam; weak fine and medium granular structure; friable; common fine and medium roots; 20 percent rock fragments; strongly acid; gradual smooth boundary.

Bw3—23 to 28 inches; light olive brown (2.5Y 5/6) gravelly fine sandy loam; weak fine and medium granular structure; friable; few fine and medium roots; 25 percent rock fragments; strongly acid; clear smooth boundary.

C—28 to 65 inches; olive brown (2.5Y 4/4) gravelly sandy loam; massive; friable; 25 percent rock fragments; moderately acid.

The solum thickness ranges from 20 to 36 inches. Depth to bedrock is more than 5 feet. The content of rock fragments ranges from 5 to 30 percent in the solum and from 10 to 40 percent in the substratum. Rock fragments are dominantly gravel and some cobbles and stones. Reaction ranges from very strongly acid to moderately acid unless the soil is limed.

The A horizon has hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1 to 3. Some pedons have an Ap horizon with hue of 10YR, value of 3 or 4, and chroma of 2 to 4. The A horizon is fine sandy loam or loam and their gravelly analogs.

The Bw horizon has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 6. Some pedons have a BC horizon with hue of 10YR to 5Y and value and chroma of 4 to 6. The Bw and BC horizons are sandy loam, fine sandy loam, or loam and their gravelly analogs.

The C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 6. The C horizon mainly is sandy loam, fine sandy loam, or loam and their gravelly or very gravelly analogs. Thin lenses of loamy sand are in some pedons.

Chocorua Series

The Chocorua series consists of very deep, very poorly drained soils in depressions on outwash plains, lake plains, and glaciated uplands. Chocorua soils formed in herbaceous organic deposits and are underlain by sandy sediments. Slopes range from 0 to 2 percent.

Chocorua soils are associated on the landscape with Greenwood, Hermon, Lyme, Medomak, and Peacham soils. Becket, Hermon, and Lyme soils are better drained than Chocorua soils. Greenwood soils have thicker organic horizons than Chocorua soils. Medomak soils formed in alluvial sediments on flood plains. Peacham soils do not have the thick organic horizons characteristic of the Chocorua soils.

Typical pedon of Chocorua mucky peat, forested, in the town of Monroe, 2,640 feet south of the village of Monroe and 500 feet east of NH-136:

Oe1—0 to 5 inches; black (N 2/0), broken face and rubbed, hemic material; moderate medium granular structure; friable; few fine and medium live roots; extremely acid; clear smooth boundary.

Oe2—5 to 22 inches; black (5YR 2/1), broken face and rubbed, hemic material; moderate medium granular structure; slightly sticky; extremely acid; abrupt smooth boundary.

Oe3—22 to 26 inches; black (5YR 2/1), broken face and rubbed, hemic material; massive; 5 percent mineral material; extremely acid; abrupt smooth boundary.

2Cg1-26 to 30 inches; greenish gray (5GY 6/1) fine sand; massive; very friable; moderately acid; abrupt smooth boundary.

2Cg2-30 to 65 inches; greenish gray (5GY 6/1) sand; single grain; loose; moderately acid.

Thickness of the organic material ranges from 16 to 51 inches. Layers of fibric or sapric material have a combined thickness of less than 10 inches in the lower two tiers. The organic materials are herbaceous and woody. Slightly decomposed woody fragments make up 0 to 15 percent, by volume, of the organic material.

The surface tier is hemic or fibric material with an unrubbed fiber content that ranges from 40 to 80 percent of the organic volume. Rubbed fiber content ranges from 17 to 60 percent.

The Oi and 0e layers have hue of 5YR to 10YR or are neutral, value of 1 to 3, and chroma of 1 or 2.

The subsurface tier is dominantly hemic material but includes thin layers of fibric or sapric material. Unrubbed fiber content ranges from 35 to 70 percent. Rubbed fiber content ranges from 15 to 35 percent.

The 0e layer has hue of 5YR to 10YR, value of 1 to 3, and chroma of 1 or 2.

Some pedons have an organic bottom tier with the same range in characteristics as the subsurface tier.

The 2C or 2Cg horizon has hue of 5Y to 5BG or is neutral, value of 5 or 6, and chroma of 1 or 2. The 2C horizon is coarse sand, sand, fine sand, loamy coarse sand, loamy sand, or loamy fine sand and their gravelly or very gravelly analogs. The content of rock fragments ranges from 0 to 40 percent. Reaction ranges from very strongly acid to moderately acid.

Colton Series

The Colton series consists of very deep, excessively drained soils on outwash terraces, kames, and eskers. Colton soils formed in stratified, water-deposited, sandy sediments. Slopes range from 0 to 15 percent on terraces and from 15 to 60 percent on escarpments.

Colton soils are associated on the landscape with Adams, Croghan, Groveton, Hermon, and Ondawa soils. Adams and Croghan soils have less than 35 percent gravel in the particle-size control section. Croghan soils are moderately well drained. Groveton and Ondawa soils have a coarse-loamy particle-size control section, and Ondawa soils are subject to flooding. Hermon soils are not stratified in the substratum.

Typical pedon of Colton loamy sand, 0 to 3 percent slopes, cultivated, in the town of Wentworth, 2.8 miles north of the junction of NH-25A and NH-25 and 150 feet east of NH-25:

Ap—0 to 8 inches; dark brown (7.5YR 3/2) loamy sand; weak fine granular structure; friable; many fine roots; 10 percent rock fragments; strongly acid; abrupt smooth boundary.

E—8 to 11 inches; gray (10YR 5/1) loamy sand; weak fine granular structure; very friable; many fine roots; 12 percent rock fragments; strongly acid; abrupt broken boundary.

Bh—11 to 12 inches; very dark gray (5YR 3/1) gravelly loamy fine sand; weak fine granular structure; friable; many fine roots; 15 percent rock fragments; very strongly acid; abrupt broken boundary.

Bs1—12 to 16 inches; yellowish red (5YR 4/6) gravelly loamy sand; weak fine granular structure; very friable; few fine roots; 20 percent rock fragments; strongly acid; clear wavy boundary.

Bs2—16 to 18 inches; yellowish red (5YR 5/8) gravelly loamy sand; weak fine granular structure; very friable; few fine roots; 25 percent rock fragments; strongly acid; clear wavy boundary.

Bw—18 to 22 inches; yellowish brown (10YR 5/8) very gravelly loamy sand; very weak fine granular structure; very friable; few fine roots; 35 percent rock fragments; strongly acid; abrupt wavy boundary.

C—22 to 65 inches; very pale brown (10YR 7/3) very gravelly loamy sand; single grain; loose; 55 percent rock fragments; strongly acid.

Thickness of the solum ranges from 18 to 36 inches. The content of rock fragments ranges from 15 to 50 percent in the solum and from 35 to 70 percent in the substratum. Reaction is very strongly acid to moderately acid throughout the soil.

The Ap horizon has hue of 10YR or 7.5YR, value of 3 or 4, and chroma of 2 or 3. It is loamy sand, loamy fine sandy, sandy loam, or fine sandy loam in the fine-earth fraction.

The E horizon has hue of 10YR or 7.5YR or is neutral, value of 5 to 7, and chroma of 1 or 2. It is loamy sand, loamy fine sand, sandy loam, or fine sandy loam in the fine-earth fraction.

The Bh horizon has hue of 7.5YR to 2.5YR, value of 2 or 3, and chroma of 1 to 3. The Bs horizon has hue of 10YR to 5YR, value of 3 to 6, and chroma of 3 to 8. The Bw horizon has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8. Some pedons have a BC horizon with hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 6. The B horizon is sand or loamy sand in the fine-earth fraction.

The C horizon has hue of 5Y to 10YR, value of 5 to 7, and chroma of 2 to 4. It is sand or loamy sand in the fine-earth fraction.

Croghan Series

The Croghan series consists of very deep, moderately well drained soils on stream terraces, kames, and eskers. Croghan soils formed in stratified, water-deposited, sandy sediments. Slopes range from 0 to 5 percent.

Croghan soils are associated on the landscape with Adams, Colton, Kinsman, Madawaska, Pemi, Rumney, and Searsport soils. Adams soils are excessively drained. Colton soils are excessively drained and have more than 35 percent coarse fragments in the particle-size control section. Kinsman, Pemi, and Rumney soils are poorly drained. Madawaska soils have a coarse-loamy over sandy or sandy-skeletal particle-size control section. Searsport soils are very poorly drained.

Typical profile of Croghan loamy fine sand, 0 to 3 percent slopes, in a hayfield, in the town of Canaan, 1 mile north of the village of West Canaan and 200 feet west of the paved road:

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) loamy fine sand; weak fine granular structure; very friable; common fine and medium roots; slightly acid; abrupt smooth boundary.

E—10 to 11 inches; gray (10YR 6/1) fine sand; massive; very friable; common fine and medium roots; very strongly acid; abrupt discontinuous boundary.

Bhs—11 to 13 inches; dark reddish brown (5YR 3/2)

loamy fine sand; weak fine granular structure; very friable; common fine and few medium roots; 1/2inch discontinuous band of black (N 2/0) loamy fine sand on the top of horizon (remnant Bh horizon); few (5 percent) tongues of gray (10YR 6/1) fine sand (E horizon material); very strongly acid; abrupt irregular boundary.
Bs1—13 to 18 inches; dark brown (7.5YR 4/4) loamy fine sand; massive; very friable; few fine roots; 15 percent thin (1 to 4 mm) bands of red (2.5YR 4/6) ortstein; many (25 percent) tongues of dark reddish brown (5YR 3/2) loamy fine sand (Bhs horizon material); strongly acid; clear wavy boundary.
Bs2—18 to 23 inches; strong brown (7.5YR 5/6) loamy fine sand; few medium prominent olive gray (5Y 5/2) and common fine prominent red (2.5YR 4/8) mottles; massive; very friable; few fine roots; 5 percent thin (1 to 4mm) bands of red (2.5YR 4/6) ortstein; common (15 percent) tongues of dark reddish brown (5YR 3/2) and dark brown (7.5YR 4/4) loamy fine sand (Bhs and Bs1 horizons material); strongly acid clear wavy boundary.
BC—23 to 28 inches; olive gray (5Y 5/2) sand; massive; very friable; few (5 percent) 2-to-6-inch elliptical areas of weakly cemented reddish yellow (7.5YR 6/8) sand; common (20 percent) thin (1 to 4 mm) bands of reddish yellow (7.5YR 6/6) sand; strongly acid; abrupt smooth boundary.
C1—28 to 31 inches; olive gray (5Y 4/2) fine sand; massive; very friable; common (20 percent) thin (1 to 2 mm) bands of light yellowish brown (2.5Y 6/4) and reddish yellow (7.5YR 6/8) fine sand; few (5 percent) 2 to 5 mm areas of weakly cemented reddish yellow (7.5YR 6/8) sand; strongly acid; abrupt smooth boundary.
C2—31 to 36 inches; light gray (2.5Y 7/2) coarse sand; single grain; loose; 10 percent rock fragments; moderately acid; abrupt smooth boundary.
C3—36 to 65 inches; olive gray (5Y 5/2) sand; massive; very friable; many (25 percent) thin (1 to 2 mm) bands of light gray (2.5Y 7/2) sand; moderately acid.

The solum thickness ranges from 20 to 40 inches. The content of rock fragments ranges from 0 to 3 percent in the A horizon and 0 to 15 percent in the B and C horizons. Reaction ranges from very strongly acid to moderately acid throughout the soil.

The Ap horizon has hue of 10YR or 7.5YR, value of 3 to 5, and chroma of 2. The Ap horizon is loamy sand or loamy fine sand.

The E horizon has hue of 10YR or 7.5YR or is neutral, value of 5 to 7, and chroma of 1 or 2. The E horizon is sand, fine sand, loamy sand, or loamy fine sand.

The Bh or Bhs horizon has hue of 7.5YR to 2.5YR, value of 2 or 3, and chroma of 1 to 3. The Bh or Bhs horizon is sand, fine sand, loamy sand, or loamy fine sand.

The Bs horizon has hue of 10YR to 5YR, value of 3 to 5, and chroma of 4 to 8. The Bs horizon is sand, fine sand, loamy sand, or loamy fine sand.

The BC horizon has hue of 5Y to 10YR, value of 4 to 6, and chroma of 2 to 4. The BC horizon is sand or loamy sand.

The C horizon has hue of 5Y to 10YR, value of 5 to 7, and chroma of 2 to 4. The C horizon is sand or loamy sand.

Dartmouth Series

The Dartmouth series consists of very deep, moderately well drained soils on terraces and lake plains. Dartmouth soils formed in silty lacustrine material. Slopes range from 0 to 8 percent.

Dartmouth soils are associated on the landscape with Agawam, Binghamville, Deerfield, Hitchcock, and Walpole soils. The Agawam, Deerfield, and Walpole soils formed in coarse and moderately coarse textured material. The Binghamville soils are poorly drained. The Hitchcock soils are well drained.

Typical pedon of Dartmouth silt loam, 0 to 3 percent slopes, in a pasture, in the town of Orford, 2,640 feet north of the Orford-Lyme townline and 500 feet east of NH-10:

Ap—0 to 11 inches; olive brown (2.5Y 4/4) silt loam; moderate fine granular structure; friable; many fine roots; moderately acid; abrupt smooth boundary.
Bw—11 to 22 inches; light olive brown (2.5Y 5/4) very fine sandy loam; common coarse prominent light olive gray (5Y 6/2) mottles; common medium prominent strong brown (7.5YR 5/6) mottles in the lower part; weak fine granular structure; friable; few fine roots; strongly acid; abrupt wavy boundary.
C—22 to 65 inches; olive gray (5Y 5/2) and olive brown (2.5Y 4/4) very fine sandy loam; weak thick plates; friable; strongly acid.

The solum thickness ranges from 15 to 30 inches. Rock fragment content ranges from 0 to 5 percent throughout. Reaction ranges from very strongly acid to slightly acid throughout unless the soil is limed.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 to 4. The Ap horizon is very fine sandy loam or silt loam.

The Bw horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 to 6; chroma of 1 or 2 is restricted to subhorizons at a depth of more than 20 inches. The Bw horizon is very fine sandy loam or silt loam.

The C horizon has hue of 10YR to 5Y, value of 4 to

6, and chroma of 1 to 4. The C horizon has weak, medium to very thick plates, or it is massive. It mainly is loamy very fine sand, very fine sandy loam, silt loam, or silt. Thin or very thin strata of silty clay loam or silty clay are in some pedons.

Deerfield Series

The Deerfield series consists of very deep, moderately well drained soils on terraces, deltas, and outwash plains. Deerfield soils formed in loamy glaciofluvial sediments. Slopes range from 0 to 5 percent.

Deerfield soils are associated on the landscape with Agawam, Binghamville, Dartmouth, Quonset, Walpole, and Windsor soils. Agawam soils have a coarse-loamy over sandy or sandy-skeletal particle-size control section. Binghamville and Dartmouth soils have a coarse-silty particle-size control section. Quonset soils have a sandy-skeletal particle-size control section and are excessively drained. Walpole soils are poorly drained. Windsor soils are excessively drained.

Typical pedon of Deerfield fine sandy loam, 0 to 3 percent slopes, cultivated, in the town of Haverhill, 2,640 feet south of the village of North Haverhill and 200 feet west of NH-10:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak medium granular structure; very friable; many fine roots; moderately acid; abrupt smooth boundary.

Bw1—9 to 16 inches; yellowish brown (10YR 5/6) loamy fine sand; few fine faint strong brown (7.5YR 5/6) mottles; massive; very friable; common fine roots; slightly acid; abrupt smooth boundary.

Bw2—16 to 27 inches; light olive brown (2.5Y 5/4) loamy fine sand; single grain; loose; few fine roots; moderately acid; abrupt wavy boundary.

C—27 to 65 inches; grayish brown (2.5Y 5/2) fine sand; few common faint light brownish gray (2.5Y 6/2) mottles; single grain; loose; strongly acid.

The solum thickness ranges from 15 to 30 inches. The content of rock fragments ranges from 0 to 15 percent throughout the profile. Reaction ranges from very strongly acid to slightly acid throughout the soil.

The Ap horizon has hue of 10YR, value of 2 to 4, and chroma of 2 or 3. It is fine sandy loam, sandy loam, loamy fine sand, or loamy sand.

The Bw horizon has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6. The Bw horizon is loamy fine sand, loamy sand, loamy coarse sand, fine sand, sand, or coarse sand.

The C horizon has hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 1 to 4. The C horizon is loamy sand, loamy coarse sand, fine sand, sand, or coarse sand.

Greenwood Series

The Greenwood series consists of very deep, very poorly drained soils in depressions on outwash plains, lake plains, and glacial till uplands. Greenwood soils formed in herbaceous organic deposits more than 51 inches thick. Slopes range from 0 to 2 percent.

Greenwood soils are associated on the landscape with Berkshire, Chocorua, Lyme, Ossipee, Peacham, and Pillsbury soils. All of these soils except Chocorua soils have mineral horizons throughout the profile and do not have the thick organic horizons characteristic of the Greenwood soils. Chocorua soils have thinner organic horizons underlain by mineral material.

Typical pedon of Greenwood mucky peat, forested, in the town of Hanover, 2 miles north-northeast of the junction of I-89 and NH-120, and 400 feet west of paved road:

Oe—0 to 10 inches; dark reddish brown (5YR 2/2), black (5YR 2/1) broken face and rubbed, hemic material; moderate medium granular structure; friable; mostly herbaceous fibers; extremely acid; clear smooth boundary.

Oa—10 to 19 inches; black (5YR 2/1), very dark brown (10YR 2/2), broken face and rubbed, sapric material; massive; slightly sticky; mostly herbaceous fibers; extremely acid; clear wavy boundary.

Oe—19 to 38 inches; dark reddish brown (5YR 2/2), very dark brown (10YR 2/2) broken face and rubbed, hemic material; massive; slightly sticky; mostly herbaceous fibers; extremely acid; clear wavy boundary.

Oi—38 to 45 inches; very dusky red (2.5YR 2/2), very dark brown (10YR 2/2) broken face and rubbed, fibric material; massive; mostly herbaceous fibers; extremely acid; clear wavy boundary.

0e—45 to 65 inches; reddish brown (2.5YR 4/4), very dusky red (2.5YR 2/2) broken face and rubbed, hemic material; massive; slightly sticky; mostly herbaceous fibers; extremely acid.

Thickness of the organic material is more than 51 inches. In some pedons, layers of fibric or sapric material have a combined thickness of less than 10 inches in the lower two tiers. Most of the layers are hemic material derived from herbaceous plants. Reaction is extremely acid in all organic layers.

The 0e layer has hue of 5YR or 2.5YR, value of 2 to 4, and chroma of 1 to 4. Colors after rubbing change from 0.5 to 2 units in value or chroma or both.

Groveton Series

The Groveton series consists of very deep, well drained soils on outwash terraces and high stream terraces. Groveton soils formed in stratified, water-deposited, loamy sediments underlain by sandy sediments. Slopes range from 0 to 60 percent.

Groveton soils are associated on the landscape with Adams, Colton, Madawaska, Ondawa, and Nicholville soils. Adams soils have a sandy particle-size control section. Colton soils have a sandy-skeletal particle-size control section. Madawaska soils have low-chroma mottles in the subsoil. Ondawa soils do not have a spodic horizon and are subject to flooding. Nicholville soils have a coarse-silty particle-size control section.

Typical pedon of Groveton fine sandy loam, 0 to 3 percent slopes, forested, in the town of Bridgewater, 4,225 feet south of the junction of the Belknap County line and the Pemigewasset River, and 150 feet north-west of the west bank of the Pemigewasset River:

A—0 to 3 inches; dark brown (7.5YR 3/2) fine sandy loam; weak fine granular structure; friable; many fine and common medium roots; discontinuous streaks of dark gray (N 4/0) sand grains; very strongly acid; abrupt wavy boundary.

Bs—3 to 8 inches; brown (7.5YR 5/4) fine sandy loam; weak fine granular structure; friable; many fine and common medium roots; strongly acid; clear smooth boundary.

Bw—8 to 15 inches; yellowish brown (10YR 5/6) fine sandy loam; weak fine subangular blocky structure parting to weak medium granular; friable; common fine and few medium roots; moderately acid; gradual smooth boundary.

BC—15 to 28 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; moderately acid; gradual smooth boundary.

C1—28 to 48 inches; light yellowish brown (2.5Y 6/4) loamy fine sand; massive; very friable; moderately acid; gradual smooth boundary.

C2—48 to 65 inches; light yellowish brown (2.5Y 6/4) fine sand; massive; very friable; moderately acid.

The solum thickness ranges from 20 to 36 inches. The content of rock fragments ranges from 0 to 5 percent in the A horizon and upper part of the B horizon and from 0 to 10 percent in the lower part of the B horizon and in the C horizon. Reaction ranges from very strongly acid to slightly acid in the solum and strongly acid to slightly acid in the substratum.

The A horizon has hue of 10YR or 7.5YR, value of 2 or 3, and chroma of 1 or 2. Some pedons have an Ap horizon with hue of 10YR or 7.5YR, value of 3 or 5, and chroma of 2 to 4. The A or Ap horizon is sandy loam, fine sandy loam, or very fine sandy loam.

Some pedons have a discontinuous E horizon with hue of 10YR or 7.5YR or is neutral, value of 4 to 6, and chroma of 1 or 2. The E horizon is similar in texture to the A horizon.

The Bs horizon has hue of 7.5YR to 2.5YR, value of 3 to 6, and chroma of 3 to 8. The Bs horizon is sandy loam, fine sandy loam, or very fine sandy loam.

The Bw horizon has hue of 10YR or 7.5YR, value of 4 to 6, and chroma of 4 to 8. The Bw horizon is sandy loam, fine sandy loam, or very fine sandy loam.

The BC horizon has hue of 5Y to 7.5YR, value of 4 to 6, and chroma of 3 to 6. The BC horizon is loamy fine sandy, sandy loam, or fine sandy loam.

The C1 horizon has hue of 5Y to 10YR, value of 4 to 6, and chroma of 2 to 4. The C1 horizon is loamy sand, loamy fine sand, sandy loam, or fine sandy loam.

The C2 horizon has hue of 5Y or 2.5Y, value of 4 to 6, and chroma of 2 to 4. The C2 horizon is sand, fine sand, loamy sand, loamy fine sand, sandy loam, or fine sandy loam.

Hadley Series

The Hadley series consists of very deep, well drained soils on the flood plains of the Connecticut River. Hadley soils formed in silty alluvial sediments. Slopes range from 0 to 3 percent.

Hadley soils are associated on the landscape with Hitchcock, Limerick, Occum, Pootatuck, Rippowam, Suncook, Windsor, and Winooski soils. Hitchcock soils have a cambic horizon and are not subject to flooding. Limerick and Rippowam soils are poorly drained. Occum and Pootatuck soils have a coarse-loamy particle-size control section. Windsor soils have a sandy particle-size control section. Winooski soils are moderately well drained. Suncook soils are excessively drained.

Typical pedon of Hadley silt loam, in a pasture, in the town of Orford, 250 feet north of Strawberry Hill Brook and 250 feet west of NH-10:

Ap—0 to 10 inches; dark brown (10YR 4/3) silt loam; weak medium granular structure; friable; many fine roots; neutral; abrupt smooth boundary.

C1—10 to 22 inches; olive (5Y 5/3) silt loam; massive; friable; common fine roots; neutral; abrupt wavy boundary.

C2—22 to 42 inches; olive (5Y 4/3) very fine sandy loam; massive; friable; few fine roots; slightly acid; abrupt wavy boundary.

C3—42 to 65 inches; olive (5Y 4/3) loamy fine sand; massive; very friable; neutral.

Reaction ranges from moderately acid to neutral throughout the soil. The content of rock fragments ranges from 0 to 5 percent in the upper 40 inches and 0 to 15 percent below 40 inches.

The Ap horizon has hue of 10YR to 5Y, value of 3 or 4, and chroma of 2 or 3. It is silt loam or very fine sandy loam.

The C horizon has hue of 10YR to 5Y, value of 3 to 5, and chroma of 2 to 4. Texture to a depth of 40 inches is dominantly silt loam or very fine sandy loam, but some pedons have thin strata of loamy very fine sand, loamy fine sand, fine sand, or sand. Below 40 inches, the texture ranges from silt loam to sand.

Hermon Series

The Hermon series consists of very deep, somewhat excessively drained soils on glaciated uplands. Hermon soils formed in loamy glacial till. Slopes range from 0 to 60 percent.

Hermon soils are associated on the landscape with Adams, Becket, Canaan, Chocorua, Colton, Lyman, Lyme, Monadnock, Moosilauke, Tunbridge, and Waumbek soils. Adams and Colton soils formed in glaciofluvial deposits. Becket soils have less than 35 percent rock fragments in the particle-size control section and are well drained. Canaan and Lyman soils have bedrock at a depth of 20 inches or less. Chocorua soils are very poorly drained. Redstone soils are underlain by fragmental material. Lyme and Moosilauke soils are poorly drained. Monadnock soils have a coarse-loamy over sandy or sandy-skeletal particle-size control section. Tunbridge soils have bedrock at a depth of 20 to 40 inches. Waumbek soils are moderately well drained.

Typical pedon of Hermon fine sandy loam in an area of Monadnock and Hermon soils, 3 to 8 percent slopes, very stony, forested, in the town of Plymouth, about 1,320 feet east of the junction of NH-25 and NH-3A, and 100 feet north of NH-25, near a gravel pit:

A—0 to 5 inches; dark brown (10YR 3/3) fine sandy loam; weak medium granular structure; friable; many fine roots; 5 percent rock fragments; very strongly acid; abrupt clear boundary.

E—5 to 7 inches; light gray (10YR 6/2) fine sandy loam; weak medium granular structure; friable; few fine roots; 5 percent rock fragments; strongly acid; abrupt clear boundary.

Bs—7 to 15 inches; dark yellowish brown (10YR 4/4) gravelly fine sandy loam; weak medium granular structure; friable; 25 percent rock fragments; strongly acid; gradual wavy boundary.

BC—15 to 22 inches; light olive brown (2.5Y 5/4) gravelly loamy sand; weak fine granular structure; friable; 30 percent rock fragments; moderately acid; gradual wavy boundary.

C—22 to 65 inches; grayish brown (2.5Y 5/2) very gravelly loamy sand; single grain; loose; 40 percent rock fragments; moderately acid.

Thickness of the solum ranges from 15 to 30 inches. The content of rock fragments ranges from 5 to 30 percent in the A horizon and 15 to 70 percent in the B and C horizons. Reaction ranges from extremely acid to strongly acid in the A horizon and very strongly acid to moderately acid in the B and C horizons.

The A horizon has hue of 10YR to 5YR, value of 2 to 4, and chroma of 1 to 4. Some pedons have an Ap horizon with hue of 10YR, value of 3, and chroma of 2 to 4. The A or Ap horizon is sandy loam or fine sandy loam in the fine-earth fraction.

The E horizon has hue of 2.5Y to 5YR, value of 5 or 6, and chroma of 1 or 2. The E horizon is loamy fine sand, sandy loam, or fine sandy loam in the fine-earth fraction.

Some pedons have a Bh horizon with hue of 7.5YR to 2.5YR, value of 2 or 3, and chroma of 1 or 2. The Bh horizon is sandy loam or fine sandy loam in the fine-earth fraction.

The Bs horizon has hue of 10YR to 2.5YR, value of 3 to 5, and chroma of 4 to 8. The Bs horizon is loamy sand, sandy loam, or fine sandy loam in the fine-earth fraction.

Some pedons have a Bw horizon with hue of 2.5Y to 7.5YR, value of 4 to 6, and chroma of 4 to 8. The Bw horizon is loamy sand, sandy loam, or fine sandy loam in the fine-earth fraction.

The BC horizon has hue of 2.5Y or 10YR, value of 4 or 5, and chroma of 3 to 6. The BC horizon is loamy sand or sandy loam in the fine-earth fraction.

The C horizon has hue of 5Y to 10YR, value of 5 or 6, and chroma of 1 to 4. The C horizon is coarse sand, sand, loamy coarse sand, or loamy sand in the fine-earth fraction.

Hitchock Series

The Hitchcock series consists of very deep, well drained soils on terraces and lake plains. Hitchcock soils formed in silty lacustrine material. Slopes range from 0 to 60 percent.

Hitchcock soils are associated on the landscape with Agawam, Binghamville, Dartmouth, Hadley, Quonset, Walpole, and Windsor soils. Agawam, Quonset, Walpole, and Windsor soils have coarser textures throughout. Binghamville soils are poorly drained. Dartmouth soils are moderately well drained. Hadley soils formed in alluvial sediments.

Typical pedon of Hitchcock silt loam, 15 to 60 percent slopes, forested, in the town of Orford, 1.5 miles north of the village of Orford and 300 feet east of NH-10:

Ap—0 to 6 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; many fine and medium roots; strongly acid; abrupt smooth boundary.
E—6 to 8 inches; gray (10YR 6/1) silt loam; massive; very friable; many fine and medium roots; very strongly acid; abrupt broken boundary.
Bw1—8 to 13 inches; light olive brown (2.5Y 5/6) silt loam; moderate fine granular structure; friable; many fine and common medium roots; slightly acid; abrupt wavy boundary.
Bw2—13 to 19 inches; light yellowish brown (2.5Y 6/4) silt loam; moderate fine granular structure; friable; many fine and few medium roots; moderately acid; clear wavy boundary.
C1—19 to 31 inches; grayish brown (2.5Y 5/2) silt loam; massive; friable; few fine roots; moderately acid; abrupt wavy boundary.
C2—31 to 65 inches; olive gray (5Y 4/2) silt; massive; firm; few fine roots above 43 inches; moderately acid.

The solum thickness ranges from 15 to 30 inches. The content of rock fragments is less than 5 percent throughout the profile. Reaction ranges from very strongly acid to slightly acid throughout unless the soil is limed.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 to 4. Some pedons have an A horizon with hue of 10YR, value of 2 or 3, and chroma of 1 or 2. The Ap or A horizon is silt loam or very fine sandy loam.

The E horizon is neutral or has hue of 10YR or 2.5Y, value of 6 or 7, and chroma of 1 or 2. The E horizon is silt loam or very fine sandy loam.

The Bw horizon has hue of 7.5YR to 2.5Y, value of 3 to 6, and chroma of 2 to 8. The Bw horizon is silt loam or very fine sandy loam.

Some pedons have a BC horizon with hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 2 to 4. It is similar in texture to the Bw horizon.

The C horizon has hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 2 to 4. The C horizon mainly is silt loam, very fine sandy loam, or silt. Thin strata of loamy very fine sand, silty clay loam, or silty clay are in some pedons.

Kearsarge Series

The Kearsarge series consists of shallow, somewhat excessively drained soils on glaciated uplands. Kearsarge soils formed in silty glacial till underlain by bedrock at a depth of 10 to 20 inches. Slopes range from 3 to 60 percent.

Kearsarge soils are associated on the landscape with Bernardston, Cardigan, Charlton, Pittstown, and Stissing soils. These associated soils are deeper than 20 inches to bedrock.

Typical pedon of Kearsarge silt loam in an area of Cardigan-Kearsarge-Rock outcrop complex, 8 to 15 percent slopes, in a pasture in the town of Lebanon, 3,300 feet west of the junction of US-4 and NH-4A, and 2,000 feet north of the Mascoma River:

Ap—0 to 4 inches; very dark grayish brown (10YR 3/2) silt loam; moderate fine granular structure; friable; many fine and common medium roots; 5 percent rock fragments; strongly acid; clear wavy boundary.
Bw—4 to 12 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine granular structure; friable; common fine and few medium roots; 10 percent rock fragments; strongly acid; clear wavy boundary.
C—12 to 15 inches; olive gray (5Y 4/2) loam; massive; friable; few fine roots; 12 percent rock fragments; strongly acid; abrupt wavy boundary.
R—15 inches; hard schist bedrock.

The solum thickness and depth to bedrock range from 10 to 20 inches. The content of rock fragments ranges from 3 to 25 percent throughout. Rock fragments are dominantly gravel or channers and some cobbles, flagstones, and stones. Reaction ranges from very strongly acid to moderately acid unless the soil is limed.

The Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 2 to 4. Some pedons have an A horizon with hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 1 to 3. The A horizon is silt loam or loam and their gravelly or channery analogs.

The Bw horizon has hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 4 to 6. The B horizon is silt loam, loam, or very fine sandy loam and their gravelly or channery analogs.

The C horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 2 to 4. The C horizon is silt loam,

loam, or very fine sandy loam and their gravelly or channery analogs.

The R layer is phyllite, schist, or slate bedrock.

Kinsman Series

The Kinsman series consists of very deep, poorly drained soils in slightly concave areas of stream terraces, kame terraces, outwash plains, and depressions at the base of hills of glaciated uplands. Kinsman soils formed in sandy glacial outwash. Slopes range from 0 to 5 percent.

Kinsman soils are associated on the landscape with Adams, Croghan, Madawaska, and Searsport soils. Adams soils are excessively drained. Croghan soils are moderately well drained. Groveton soils are well drained. Searsport soils are very poorly drained.

Typical pedon of Kinsman sand, 0 to 5 percent slopes, forested, in the town of Franconia, 2 miles south of the junction of NH-116 and NH-18, and 1,500 feet east of NH-116:

Oi—2 to 0 inches; undecomposed sphagnum fibers.

Oa—0 to 5 inches; black (N 2/0), broken face and rubbed, sapric material; weak medium platy structure; friable; many fine and medium and common coarse roots; extremely acid; abrupt smooth boundary.

E—5 to 8 inches; light brownish gray (2.5Y 6/2) sand; massive; very friable; many medium roots; very strongly acid; abrupt wavy boundary.

Bh—8 to 10 inches; black (5YR 2/1) loamy sand; weak moderate granular structure; friable; few medium roots; very strongly acid; abrupt broken boundary.

Bhs—10 to 17 inches; dark reddish brown (5YR 3/3) sand; few coarse prominent very dark grayish brown (2.5Y 3/2) mottles; massive; very friable; strongly acid; abrupt wavy boundary.

Bs—17 to 20 inches; dark brown (10YR 4/3) sand; common medium distinct very dark grayish brown (2.5Y 3/2) mottles; massive; very friable; very strongly acid; abrupt wavy boundary.

Bg—20 to 24 inches; olive gray (5Y 4/2) sand; common medium distinct olive (5Y 5/3) mottles; massive; very friable; very strongly acid; abrupt wavy boundary.

C—24 to 65 inches; olive brown (2.5Y 4/4) gravelly sand; single grain; loose; 30 percent rock fragments; very strongly acid.

The solum thickness ranges from 18 to 36 inches. The content of rock fragments ranges from 0 to 15 percent in the solum and from 5 to 35 percent in the substratum. Reaction ranges from extremely acid to strongly acid in the solum and from very strongly aid to moderately acid in the substratum.

The 0a horizon has hue of 2.5YR or 5YR or is neutral, value of 2 or 3, and chroma of 1 or 2.

The E horizon has hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 to 3. It is fine sandy loam, sandy loam, loamy fine sand, loamy sand, fine sand, or sand.

The Bh or Bhs horizon has hue of 2.5YR to 10YR, value of 2 or 3, and chroma of 1 to 3. The Bs horizon has hue of 5YR to 10YR, value of 3 or 4, and chroma of 3 to 6. The Bg horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 1 or 2. Some pedons have a Bw or BC horizon with hue of 10YR to 5Y, value of 4 to 6, and chroma of 3 to 6.

The B horizon is loamy fine sandy, loamy sand, fine sand, or sand. The content of ortstein in the upper part of the B horizon ranges from 0 to 40 percent.

The C horizon has hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 to 4. It is loamy sand or sand in the fine-earth fraction.

Limerick Series

The Limerick series consists of very deep, poorly drained soils on the flood plains of major streams and rivers in the Connecticut River valley. Limerick soils formed in silty alluvial sediments. Slopes range from 0 to 2 percent.

Limerick soils are associated on the landscape with Hadley, Pootatuck, Rippowam, and Winooski soils. Hadley soils are well drained. Pootatuck and Rippowam soils have a coarse-loamy particle-size control section. Winooski soils are moderately well drained.

Typical pedon of Limerick silt loam in a hayfield in the town of Piermont, 3,960 feet south of the junction of NH-10 and River Road, and 1,100 feet west of River Road:

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam; moderate fine granular structure; very friable; many fine roots; moderately acid; abrupt smooth boundary.

Cg1—5 to 14 inches; 65 percent dark grayish brown (2.5Y 4/2) and 35 percent olive gray (5Y 5/2) silt loam; few fine prominent yellowish red (5YR 4/8) mottles; massive; very friable; few fine roots; moderately acid; clear smooth boundary.

Cg2—14 to 65 inches; dark grayish brown (2.5Y 4/2) very fine sandy loam; few fine prominent dark reddish brown (5YR 2/2) and common fine distinct dark yellowish brown (10YR 3/4) mottles; massive; very friable; moderately acid.

Reaction ranges from strongly acid to neutral throughout the soil. The soils is silt loam or very fine sandy loam to a depth of 40 inches. Some pedons have stratified layers of coarser material below 40 inches.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 or 3.

The Cg horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 1 or 2.

Lyman Series

The Lyman series consists of shallow, somewhat excessively drained soils on glaciated uplands. Lyman soils formed in loamy glacial till. Slopes range from 0 to 60 percent.

Lyman soils are associated on the landscape with Becket, Berkshire, Hermon, Marlow, Monadnock, Peru, Skerry, Tunbridge, and Waumbek soils. All of the associated soils are deeper than 60 inches to bedrock except Tunbridge soils, which have bedrock at a depth of 20 to 40 inches.

Typical pedon of Lyman fine sandy loam in an area of Tunbridge-Lyman-Rock outcrop complex, 25 to 60 percent slopes, very stony, forested, in the town of Littleton, 4 miles north of the junction of NH-116 and US-302 on Mann Hill Road, and 1,580 feet west of Mann Hill on the road to the microwave transmitter:

Oi—1 inch to 0; undecomposed needles and leaves.

A—0 to 3 inches; dark reddish brown (5YR 2/2) fine sandy loam; moderate fine granular structure; friable; many fine roots; 5 percent rock fragments; very strongly acid; clear wavy boundary.

Bs1—3 to 7 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine granular structure; friable; many fine roots; 8 percent rock fragments; very strongly acid; abrupt irregular boundary.

Bs2—7 to 12 inches; yellowish red (5YR 4/6) loam; weak fine granular structure; friable; many fine roots; 8 percent rock fragments; very strongly acid; abrupt wavy boundary.

BC—12 to 16 inches; olive (5Y 4/4) gravelly loam; weak fine granular structure; friable; common fine roots; 15 percent rock fragments; very strongly acid; abrupt smooth boundary.

R—16 inches; hard schist bedrock.

Thickness of the solum and depth to bedrock range from 10 to 20 inches. The content of rock fragments ranges from 5 to 25 percent throughout the soil. Reaction ranges from extremely acid to moderately acid throughout the soil.

The A horizon has hue of 10YR to 5YR, value of 2 or 3, and chroma of 2. Some pedons have an Ap horizon with colors similar to those in the A horizon. The A horizon is fine sandy loam or loam.

Some pedons have an E horizon with hue of 10YR to 5YR, value of 5 to 7, and chroma of 1 to 4. The E horizon is fine sandy loam or loam.

Some pedons have a discontinuous Bh horizon with hue of 10YR to 5YR and value and chroma of 2 or 3. The Bh horizon is fine sandy loam or loam in the fine-earth fraction.

The Bs horizon has hue of 10YR to 5YR, value of 3 or 4, and chroma of 4 to 8. The Bs horizon is fine sandy loam or loam in the fine-earth fraction.

The BC horizon has hue of 5Y to 10YR, value of 3 to 5, and chroma of 3 or 4. The BC horizon is fine sandy loam or loam in the fine-earth fraction.

The R layer is phyllite, gneiss, granite, or schist.

Lyme Series

The Lyme series consists of very deep, poorly drained soils in concave areas and shallow drainageways of glaciated uplands. Lyme soils formed in loamy glacial till. Slopes range from 0 to 8 percent.

Lyme soils are associated on the landscape with Berkshire, Chocorua, Greenwood, Hermon, Moosilauke, Ossipee, Peacham, and Waumbek soils. Berkshire soils are well drained. Chocorua, Greenwood, and Ossipee soils are very poorly drained. Hermon soils are somewhat excessively drained. Moosilauke soils have a sandy particle-size control section. Peacham soils are very poorly drained. Waumbek soils are moderately well drained.

Typical pedon of Lyme cobbly fine sandy loam in an area of Lyme and Moosilauke soils, 0 to 3 percent slopes, very stony, forested, in the town of Haverhill, 4,200 feet northeast of French Pond, 1.4 miles south of the village of Swiftwater, and 150 feet east of paved road:

Oi—1 inch to 0; undecomposed leaves and twigs.

Oe—0 to 2 inches; partially decomposed leaves and twigs.

Oa—2 to 6 inches; black (N 2/0), broken face and rubbed, sapric material; weak fine and moderate granular structure; friable; many fine and medium roots; 30 percent rock fragments; very strongly acid; abrupt smooth boundary.

Bg—6 to 11 inches; gray (5Y 5/1) cobbly fine sandy loam; common medium distinct olive (5Y 5/4) mottles; massive; friable; few fine and medium roots; 15 percent rock fragments; very strongly acid; abrupt wavy boundary.

Bw—11 to 23 inches; olive (5Y 5/3) cobbly fine sandy loam; few fine distinct light olive brown (2.5Y 5/6) mottles; massive; friable; few medium roots; 15 percent rock fragments; strongly acid; abrupt wavy boundary.

Cg—23 to 65 inches; olive gray (5Y 4/2) gravelly fine sandy loam; massive; friable; 25 percent rock fragments; strongly acid.

The solum thickness ranges from 20 to 30 inches. The content of rock fragments ranges from 5 to 30 percent in the solum and from 10 to 35 percent in the substratum. Reaction is very strongly acid or strongly acid throughout the soil.

Thin O horizons of hemic and sapric material are common. They are neutral or have hue of 10YR to 5Y, value of 2 or 3, and chroma of 1 or 2.

Some pedons have an A horizon with hue of 10YR or 2.5Y, value of 2 or 3, and chroma of 1 or 2. It is loam, fine sandy loam, or sandy loam in the fine-earth fraction.

The B horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 to 3. The B horizon is loam, fine sandy loam, or sandy loam in the fine-earth fraction.

The C horizon has hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 1 to 3. It is fine sandy loam or sandy loam in the fine-earth fraction.

Madawaska Series

The Madawaska series consists of very deep, moderately well drained soils on stream terraces, kames, and eskers. Madawaska soils formed in stratified, water-deposited, loamy sediment underlain by sandy sediment. Slopes range from 0 to 8 percent.

Madawaska soils are associated on the landscape with Adams, Croghan, Groveton, Kinsman, and Searsport soils. Adams and Croghan soils have a sandy particle-size control section. Groveton soils are well drained. Kinsman soils are poorly drained. Searsport soils are very poorly drained.

Typical pedon of Madawaska fine sandy loam, 0 to 3 percent slopes, cultivated, in the town of Littleton, 2,110 feet north of the junction of I-93 and NH-18, and 250 feet west of a brook:

Ap—0 to 11 inches; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; very friable; common fine roots; very strongly acid; abrupt wavy boundary.

E—11 to 15 inches; light gray (N 6/0) fine sandy loam; weak fine granular structure; very friable; common fine roots; very strongly acid; abrupt irregular boundary.

Bs1—15 to 22 inches; yellowish red (5YR 4/6) fine sandy loam; few medium prominent grayish brown (10YR 5/2) and common fine distinct yellowish red (5YR 5/8) mottles in the lower part; weak fine and medium granular structure; very friable; common fine roots; strongly acid; clear wavy boundary.

Bs2—22 to 31 inches; brown (7.5YR 4/4) fine sandy loam; few distinct pale brown (10YR 6/3) mottles; massive; very friable; few fine roots; strongly acid; abrupt wavy boundary.

2C1—31 to 33 inches; olive gray (5Y 5/2) fine sand; many fine prominent reddish brown (5YR 4/4) mottles; massive; very friable; few fine roots; strongly acid; abrupt smooth boundary.

2C2—33 to 65 inches; olive brown (2.5Y 4/4) sand; few fine distinct yellowish brown (10YR 5/6) mottles; single grain; loose; moderately acid.

Thickness of the solum ranges from 18 to 32 inches. The content of rock fragments ranges from 0 to 10 percent throughout the soil. Reaction ranges from very strongly acid to moderately acid throughout the soil.

The Ap horizon has hue of 10YR, value of 3, and chroma of 2 or 3. The Ap horizon is fine sandy loam or very fine sandy loam.

The E horizon is neutral or has hue of 2.5Y or 10YR, value of 6, and chroma of 1 or 2. It is sandy loam, fine sandy loam, or very fine sandy loam.

The Bs horizon has hue of 10YR to 5YR, value of 3 to 5, and chroma of 4 to 6. It is fine sandy loam or very fine sandy loam.

Some pedons have a Bw horizon with hue of 10YR or 7.5YR, value of 4 or 5, and chroma of 4 or 5. It is fine sandy loam or very fine sandy loam.

Some pedons have a BC horizon with hue of 2.5Y or 10YR and value and chroma of 4 or 5. The BC horizon is sandy loam or fine sandy loam.

The C horizon has hue of 5Y or 2.5Y, value of 4 to 6, and chroma of 1 to 4. It is sand, fine sand, or loamy fine sand.

Marlow Series

The Marlow series consists of very deep, well drained soils on glaciated uplands and mountainsides. Marlow soils formed in loamy sediments underlain by compact, loamy basal till. Permeability is moderate in the solum and moderately slow to slow in the compact substratum. Slopes range from 0 to 60 percent.

Marlow soils are associated on the landscape with Berkshire, Lyman, Peru, Pillsbury, and Tunbridge soils. Berkshire soils do not have a dense, compact substratum and have moderate to moderately rapid permeability throughout. Lyman soils are 20 inches or less to bedrock. Peru soils are moderately well drained. Pillsbury soils are poorly drained. Tunbridge soils have bedrock at a depth of 20 to 40 inches.

Typical pedon of Marlow fine sandy loam in an area of Marlow fine sandy loam, 8 to 15 percent slopes, very stony, forested, in the town of Littleton, 1.7 miles northeast of the junction of NH-116 and US-302, and 1,320 feet southeast of a paved road:

Oi—2 inches to 0; undecomposed needles and leaves.
A—0 to 3 inches; very dark gray (N 3/0) fine sandy loam; moderate fine granular structure; friable; many fine roots; 5 percent rock fragments; very strongly acid; abrupt wavy boundary.
E—3 to 6 inches; gray (N 5/0) fine sandy loam; weak fine granular structure; very friable; many fine roots; 5 percent rock fragments; very strongly acid; abrupt broken boundary.
Bs—6 to 13 inches; yellowish red (5YR 4/6) fine sandy loam; moderate fine granular structure; friable; many fine roots; 5 percent rock fragments; strongly acid; abrupt wavy boundary.
Bw—13 to 17 inches; light olive brown (2.5Y 5/6) fine sandy loam; weak fine granular structure; friable; many fine roots; 8 percent rock fragments; strongly acid; clear wavy boundary.
BC—17 to 31 inches; olive (5Y 5/4) gravelly fine sandy loam; weak fine granular structure; friable; common fine roots; 15 percent rock fragments; strongly acid; abrupt wavy boundary.
Cd—31 to 65 inches; olive gray (5Y 5/2) fine sandy loam; moderate medium plates; very firm; 12 percent rock fragments; thin (1 to 2 mm) lenses of gray (5Y 5/1) fine sand on faces of peds; strongly acid.

Thickness of the solum ranges from 14 to 36 inches. The content of rock fragments ranges from 5 to 30 percent throughout the soil. Reaction ranges from very strongly acid to moderately acid throughout the soil.

The A horizon is neutral or has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. Some pedons have an Ap horizon with hue of 10YR, value of 3, and chroma of 2 or 3. The A or Ap horizon is fine sandy loam, loam, or silt loam.

The E horizon is neutral or has hue of 2.5Y or 10YR, value of 5 or 6, and chroma of 1 or 2. It is fine sandy loam, loam, or silt loam.

The Bs horizon has hue of 10YR to 5YR, value of 4 or 5, and chroma of 4 to 8. It is fine sandy loam or loam.

The Bw horizon has hue of 2.5Y to 7.5YR, value of 4 or 5, and chroma of 4 to 6. It is fine sandy loam or loam.

The BC horizon has hue of 5Y or 2.5Y, value of 4 or 5, and chroma of 2 to 4. It is fine sandy loam or loam. Some pedons have an E' horizon with color and texture similar to those of the BC horizon.

The Cd horizon has hue of 5Y or 2.5Y, value of 3 to 5, and chroma of 2 or 3. The Cd horizon is fine sandy loam or loam. The Cd horizon has moderate, medium or thick plates, or it is massive. Consistence is firm or very firm.

Medomak Series

The Medomak series consists of very deep, very poorly drained soils on flood plains and old, isolated oxbows. Medomak soils formed in silty alluvial sediments. Slopes range from 0 to 2 percent.

Medomak soils are associated on the landscape with Chocorua, Nicholville, Ondawa, Pemi, Podunk, and Rumney soils. Chocorua soils have a histic epipedon. Nicholville and Pemi soils are better drained soils that formed in lacustrine sediments. Ondawa, Podunk, and Rumney soils are better drained, loamy soils on flood plains.

Typical pedon of Medomak silt loam, in a wooded marsh, in the town of Enfield, 1,500 feet north of Route 4 and 150 feet east of Lovejoy Brook:

A—0 to 11 inches; very dark grayish brown (10YR 3/2) silt loam; weak fine granular structure; many fine and very fine roots and common medium roots; strongly acid; abrupt smooth boundary.
Cg—11 to 65 inches; greenish gray (5GY 5/1) very fine sandy loam; common medium prominent strong brown (7.5YR 5/6) mottles; massive; friable; slightly sticky, slightly plastic; moderately acid.

The A horizon has hue of 7.5YR to 2.5Y, value of 2 or 3, and chroma of 1 or 2. The A horizon is silt loam or very fine sandy loam and their mucky analogs. Reaction ranges from very strongly acid to strongly acid.

The C horizon is neutral or has hue of 10YR to 5GY, value of 4 to 6, and chroma of 1 or 2. The C horizon mainly is silt loam or very fine sandy loam, but at a depth of more than 40 inches it has strata of fine sandy loam, loamy sand, or sand and their gravelly analogs. Reaction ranges from strongly acid to moderately acid.

Monadnock Series

The Monadnock series consists of very deep, well drained soils on glaciated uplands. Monadnock soils formed in loamy sediments underlain by sandy glacial till. Permeability is moderate in the solum and moderately rapid in the substratum. Slopes range from 3 to 60 percent.

Monadnock soils are associated on the landscape with Becket, Berkshire, Canaan, Hermon, Lyman, Redstone, Tunbridge, and Waumbek soils. Becket soils have a compact substratum with moderately slow to slow permeability. Berkshire soils have finer textures in the substratum. Canaan and Lyman soils have bedrock at a depth of 20 inches or less. Hermon soils have coarser textures in the solum and are somewhat excessively drained. Redstone soils are underlain with fragmental material. Tunbridge soils have bedrock at a depth of 20 to 40 inches. Waumbek soils have coarser textures in the solum and are moderately well drained.

Typical pedon of Monadnock fine sandy loam in an area of Monadnock-Hermon association, undulating, very stony, forested, in the town of Franconia, 2.5 miles southeast of Franconia village and 650 feet south of the junction of I-93 and NH-141:

Oi—1 inch to 0; undecomposed spruce needles and twigs.

A—0 to 4 inches; dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; 5 percent rock fragments; strongly acid; clear wavy boundary.

E—4 to 6 inches; gray (10YR 6/1) fine sandy loam; weak fine granular structure; very friable; few fine and medium roots; 5 percent rock fragments; very strongly acid; clear broken boundary.

Bs1—6 to 10 inches; yellowish red (5YR 4/6) fine sandy loam; weak fine granular structure; very friable; few fine roots; 10 percent rock fragments; strongly acid; clear wavy boundary.

Bs2—10 to 18 inches; yellowish brown (10YR 5/6) very fine sandy loam; weak fine granular structure; very friable; few fine roots; 10 percent rock fragments; strongly acid; clear wavy boundary.

BC—18 to 23 inches; light olive brown (2.5Y 5/4) sandy loam; weak fine granular structure; very friable; few fine roots; 10 percent rock fragments; very strongly acid; clear wavy boundary.

2C—23 to 65 inches; pale olive (5Y 6/4) loamy sand; weak thick plates; friable; few fine roots extending to a depth of 30 inches; 5 percent rock fragments; very strongly acid.

The solum thickness ranges from 15 to 30 inches. The content of rock fragments ranges from 0 to 30 percent in the solum and 5 to 40 percent in the substratum. Reaction ranges from extremely acid to moderately acid throughout the soil.

Some pedons have an Oe horizon with hue of 10YR to 5YR, value of 2 or 3, and chroma of 1 or 2. Rubbed fiber content ranges from 20 to 40 percent.

The A horizon has hue of 10YR or 7.5YR and value and chroma of 2 to 4. It is fine sandy loam, very fine sandy loam, or loam in the fine-earth fraction.

The E horizon has hue of 2.5Y to 7.5YR, value of 5 or 6, and chroma of 1 or 2. The E horizon is similar in texture to the A horizon but includes sandy loam.

Some pedons have a Bh horizon with hue of 7.5YR to 2.5YR, value of 2 or 3, and chroma of 1 to 3. The Bh horizon is fine sandy loam, sandy loam, or loam in the fine-earth fraction.

The Bs horizon has hue of 10YR to 2.5YR, value of 3 to 6, and chroma of 3 to 8. The Bs horizon is fine sandy loam, very fine sandy loam, sandy loam, or loam in the fine-earth fraction.

Some pedons have a Bw horizon with hue of 5Y to 10YR, value of 4 to 6, and chroma of 3 to 6. It is fine sandy loam, sandy loam, or loam in the fine-earth fraction.

The BC horizon has hue of 5Y to 10YR, value of 4 to 6, and chroma of 3 to 6. It is fine sandy loam, sandy loam, loam, loamy fine sand, or loamy sand in the fine-earth fraction.

The 2C horizon has hue of 5Y to 10YR, value of 4 to 7, and chroma of 2 to 4. It is loamy sand or loamy fine sandy in the fine-earth fraction. Structure of the 2C horizon is massive or weak, thick plates. Consistence is friable or slightly firm.

Moosilauke Series

The Moosilauke series consists of very deep, poorly drained and somewhat poorly drained soils in slightly concave areas and drainageways of glaciated uplands. Moosilauke soils formed in loamy glacial outwash or drift. Slopes range from 0 to 8 percent.

Moosilauke soils are associated on the landscape with Berkshire, Hermon, Lyme, Peacham, and Waumbek soils. Berkshire soils are well drained. Hermon soils are somewhat excessively drained. Lyme soils have a coarse-loamy particle-size control section. Peacham soils are very poorly drained. Waumbek soils are moderately well drained.

Typical pedon of Moosilauke fine sandy loam in an area of Lyme and Moosilauke soils, 0 to 3 percent slopes, very stony, forested, in the town of Haverhill, 2,250 feet north of NH-25, and 500 feet west of the Haverhill-Benton townline:

Oe—2 to 0 inches; partially decomposed leaves, needles, and twigs.

A—0 to 5 inches; very dark gray (10YR 3/2) fine sandy loam; weak medium granular structure; friable; few fine roots; very strongly acid; abrupt smooth boundary.

Bg—5 to 11 inches; gray (5Y 5/1) sandy loam; weak medium granular; friable; very strongly acid; abrupt wavy boundary.

Bw—11 to 22 inches; light olive brown (2.5Y 5/3) fine sandy loam; few medium distinct olive gray (5Y 5/2) and few fine distinct yellowish brown (10YR 5/6) mottles; weak medium granular; very friable;

10 percent rock fragments; strongly acid; abrupt wavy boundary.

2C1—22 to 27 inches; dark grayish brown (2.5Y 4/2) sand; single grain; loose; moderately acid; abrupt wavy boundary.

2C2—27 to 65 inches; dark grayish brown (10YR 4/2) sand; single grain; loose; moderately acid.

The solum thickness and depth to stratified sand and gravel range from 15 to 30 inches. The content of rock fragments ranges from 0 to 20 percent in the solum and from 0 to 50 percent in the substratum. Reaction ranges from very strongly acid to moderately acid throughout the soil.

The A horizon has hue of 10YR or 2.5Y, value of 2 or 3, and chroma of 1 or 2. It is fine sandy loam or sandy loam.

The B horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 to 4. The B horizon is fine sandy loam, sandy loam, or loamy fine sandy in the fine-earth fraction.

The 2C horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 2 to 4. It is loamy sand or sand in the fine-earth fraction.

Nicholville Series

The Nicholville series consists of very deep, moderately well drained soils formed on glaciolacustrine terraces. These soils formed in silty, water-deposited material. Slopes range from 0 to 8 percent.

Nicholville soils are associated on the landscape with Adams, Croghan, Groveton, Medomak, and Pemi soils. Adams and Croghan soils have sandy textures. Groveton soils formed in coarser textured material. Medomak and Pemi soils have similar textures but are very poorly and poorly drained, respectively.

Typical pedon of Nicholville very fine sandy loam, 3 to 8 percent slopes, in a pasture in the town of Thornton, 1.8 miles north of the Campton townline on NH-175, and 1,320 feet southeast of Willow Brook:

Ap—0 to 7 inches; dark brown (7.5YR 3/2) very fine sandy loam; moderate medium granular structure; friable; many fine roots; slightly acid; abrupt smooth boundary.

E—7 to 9 inches; light gray (10YR 7/2) very fine sandy loam; moderate fine granular structure; friable; common fine roots; slightly acid; abrupt broken boundary.

Bs—9 to 15 inches; 60 percent strong brown (7.5YR 5/8) and 40 percent dark reddish brown (5YR 3/4) very fine sandy loam; moderate fine granular structure; friable; many fine roots; moderately acid; abrupt irregular boundary.

BC—15 to 22 inches; olive (5Y 5/4) very fine sandy loam; common medium prominent light gray (N 7/0) and common fine prominent yellowish red (5YR 5/6) mottles; weak fine granular structure; friable; common fine roots; moderately acid; abrupt smooth boundary.

C1—22 to 38 inches; olive gray (5Y 5/2) very fine sandy loam; common medium faint light olive gray (5Y 6/2) and common fine prominent yellowish brown (10YR 5/8) mottles; weak medium plates; firm; moderately acid; clear smooth boundary.

C2—38 to 65 inches; olive gray (5Y 5/2) very fine sandy loam; common medium prominent yellowish red (5YR 4/6) mottles; weak medium plates; firm; moderately acid.

The solum thickness ranges from 16 to 30 inches. Rock fragment content in the solum is less than 10 percent. Reaction ranges from slightly acid to moderately acid in the solum and from slightly acid to strongly acid in the substratum.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2. It is very fine sandy loam or silt loam.

The E horizon has hue of 7.5YR or 10YR, value of 6 or 7, and chroma of 1 or 2. It is silt loam or very fine sandy loam.

Some pedons have a Bh or Bhs horizon with hue of 5YR or 7.5YR and value and chroma of 2 or 3.

The Bs horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 4 to 8. Some pedons have a Bw horizon with hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 4 to 6.

The BC horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 3 to 6.

The B horizon is silt loam or very fine sandy loam.

The C horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 2. It mainly is silt loam, very fine sandy loam, or silt. Some pedons have thin strata of loamy very fine sand or silty clay loam.

Occum Series

The Occum series consists of very deep, well drained soils on flood plains along the Connecticut River. Occum soils formed in loamy alluvial sediments. Slopes range from 0 to 3 percent.

Occum soils are associated on the landscape with Hadley, Pootatuck, Quonset, Rippowam, Suncook, Windsor, and Winooski soils. Hadley and Winooski soils have a coarse-silty particle-size control section. Pootatuck soils have mottles with chroma of 2 or less within 24 inches of the surface. Quonset soils have a sandy-skeletal particle-size control section. Rippowam soils are poorly drained. Suncook and Windsor soils have a sandy particle-size control section.

Typical pedon of Occum fine sandy loam, occasionally flooded, cultivated, in the town of Haverhill, 1,300 feet south of Woodsville, 150 feet south of the New Hampshire National Guard Armory, and 400 feet east of the Connecticut River:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) fine sandy loam; moderate fine granular structure; friable; many fine roots; neutral; abrupt smooth boundary.

Bw—8 to 25 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; friable; common fine roots; slightly acid; clear wavy boundary.

C1—25 to 44 inches; olive brown (2.5Y 4/3) loamy fine sand; massive; very friable; few fine roots; slightly acid; abrupt wavy boundary.

C2—44 to 65 inches; olive (5Y 4/3) fine sand; single grain; loose; slightly acid.

The solum thickness ranges from 20 to 36 inches. The content of rock fragments ranges from 0 to 15 percent in the solum and from 0 to 60 percent in the substratum. Reaction ranges from strongly acid to slightly acid except in the surface layer.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 1 to 3. The Ap horizon is fine sandy loam or sandy loam.

The Bw horizon has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6. The Bw horizon is fine sandy loam or sandy loam.

The C horizon has hue of 10YR to 5Y, value of 3 to 6, and chroma of 2 to 6. The C horizon mainly is loamy fine sand, loamy sand, fine sand, sand, or coarse sand and their gravelly or very gravelly analogs. Some pedons have strata less than 5 inches thick of silt loam, loam, very fine sandy loam, or fine sandy loam.

Ondawa Series

The Ondawa series consists of very deep, well drained soils on the flood plains of major streams and rivers. Ondawa soils formed in recent, loamy alluvial sediments underlain by sandy sediments. Slopes range from 0 to 3 percent.

Ondawa soils are associated with Podunk, Rumney, and Sunday soils on the flood plains and with Adams Colton and Groveton soils on adjacent terrace escarpments. Podunk soils have low-chroma mottles in the solum and are moderately well drained. Rumney soils are poorly drained. Sunday soils are excessively drained and have rapid or very rapid permeability throughout. Adams, Colton, and Groveton soils are on outwash terraces.

Typical pedon of Ondawa fine sandy loam, occasionally flooded, cultivated, in the town of Monroe, 3.5 miles north-northeast of the village of Monroe, 2,640 feet northwest of NH-135, and 150 feet east of the bank of the Connecticut River:

Ap—0 to 10 inches; very dark grayish brown (10YR 3/2) fine sandy loam; light brownish gray (10YR 6/2) dry; weak fine granular structure; friable; many fine roots; slightly acid; abrupt smooth boundary.

Bw—10 to 33 inches; olive brown (2.5Y 4/4) fine sandy loam; weak fine granular structure; very friable; common fine roots; moderately acid; abrupt smooth boundary.

C—33 to 65 inches; pale brown (10YR 6/3) fine sand; single grain; loose; moderately acid.

The solum thickness ranges from 20 to 40 inches. The content of rock fragments ranges from 0 to 15 percent in the substratum. Reaction ranges from very strongly acid to slightly acid throughout.

The Ap horizon has hue of 2.5Y or 10YR, value of 3 or 4, and chroma of 2 to 4. It is fine sandy loam or very fine sandy loam. Some pedons have an Ab horizon 2 to 3 feet below the surface.

The Bw horizon has hue of 2.5Y or 10YR, value of 4 or 5, and chroma of 4 to 6. It mainly is fine sandy loam or sandy loam. Some pedons have thin strata of very fine sandy loam.

The C horizon has hue of 5Y to 10YR, value of 4 to 6, and chroma of 2 to 6. It mainly is sand, fine sand, loamy sand, or loamy fine sand. Some pedons have thin strata of gravel.

Ossipee Series

The Ossipee series consists of very deep, very poorly drained soils on outwash plains, lake plains, and glacial till uplands. Ossipee soils formed in organic materials and are underlain by loamy and silty sediments. Slopes range from 0 to 2 percent.

Ossipee soils are associated on the landscape with Greenwood, Lyme, Peacham, and Pillsbury soils. The organic horizons of Greenwood soils are thicker than those in the Ossipee soils. Lyme and Pillsbury soils are poorly drained. Peacham soils do not have the thick organic horizons characteristic of Ossipee soils.

Typical pedon of Ossipee peat in an area of Peacham and Ossipee soils, forested, in the town of

Canaan, 3,700 feet north of the junction of US Route 4 and the Enfield-Canaan townline, and 1,300 feet west of the Mascoma River:

Oi—0 to 6 inches; black (5YR 2/1), broken face and rubbed, fibric material; moderate medium granular structure; many fine and medium roots; extremely acid; abrupt smooth boundary.

Oe1—6 to 25 inches; dark reddish brown (5YR 2/2), broken face, dark reddish brown (5YR 3/2), rubbed, hemic material; weak medium granular structure; few fine and medium roots; extremely acid; abrupt smooth boundary.

Oe2—25 to 41 inches; black (N 2/0), broken face and rubbed, hemic material; massive; extremely acid; abrupt wavy boundary.

2C—41 to 46 inches; dark grayish brown (10YR 4/2) silt loam; massive; friable; moderately acid; abrupt wavy boundary.

2Cg—46 to 65 inches; greenish gray (5GY 6/1) silt loam; massive; friable; slightly acid.

Thickness of the organic material ranges from 20 to 45 inches. The organic materials are herbaceous and woody. Slightly decomposed woody fragments make up 2 to 15 percent, by volume, of the organic material.

The surface tier is hemic or fibric material with an unrubbed fiber content that ranges from 40 to 75 percent of the organic volume. Rubbed fiber content ranges from 20 to 65 percent. The tier has weak to moderate, medium granular structure. The Oi or Oe layer has hue of 5YR, value of 2 or 3, and chroma of 1 or 2.

The subsurface tier is dominantly hemic material but may include thin layers of fibric material. Unrubbed fiber content ranges from 35 to 60 percent. Rubbed fiber content ranges from 20 to 40 percent. The tier has weak to strong medium granular structure or is massive. The Oe layer is neutral or has hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 or 2.

Some pedons have an organic bottom tier with the same range in characteristics as the subsurface tier.

The 2C or 2Cg horizon has hue of 10YR to 5GY, value of 4 to 6, and chroma of 1 to 3. The 2C horizon is sandy loam, fine sandy loam, very fine sandy loam, loam, or silt loam. Reaction ranges from strongly acid to slightly acid.

Peacham Series

The Peacham series consists of very poorly drained soils in depressions and drainageways of glaciated uplands and drumlins. Peacham soils formed in loamy sediments underlain by compact, loamy glacial till. Permeability is moderate in the solum and very slow in the compact substratum. Slopes range from 0 to 5 percent.

Peacham soils are associated on the landscape with Chocorua, Greenwood, Lyme, Moosilauke, Ossipee, Peru, Pillsbury, and Skerry soils. Chocorua, Greenwood, and Ossipee soils have more than 16 inches of organic material on the surface. Lyme and Moosilauke soils are poorly drained. Peru and Skerry soils have a spodic horizon and are moderately well drained. Pillsbury soils are poorly drained.

Typical pedon of Peacham muck in an area of Peacham and Ossipee soils, very stony, in the town of Grafton, 1,500 feet east of Half Moon Pond:

Oi—1 inch to 0; undecomposed leaves and twigs.

0a—0 to 7 inches; very dark grayish brown (10YR 3/2); muck; moderate medium granular structure; friable; 25 percent fiber, 10 percent rubbed; 5 percent rock fragments; very strongly acid; abrupt smooth boundary.

Bg—7 to 15 inches; dark grayish brown (10YR 4/2) gravelly fine sandy loam; weak fine granular structure; friable; 25 percent rock fragments; very strongly acid; clear smooth boundary.

Cg—15 to 30 inches; dark grayish brown (2.5Y 4/2) gravelly sandy loam; massive; friable; 25 percent rock fragments; moderately acid; abrupt smooth boundary.

Cdg—30 to 65 inches; dark grayish brown (2.5Y 4/2) sandy loam; massive; firm; 10 percent rock fragments; moderately acid.

The solum thickness ranges from 10 to 30 inches. Rock fragments are dominantly gravel and some cobbles and a few stones. The content ranges from 5 to 30 percent throughout the soil. Reaction ranges from very strongly acid to neutral.

The O horizon has hue to 10YR or 7.5YR, value of 2 or 3, and chroma of 1 or 2. Rubbed fiber content ranges from less than 10 percent to 40 percent.

The Bg horizon has hue of 5Y to 10YR, value of 4 to 6, and chroma of 1 or 2. Some pedons have a BCg horizon with hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 1 or 2.

The B horizon is sandy loam, fine sandy loam, or loam in the fine-earth fraction. Structure is weak, fine to medium granular, or the horizon is massive.

The Cdg horizon has hue of 2.5Y to 5Y, value of 3 to 5, and chroma of 1 or 2. The Cdg horizon is sandy loam, fine sandy loam, or loam. It has weak or moderate, thin to thick plates and is firm or very firm. A Cg horizon is above the Cdg in some pedons and has color and texture similar to those of the Cdg.

Pemi Series

The Pemi series consists of very deep, poorly drained soils on glaciolacustrine terraces and lake plains. The soils formed in silty lacustrine deposits. Slopes range from 0 to 3 percent.

Pemi soils are associated on the landscape with Croghan, Medomak, Nicholville, and Groveton soils. Croghan soils are sandy. Medomak and Nicholville soils have textures similar to the Pemi soils but are very poorly and moderately well drained, respectively. Groveton soils formed in coarser textured material.

Typical pedon of Pemi silt loam in a hayfield in the town of Plymouth, 2.75 miles northwest of the confluence of the Baker River and Pemigewasset River, 2,900 feet north of the Baker River, and 800 feet east of dirt road:

Ap—0 to 6 inches; dark grayish brown (2.5Y 4/2) silt loam; moderate medium granular structure; friable; many fine roots; slightly acid; abrupt smooth boundary.

Bg—6 to 11 inches; grayish brown (2.5Y 5/2) silt loam; common medium distinct gray (5Y 6/1) mottles; moderate medium granular structure; friable; common fine roots; slightly acid; clear wavy boundary.

Cg1—11 to 18 inches; light olive gray (5Y 6/2) silt loam; few fine prominent light olive brown (2.5Y 5/6) and common coarse faint gray (5Y 6/1) mottles; moderate medium plates; friable; few fine roots; slightly acid; abrupt wavy boundary.

Cg2—18 to 25 inches; light olive gray (5Y 6/2) very fine sandy loam; common medium prominent light yellowish brown (10YR 6/4) and common coarse faint gray (5Y 6/1) mottles; moderate medium plates; friable; slightly acid; abrupt smooth boundary.

Cg3—25 to 65 inches; light olive gray (5Y 6/2) silt; many coarse prominent light yellowish brown (10YR 6/4) and common medium faint light gray (5Y 7/1) mottles; moderate medium plates; friable; neutral.

The solum thickness ranges from 10 to 20 inches. Rock fragment content is less than 5 percent throughout. Reaction ranges from strongly acid to slightly acid in the solum and from strongly acid to neutral in the substratum.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 1 to 4. It is silt loam or very fine sandy loam.

Some pedons have an A horizon with hue of 10YR to 5Y, value of 3 to 5, and chroma of 1 or 2. It is similar to the Ap horizon.

The Bg horizon has hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 1 or 2. It is silt loam or very fine sandy loam.

The Cg horizon has hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 1 or 2. It mainly is silt, silt loam, very fine sandy loam, or loamy very fine sand. Thin or very thin strata of loamy fine sand or fine sand are in some pedons.

Peru Series

The Peru series consists of very deep, moderately well drained soils on drumlins and glaciated uplands. Peru soils formed in loamy basal till. Permeability is moderate in the solum and moderately slow to slow in the compact substratum. Slopes range from 0 to 35 percent.

Peru soils are associated on the landscape with Berkshire, Lyman, Marlow, Peacham, Pillsbury, and Tunbridge soils. Berkshire soils do not have a dense, compact substratum and are well drained. Lyman soils are 20 inches deep or less to bedrock. Marlow soils are well drained. Peacham soils are very poorly drained. Pillsbury soils are poorly drained. Tunbridge soils have bedrock at a depth of 20 to 40 inches.

Typical pedon of Peru fine sandy loam, 8 to 15 percent slopes, forested, in the town of Enfield, 2.3 miles northeast of Enfield Center and 3,960 feet east-southeast of the Crystal Lake Dam:

Oi—1 inch to 0; undecomposed leaves and twigs.

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) fine sandy loam; moderate medium granular structure; friable; many fine and medium and few coarse roots; 5 percent rock fragments; very strongly acid; abrupt smooth boundary.

Bh—6 to 8 inches; dark brown (7.5YR 3/2) fine sandy loam; weak fine granular structure; very friable; many fine and medium and few coarse roots; 5 percent rock fragments; very strongly acid; abrupt smooth boundary.

Bs1—8 to 12 inches; dark reddish brown (5YR 3/4) fine sandy loam; moderate medium subangular blocky structure; friable; common fine and medium roots; 5 percent rock fragments; very strongly acid; abrupt wavy boundary.

Bs2—12 to 18 inches; dark brown (7.5YR 4/4) fine sandy loam; weak fine granular structure; very friable; common fine and medium roots; 5 percent rock fragments; strongly acid; clear wavy boundary.

Bs3—18 to 21 inches; dark brown (10YR 4/3) fine sandy loam; common medium distinct grayish brown (2.5Y 5/2) mottles; weak fine granular structure; very friable; few fine roots; 10 percent rock fragments; strongly acid; abrupt smooth boundary.

BC—21 to 24 inches; grayish brown (2.5Y 5/2) fine sandy loam; common fine prominent yellowish red (5YR 5/8) and few coarse distinct brown (10YR 4/3) mottles; weak fine platy structure; friable; few fine roots; 10 percent rock fragments; strongly acid; abrupt smooth boundary.

Cd—24 to 65 inches; olive gray (5Y 5/2) sandy loam; many medium distinct gray (5Y 6/1) and common fine prominent dark yellowish brown (10YR 4/4) mottles; moderate medium plates; firm and brittle; 10 percent rock fragments; moderately acid.

The solum thickness ranges from 12 to 36 inches. The content of rock fragments ranges from 5 to 30 percent throughout. They are dominantly gravel and some cobbles and a few stones. Reaction ranges from extremely acid to moderately acid.

The A or Ap horizon has hue of 10YR or 7.5YR, value of 2 to 4, and chroma of 1 or 2. It is fine sandy loam or loam.

Some pedons have an A horizon with color and texture similar to those of the Ap horizon.

Some pedons have an E horizon that is neutral or has hue of 10YR, value of 5 or 6, and chroma of 0 to 2. It is fine sandy loam.

The Bh horizon has hue of 5YR or 7.5YR, value of 2 or 3, and chroma of 1 to 3.

Some pedons have a Bhs horizon with hue of 5YR or 7.5YR, value of 2 or 3, and chroma of 1 to 3. The Bs horizon has hue of 5YR to 10YR, value of 3 or 4, and chroma of 3 to 8.

Some pedons have a Bw horizon with hue of 10YR to 5Y, value of 4 or 5, and chroma of 2 to 4.

The BC horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 2 to 4.

The B horizon is dominantly fine sandy loam or loam but ranges to sandy loam.

The Cd horizon has hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 2 to 4. The C horizon is sandy loam, fine sandy loam, or loam. The Cd horizon has weak to strong, thin to thick plates or is massive. Consistence of the Cd horizon is firm or very firm. Some pedons have a friable C horizon up to 8 inches thick with color and texture similar to those of the underlying Cd horizon.

Pillsbury Series

The Pillsbury series consists of very deep, poorly drained soils in slightly concave areas and shallow drainageways of drumlins and glaciated uplands. Pillsbury soils formed in loamy till underlain by compact, loamy basal till. Permeability is moderate in the solum and moderately slow to slow in the compact substratum. Slopes range from 0 to 15 percent.

Pillsbury soils are associated on the landscape with Becket, Greenwood, Lyman, Marlow, Ossipee, Peacham, Peru, Skerry, and Tunbridge soils. Becket and Marlow soils are well drained. Greenwood, Ossipee, and Peacham soils are very poorly drained. Lyman soils are 20 inches deep or less to bedrock. Peru and Skerry soils have a spodic horizon and are moderately well drained. Tunbridge soils have bedrock at a depth of 20 to 40 inches.

Typical pedon of Pillsbury fine sandy loam in an area of Pillsbury fine sandy loam, 3 to 8 percent slopes, very stony, forested, in the town of Littleton, 2.5 miles north-northeast of the junction of US-302 and NH-116, 530 feet west of the paved road:

A—0 to 7 inches; very dark brown (10YR 2/2) fine sandy loam; moderate medium granular structure; very friable; many fine roots; 8 percent rock fragments; very strongly acid; abrupt wavy boundary.

Bg—7 to 11 inches; gray (5Y 5/1) fine sandy loam; few fine prominent yellowish red (5YR 5/6) mottles; weak medium granular structure; very friable; few fine roots; 8 percent rock fragments; very strongly acid; abrupt wavy boundary.

Bw—11 to 30 inches; olive (5Y 5/3) fine sandy loam; common medium prominent brown (7.5YR 4/4) and common medium faint gray (5Y 6/1) mottles; weak fine platy structure; firm; few fine roots; 10 percent rock fragments; strongly acid; abrupt wavy boundary.

Cd—30 to 65 inches; light olive brown (2.5Y 5/4) gravelly loam; common medium prominent black (5Y 2/2) and gray (N 5/0) mottles; moderate medium plates; very firm; 15 percent rock fragments; strongly acid.

The solum thickness ranges from 15 to 35 inches. The content of rock fragments ranges from 5 to 30 percent throughout the soil. Reaction is very strongly acid to strongly acid in the solum and strongly acid to moderately acid in the substratum.

The A horizon has hue of 2.5Y or 10YR, value of 2 or 3, and chroma of 1 or 2. The A horizon is fine sandy loam or loam in the fine-earth fraction.

The Bg horizon has hue of 5Y to 10YR or is neutral, value of 4 or 5, and chroma of 1 or 2.

The Bw horizon has hue of 5Y to 10YR, value of 4 or 5, and chroma of 3 or 4.

The B horizon is fine sandy loam or loam in the fine-earth fraction. Structure is dominantly granular and ranges to weak platy or massive in the Bw horizon. Consistence ranges from very friable to firm.

The Cd horizon has hue of 5Y to 10YR, value of 4 or 5, and chroma of 2 or 4. It is fine sandy loam or loam in the fine-earth fraction. The Cd horizon is massive or has thin to thick plates. Consistence is firm or very firm.

Pittstown Series

The Pittstown series consists of very deep, moderately well drained soils on glaciated uplands. Pittstown soils formed in loamy glacial till underlain by compact, loamy basal till. Permeability is moderate in the solum and slow in the compact substratum. Slopes range from 3 to 25 percent.

Pittstown soils are associated on the landscape with Bernardston, Cardigan, Charlton, Kearsarge, and Stissing soils. The Bernardston, Cardigan, and Charlton soils are well drained. The Kearsarge soils are less than 20 inches deep to bedrock. Stissing soils are poorly drained.

Typical pedon of Pittstown loam, 3 to 8 percent slopes, in a hayfield in the town of Enfield, 4,290 feet southeast of the Mascoma River along a paved road that crosses Shaker Hill and 200 feet east of the paved road:

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) loam; weak medium granular structure; very friable; many medium and fine roots; 5 percent rock fragments; strongly acid; abrupt smooth boundary.

Bw1—8 to 11 inches; olive brown (2.5Y 4/4) loam; moderate medium granular structure; friable; many medium and fine roots; 7 percent rock fragments; strongly acid; clear wavy boundary.

Bw2—11 to 19 inches; light olive brown (2.5Y 5/4) loam; common medium distinct yellowish brown (10YR 5/6), few fine prominent yellowish red (5Y 4/6), and a few fine prominent reddish gray (5YR 5/2) mottles in the lower part; 10 percent rock fragments; strongly acid; abrupt wavy boundary.

C—19 to 25 inches; olive gray (5Y 4/2) loam; weak thin platy structure; firm to friable; few fine roots; 5 percent rock fragments; strongly acid; clear smooth boundary.

Cd—25 to 65 inches; olive (5Y 4/3) loam; moderate thin plates; firm; 15 percent rock fragments; strongly acid.

The solum thickness ranges from 15 to 30 inches. The content of rock fragments ranges from 5 to 20 percent in the solum and 15 to 30 percent in the substratum. Reaction ranges from strongly acid to moderately acid unless the soil is limed.

The Ap horizon has hue of 10YR, value of 3, and chroma of 2 or 3. It is silt loam or very fine sandy loam.

The Bw horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 3 or 4. It is mottled. It is silt loam, loam, or very fine sandy loam.

The C horizon has hue of 5Y, value of 4 or 5, and chroma of 2 or 3. It is silt loam, loam, or very fine sandy loam.

Podunk Series

The Podunk series consists of very deep, moderately well drained soils on the flood plains of major streams and rivers. Podunk soils formed in recent, loamy alluvial sediments underlain by sandy sediments. Slopes range from 0 to 3 percent.

Podunk soils are associated on the flood plain with Medomak, Ondawa, Rumney, and Sunday soils. Medomak soils are very poorly drained. Ondawa soils do not have mottles in the solum and are well drained. Rumney soils are poorly drained. Sunday soils are sandy throughout and are excessively drained.

Typical pedon of Podunk fine sandy loam, cultivated, in the town of Littleton, 3,960 feet south of the junction of US 302 and I-93, 800 feet east of US 302:

Ap1—0 to 11 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; friable; very strongly acid; abrupt smooth boundary.

Ap2—11 to 14 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; friable; very strongly acid; abrupt smooth boundary.

Bw—14 to 24 inches; yellowish brown (10YR 5/4) fine sandy loam; common medium distinct grayish brown (2.5Y 5/2) and few fine prominent dark reddish brown (5YR 3/2) mottles; weak fine granular structure; friable; very strongly acid; clear wavy boundary.

C1—24 to 33 inches; brown (10YR 4/3) loamy fine sand; massive; very friable; very strongly acid; abrupt smooth boundary.

C2—33 to 65 inches; pale brown (10YR 6/3) coarse sand; single grain; loose; strongly acid.

The solum thickness ranges from 18 to 40 inches. The content of rock fragments is less than 5 percent in the solum and ranges up to 35 percent in the substratum. Reaction ranges from very strongly acid to moderately acid throughout the soil.

The Ap horizon has hue of 2.5Y or 10YR, value of 3 to 5, and chroma of 2 to 4. It is dominantly fine sandy loam but ranges to sandy loam or loam. The Ap horizon has weak or moderate, very fine or fine granular structure.

The Bw horizon has hue of 2.5Y or 10YR, value of 3 to 5, and chroma of 2 to 4. It is sandy loam or fine sandy loam. The Bw horizon has weak or moderate, very fine or fine granular structure. Mottles with chroma of 2 or less are between depth of 12 and 24 inches.

The C horizon has hue of 5Y to 10YR, value of 4 to 6, and chroma of 1 to 4. The C horizon is coarse sand, sand, fine sand, loamy sand, or loamy fine sand in the fine-earth fraction.

Pootatuck Series

The Pootatuck series consists of very deep, moderately well drained soils on flood plains along the Connecticut River. These soils formed in loamy alluvial sediments. Slopes range from 0 to 3 percent.

Pootatuck soils are associated on the landscape with Hadley, Limerick, Occum, Rippowam, Suncook, and Winooski soils. Hadley, Limerick, and Winooski soils have coarse-silty textures. Occum soils are well drained. Rippowam soils are poorly drained. Suncook soils are excessively drained.

Typical pedon of Pootatuck very fine sandy loam in a hayfield in the town of Hanover, 1.45 miles east of NH-120 on the road to Etna and 260 feet south of the road, and 240 feet north of Mink Brook:

Ap—0 to 7 inches; dark brown (10YR 3/3) very fine sandy loam; moderate medium granular structure; friable; common fine roots; moderately acid; abrupt smooth boundary.

Bw1—7 to 19 inches; olive brown (2.5Y 4/4) fine sandy loam; massive; friable; common fine roots; slightly acid; clear wavy boundary.

Bw2—19 to 24 inches; olive brown (2.5Y 4/4) fine sandy loam; common fine distinct olive gray (5Y 5/2) and common medium distinct dark yellowish brown (10YR 4/4) mottles; massive; friable; few fine roots; slightly acid; clear wavy boundary.

C1—24 to 32 inches; grayish brown (2.5Y 5/2) fine sandy loam and few fine strata of loamy fine sand; common medium distinct olive gray (5Y 5/2) and common medium prominent reddish brown (5YR 4/3) mottles; massive; friable; slightly acid; clear wavy boundary.

C2—32 to 47 inches; olive gray (5Y 5/2) loamy sand; common medium prominent strong brown (7.5YR 5/6) mottles; massive very friable; slightly acid; abrupt smooth boundary.

C3—47 to 65 inches; olive gray (5Y 4/2) sand; single grained; loose; slightly acid.

The solum thickness ranges from 20 to 40 inches. The content of rock fragments ranges from 0 to 10 percent in the solum and 0 to 40 percent in the substratum. Reaction ranges from very strongly acid to slightly acid.

The Ap horizon has hue of 10YR, value of 3 to 5, and chroma of 2 to 4. The Ap horizon is sandy loam, fine sandy loam, or very fine sandy loam.

The Bw horizon has hue of 10YR to 5Y and value and chroma of 3 to 6. The Bw horizon is sandy loam or fine sandy loam.

The C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 to 4. The C horizon is fine sandy loam, sandy loam, loamy fine sand, loamy sand, fine sand, sand, or coarse sand and their gravelly analogs.

Quonset Series

The Quonset series consists of very deep, excessively drained soils on deltas, kames, terraces, and outwash plains. Quonset soils formed in sandy glacial outwash. Slopes range from 0 to 60 percent.

Quonset soils are associated on the landscape with Agawam, Deerfield, Hitchcock, Occum, Walpole, and Windsor soils. Agawam soils have a coarse-loamy over sandy or sandy-skeletal particle-size control section. Deerfield soils are moderately well drained. Hitchcock soils have a coarse-silty particle-size control section. Occum soils have a coarse-loamy particle-size control section and are subject to flooding. Walpole soils are poorly drained. Windsor and Deerfield soils have a sandy particle-size control section.

Typical pedon of Quonset loamy sand, 0 to 3 percent slopes, in a hayfield in the town of Orford, 1.5 miles east-southeast of the junction of NH-10 and NH-25A and 1,040 feet south-southeast of the junction of Archertown Brook and Jacob's Brook:

Ap—0 to 8 inches; dark brown (10YR 3/3) loamy sand; weak coarse granular structure; friable; common fine roots; 10 percent rock fragments; moderately acid; abrupt smooth boundary.

Bw1—8 to 15 inches; yellowish brown (10YR 5/6) very gravelly sand; single grain; loose; common fine roots; 35 percent rock fragments; moderately acid; clear wavy boundary.

Bw2—15 to 20 inches; yellowish brown (10YR 5/4) very gravelly sand; single grain; loose; few fine roots; 50 percent rock fragments; moderately acid; abrupt smooth boundary.

C1—20 to 24 inches; light olive brown (2.5Y 5/4) very gravelly sand; single grain; loose; 50 percent rock fragments; moderately acid; abrupt wavy boundary.

C2—24 to 44 inches; olive brown (2.5Y 4/4) very gravelly coarse sand; single grain; loose; 40 percent rock fragments; moderately acid; abrupt wavy boundary.

C3—44 to 65 inches; brown (10YR 5/3) sand; single grain; loose; 10 percent rock fragments; moderately acid.

The solum thickness ranges from 15 to 30 inches. Rock fragments derived mainly from dark phyllite or shale make up 10 to 50 percent of the solum and 30 to 60 percent of the substratum above 40 inches. Reaction of the soil ranges from extremely acid to moderately acid where limed.

The Ap horizon has hue of 10YR and value and chroma of 3 or 4. Some pedons have an A horizon with hue of 10YR, value of 2 or 3, and chroma of 1 or 2. It is loamy sand, loamy fine sand, sandy loam, or fine sandy loam and their gravelly or very gravelly analogs.

The Bw horizon has hue of 10YR, value of 4 or 5, and chroma of 4 to 6. It is loamy sand, loamy coarse sand, sand, or coarse sand and their gravelly or very gravelly analogs.

The C horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 to 4. Above a depth of 40 inches, it is gravelly or very gravelly analogs of sand, coarse sand, or very coarse sand. Below 40 inches, it is sand, coarse sand, or very coarse sand and their gravelly or very gravelly analogs. The C horizon is stratified.

Redstone Series

The Redstone series consists of very deep, somewhat excessively drained soils on mountainsides. The soils formed in loamy glacial till and are fragmental. Slopes range from 0 to 70 percent.

Redstone soils are associated on the landscape with Canaan, Hermon, and Monadnock soils. Canaan soils have bedrock at a depth of 10 to 20 inches. Hermon and Monadnock soils have finer textures throughout.

Typical pedon of Redstone sandy loam in an area of Redstone-Canaan-Rock outcrop complex, hilly, forested, in the town of Lincoln, 1,000 feet east of US-3 and 700 feet south of the Franconia townline:

Oi—1 inch to 0; forest litter.

A—0 to 1 inches; black (N 2/0) sandy loam; moderate fine and medium granular structure; friable; many fine roots; 3 percent rock fragments; very strongly acid; abrupt smooth boundary.

E—1 to 2 inches; pinkish gray (5YR 6/2) sandy loam; weak fine granular structure; friable; many fine roots; 5 percent rock fragments; very strongly acid; abrupt smooth boundary.

Bh—2 to 4 inches; very dusky red (2.5YR 2/2) sandy loam; moderate fine granular structure; friable; many fine roots; 3 percent rock fragments; very strongly acid; abrupt smooth boundary.

Bs1—4 to 7 inches; red (2.5YR 4/6) sandy loam; weak fine granular structure; very friable; many fine roots; 8 percent rock fragments; very strongly acid; abrupt smooth boundary.

Bs2—7 to 12 inches; reddish brown (5YR 4/4) sandy loam; weak fine granular structure; very friable; common fine roots; 10 percent rock fragments; very strongly acid; clear smooth boundary.

Bw—12 to 18 inches; dark brown (10YR 4/3) loamy sand; massive; very friable; common fine roots; 8 percent rock fragments; very strongly acid; clear wavy boundary.

BC—18 to 22 inches; yellowish brown (10YR 5/4) gravelly loamy sand; massive; very friable; few fine roots; 15 percent rock fragments; very strongly acid; clear wavy boundary.

C1—22 to 28 inches; olive (5Y 5/3) gravel; single grain; loose; 80 percent rock fragments; very strongly acid; clear wavy boundary.

C2—28 to 65 inches; 80 percent light gray (5Y 7/1) and 20 percent very dark gray (5Y 3/1) gravel; single grain; loose; 80 percent rock fragments; very strongly acid.

The solum thickness ranges from 11 to 25 inches. The content of rock fragments ranges from 3 to 40 percent in the solum and 60 to 90 percent in the substratum. Reaction ranges from extremely acid to moderately acid throughout.

The A horizon is neutral or has hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 or 2. The A horizon is sandy loam or fine sandy loam and their gravelly or very gravelly analogs.

The E horizon has hue of 5YR to 10YR, value of 4 to 6, and chroma of 1 or 2. The E horizon is sandy loam or fine sandy loam and their gravelly or very gravelly analogs.

The Bh horizon has hue of 2.5YR or 5YR, value of 2 or 3, and chroma of 1 to 3.

Some pedons have a Bhs horizon with colors similar to those of the Bh horizon.

The Bs horizon has hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 3 to 6.

The Bh, Bhs, or Bs horizon is sandy loam or fine sandy loam and their gravelly or very gravelly analogs.

The Bw horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 3 or 4.

The BC horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 3 or 4.

The Bw and BC horizons are sandy loam, fine sandy loam, or loamy sand and their gravelly or very gravelly analogs.

The C horizon has hue of 10YR to 5Y, value of 3 to 7, and chroma of 1 to 3. The C horizon is gravel or extremely gravelly very coarse sand.

Ricker Series

The Ricker series consists of very shallow to moderately deep, well drained to excessively drained organic soils on mountainsides and ridges at elevations of 2,500 feet or more. Ricker soils formed in accumulations of organic material underlain in some places by very thin and coarse, moderately coarse, or medium textured glacial till. Slopes range from 35 to 60 percent.

Ricker soils are associated on the landscape with Saddleback, Sisk, and Surplus soils. All of those soils are dominantly mineral material, and Sisk and Surplus soils have bedrock at a depth of more than 60 inches.

Typical pedon of Ricker peat in an area of Saddleback-Ricker-Rock outcrop complex, steep, forested, in the town of Woodstock, 1,320 feet north-northeast along the Appalachian Trail from Kinsman Notch and 120 feet south of the trail:

Oi—0 to 2 inches; dark reddish brown (2.5YR 2/4) broken, crushed, and rubbed fibric material; about 90 percent fiber, 75 percent rubbed; massive; many fine live roots; extremely acid; clear smooth boundary.

Oe—2 to 6 inches; dark red (2.5YR 3/6) and dusky red (2.5YR 3/2) broken, crushed, and rubbed hemic material; about 40 percent fiber, 20 percent rubbed; weak very fine granular structure; many fine live roots; extremely acid; abrupt wavy boundary.

0a—6 to 10 inches; black (5YR 2/1) broken, crushed, and rubbed sapric material; about 15 percent fiber, 5 percent rubbed; weak very fine granular structure; common fine live roots; extremely acid; abrupt smooth boundary.

R—10 inches; quartz monzonite bedrock.

The depth to bedrock ranges from 1 to 26 inches. The content of rock fragments ranges from 0 to 35 percent throughout the soil. Reaction is extremely acid throughout.

The Oi horizon has hue of 2.5YR to 10YR and value and chroma of 2 to 4.

The Oe horizon has hue of 2.5YR or 5YR, value of 2 or 3, and chroma of 1 to 6.

The 0a horizon is neutral or has hue of 10YR to 5YR, value of 2 or 3, and chroma of 1 or 2.

Some pedons have an E horizon with hue of 5YR to 10YR, value of 4 to 7, and chroma of 1 or 2. The E horizon is loamy sand, loamy fine sand, sandy loam, or fine sandy loam and their gravelly or cobbly analogs.

The R layer is gneiss, granite, quartz monzonite, or schist.

Rippowam Series

The Rippowam series consists of very deep, poorly drained soils on flood plains along the Connecticut River. These soils formed in loamy alluvial sediments. Slopes range from 0 to 3 percent.

Rippowam soils are associated on the landscape with Agawam, Limerick, Occum, Pootatuck, Suncook, and Winooski soils. Agawam and Occum soils are well drained. Limerick soils have coarse-silty textures. Pootatuck and Winooski soils are moderately well drained. Suncook soils are excessively drained.

Typical pedon of a Rippowam fine sandy loam in a hayfield in the town of Lyme, 800 feet north of the Hanover townline, 1,000 feet east of Route 10:

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak medium granular structure; friable; common very fine and fine roots; 5 percent rock fragments; moderately acid; abrupt smooth boundary.

C1—10 to 18 inches; dark grayish brown (2.5Y 4/2) sandy loam; common medium distinct light olive brown (2.5Y 5/6) mottles; massive; friable; few very fine roots; moderately acid; gradual smooth boundary.

C2—18 to 26 inches; olive gray (5Y 5/2) fine sandy loam; common medium and coarse distinct olive (5Y 5/6) mottles; massive; friable; moderately acid; abrupt smooth boundary.

C3—26 to 40 inches; olive gray (5Y 4/2) loamy sand; few medium prominent strong brown (7.5YR 5/6) mottles; massive; friable; 5 percent rock fragments; moderately acid; abrupt smooth boundary.

C4—40 to 65 inches; dark olive gray (5Y 3/2) gravelly loamy sand; few medium prominent strong brown (7.5YR 5/6) mottles; massive; friable; 30 percent rock fragments; strongly acid.

The content of rock fragments ranges from 0 to 15 percent in the solum and upper part of the substratum and from 0 to 40 percent in the lower part of the substratum. Reaction ranges from very strongly acid to slight acid throughout.

The A horizon has hue of 10YR, value of 2 to 4, and chroma of 1 or 2. The A horizon is fine sandy loam or sandy loam.

The upper part of the C horizon has hue of 10YR to 5Y, value of 3 to 5, and chroma of 1 or 2. It is fine sandy loam or sandy loam. The lower part of the C horizon has hue of 10YR to 5Y, value of 3 to 5, and chroma of 1 or 2. It is loamy fine sand, loamy sand, or fine sand and their gravelly or very gravelly analogs.

Rumney Series

The Rumney series consists of very deep, poorly drained soils formed in recent, loamy alluvial sediments underlain by sandy sediments on flood plains. Slopes range from 0 to 3 percent.

Rumney soils are associated on the landscape with Medomak, Ondawa, Podunk, and Sunday soils on the flood plains and with Adams and Croghan soils on adjacent terraces. Ondawa and Sunday soils do not have mottles in the solum and are well and excessively drained, respectively. Podunk soils are moderately well drained. Medomak soils are very poorly drained. Adams and Croghan soils are have a sandy particle-size control section.

Typical pedon of Rumney loam in a wooded area in the town of Plymouth, 1,200 feet east of NH-3 along the Baker River and 400 feet south:

A—0 to 8 inches; very dark grayish brown (10YR 3/2) loam; light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; many medium and coarse roots throughout; strongly acid; clear smooth boundary.

Bg1—8 to 16 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; few faint olive gray (5Y 4/2) and common fine and medium distinct dark yellowish brown (10YR 3/6) mottles; moderate medium granular structure; friable; few fine roots; moderately acid; abrupt smooth boundary.

Bg2—16 to 24 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; common medium prominent yellowish red (5YR 4/6) mottles; moderate medium subangular blocky structure; friable; moderately acid; abrupt smooth boundary.

C—24 to 65 inches; dark grayish brown (2.5Y 5/2) loamy sand; few medium distinct yellowish red (5YR 4/6) mottles; single grain; loose; moderately acid.

The content of rock fragments ranges from 0 to 5 percent in the solum and from 0 to 20 percent in the C horizon. Reaction ranges from strongly acid to slightly acid throughout.

The A horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 1 or 2. The A horizon is fine sandy loam or loam.

The B horizon has hue of 10YR through 5Y, value of 3 to 6, and chroma of 1 to 3. The B horizon is sandy loam, fine sandy loam, or loam.

The C horizon has hue of 10YR to 5Y, value of 3 to 6, and chroma of 1 to 4. The C horizon is loamy fine sand, loamy sand, or sand and their gravelly analogs.

Saddleback Series

The Saddleback series consists of shallow, well drained soils on mountainsides and ridges at elevations of 2,500 feet or more. Saddleback soils formed in loamy glacial till. Slopes range from 35 to 60 percent.

Saddleback soils are associated on the landscape with Ricker, Sisk, and Surplus soils. Ricker soils are thin, organic soils. Sisk and Surplus soils are deeper than 60 inches to bedrock.

Typical pedon of Saddleback sandy loam in an area of Saddleback-Ricker-Rock outcrop complex, steep, forested, in the town of Woodstock, 1,320 feet north-northeast along the Appalachian Trail from Kinsman Notch and 150 feet south of the trail:

Oi—1/2 inch to 0; loose leaves, needles, twigs, sticks, and moss.

Oe—0 to 2 inches; dark reddish brown (5YR 2/2) broken, crushed, and rubbed hemic material; about 65 percent fiber, 20 percent rubbed; weak fine granular structure; many fine live roots; extremely acid; abrupt wavy boundary.

0a—2 to 4 inches; black (5YR 2/1) broken, crushed, and rubbed sapric material; about 25 percent fiber, 5 percent rubbed; weak fine granular structure; common fine live roots; extremely acid; abrupt wavy boundary.

E—4 to 7 inches; 70 percent brown (7.5YR 5/2) and 30 percent gray (N 5/0) fine sandy loam; weak medium subangular blocky structure; friable; common fine roots; 10 percent rock fragments; very strongly acid; abrupt irregular boundary.

Bh1—7 to 10 inches; reddish black (10R 2/1) sandy loam; weak medium subangular blocky structure parting to weak fine granular; strongly smeary; common fine roots; 10 percent rock fragments; extremely acid; gradual wavy boundary.

Bh2—10 to 14 inches; mixed black (5YR 2/1) and dark reddish brown (5YR 3/2) sandy loam; weak fine granular structure; moderately smeary; common fine roots; 5 percent rock fragments; very strongly acid; gradual wavy boundary.

Bhs—14 to 17 inches; dark reddish brown (5YR 3/3) sandy loam; weak fine subangular blocky structure parting to weak fine granular; slightly smeary; few fine roots; 5 percent rock fragments; very strongly acid; clear smooth boundary.

Bs—17 to 20 inches; brown (7.5YR 5/4) sandy loam; weak fine subangular blocky structure parting to weak fine granular; friable; few fine roots; 5 percent rock fragments; very strongly acid; abrupt wavy boundary.

R—20 inches; quartz monzonite bedrock.

Thickness of the solum and depth to bedrock range from 10 to 20 inches. The content of rock fragments ranges from 5 to 30 percent throughout the soil. Reaction ranges from extremely acid to strongly acid.

The Oe and 0a horizons have hue of 2.5YR to 7.5YR, value of 2 or 3, and chroma of 1 or 2.

The E horizon is neutral or has hue of 5YR to 10YR, value of 4 to 7, and chroma of 1 to 3. The E horizon commonly is coarser than underlying horizons, and the texture is sandy loam or fine sandy loam and their gravelly or cobbly analogs.

The Bh or Bhs horizon has hue of 10YR to 7.5YR, value of 2 or 3, and chroma of 1 to 3.

The Bs horizon has hue of 2.5YR to 7.5YR, value of 3 to 5, and chroma of 4.

The B horizon is sandy loam, fine sandy loam, or loam and their gravelly or cobbly analogs.

The R layer is gneiss, granite, quartz monzonite, or schist.

Searsport Series

The Searsport series consists of very deep, very poorly drained soils in drainageways and depressions on outwash plains and terraces. Searsport soils formed in sandy glacial outwash. Slopes range from 0 to 2 percent.

Searsport soils are associated on the landscape with Colton, Croghan, Kinsman, and Madawaska soils. Colton soils are excessively drained. Croghan and Madawaska soils are moderately well drained. Kinsman soils are poorly drained.

Typical pedon of Searsport mucky peat, forested, in the town of Campton, 250 feet north of the Campton-Holderness townline and 2.9 miles east of NH-175:

Oi—1 inch to 0; slightly decomposed needles, leaves, and twigs.

Oe—0 to 12 inches; dark reddish brown (5YR 2/2) mucky peat; about 35 percent fiber, 25 percent rubbed; very fine sandy loam mineral material; massive; friable; common fine roots; very strongly acid; abrupt smooth boundary.

E—12 to 17 inches; gray (N 6/0) fine sandy loam; weak fine granular structure; friable; strongly acid; abrupt wavy boundary.

Cg—17 to 25 inches; gray (5Y 6/1) loamy fine sand; massive; very friable; strongly acid; abrupt wavy boundary.

C—25 to 65 inches; olive (5Y 5/3) medium and fine sand; single grain; loose; 4 percent rock fragments; very strongly acid.

Thickness of the organic material ranges from 8 to 16 inches. The content of rock fragments ranges from 0 to 5 percent. Below a depth of 30 inches, strata of fine gravel are in some pedons. Reaction ranges from very strongly acid to moderately acid throughout.

The Oe or 0a horizon has hue of 5YR, value of 2 to 3, and chroma of 1 or 2. It is mucky peat or muck.

The E horizon is neutral or has hue of 5Y, value of 4 to 6, and chroma of 1 or 2. It is loamy fine sand or loamy sand.

The C horizon has hue of 5Y to 10YR, value of 4 to 6, and chroma of 1 to 3. It is loamy fine sand, loamy sand, fine sand, or sand.

Sisk Series

The Sisk series consists of very deep, well drained soils on mountainsides at elevations of 2,500 feet or more. Sisk soils formed in loamy sediments underlain by compact, loamy dense basal till. Permeability is moderate in the solum and moderately slow to very slow in the compact substratum. Slopes range from 15 to 35 percent.

Sisk soils are associated on the landscape with Ricker, Saddleback, and Surplus soils. Ricker soils are dominantly organic material and are less than 20 inches deep to bedrock. Saddleback soils have bedrock at a depth of 10 to 20 inches. Surplus soils are moderately well drained.

Typical pedon of Sisk fine sandy loam, in an area of Sisk-Surplus association, moderately steep, very stony, forested, in the town of Woodstock, 4.3 miles east-northeast of the village of Glencliff, 1,320 feet east of the Benton-Woodstock townline, and 200 feet southwest of a dirt road:

Oi—1 inch to 0, loose leaves and needles.

0a—0 to 4 inches; black (10YR 2/1) sapric material; weak moderate granular structure; very friable; many fine and common medium roots; 5 percent cobbles; extremely acid; abrupt irregular boundary.

E—4 to 5 inches; grayish brown (10YR 5/2) fine sandy loam; weak medium platy structure; friable; common fine and few medium roots; 3 percent gravel, 5 percent rock fragments; extremely acid; abrupt broken boundary.

Bh1—5 to 8 inches; dark reddish brown (5YR 3/3) fine sandy loam; weak fine subangular blocky structure; friable; common fine and few medium roots; 8 percent rock fragments; strongly smeary; very strongly acid; abrupt wavy boundary.

Bh2—8 to 10 inches; dark brown (7.5YR 3/4) fine sandy loam; weak fine subangular blocky structure; friable; common fine and few medium roots; 8 percent rock fragments; strongly smeary; very strongly acid; abrupt wavy boundary.

Bs—10 to 19 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium granular structure; friable; common fine and few medium roots; 8 percent rock fragments; moderately smeary, extremely acid; clear wavy boundary.

BC—19 to 24 inches; yellowish brown (10YR 5/4) fine sandy loam; common medium faint dark yellowish brown (10YR 4/4) tongues of Bs matter; weak medium platy structure; friable; few fine roots; 13 percent rock fragments; very strongly acid; clear smooth boundary.

Cd—24 to 65 inches; olive (5Y 5/3) sandy loam; moderate thin and medium plates; firm; 10 percent rock fragments; few thin and medium dark reddish brown (5YR 3/2) streaks along structural plates in upper 5 inches; very strongly acid.

The solum thickness ranges from 20 to 25 inches. Rock fragment content ranges from 5 to 25 percent throughout the soil. Reaction ranges from extremely acid to strongly acid in all horizons.

The 0a horizon has hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 or 2.

The E horizon has hue of 2.5YR to 10YR, value of 5 or 6, and chroma of 2. The E horizon is silt loam, loam, or fine sandy loam in the fine-earth fraction.

The Bh horizon has hue of 2.5YR to 7.5YR, value of 3, and chroma of 2 to 4. Some pedons have a Bhs horizon with hue of 2.5YR or 5YR, value of 3, and chroma of 2 or 3. The Bh or Bhs horizon is silt loam, loam, or fine sandy loam in the fine-earth fraction.

The Bs horizon has hue of 5YR to 10YR, value of 4 or 5, and chroma of 4 to 6. The Bs horizon is silt loam, loam, fine sandy loam, or sandy loam in the fine-earth fraction.

The BC horizon has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 4. The BC horizon is loam, fine sandy loam, or sandy loam in the fine-earth fraction.

The Cd horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 2 to 4. The Cd horizon is loam, fine sandy loam, or sandy loam in the fine-earth fraction.

Skerry Series

The Skerry series consists of very deep, moderately well drained soils on drumlins and glaciated uplands. Skerry soils formed in loamy sediments underlain by compact, loamy basal till. Permeability is moderate in the solum and moderately slow to slow in the compact substratum. Slopes range from 0 to 25 percent.

Skerry soils are associated on the landscape with Becket, Lyman, Peacham, Pillsbury, and Tunbridge soils. Becket soils are well drained. Lyman soils have bedrock at a depth of 20 inches or less. Peacham soils are very poorly drained. Pillsbury soils do not have a spodic horizon and are poorly drained. Tunbridge soils have bedrock at a depth of 20 to 40 inches.

Typical pedon of Skerry fine sandy loam in an area of Skerry fine sandy loam, 3 to 8 percent slopes, very stony, cleared, in the town of Campton, 2,110 feet west of the junction of U.S. 3 and the road to Ellsworth in West Campton, 250 feet south of the road to Ellsworth:

Ap1—0 to 7 inches; very dark grayish brown (10YR 3/2) fine sandy loam; moderate medium granular structure; friable; many fine roots; 5 percent rock fragments; strongly acid; abrupt smooth boundary.

Ap2—7 to 12 inches; very dark grayish brown (10YR 3/2) fine sandy loam; moderate fine granular; friable; many fine roots; 5 percent rock fragments; strongly acid; abrupt wavy boundary.

Bs1—12 to 15 inches; dark brown (7.5YR 4/4) fine sandy loam; weak fine granular structure; friable; many fine roots; 10 percent rock fragments; strongly acid; abrupt wavy boundary.

Bs2—15 to 21 inches; reddish brown (5YR 4/3) fine sandy loam; common medium prominent light yellowish brown (2.5Y 6/4) and very pale brown (10YR 7/3) mottles; weak fine granular structure; friable; common fine roots; 12 percent rock fragments; strongly acid; abrupt smooth boundary.

Cd1—21 to 28 inches; light gray (2.5Y 7/2) gravelly loamy fine sand; common medium distinct olive gray (5Y 5/2) and common fine prominent yellowish brown (10YR 5/8) mottles; moderate medium plates; very firm; 15 percent rock fragments; 30 percent friable loamy sand lenses; strongly acid; abrupt irregular boundary.

Cd2—28 to 65 inches; brown (10YR 5/3) gravelly loamy fine sand; common fine prominent light gray (5Y 6/1) and common fine distinct light olive brown (2.5Y 5/4) mottles; weak medium plates; firm; 15 percent rock fragments; 40 percent friable loamy sand lenses; strongly acid.

The solum thickness ranges from 15 to 30 inches. Rock fragments are dominantly gravel and some cobbles and a few stones. Their range is from 5 to 30 percent throughout the soil. Reaction ranges from very strongly acid to moderately acid in the solum and underlying till.

The Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 2 to 4. Some pedons have an A horizon with hue of 10YR or 7.5YR, value of 2 or 3, and chroma of 1 or 2. The Ap or A horizon is fine sandy loam or sandy loam in the fine-earth fraction.

Some pedons have an E horizon with hue of 10YR to 5YR, value of 5 or 6, and chroma of 1 or 2. It is similar in texture to the A horizon.

Some pedons have a Bh or Bhs horizon with hue of

2.5YR or 5YR, value of 2 or 3, and chroma of 1 to 3. It is fine sandy loam or sandy loam in the fine-earth fraction.

The Bs horizon has hue of 10YR to 2.5YR, value of 3 or 4, and chroma of 3 to 6. The Bs horizon is fine sandy loam or sandy loam. Structure of the Bs horizon is weak or moderate, fine or medium granular.

Some pedons have a Bw or BC horizon, or both, mainly with hue of 2.5 or 10YR, value of 4 to 6, and chroma of 3 to 6. The BC horizon also includes hue of 5Y, value of 3, and chroma of 2. The horizons are dominantly fine sandy loam or sandy loam in the fine-earth fraction, but the range is to loamy fine sand in the BC horizon. Structure of the Bw or BC horizon is weak or moderate, fine or medium granular, or it is massive.

The Cd horizon has hue of 5Y to 10YR, value of 4 or 5, and chroma of 2 to 4. The Cd horizon is gravelly analogs of loamy sand, loamy fine sand, sandy loam, or fine sandy loam. The Cd horizon mainly has weak or moderate, thin or medium plates, but it ranges to massive or single grain in thin lenses of sand or loamy sand. Firm or very firm layers of fine sandy loam commonly make up less than 80 percent of the Cd horizon. These structural plates are separated by friable or loose, horizontal lenses of sand or loamy sand that make up 20 to 40 percent of the Cd horizon.

Stissing Series

The Stissing series consists of very deep, poorly drained soils in slightly concave areas and shallow drainageways of drumlins and glaciated uplands. Stissing soils formed in silty glacial till underlain by compact, loamy basal till. Permeability is moderate in the solum and slow in the compact substratum. Slopes range from 0 to 8 percent.

Stissing soils are associated on the landscape with Bernardston, Cardigan, Charlton, Kearsarge, and Pittstown soils. Bernardston and Charlton soils are well drained. Cardigan soils are 20 to 40 inches deep to bedrock, and Kearsarge soils are less than 20 inches deep to bedrock. Pittstown soils are moderately well drained.

Typical pedon of Stissing silt loam in an area of Stissing silt loam, 3 to 8 percent slopes, very stony, forested, in the town of Orford, 4,160 feet southeast on NH-25A from its junction with NH-10, and 1 mile south:

A—0 to 10 inches; very dark brown (10YR 2/2) silt loam; light brownish gray (10YR 6/2) dry; common fine faint dark grayish brown mottles; moderate medium granular structure; friable; many fine and medium roots; 10 percent rock fragments; moderately acid; clear wavy boundary.

Bg—10 to 20 inches; 60 percent gray (5Y 4/1) and 40 percent dark brown (10YR 4/3) mottled gravelly loam; weak coarse subangular blocky structure; firm; few fine roots; 25 percent rock fragments; moderately acid; abrupt wavy boundary.

Cdg—20 to 65 inches; olive (5Y 4/2) loam; common medium prominent dark brown (7.5YR 4/4) mottles and common gray (5Y 5/1) streaks; moderate medium plates; very firm; 10 percent rock fragments; moderately acid.

The solum thickness ranges from 15 to 25 inches to dense basal till. The content of rock fragments ranges from 5 to 30 percent in the A horizon, 5 to 25 percent in the B horizon, and 10 to 30 percent in the C horizon. Reaction ranges from strongly acid to moderately acid.

The A horizon has hue of 2.5Y or 10YR, value of 2 or 3, and chroma of 1 or 2. The fine-earth fraction is loam or silt loam.

The Bw horizon has hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 1 or 2. The fine-earth fraction is very fine sandy loam, loam, or silt loam.

The Cd horizon has hue of 5Y, value of 3 to 5, and chroma of 1 to 4. The fine-earth fraction is loam or silt loam.

Suncook Series

The Suncook series consists of very deep, excessively drained soils on flood plains. Suncook soils formed in sandy alluvial sediments. Slopes range from 0 to 2 percent.

Suncook soils are associated on the landscape with Hadley, Occum, Pootatuck, Rippowam, and Winooski soils. Hadley and Occum soils are well drained. The Pootatuck and Winooski soils are moderately well drained. Rippowam soils are poorly drained.

Typical pedon of Suncook loamy fine sand in a pasture in the town of Orford, 1.1 miles south of the Fairlee-Orford Bridge over the Connecticut River, 165 feet east of the river:

Ap—0 to 8 inches; dark grayish brown (2.5Y 4/2) loamy fine sand; massive; very friable; common fine roots; strongly acid; abrupt smooth boundary.

C1—8 to 32 inches; olive brown (2.5Y 4/4) loamy fine sand; massive; very friable; few fine roots; strongly acid; abrupt wavy boundary.

C2—32 to 65 inches; olive (5Y 5/3) fine sand; single grain; loose; strongly acid.

Most pedons are free of rock fragments above a depth of 20 inches. Thin strata of gravel are in some pedons below 20 inches.

Reaction ranges from very strongly acid to moderately acid.

The Ap horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 1 or 2. It is loamy fine sand or sandy loam. A buried A horizon is in some pedons.

The C horizon has hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 1 to 4. It is loamy fine sand, fine sand, or sand.

Sunday Series

The Sunday series consists of very deep, excessively drained soils on the flood plains of major streams and rivers. Sunday soils formed in recently deposited sandy alluvial sediments. Slopes range from 0 to 3 percent.

Sunday soils are associated on the landscape with Ondawa, Podunk, and Rumney soils. All of those soils have finer textures in the solum than Sunday soils. Ondawa soils are well drained, Podunk soils are moderately well drained, and Rumney soils are poorly drained.

Typical pedon of Sunday loamy sand, cultivated, in the town of Wentworth, 3,170 feet north-northeast of the junction of NH-25 and NH-25A, 700 feet east of NH-25:

Ap—0 to 9 inches; very dark grayish brown (10YR 3/2) loamy sand; light brownish gray (10YR 6/2) dry; massive; very friable; many fine roots; strongly acid; abrupt smooth boundary.

C1—9 to 23 inches; very dark grayish brown (2.5Y 3/2) loamy sand; single grain; loose; common fine roots; strongly acid; abrupt smooth boundary.

C2—23 to 47 inches; dark grayish brown (2.5Y 4/2) sand; single grain; loose; few fine roots; strongly acid; abrupt smooth boundary.

C3—47 to 65 inches; grayish brown (2.5Y 5/2) coarse sand; single grain; loose; thin strata of fine gravel with a total thickness of less than 2 inches; strongly acid.

To a depth of 40 inches, most pedons do not have rock fragments. Thin strata of rock fragments make up 0 to 15 percent of the soil below a depth of 40 inches. Reaction ranges from very strongly acid to moderately acid throughout the soil.

The Ap horizon has hue of 10YR, value of 3 or 4, and chroma of 2 or 3. The Ap horizon is fine sand or loamy sand.

The C horizon has hue of 2.5Y or 10YR, value of 3 to 5, and chroma of 2 to 6. The C horizon is coarse sand, sand, fine sand, loamy sand, or loamy fine sand.

Surplus Series

The Surplus series consists of very deep, moderately well drained and somewhat poorly drained soils on mountainsides at elevations of 2,500 feet or more. Surplus soils formed in loamy sediments underlain by compact, loamy dense basal till. Permeability is moderate in the solum and moderately slow to slow in the compact substratum. Slopes range from 15 to 35 percent.

Surplus soils are associated on the landscape with Ricker, Saddleback, and Sisk soils. Ricker soils are dominantly organic and are less than 20 inches deep to bedrock. Saddleback soils have bedrock at a depth of 10 to 20 inches. Sisk soils are well drained.

Typical pedon of Surplus fine sandy loam in an area of Surplus-Sisk association, moderately steep, very stony, forested, in the town of Benton, 4,750 feet east-northeast of the village of Glencliff, 3,340 feet north northwest of the Ravine House and 250 feet west of Gorge Brook:

Oi—1 inch to 0; undecomposed twigs and needles.

0a—0 to 3 inches; very dusky red (2.5YR 2/2) sapric material; about 30 percent fiber, 15 percent rubbed; moderate fine granular structure; friable; many fine and medium and common coarse roots; extremely acid; abrupt wavy boundary.

E—3 to 6 inches; gray (N 5/0) fine sandy loam; weak fine granular structure; very friable; many fine medium and common coarse roots; 5 percent rock fragments; very strongly acid; abrupt irregular boundary.

Bh—6 to 8 inches; dark reddish brown (5YR 3/2) fine sandy loam; weak fine granular structure; friable; many fine and common medium and coarse roots; moderately smeary; 5 percent rock fragments; very strongly acid; abrupt irregular boundary.

Bs1—8 to 13 inches; dark brown (7.5YR 4/4) fine sandy loam; weak fine granular; friable; common fine and medium roots; 10 percent rock fragments; very strongly acid; clear wavy boundary.

Bs2—13 to 18 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine granular structure; friable; few fine and medium roots; 10 percent rock fragments; very strongly acid; abrupt wavy boundary.

Bs3—18 to 23 inches; dark yellowish brown (10YR 4/4) fine sandy loam; common medium prominent yellowish red (5YR 5/6) mottles; weak fine granular structure; friable; few fine roots; 10 percent rock fragments; strongly acid; abrupt wavy boundary.

Cd—23 to 65 inches; olive (5Y 4/3) gravelly fine sandy loam; moderate fine plates; firm; 20 percent rock fragments; strongly acid.

Thickness of the solum ranges from 15 to 28 inches. The content of rock fragments ranges from 3 to 25 percent throughout the soil. Reaction ranges from extremely acid to strongly acid in the solum and from very strongly to strongly acid in the substratum.

The Oe or 0a horizon has hue of 2.5YR to 10YR, value of 2 or 3, and chroma of 1 or 2.

The E horizon is neutral or has hue of 7.5YR to 10YR, value of 5 to 7, and chroma of 1 or 2. The E horizon is fine sandy loam or sandy loam and their gravelly analogs.

The Bh horizon has hue of 2.5YR or 5YR, value of 2 or 3, and chroma of 1 to 3.

Some pedons have a Bhs horizon with hue of 2.5YR or 5YR, value of 2 or 3, and chroma of 1 to 3.

The Bs horizon has hue of 5YR to 10YR, value of 3 to 5, and chroma of 3 to 6.

The Bh, Bhs, or Bs horizon is loam, fine sandy loam, or sandy loam and their gravelly analogs.

Some pedons have a Bw or BC horizon with hue of 10YR or 2.5YR, value of 4 or 5, and chroma of 4. The Bw or BC horizon is fine sandy loam or sandy loam and their gravelly analogs.

The Cd horizon has hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 3 or 4. The Cd horizon is fine sandy loam or sandy loam and their gravelly analogs.

Tunbridge Series

The Tunbridge series consists of moderately deep, well drained soils on glaciated uplands. Tunbridge soils formed in loamy glacial till underlain by bedrock at a depth of 20 to 40 inches. Slopes range from 0 to 60 percent.

Tunbridge soils are associated on the landscape with Becket, Berkshire, Hermon, Lyman, Marlow, Peru, Pillsbury, and Skerry soils. All of those soils except Lyman soils are deeper than 60 inches to bedrock. Lyman soils have bedrock at a depth of 20 inches or less.

Typical pedon of Tunbridge fine sandy loam in an area of Tunbridge-Lyman-Rock outcrop complex, 8 to 15 percent slopes, very stony, forested, in the town of Haverhill, 4,200 feet west of French Pond, and 5,000 feet north of Clark Pond on the west slope of Pond Ledge:

A—0 to 1 inch, dark reddish brown (5YR 2/2) fine sandy loam; weak fine granular structure; very friable; many medium and fine roots; 5 percent rock fragments; strongly acid; abrupt smooth boundary.

E—1 to 3 inches; pinkish gray (5YR 6/2) fine sandy loam; weak fine granular structure; very friable; common medium and fine roots; 5 percent rock fragments; very strongly acid; abrupt broken boundary.

Bs—3 to 11 inches; strong brown (7.5YR 5/6) fine sandy loam; weak fine granular structure; very friable; common medium and fine roots; 5 percent rock fragments; strongly acid; clear wavy boundary.

Bw—11 to 21 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine granular structure; very friable; common medium and fine roots; 5 percent rock fragments; strongly acid; abrupt wavy boundary.

C—21 to 28 inches; light yellowish brown (2.5Y 6/4) fine sandy loam; weak fine plates; friable; few medium and fine roots; 10 percent rock fragments; strongly acid; abrupt smooth boundary.

R—28 inches; hard schist bedrock.

The solum thickness ranges from 14 to 30 inches. Depth to bedrock ranges from 20 to 40 inches. Rock fragments are dominantly gravel and some cobbles and a few stones. Their range in content is from 5 to 20 percent in the solum and 10 to 30 percent in the substratum. Reaction ranges from extremely acid to moderately acid in the solum and strongly acid to slight acid in the substratum.

The A horizon has hue of 10YR to 5YR, value and chroma of 2 or 3. The A horizon is fine sandy loam, loam, or silt loam in the fine-earth fraction.

The E horizon has hue of 10YR to 5YR, value of 5 or 6, and chroma of 1 or 2. The E horizon is fine sandy loam, loam, or silt loam in the fine-earth fraction.

Some pedons have a Bh or Bhs horizon with hue of 10YR to 5YR, value of 2 or 3, and chroma of 1 or 2.

The Bs horizon has hue of 10YR to 2.5YR, value of 3 to 5, and chroma of 3 to 6.

The Bw horizon has hue of 2.5Y to 7.5YR, value of 3 to 5, and chroma of 3 to 6.

Some pedons have a BC horizon with hue of 2.5Y to 7.5YR, value of 3 to 5, and chroma of 3 to 6.

The B horizon is fine sandy loam or loam in the fine-earth fraction. Structure of the B horizon is weak or moderate, very fine to medium granular, and it ranges to massive in the BC horizon.

The C horizon has hue of 5YR to 10YR, value of 4 to 6, and chroma of 2 to 4. It is fine sandy loam or loam in the fine-earth fraction. The C horizon has weak to moderate, medium to thick plates, or it is massive. Consistence is friable or firm.

Udorthents

Udorthents consist of very deep, excessively drained soils in areas that have been excavated, filled, or graded. In the excavated areas the remaining material formed in gravelly glacial outwash or sandy glacial till. The soil in those areas ranges from loamy sand to extremely gravelly and cobbly sand. The content of coarse fragments ranges from 5 to 85 percent.

Udorthents are on the landscape near Colton, Quonset, Adams, and Windsor soils on outwash plains, terraces, kames, and eskers and near Hermon and Monadnock soils on glaciated uplands. Udorthents do not have the sequence of horizons that is characteristic of those soils.

A typical pedon of Udorthents is not given because of the variability of the thickness, color, and texture of the layers of the soil.

Walpole Series

Walpole series consists of very deep, poorly drained soils on stream terraces and outwash plains. Walpole soils formed in loamy sediments. Slopes range from 0 to 5 percent.

Walpole soils are associated on the landscape with Agawam, Binghamville, Dartmouth, Deerfield, Quonset, and Windsor soils. Agawam, Dartmouth, Deerfield, Quonset, and Windsor soils are better drained than Walpole soils. Binghamville and Dartmouth soils are coarse-silty.

Typical pedon of Walpole fine sandy loam in an area of Walpole-Binghamville complex, in a hayfield in the town of Haverhill, 1 mile north of the village of North Haverhill, 1,320 feet east of NH-10 and 170 feet south of a farm road:

Ap—0 to 8 inches; very dark gray (10YR 3/1) fine sandy loam; gray (5Y 6/1) dry; moderate medium granular structure; friable; many fine and common medium roots; neutral; abrupt smooth boundary.

Bg1—8 to 13 inches; gray (5Y 5/1) fine sandy loam; weak medium granular structure; friable; common fine and few medium roots; slightly acid; abrupt smooth boundary.

Bg2—13 to 21 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; few fine prominent yellowish red (5YR 4/6) and common medium prominent strong brown (7.5YR 5/6) mottles; weak medium granular structure; friable; few fine roots; slightly acid; abrupt smooth boundary.

C1—21 to 24 inches; light olive brown (2.5Y 5/4) sand; massive; very friable; slightly acid; abrupt smooth boundary.

C2—24 to 30 inches; grayish brown (2.5Y 5/2) sand; massive; very friable; slightly acid; clear smooth boundary.

C3—30 to 65 inches; olive gray (5Y 4/2) loamy sand; massive; friable; slightly acid.

The solum thickness ranges from 18 to 28 inches. The content of rock fragments ranges from 0 to 15 percent in the solum and from 0 to 35 percent in the substratum. Reaction ranges from strongly acid to slightly acid throughout the soil.

The Ap horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. The Ap horizon is fine sandy loam or sandy loam.

The Bg horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2.

Some pedons have a Bw or BC horizon with hue of 10YR to 5Y, value of 4 to 6, and chroma of 3 or 4. The B horizon is fine sandy loam or sandy loam.

The C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 4. The C horizon mainly is loamy sand or sand and their gravelly analogs. Thin strata of gravel or finer material are common in some pedons.

Waumbek Series

Waumbek series consists of very deep, moderately well drained soils on glaciated uplands. Waumbek soils formed in sandy glacial till. Slopes range from 0 to 25 percent.

Waumbek soils are associated on the landscape with Hermon, Lyman, Lyme, Monadnock, and Moosilauke soils. Hermon soils are somewhat excessively drained. Lyman soils have bedrock at a depth of 20 inches or less. Lyme and Moosilauke soils are poorly drained and do not have a spodic horizon. Monadnock soils are well drained and are coarse-loamy over sandy or sandy-skeletal.

Typical pedon of Waumbek loamy sand in an area of Waumbek-Lyme association, undulating, very stony, in a forested site in the town of Dorchester, 3,500 feet northwest of the summit of Pollard Hill and 200 feet east of the Mascoma River:

Oi—1 inch to 0; slightly decomposed needles, moss, leaves, and twigs.

Oe—0 to 4 inches; black (5YR 2.5/1) partially decomposed organic material; moderate fine granular structure; friable; many fine and common medium roots; extremely acid; abrupt smooth boundary.

E—4 to 9 inches; light brownish gray (10YR 6/2) loamy sand; weak fine granular structure; friable; common fine and medium roots; 10 percent rock fragments; very strongly acid; abrupt irregular boundary.

Bh—9 to 10 inches; dark reddish brown (5YR 2/2) loamy sand; weak fine granular structure; friable;

common fine and medium roots; 10 percent rock fragments; very strongly acid; abrupt irregular boundary.

Bs1—10 to 13 inches; dark reddish brown (2.5YR 3/4) cobbly loamy sand; moderate fine granular structure; 75 percent friable, 25 percent weakly cemented (ortstein); common fine and few medium roots; 20 percent rock fragments; very strongly acid; abrupt wavy boundary.

Bs2—13 to 20 inches; strong brown (7.5YR 5/6) very cobbly loamy sand; weak fine granular structure; friable; common fine and few medium roots; 40 percent rock fragments; strongly acid; abrupt smooth boundary.

Bs3—20 to 25 inches; dark yellowish brown (10YR 3/4) very cobbly loamy sand; common medium prominent light gray (10YR 6/1) mottles; weak fine granular structure; friable; few fine roots; 40 percent rock fragments; strongly acid; abrupt smooth boundary.

C1—25 to 41 inches; dark grayish brown (2.5Y 4/2) very cobbly loamy sand; massive; friable; 50 percent rock fragments; strongly acid; clear smooth boundary.

C2—41 to 65 inches; grayish brown (2.5Y 5/2) very cobbly loamy sand; massive; friable; 50 percent rock fragments; strongly acid.

The solum thickness ranges from 15 to 30 inches. The content of rock fragments ranges from 5 to 50 percent, by volume, in the solum and 35 to 70 percent in the substratum. Reaction ranges from very strongly acid to moderately acid throughout the solum and substratum.

Some pedons have an A or Ap horizon. The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. The Ap horizon has hue of 10YR, value of 2 to 4, and chroma of 2 or 3. The horizons are fine sandy loam, sandy loam, or loamy sand in the fine-earth fraction.

The E horizon is neutral or has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 1 or 2. The E horizon is fine sandy loam, sandy loam, loamy fine sand, or loamy sand in the fine-earth fraction.

The Bh or Bhs horizon mainly has hue of 2.5YR or 5YR, value of 2 or 3, and chroma of 1 to 3. Some pedons have a Bhs horizon with hue of 2.5YR or 5YR, value of 2 or 3, and chroma of 1 to 3. The Bs horizon has hue of 2.5YR to 10YR, value of 3 to 6, and chroma of 4 to 8. Some pedons have a Bw or BC horizon with hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 6. The B horizon is fine sandy loam, sandy loam, loamy fine sand, loamy sand, and sand in the fine-earth fraction.

The C horizon has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 to 3. The C horizon is loamy fine sand, loamy sand, sand, or coarse sand in the fine-earth fraction.

Windsor Series

The Windsor series consists of very deep, excessively drained soils on terraces and terrace escarpments along major rivers and streams. Windsor soils formed in sandy glacial outwash. Slopes range from 0 to 15 percent on the terraces and from 15 to 60 percent on the escarpments.

Windsor soils are associated on the landscape with Agawam, Deerfield, Hadley, Hitchcock, Occum, Quonset, and Walpole soils. Agawam soils are coarse-loamy over sandy or sandy-skeletal. Deerfield soils are moderately well drained. Hadley and Occum soils are on associated flood plains. Hitchcock soils are coarse-silty. Quonset soils are sandy-skeletal. Walpole soils are poorly drained.

Typical pedon of Windsor loamy fine sand, 0 to 3 percent slopes, forested, in the town of Piermont, 1.2 miles west of the village of Piermont and 250 feet south of NH-25:

Oi—1 inch to 0; undecomposed and partially decomposed twigs and leaves.

Ap—0 to 10 inches; dark yellowish brown (10YR 4/4) loamy fine sand; weak very fine granular structure; very friable; many fine and medium roots; very strongly acid; clear smooth boundary.

Bw1—10 to 18 inches; yellowish brown (10YR 5/8 loamy fine sand; weak very fine granular structure; very friable; few fine and medium roots; strongly acid; clear smooth boundary.

Bw2—18 to 27 inches; olive brown (2.5Y 4/4) loamy fine sand; weak very fine granular structure; very friable; few fine roots; strongly acid; clear wavy boundary.

C1—27 to 33 inches; pale olive (5Y 6/4) fine sand; single grain; loose; strongly acid; clear wavy boundary.

C2—33 to 65 inches; light olive gray (5Y 6/2) fine sand; single grain; loose; strongly acid.

The solum thickness ranges from 20 to 32 inches. The content of rock fragments is less than 10 percent in the solum and less than 15 percent in the substratum. Reaction ranges from very strongly acid to slightly acid.

The Ap horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 to 4. The A horizon is loamy fine sand or loamy sand.

The Bw horizon has hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8 in the upper part and hue of 10YR to 5Y, value of 5 or 6, and chroma of 3 to 6 in the lower part. The Bw horizon is loamy fine sand or loamy sand in the upper part and loamy fine sand, loamy sand, fine sand, or sand in the lower part.

The C horizon has hue of 2.5Y or 5Y, value of 4 to 6, and chroma of 2 to 4. It is fine sand or sand.

Winooski Series

The Winooski series consists of very deep, moderately well drained soils on the flood plains of major rivers and streams. Winooski soils formed in recent, silty alluvial sediments. Slopes range from 0 to 3 percent.

Winooski soils are associated on the landscape with Hadley, Limerick, Occum, Pootatuck, Rippowam, and Suncook soils. Hadley soils are well drained. Limerick soils are poorly drained. Occum, Pootatuck, and Rippowam soils are coarse-loamy. Suncook soils are excessively drained.

Typical pedon of Winooski silt loam, cultivated, in the town of Haverhill, 2,300 feet west of junction NH-25 and NH-10, and 30 feet north of a dirt road:

Ap—0 to 8 inches; dark grayish brown (2.5Y 4/2) silt loam; weak fine granular structure; very friable; many fine and common medium roots; moderately acid; abrupt smooth boundary.

C1—8 to 18 inches; brown (10YR 4/3) silt loam; common fine faint dark brown (7.5YR 4/4) mottles; weak fine granular structure; very friable; many fine and common medium roots; moderately acid; clear wavy boundary.

C2—18 to 28 inches; brown (10YR 4/3) silt loam; few fine distinct grayish brown (2.5Y 5/2) and common fine faint dark brown (7.5YR 4/4) mottles; weak fine granular structure; very friable; many fine and few medium roots; moderately acid; clear wavy boundary.

C3—28 to 36 inches; dark grayish brown (2.5Y 4/2) very fine sandy loam; common fine distinct dark brown (7.5YR 4/4) mottles; massive; very friable; common fine roots; moderately acid; abrupt wavy boundary.

C4—36 to 42 inches; grayish brown (2.5Y 5/2) very fine sandy loam; common fine prominent dark brown (7.5YR 4/4) mottles; massive; very friable; few fine roots; moderately acid; abrupt wavy boundary.

C5—42 to 65 inches; olive gray (5Y 5/2) loamy very fine sand; common fine prominent dark brown (7.5YR 4/4) mottles; massive; very friable; few fine roots; moderately acid.

The content of rock fragments is less than 5 percent, by volume, throughout the soil. Reaction ranges from very strongly acid to neutral throughout the soil. The soil is dominantly silt loam or very fine sandy loam throughout but ranges to loamy very fine sand.

The Ap horizon has hue of 10YR to 5Y, value of 3 or 4, and chroma of 2.

The C horizon has hue of 10YR to 5Y, value of 4 or 5, and chroma of 1 to 4.

Formation of the Soils

Soils form through the interaction of five major factors: time, climate, relief, parent material, and biological forces. The relative influence of each of the factors determines the kind of soil. If all the factors are the same from place to place, then the soils in those places will be the same. If any of the factors are different, then the soils will be different (*3*). In this survey area the more significant factors of formation are relief and parent material. These two factors vary widely within the survey area. The other factors of time, climate, and biological forces are similar throughout the survey area.

Time

The soil-forming factors of climate and biological forces require time to act on the parent material. In most places in Grafton County, the age of the parent material is about the same. The exceptions are soils such as Medomak and Podunk soils, which formed in recent alluvial sediments and are younger than other soils. Generally, the age of the parent material is closely related to the kind of parent material.

Climate

The temperature and precipitation are relatively constant throughout the survey area and thus are significant to the changes in kinds of soils in the county.

Relief

Relief, or the position of a soil on the landscape, works in combination with parent material to affect the behavior of water that is in the soil. Soils that are at the lower topographic positions receive runoff from adjacent soils on higher positions, in addition to the precipitation that falls on all the soils. If the soil on the lower position formed in silty materials, then long term wetness can be expected. This soil-forming factor is also related to the kind of microclimate and the biological activity in the soil.

Parent Material

The soils in Grafton County formed in several kinds of parent materials. Most of the soils formed in glacial till, but many formed in alluvium, glacial outwash, lacustrine sediments, or organic materials. Grouping soils by parent material and relief provides a convenient method of understanding soil-landscape relationships. For example, Marlow, Peru, and Pillsbury soils formed in similar parent materials, but Marlow soils are on higher positions, Peru soils are on intermediate positions, and Pillsbury soils are on lower positions. This soil-forming factor is related to the time of deposition of the parent material and the biological activity in the soil.

Biological Forces

Vegetation, microorganisms in the soil, and animals and humans are relatively constant soil-forming factors. Changes in vegetation from place to place are likely the result in parent material or relief. An exception is a soil such as Udorthents or a gravel pit, in which humans have modified the land by cutting, filling, and grading.

Geology

Prepared by D. Bruce Champion, Geologist, United States Department of Agriculture, Natural Resources Conservation Service

Grafton County contains two distinctly different physiographic units. The Connecticut Valley physiographic unit extends along the Connecticut River from Lebanon, in the southwestern corner of the county, northward to the confluence of Vermont's Passumpsic River. It then continues along the Passumpsic River past St. Johnsbury, and ends near Lyndonville in neighboring Caledonia County, Vermont. Topography is flat to rolling and relief is low. Elevations increase from about 320 feet in the south to about 780 feet in the north. The foothills of the Central Highlands border this narrow unit on the east.

The Central Highlands physiographic unit comprises the remainder of the county. Topographic relief and elevations are high, especially in the White Mountains of the central and eastern areas. Two of the highest peaks are Mt. Lafayette (elev. 5,249 feet) and Mt. Lincoln (elev. 5,108 feet). At least 15 other mountains rise to over 4,000 feet in elevation. Drainage is well developed. The largest lakes (Squam, Newfound and Mascoma) occur in this unit along the county's southern border.

The bedrock units of Grafton County record several hundred million years of the earth's geologic history. Stratified rocks began as sandy, silty and limy oceanic sediments and as volcanic debris from offshore island arcs. Most of the rocks formed during the Lower and Middle Paleozoic Era. These original rocks were deformed, metamorphosed and intruded by igneous rocks during several episodes of geologic plate movement and mountain building. Metamorphism created new rock types such as slate, phyllite, schist, gneiss, quartzite and amphibolite. It also usually destroyed the original depositional features of stratified rocks, including fossilized animal remains that are useful for relative age determinations.

Some of the oldest stratified rocks of the county are the Ammonoosuc Volcanics, formed during Late and Middle Ordovician time. They occur in three major bands in the western third of the county. Several rock types are present including metagraywacke, phyllite, tuff, greenstone, quartzite and amphibolite.

In the Middle Ordovician and Silurian time the offshore island arcs collided with mainland North America, causing the formation of Vermont's Taconic Mountains (Taconic Orogeny). Granite, granodiorite and tonalite plutons of the Oliverian Plutonic Suite were emplaced in Grafton County at that time. They occur as discontinuous bodies in an arc extending from Bethlehem through East Haverhill to Enfield Center and as a separate body east of Hanover.

Stratified rocks derived from sediments deposited from Early Silurian through Early Devonian time occur throughout the central and western parts of the county. They include the Clough quartzite and Perry Mountain, Small Falls and Madrid formations of Silurian age, and the Littleton formation of the Devonian age. Quartzite, metaconglomerate, metawacke, metapelite, schist, metavolcanics and several other metamorphic rock types occur.

The last server deformation and metamorphism of the area's rocks occurred during Early to Late Devonian time when the northeastern part of North America collided with the European/African plate. This collision (Acadian Orogeny) formed much of the northern Appalachian Mountain chain and resulted in the intrusion of the New Hampshire Plutonic Suite of igneous rocks. Two bands of Bethlehem Gneiss, a strongly foliated granodiorite, outcrop generally east and west of the Oliverian Plutonic Suite of rocks. Other related granitic plutons occur throughout the county.

The continents drifted apart and formed the Atlantic Ocean in the Mesozoic Era, during Jurassic and Cretaceous time. Igneous rocks of the White Mountain Plutonic-Volcanic Suite and New England-Quebec Plutonic Suite were emplaced in the White Mountains of eastern Grafton County. Granites and syenites are common, but some diorite and gabbro bodies also occur.

Fewer than a dozen mild earthquakes have originated within Grafton County. Although people generally have felt them, they have not produced significant damage. Seismic risk in the area is low.

Erosion removed a significant amount of bedrock in the over 100 million years that followed the last igneous activity. However, the present day landscape of Grafton County is a result mainly of the events of the Pleistocene Epoch, which bean about 1.6 million years ago. Continental ice sheets advanced and retreated over this area probably as many as four times during that epoch. Primarily, evidence remains only of the last major glaciation, known as the Wisconsinan stage.

As the climate cooled, the Laurentide Ice Sheet began to form east of James Bay, Quebec, nearly 1,000 miles north of Grafton County. Over 50,000 years before present (B.P.) alpine (valley) glaciers were active in the White Mountains. Large cirques, deep U-shaped valleys, and other landforms are still very much in evidence there. By about 25,000 B.P. Laurentide ice was spreading over New England toward the continental shelf. As it advanced, the glacier ground up the rocks beneath it and deposited this newly eroded material under the ice sheet. This formed a compact blanket of glacial till, a mixture of rock fragments ranging form clay-sized material to boulders. Marlow and Bernardston soils are examples of soils developed in this dense, basal till that can be found overlying bedrock throughout the county, even on the summits of the highest mountains.

The sheer weight of a massive sheet of ice thousands of feet thick depressed the land surface significantly, but the extent of this depression in the area is not fully known. The great quantities of moisture locked up in glacial ice resulted in a general worldwide lowering of the sea level by about 300 to 350 feet. The climate began to warm and the rate of melting exceeded the rate of advance by about 20,000 B.P., resulting in a net northward retreat of the glacial margin. By about 14,000 B.P. the ice sheet had receded to southern New Hampshire, and by 12,000 B.P. it had probably melted from the state.

Meltwaters carried and eventually deposited large deposits of sand and gravel. Deposits formed in contact with the stagnating ice remaining in the valleys are kame terraces, kames, kame deltas, crevasse fillings and eskers. Deposits formed in front of the ice margin are outwash plains, valley fill and deltas. Quonset and Colton soils are examples of soils formed in ice-contact deposits. Windsor and Adams soils are examples of soils formed in outwash.

Ice and glacial debris sometimes dammed drainageways in lowlands and valleys, creating temporary lakes that trapped large quantities of silt-sized sediment. The largest of these was Lake Hitchcock, which extended up the Connecticut Valley well into Grafton County. Hitchcock and Dartmouth soils are examples of soils developed on these glaciolacustrine sediments.

When meltwater quantities decreased , not all eroded material in the stagnating ice was able to be transported. Some remained to form a thin cover of till on some of the upland ridges and slopes. Hermon and Charlton soils are examples of soils formed on this ablation till.

Many lakes, ponds and other wetlands formed during the last stages of deglaciation. Some still exist, but lacustrine sediments and organic materials filled others. Greenwood soils are an example of soils formed on the surface layer of organic materials.

The process of erosion, sedimentation and landscape alteration is still active. Soils continue to form in “modern” (postglacial) materials. Alluvial soils, such as Hadley and Podunk soils formed in river and stream bottom deposits. Udorthents are a product of man’s cut and fill and grading operations.

Although Grafton County’s bedrock contains may mineral prospects and small mines, mining was often short-lived and not very important. Some operations did last many years, however.

The Franconia (Sugar Hill) iron mine produced a few hundred tons of cast iron annually from 1809 to 1870. Operations at the Ore Hill mine near Warren produced about 100,000 tons of lead, zinc and silver ore between 1850 and 1914. The Ammonoosuc gold field near Lisbon produced nearly $50,000 worth of gold in the 1860s and 1870s. All these mines occur in the Ammonoosuc Volcanic. The North Woodstock mine produced several thousand pounds of lead and silver ore concentrate between 1905 and 1948.

Feldspar, mica, beryl and other pegmatite mineral mines and collection sites occur in the southwestern part of the county. The pegmatites occur near the contact of the Bethlehem Gneiss and the Littleton formation. Other small pegmatite bodies occur throughout the county.

Mineral exploration is continuing. The Conway Granite bodies of the White Mountain Plutonic/Volcanic Suite make up one of the world’s largest low-grade thorium and uranium deposits. Anomalous values of tin, niobium and tungsten occur in samples from intrusive rocks west of Interstate 93.

The mining of ice-contact and outwash deposits for sand and gravel for use in the construction industry continues to be of minor economic importance. Use of the area’s intrusive rocks for dimensions stone is not likely. Only one peat bog is large enough (100 acres) for possible future mining for use as fuel or soil conditioner.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

Ablation till. Loose, permeable till deposited during the final downwasting of glacial ice. Lenses of crudely sorted sand and gravel are common.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alkali (sodic) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher), or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Area reclaim (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Association, soil. A group of soils geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as—

	Inches
Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Badland. Steep or very steep, commonly nonstony, barren land dissected by many intermittent drainage channels. Badland is most common in semiarid and arid regions where streams are entrenched in soft geologic material. Local relief generally ranges from 25 to 500 feet. Runoff potential is very high, and geologic erosion is active.

Basal till. Compact glacial till deposited beneath the ice.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, K), expressed as a percentage of the total cation-exchange capacity.

Bedding planes. Fine stratifications, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediments.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on the contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout. A shallow depression from which all or most of the soil material has been removed by wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.

Bottom land. The normal flood plain of a stream, subject to flooding.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Broad-base terrace. A ridge-type terrace built to control erosion by diverting runoff along the contour at a nonscouring velocity. The terrace is 10 to 20 inches high and 15 to 30 feet wide and has gently sloping sides, a rounded crown, and a dish-shaped channel along the upper side. It may be nearly level or have a grade toward one or both ends.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

Caliche. A more or less cemented deposit of calcium carbonate in soils of warm-temperate, subhumid to arid areas. Caliche occurs as soft, thin layers in the soil or as hard, thick beds just beneath the solum, or it is exposed at the surface by erosion.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of a standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or “”chain,” of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps. Very small, irregular terraces on steep hillsides, especially in pasture, formed by the trampling of cattle or the slippage of saturated soil.

Cement rock. Shaly limestone used in the manufacture of cement.

Channery soil. A soil that is, by volume, more than 15 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches along the longest axis. A single piece is called a channer.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

Climax vegetation. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse fragments. If round, mineral or rock particles 2 millimeters to 25 centimeters (10 inches) in diameter; if flat, mineral or rock particles (flagstone) 15 to 38 centimeters (6 to 15 inches) long.

Coarse textured soil. Sand or loamy sand.

Cobblestone (or cobble). A rounded or partly rounded fragment of rock 3 to 10 inches (7.5 to 25 centimeters) in diameter.

Colluvium. Soil material, rock fragments, or both moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex slope. Irregular or variable slope. Planning or constructing terraces, diversions, and other water-control measures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils are somewhat similar in all areas.

Compressible (in tables). Excessive decrease in volume of soft soil under load.

Concretions. Grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrated compounds or cemented soil grains. The composition of most concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are common compounds in concretions.

Congeliturbate. Soil material disturbed by frost action.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers.

Terms commonly used to describe consistence are—

Loose.—Noncoherent when dry or moist; does not hold together in a mass.

Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a “”wire” when rolled between thumb and forefinger.

Sticky.—When wet, adheres to other material and tends to stretch somewhat and pull apart rather than to pull free from other material.

Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft.—When dry, breaks into powder or individual grains under very slight pressure.

Cemented.—Hard; little affected by moistening.

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coprogenous earth (sedimentary peat). Fecal material deposited in water by aquatic organisms.

Corrosive. High risk of corrosion to uncoated steel or deterioration of concrete.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Dense basal till. Locally, a hardpan. A firm, compact layer deposited beneath a moving glacier. Such a layer has platy structure or is massive, and it restricts the downward movement of water and the penetration of roots. (See “Pan” and “Hardpan.”)

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth to rock (in tables). Bedrock is too near the surface for the specified use.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of periods of saturation or partial saturation during soil formation, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven classes of natural soil drainage are recognized:

Excessively drained.—Water is removed from the soil very rapidly. Excessively drained soils are commonly very coarse textured, rocky, or shallow. Some are steep. All are free of the mottling related to wetness.

Somewhat excessively drained.—Water is removed from the soil rapidly. Many somewhat excessively drained soils are sandy and rapidly pervious. Some are shallow. Some are so steep that much of the water they receive is lost as runoff. All are free of the mottling related to wetness.

Well drained.—Water is removed from the soil readily, but not rapidly. It is available to plants throughout most of the growing season, and wetness does not inhibit growth of roots for significant periods during most growing seasons. Well drained soils are commonly medium textured. They are mainly free of mottling.

Moderately well drained.—Water is removed from the soil somewhat slowly during some periods. Moderately well drained soils are wet for only a short time during the growing season, but periodically they are wet long enough that most mesophytic crops are affected. They commonly have a slowly pervious layer within or directly below the solum, or periodically receive high rainfall, or both.

Somewhat poorly drained.—Water is removed slowly enough that the soil is wet for significant periods during the growing season. Wetness markedly restricts the growth of mesophytic crops unless artificial drainage is provided. Somewhat poorly drained soils commonly have a slowly pervious layer, a high water table, additional water from seepage, nearly continuous rainfall, or a combination of these.

Poorly drained.—Water is removed so slowly that the soil is saturated periodically during the growing season or remains wet for long periods. Free water is commonly at or near the surface for long enough during the growing season that most mesophytic crops cannot be grown unless the soil is artificially drained. The soil is not continuously saturated in layers directly below plow depth. Poor drainage results from a high water table, a slowly pervious layer within the profile, seepage, nearly continuous rainfall, or a combination of these.

Very poorly drained.—Water is removed from the soil so slowly that free water remains at or on the surface during most of the growing season. Unless the soil is artificially drained, most mesophytic crops cannot be grown. Very poorly drained soils are commonly level or depressed and are frequently ponded. Yet, where rainfall is high and nearly continuous, they can have moderate or high slope gradients.

Drainage, surface. Runoff, or surface flow of water, from an area.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact glacial till. The longer axis is parallel to the path of the glacier and commonly has a blunt nose pointing in the direction from which the ice approached.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of the activities of man or other animals or of a catastrophe in nature, for example, fire, that exposes the surface.

Erosion pavement. A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.

Esker (geology). A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.

Excess alkali (in tables). Excess exchangeable sodium in the soil. The resulting poor physical properties restrict the growth of plants.

Excess fines (in tables). Excess silt and clay in the soil. The soil is not a source of gravel or sand for construction purposes.

Excess lime (in tables). Excess carbonates in the soil that restrict the growth of some plants.

Excess salts (in tables). Excess water-soluble salts in the soil that restrict the growth of most plants.

Excess sulfur (in tables). Excessive amount of sulfur in the soil. The sulfur causes extreme acidity if the soil is drained, and the growth of most plants is restricted.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grains are grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fast intake (in tables). The rapid movement of water into the soil.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fine textured soil. Sandy clay, silty clay, and clay.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist, 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Foot slope. The inclined surface at the base of a hill.

Forb. Any herbaceous plant not a grass or a sedge.

Fragile (in tables). A soil that is easily damaged by use or disturbance.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Frost action (in tables). Freezing and thawing of soil moisture. Frost action can damage roads, buildings and other structures, and plant roots.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gilgai. Commonly a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of Vertisols—clayey soils having a high coefficient of expansion and contraction with changes in moisture content.

Glacial drift (geology). Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.

Glacial outwash (geology). Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.

Glacial till (geology). Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.

Glaciofluvial deposits (geology). Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.

Glaciolacustrine deposits. Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors and mottles.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock up to 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that is 15 to 50 percent, by volume, rounded or angular rock fragments, not prominently flattened, up to 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water (geology). Water filling all the unblocked pores of underlying material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hardpan. A local term used for any hard soil layer that is difficult to excavate. (See “Basal till,” “Dense basal till,” and “Pan.”)

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric and the more decomposed sapric material.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. The major horizons are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, any plowed or disturbed surface layer.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an O, A, or E horizon. The B horizon is in part a layer of transition from the overlying horizon to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) granular, prismatic, or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying horizon. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Hard, consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon but can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff-producing characteristics. The chief consideration is the inherent capacity of soil bare of vegetation to permit infiltration. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff. Soils are assigned to four groups. In group A are soils having a high infiltration rate when thoroughly wet and having a low runoff potential. They are mainly deep, well drained, and sandy or gravelly. In group D, at the other extreme, are soils having a very slow infiltration rate and thus a high runoff potential. They have a claypan or clay layer at or near the surface, have a permanent high water table, or are shallow over nearly impervious bedrock or other material. A soil is assigned to two hydrologic groups if part of the acreage is artificially drained and part is undrained.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake in inches per hour is expressed as follows:

Very low	Less than 0.2
Low	0.2 to 0.4
Moderately low	0.4 to 0.75
Moderate	0.75 to 1.25
Moderately high	1.25 to 1.75
High	1.75 to 2.5
Very high	More than 2.5

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, invader plants follow disturbance of the surface.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are—

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Kame (geology). An irregular, short ridge or hill of stratified glacial drift.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

Lacustrine deposit (geology). Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low strength. The soil is not strong enough to support loads.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, and fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, and silty clay loam.

Moraine (geology). An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Mottling generally indicates poor aeration and impeded drainage. Descriptive terms are as follows: abundance—*few, common,* and *many*; size—*fine, medium,* and *coarse*; and contrast—*faint, distinct,* and *prominent.* The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 1-5 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

Muck. Dark colored, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color of 10YR hue, value of 6, and chroma of 4.

Narrow-base terrace. A terrace no more than 4 to 8 feet wide at the base. A narrow-base terrace is similar to a broad-base terrace, except for the width of the ridge and channel.

Neutral soil. A soil having a pH value between 6.6 and 7.3. (See Reaction, soil.)

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition.

Outwash, glacial. Stratified sand and gravel produced by glaciers and carried, sorted, and deposited by glacial meltwater.

Outwash plain. A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it is generally low in relief.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called “”a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil, adversely affecting the specified use.

Permafrost. Layers of soil, or even bedrock, occurring in arctic or subarctic regions, in which a temperature below freezing has existed continuously for a long time.

Permeability. The quality of the soil that enables water to move downward through the profile. Permeability is measured as the number of inches per hour that water moves downward through the saturated soil. Terms describing permeability are:

Very slow	less than 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management. For example, slope, stoniness, and thickness.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting ground ice. They form on the soil after plant cover is removed.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poor filter (in tables). Because of rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Poor outlets (in tables). Refers to areas where surface or subsurface drainage outlets are difficult or expensive to install.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Range condition. The present composition of the plant community on a range site in relation to the potential natural plant community for that site. Range condition is expressed as excellent, good, fair, or poor, on the basis of how much the present plant community has departed from the potential.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Range site. An area of rangeland where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. A range site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other range sites in kind or proportion of species or total production.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degree of acidity or alkalinity is expressed as—

	pH
Extremely acid	below 4.5
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Medium acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Mildly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill is generally a few inches deep and not wide enough to be an obstacle to farm machinery.

Rippable. Bedrock or hardpan can be excavated using a single-tooth ripping attachment mounted on a tractor with a 200-300 draw bar horsepower rating.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Salty water (in tables.) Water that is too salty for consumption by livestock.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-size particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saprolite (soil science). Unconsolidated residual material underlying the soil and grading to hard bedrock below.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer or of the underlying material. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shrink-swell. The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A depression in the landscape where limestone has been dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75 feet.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slick spot. A small area of soil having a puddled, crusted, or smooth surface and an excess of exchangeable sodium. The soil is generally silty or clayey, is slippery when wet, and is low in productivity.

Slippage (in tables). Soil mass susceptible to movement downslope when loaded, excavated, or wet.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Sloughed till. Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on glacial outwash, or on a glaciolacustrine deposit.

Slow intake (in tables). The slow movement of water into the soil.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

Sodicity. The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of *Na* to *Ca* + *Mg*. The degrees of sodicity are—

	SAR
Slight	less than 13:1
Moderate	13-30:1
Strong	more than 30:1

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes of separates recognized in the United States are as follows:

	Millimeters
Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the underlying material. The living roots and plant and animal activities are largely confined to the solum.

Stone line. A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stripcropping. Growing crops in a systematic arrangement of strips or bands which provide vegetative barriers to wind and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Breaking up a compact subsoil by pulling a special chisel through the soil.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from about 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “”plow layer,” or the “”Ap horizon.”

Surface soil. The A, E, AB, and EB horizons. It includes all subdivisions of these horizons.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior.

Terminal moraine. A belt of thick glacial drift that generally marks the termination of important glacial advances.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “”coarse,” “”fine,” or “”very fine.”

Thin layer (in tables). Otherwise suitable soil material too thin for the specified use.

Till plain. An extensive flat to undulating area underlain by glacial till.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toe slope. The outermost inclined surface at the base of a hill; part of a foot slope.

Too arid (in tables). The soil is dry most of the time, and vegetation is difficult to establish.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Toxicity (in tables). Excessive amount of toxic substances, such as sodium or sulfur, that severely hinder establishment of vegetation or severely restrict plant growth.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, are in soils in extremely small amounts. They are essential to plant growth.

Tuff. A compacted deposit that is 50 percent or more volcanic ash and dust.

Unstable fill (in tables). Risk of caving or sloughing on banks of fill material.

Upland (geology). Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Variant, soil. A soil having properties sufficiently different from those of other known soils to justify a new series name, but occurring in such a limited geographic area that creation of a new series is not justified.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve. A sedimentary layer of a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth’s surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1951-81 at Hanover, New Hampshire)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January-----	28.1	7.8	18.0	52	-22	0	2.66	1.29	3.85	7	19.1
February----	32.2	10.6	21.4	52	-21	8	2.62	1.47	3.62	6	17.9
March-------	41.1	21.4	31.3	67	-7	18	2.75	1.67	3.70	7	14.0
April-------	55.4	32.0	43.7	81	15	148	3.03	2.12	3.85	7	2.9
May---------	68.5	42.6	55.6	90	25	484	3.33	1.93	4.57	8	.2
June--------	77.1	52.6	64.9	93	35	747	3.01	1.58	4.25	8	.0
July--------	81.5	57.3	69.4	95	43	911	3.34	1.96	4.55	7	.0
August------	79.2	55.7	67.5	93	39	853	3.26	1.96	4.41	7	.0
September---	70.4	48.4	59.4	89	29	582	3.41	2.00	4.66	6	.3
October-----	58.7	37.3	48.0	80	19	260	3.08	1.54	4.42	6	.0
November----	45.0	28.6	36.8	67	7	53	3.25	2.00	4.37	8	5.4
December----	31.8	14.6	23.2	56	-16	9	3.23	1.81	4.48	7	19.4
Yearly:											
Average---	55.8	34.1	44.9	---	---	---	---	---	---	---	---
Extreme---	---	---	---	96	-24	---	---	---	---	---	---
Total-----	---	---	---	---	---	4,071	36.97	31.56	42.03	84	79.2

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

Table 1.--Temperature and Precipitation--Continued

(Recorded in the period 1951-81 at Monroe, New Hampshire)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January	25.2	2.4	13.8	53	-30	0	2.72	1.21	4.00	8	18.7
February	28.4	3.0	15.7	52	-27	8	2.16	1.10	3.08	6	16.5
March	38.6	18.1	28.4	66	-12	23	2.10	1.34	2.77	7	10.5
April	52.2	30.7	41.9	80	12	98	2.78	1.79	3.68	8	2.9
May	65.9	41.3	53.6	90	25	427	2.74	1.31	3.96	7	.0
June	74.0	50.9	62.5	91	35	675	3.96	2.23	5.48	9	.0
July	79.3	55.6	67.5	94	41	853	3.49	2.25	4.61	9	.0
August	76.9	53.7	65.3	92	40	784	3.05	1.92	4.06	7	.0
September	68.0	45.9	57.0	87	28	510	3.81	2.48	5.00	8	.0
October	55.0	34.6	44.8	78	19	169	3.86	2.07	5.43	8	.5
November	43.2	26.4	34.8	68	3	36	2.99	1.82	4.03	8	4.5
December	29.6	10.2	19.9	57	-24	20	2.99	1.64	4.16	9	18.7
Yearly:											
Average	53.0	31.1	42.1	---	---	---	---	---	---	---	---
Extreme	---	---	---	95	-33	---	---	---	---	---	---
Total	---	---	---	---	---	3,603	36.65	32.14	41.46	94	72.3

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

Table 1.--Temperature and Precipitation--Continued

(Recorded in the period 1951-80 at Woodstock, New Hampshire)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January-----	28.9	8.6	18.8	51	-21	0	3.14	1.60	4.48	7	22.3
February----	31.8	10.0	20.9	52	-19	0	2.92	1.70	4.00	7	21.7
March-------	40.4	20.6	30.5	64	-8	9	3.41	1.89	4.75	8	17.0
April-------	54.1	30.6	42.4	82	13	113	3.60	2.55	4.57	8	3.1
May---------	67.7	40.8	54.3	91	25	443	3.92	2.27	5.37	8	.2
June--------	76.0	49.9	63.0	93	32	690	3.77	2.18	5.19	8	.0
July--------	80.3	54.5	67.4	95	39	849	4.32	2.69	5.78	9	.0
August------	78.0	52.7	65.4	93	37	787	3.95	2.38	5.35	8	.0
September---	69.6	45.3	57.5	89	25	525	3.93	2.12	5.51	7	.0
October-----	59.0	35.4	47.2	82	17	239	4.01	2.20	5.59	7	.7
November----	44.7	27.3	36.0	68	7	39	4.12	2.71	5.41	9	6.2
December----	32.2	14.0	23.1	54	-15	8	4.08	2.52	5.47	9	22.8
Yearly:											
Average---	55.2	32.5	43.9	---	---	---	---	---	---	---	---
Extreme---	---	---	---	96	-23	---	---	---	---	---	---
Total-----	---	---	---	---	---	3,702	45.17	39.20	50.95	95	94.0

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1951-81 at Hanover, New Hampshire)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	May 3	May 19	May 30
2 years in 10 later than--	Apr. 28	May 14	May 26
5 years in 10 later than--	Apr. 19	May 4	May 17
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 12	Sep. 29	Sep. 19
2 years in 10 earlier than--	Oct. 17	Oct. 4	Sep. 22
5 years in 10 earlier than--	Oct. 26	Oct. 12	Sep. 30

Table 2.--Freeze Dates in Spring and Fall--Continued

(Recorded in the period 1951-81 at Monroe, New Hampshire)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 29	May 18	May 25
2 years in 10 later than--	Apr. 26	May 13	May 21
5 years in 10 later than--	Apr. 21	May 5	May 14
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 10	Sep. 27	Sep. 19
2 years in 10 earlier than--	Oct. 13	Oct. 1	Sep. 22
5 years in 10 earlier than--	Oct. 20	Oct. 10	Sep. 27

Table 2.--Freeze Dates in Spring and Fall--Continued

(Recorded in the period 1951-80 at Woodstock, New Hampshire)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	May 6	May 24	June 6
2 years in 10 later than--	May 1	May 19	June 2
5 years in 10 later than--	Apr. 20	May 9	May 24
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 2	Sep. 17	Sep. 7
2 years in 10 earlier than--	Oct. 7	Sep. 21	Sep. 11
5 years in 10 earlier than--	Oct. 16	Sep. 30	Sep. 19

Table 3.--Growing Season

(Recorded in the period 1951-81 at Hanover, New Hampshire)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	170	139	119
8 years in 10	177	147	129
5 years in 10	189	160	135
2 years in 10	202	174	145
1 year in 10	208	181	151

(Recorded in the period 1951-81 at Monroe, New Hampshire)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	168	137	122
8 years in 10	173	144	126
5 years in 10	181	157	136
2 years in 10	190	170	145
1 year in 10	194	177	150

(Recorded in the period 1951-80 at Woodstock, New Hampshire)

Probability	Daily minimum temperature during growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	157	124	99
8 years in 10	165	130	105
5 years in 10	179	143	118
2 years in 10	193	156	130
1 year in 10	201	163	136

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
1	Occum fine sandy loam, frequently flooded	370	*
2	Suncook loamy fine sand	811	0.1
4	Pootatuck very fine sandy loam	475	0.1
5	Rippowam fine sandy loam	743	0.1
8	Hadley silt loam, frequently flooded	623	0.1
9	Winooski silt loam	316	*
15	Searsport mucky peat	1,135	0.1
22A	Colton loamy sand, 0 to 3 percent slopes	2,078	0.3
22B	Colton loamy sand, 3 to 8 percent slopes	3,574	0.5
22C	Colton loamy sand, 8 to 15 percent slopes	2,080	0.3
22E	Colton loamy sand, 15 to 60 percent slopes	6,409	0.8
24A	Agawam fine sandy loam, 0 to 3 percent slopes	1,118	0.1
24B	Agawam fine sandy loam, 3 to 8 percent slopes	441	0.1
26A	Windsor loamy fine sand, 0 to 3 percent slopes	1,248	0.2
26B	Windsor loamy fine sand, 3 to 8 percent slopes	1,026	0.1
26C	Windsor loamy fine sand, 8 to 15 percent slopes	793	0.1
26E	Windsor loamy fine sand 15 to 60 percent slopes	5,139	0.7
27A	Groveton fine sandy loam, 0 to 3 percent slopes	482	0.1
27B	Groveton fine sandy loam, 3 to 8 percent slopes	350	*
27C	Groveton fine sandy loam, 8 to 15 percent slopes	507	0.1
27E	Groveton fine sandy loam, 15 to 60 percent slopes	458	0.1
28A	Madawaska fine sandy loam, 0 to 3 percent slopes	540	0.1
28B	Madawaska fine sandy loam, 3 to 8 percent slopes	201	*
36A	Adams loamy sand, 0 to 3 percent slopes	2,668	0.3
36B	Adams loamy sand, 3 to 8 percent slopes	4,914	0.6
36C	Adams loamy sand, 8 to 15 percent slopes	3,298	0.4
36E	Adams loamy sand, 15 to 60 percent slopes	9,499	1.2
56B	Becket fine sandy loam, 3 to 8 percent slopes	694	0.1
56C	Becket fine sandy loam, 8 to 15 percent slopes	932	0.1
56D	Becket fine sandy loam, 15 to 25 percent slopes	728	0.1
57B	Becket fine sandy loam, 3 to 8 percent slopes, very stony	1,482	0.2
57C	Becket fine sandy loam, 8 to 15 percent slopes, very stony	9,796	1.3
57D	Becket fine sandy loam, 15 to 25 percent slopes, very stony	15,985	2.1
57E	Becket fine sandy loam, 25 to 35 percent slopes, very stony	6,181	0.8
59B	Waumbek loamy sand, 3 to 8 percent slopes, very stony	5,859	0.8
59C	Waumbek loamy sand, 8 to 15 percent slopes, very stony	3,979	0.5
61B	Tunbridge-Lyman-Rock outcrop complex, 3 to 8 percent slopes	1,744	0.2
61C	Tunbridge-Lyman-Rock outcrop complex, 8 to 15 percent slopes	17,282	2.2
61D	Tunbridge-Lyman-Rock outcrop complex, 15 to 25 percent slopes	45,498	6.0
61E	Tunbridge-Lyman-Rock outcrop complex, 25 to 60 percent slopes	74,761	9.9
62B	Charlton fine sandy loam, 3 to 8 percent slopes	300	*
62C	Charlton fine sandy loam, 8 to 15 percent slopes	585	0.1
62D	Charlton fine sandy loam, 15 to 25 percent slopes	339	*
63B	Charlton fine sandy loam, 3 to 8 percent slopes, very stony	627	0.1
63C	Charlton fine sandy loam, 8 to 15 percent slopes, very stony	2,150	0.3
63D	Charlton fine sandy loam, 15 to 25 percent slopes, very stony	2,955	0.4
63E	Charlton fine sandy loam, 25 to 35 percent slopes, very stony	1,465	0.2
72B	Berkshire loam, 3 to 8 percent slopes	500	0.1
72C	Berkshire loam, 8 to 15 percent slopes	691	0.1
72D	Berkshire loam, 15 to 25 percent slopes	429	0.1
73B	Berkshire loam, 3 to 8 percent slopes, very stony	897	0.1
73C	Berkshire loam, 8 to 15 percent slopes, very stony	5,630	0.7
73D	Berkshire loam, 15 to 25 percent slopes, very stony	9,415	1.2
73E	Berkshire loam, 25 to 35 percent slopes, very stony	5,097	0.7
76B	Marlow fine sandy loam, 3 to 8 percent slopes	1,493	0.2
76C	Marlow fine sandy loam, 8 to 15 percent slopes	2,193	0.3
76D	Marlow fine sandy loam, 15 to 25 percent slopes	716	0.1
77B	Marlow fine sandy loam, 3 to 8 percent slope, very stony	1,185	0.2
77C	Marlow fine sandy loam, 8 to 15 percent slopes, very stony	8,094	1.0

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
77D	Marlow fine sandy loam, 15 to 25 percent slopes, very stony	16,713	2.2
77E	Marlow fine sandy loam, 25 to 35 percent slopes, very stony	6,435	0.8
78B	Peru fine sandy loam, 3 to 8 percent slopes	1,732	0.2
78C	Peru fine sandy loam, 8 to 15 percent slopes	1,112	0.1
79B	Peru fine sandy loam, 3 to 8 percent slopes, very stony	9,804	1.3
79C	Peru fine sandy loam, 8 to 15 percent slopes, very stony	18,575	2.4
79D	Peru fine sandy loam, 15 to 25 percent slopes, very stony	2,388	0.3
90B	Tunbridge-Lyman complex, 3 to 8 percent slopes	1,221	0.2
90C	Tunbridge-Lyman complex, 8 to 15 percent slopes	2,751	0.4
90D	Tunbridge-Lyman complex, 15 to 25 percent slopes	3,585	0.5
101	Ondawa fine sandy loam, frequently flooded	851	0.1
102	Sunday loamy sand	2,627	0.3
104	Podunk fine sandy loam	1,825	0.2
105	Rumney loam	2,896	0.4
108	Hadley silt loam, occasionally flooded	1,286	0.2
109	Limerick silt loam	292	*
114	Walpole-Binghamville complex	1,102	0.1
130A	Hitchcock silt loam, 0 to 3 percent slopes	243	*
130B	Hitchcock silt loam, 3 to 8 percent slopes	477	0.1
130C	Hitchcock silt loam, 8 to 15 percent slopes	547	0.1
130E	Hitchcock silt loam, 15 to 60 percent slopes	4,149	0.5
132A	Dartmouth silt loam, 0 to 3 percent slopes	800	0.1
132B	Dartmouth silt loam, 3 to 8 percent slopes	1,064	0.1
173C	Berkshire loam, 8 to 15 percent slopes, extremely stony	881	0.1
173D	Berkshire loam, 15 to 25 percent slopes, extremely stony	2,117	0.3
173E	Berkshire loam, 25 to 35 percent slopes, extremely stony	1,846	0.2
201	Ondawa fine sandy loam, occasionally flooded	1,702	0.2
254B	Monadnock and Hermon soils, 3 to 8 percent slopes	1,273	0.2
254C	Monadnock and Hermon soils, 8 to 15 percent slopes	1,008	0.1
254D	Monadnock and Hermon soils, 15 to 25 percent slopes	435	0.1
255B	Monadnock and Hermon soils, 3 to 8 percent, very stony	3,810	0.5
255C	Monadnock and Hermon soils, 8 to 15 percent, very stony	15,485	2.0
255D	Monadnock and Hermon soils, 15 to 25 percent slopes, very stony	23,576	3.2
255E	Monadnock and Hermon soils, 25 to 35 percent slopes, very stony	8,280	1.1
295	Greenwood mucky peat	3,700	0.5
298	Pits, gravel	3,150	0.4
299	Udorthents, smoothed	508	0.1
310A	Quonset loamy sand, 0 to 3 percent slopes	652	0.1
310B	Quonset loamy sand, 3 to 8 percent slopes	848	0.1
310C	Quonset loamy sand, 8 to 15 percent slopes	603	0.1
310E	Quonset loamy sand, 15 to 60 percent slopes	1,202	0.2
313	Deerfield loamy fine sand	611	0.1
330B	Bernardston silt loam, 3 to 8 percent slopes	1,191	0.2
330C	Bernardston silt loam, 8 to 15 percent slopes	2,277	0.3
330D	Bernardston silt loam, 15 to 25 percent slopes	1,034	0.1
331B	Bernardston silt loam, 3 to 8 percent slopes, very stony	1,118	0.1
331C	Bernardston silt loam, 8 to 15 percent slopes, very stony	7,832	1.0
331D	Bernardston silt loam, 15 to 25 percent slopes, very stony	8,831	1.1
331E	Bernardston silt loam, 25 to 35 percent slopes, very stony	3,556	0.5
334B	Pittstown loam, 3 to 8 percent slopes	2,615	0.3
334C	Pittstown loam, 8 to 15 percent slopes	1,152	0.1
336B	Pittstown loam, 3 to 8 percent slopes, very stony	7,044	0.9
336C	Pittstown loam, 8 to 15 percent slopes, very stony	8,534	1.1
336D	Pittstown loam, 15 to 25 percent slopes, very stony	1,084	0.1
341A	Stissing silt loam, 0 to 3 percent slopes, very stony	1,947	0.3
341B	Stissing silt loam, 3 to 8 percent slopes, very stony	4,106	0.5
347A	Lyme and Moosilauke soils, 0 to 3 percent slopes, very stony	2,743	0.4
347B	Lyme and Moosilauke soils, 3 to 8 percent slopes, very stony	4,843	0.6

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
355C	Hermon fine sandy loam, 8 to 15 percent slopes, extremely bouldery	4,047	0.5
355D	Hermon fine sandy loam, 15 to 25 percent slopes, extremely bouldery	4,877	0.6
355E	Hermon fine sandy loam, 25 to 35 percent slopes, extremely bouldery	5,588	0.7
360B	Cardigan-Kearsarge complex, 3 to 8 percent slopes	1,007	0.1
360C	Cardigan-Kearsarge complex, 8 to 15 percent slopes	2,172	0.3
360D	Cardigan-Kearsarge complex, 15 to 25 percent slopes	3,514	0.5
361B	Cardigan-Kearsarge-Rock outcrop complex, 3 to 8 percent slopes	1,439	0.2
361C	Cardigan-Kearsarge-Rock outcrop complex, 8 to 15 percent slopes	9,220	1.2
361D	Cardigan-Kearsarge-Rock outcrop complex, 15 to 25 percent slopes	16,746	2.3
361E	Cardigan-Kearsarge-Rock outcrop complex, 25 to 60 percent slopes	15,426	2.0
395	Chocorua mucky peat	1,202	0.2
398	Pits, quarries	85	*
401	Occum fine sandy loam, occasionally flooded	240	*
406	Medomak silt loam	1,219	0.2
534	Binghamville silt loam	1,439	0.2
558B	Skerry fine sandy loam, 3 to 8 percent slopes	597	0.1
559B	Skerry fine sandy loam, 3 to 8 percent, very stony	4,276	0.6
559C	Skerry fine sandy loam, 8 to 15 percent slope, very stony	4,284	0.6
559D	Skerry fine sandy loam, 15 to 25 percent slopes, very stony	643	0.1
613	Croghan loamy fine sand	2,888	0.4
614	Kinsman sand	3,069	0.4
632A	Nicholville very fine sandy loam, 0 to 3 percent slopes	259	*
632B	Nicholville very fine sandy loam, 3 to 8 percent slopes	322	*
633	Pemi silt loam	796	0.1
647A	Pillsbury fine sandy loam, 0 to 3 percent slopes, very stony	2,904	0.4
647B	Pillsbury fine sandy loam, 3 to 8 percent slopes, very stony	10,736	1.4
701B	Becket-Skerry association, gently sloping, very stony	5,842	0.8
703D	Becket-Monadnock association, moderately steep, very stony	9,550	1.2
703E	Becket-Monadnock association, steep, very stony	1,211	0.2
709D	Becket-Tunbridge association, hilly, very stony	14,173	1.8
709E	Becket-Tunbridge association, steep, very stony	3,861	0.5
710D	Becket-Lyman-Rock outcrop complex, hilly	2,388	0.3
710E	Becket-Lyman-Rock outcrop complex, steep	4,589	0.6
711B	Monadnock-Hermon association, undulating, very stony	3,133	0.4
711D	Monadnock-Hermon association, hilly, very stony	13,993	1.8
711E	Monadnock-Hermon association, steep, very stony	2,091	0.3
712B	Hermon-Monadnock association, undulating, extremely bouldery	982	0.1
712D	Hermon-Monadnock association, hilly, extremely bouldery	1,558	0.2
712E	Hermon-Monadnock association, steep, extremely bouldery	491	0.1
713B	Hermon-Waumbek association, undulating, very stony	5,021	0.6
713D	Hermon-Waumbek association, hilly, very stony	1,880	0.2
717	Lyme-Peacham association, very stony	1,372	0.2
719D	Marlow-Tunbridge association, hilly, very stony	14,647	1.9
719E	Marlow-Tunbridge association, steep, very stony	7,036	0.9
720D	Marlow-Lyman-Rock outcrop complex, hilly	2,176	0.3
720E	Marlow-Lyman-Rock outcrop complex, steep	9,398	1.2
721B	Peru-Marlow association, gently sloping, very stony	1,896	0.2
722D	Marlow-Berkshire association, moderately steep, very stony	6,130	0.8
723B	Peru-Pillsbury association, gently sloping, very stony	2,548	0.3
724B	Skerry-Tunbridge association, undulating, very stony	2,371	0.3
726D	Rock outcrop-Lyman complex, hilly	1,748	0.2
726E	Rock outcrop-Lyman complex, steep	4,551	0.6
727	Rubble land	728	0.1
729B	Waumbek-Lyme association, undulating, very stony	2,388	0.3
730B	Skerry-Lyman-Rock outcrop complex, undulating	423	0.1

See footnote at end of table.

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
731	Peacham and ossipee soils, very stony	6,604	0.9
734D	Surplus-Sisk association, moderately steep, very stony	847	0.1
735E	Saddleback-Ricker-Rock outcrop complex, steep	5,977	0.8
740D	Hermon-Redstone association, hilly, very stony	2,176	0.3
741D	Redstone-Canaan-Rock outcrop complex, hilly	872	0.1
741E	Redstone-Canaan-Rock outcrop complex, steep	1,727	0.2
819B	Peru-Tunbridge association, undulating, very stony	1,321	0.2
W	Water	14,684	1.3
	Total	775,300	100.0

* Less than 0.1 percent.

Table 5.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parenthesis after the soil name)

Map symbol	Soil name
1	Occum fine sandy loam, frequently flooded
4	Pootatuck very fine sandy loam
8	Hadley silt loam, frequently flooded
9	Winooski silt loam
24A	Agawam fine sandy loam, 0 to 3 percent slopes
24B	Agawam fine sandy loam, 3 to 8 percent slopes
27A	Groveton fine sandy loam, 0 to 3 percent slopes
27B	Groveton fine sandy loam, 3 to 8 percent slopes
28A	Madawaska fine sandy loam, 0 to 3 percent slopes
27B	Madawaska fine sandy loam, 3 to 8 percent slopes
56B	Becket fine sandy loam, 3 to 8 percent slopes
62B	Charlton fine sandy loam, 3 to 8 percent slopes
72B	Berkshire loam, 3 to 8 percent slopes
76B	Marlow fine sandy loam, 3 to 8 percent slopes
78B	Peru fine sandy loam, 3 to 8 percent slopes
101	Ondowa fine sandy loam, frequently flooded
104	Podunk fine sandy loam
108	Hadley silt loam, occasionally flooded
130A	Hitchcock silt loam, 0 to 3 percent slopes
132A	Dartmouth silt loam, 0 to 3 percent slopes
201	Ondawa fine sandy loam, occasionally flooded
330B	Bernardston silt loam, 3 to 8 percent slopes
334B	Pittston loam, 3 to 8 percent slopes
401	Occum fine sandy loam, occasionally flooded
558B	Skerry fine sandy loam, 3 to 8 percent slopes
632A	Nicholville very fine sandy loam, 0 to 3 percent slopes

Table 6.--Land Capability Classes and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil)

Soil name and map symbol	Land capability	Corn silage	Grass-legume hay	Grass hay	Pasture	Grass-clover	Alfalfa hay
		Tons	Tons	Tons	AUM*	AUM*	Tons
1--------------- Occum	I	24	4.0	4.0	---	6.4	4.5
2--------------- Suncook	IIIs	12	2.0	2.0	---	3.5	2.5
4--------------- Pootatuck	IIw	24	4.5	4.5	---	7.5	4.0
5--------------- Rippowam	IIIw	---	3.0	3.0	---	3.5	---
8--------------- Hadley	I	28	4.5	---	---	7.5	5.0
9--------------- Winooski	IIw	26	4.0	---	---	6.5	4.5
15-------------- Searsport	VIIw	---	---	---	---	---	---
22A, 22B-------- Colton	IIIs	12	2.0	---	3.2	---	2.5
22C------------- Colton	IVs	---	2.0	---	3.2	---	2.5
22E------------- Colton	VIIe	---	---	---	---	---	---
24A------------- Agawam	I	24	4.5	---	---	7.2	5
24B------------- Agawam	IIe	24	4.5	---	---	7.2	5
26A, 26B-------- Windsor	IIIs	14	2.5	2.0	---	4.0	3.0
26C------------- Windsor	IVs	12	2.5	2.0	---	4.0	3.0
26E------------- Windsor	VIIs	---	---	---	---	---	---
27A------------- Groveton	I	22	4.0	---	---	---	---

See footnote at end of table.

Table 6.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Corn silage	Grass-legume hay	Grass hay	Pasture	Grass-clover	Alfalfa hay
		Tons	Tons	Tons	AUM*	AUM*	Tons
27B------------- Groveton	IIe	22	4.0	---	---	---	---
27C------------- Groveton	IIIe	20	3.5	---	---	---	---
27E------------- Groveton	VIIe	---	---	---	---	---	---
28A, 28B-------- Madawaska	IIw	22	3.5	4.0	6.7	---	4.5
36A, 36B-------- Adams	IIIs	16	4.0	---	4.5	---	---
36C------------- Adams	IVe	16	4.0	---	4.5	---	---
36E------------- Adams	VIIe	---	---	---	---	---	---
56B------------- Becket	IIe	22	3.5	3.5	---	7.6	4.0
56C------------- Becket	IIIe	20	3.5	3.5	---	7.6	4.0
56D------------- Becket	IVe	18	3.0	3.0	---	6.7	3.5
57B, 57C, 57D--- Becket	VIs	---	---	---	---	---	---
57E------------- Becket	VIIs	---	---	---	---	---	---
59B, 59C-------- Waumbek	VIs	---	---	---	---	---	---
61B**----------- Tunbridge-Lyman-Rock outcrop	VIs	---	---	---	---	---	---
61C**----------- Tunbridge-Lyman-Rock outcrop	VIs	---	---	---	---	---	---
61D**----------- Tunbridge-Lyman-Rock outcrop	VIIs	---	---	---	---	---	---

See footnote at end of table.

Table 6.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Corn silage	Grass-legume hay	Grass hay	Pasture	Grass-clover	Alfalfa hay
		Tons	Tons	Tons	AUM*	AUM*	Tons
61E**----------- Tunbridge-Lyman-Rock outcrop	VIIs	---	---	---	---	---	---
62B------------ Charlton	IIe	24	4.5	4.0	---	7.5	5.0
62C------------ Charlton	IIIe	22	4.0	3.5	---	6.6	5.0
62D------------ Charlton	IVe	18	3.5	3.0	---	5.8	4.5
63B, 63C, 63D--- Charlton	VIs	---	---	---	---	---	---
63E------------ Charlton	VIIs	---	---	---	---	---	---
72B------------ Berkshire	IIe	22	4.0	---	---	6.5	4.5
72C------------ Berkshire	IIIe	20	3.5	---	---	6.4	4.0
72D------------ Berkshire	IVe	15	3.0	---	---	5.0	3.5
73B, 73C, 73D--- Berkshire	VIs	---	---	---	---	---	---
73E------------ Berkshire	VIIs	---	---	---	---	---	---
76B------------ Marlow	IIe	22	4.0	4.0	---	7.8	4.5
76C------------ Marlow	IIIe	20	4.0	4.0	---	7.8	4.5
76D------------ Marlow	IVe	18	3.5	3.5	---	6.8	4.0
77B, 77C-------- Marlow	VIs	---	---	---	---	---	---
77D------------ Marlow	VIs	---	---	---	---	---	---
77E------------ Marlow	VIIs	---	---	---	---	---	---

See footnote at end of table.

Table 6.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Corn silage	Grass-legume hay	Grass hay	Pasture	Grass-clover	Alfalfa hay
		Tons	Tons	Tons	AUM*	AUM*	Tons
78B------------- Peru	IIe	20	4.0	4.0	8.0	---	4.0
78C------------- Peru	IIIe	18	4.0	4.0	8.0	---	4.0
79B, 79C-------- Peru	VIs	---	---	---	---	---	---
79D------------- Peru	VIs	---	---	---	---	---	---
90B------------- Tunbridge-Lyman	IIIe	18	3.1	2.9	---	5.3	---
90C------------- Tunbridge-Lyman	IVe	16	3.1	2.9	---	5.3	---
90D------------- Tunbridge-Lyman	VIe	---	2.6	---	---	4.4	---
101------------- Ondawa	I	26	4.0	---	7.6	---	4.5
102------------- Sunday	IIIs	12	---	2.0	3.6	---	2.5
104------------- Podunk	IIw	24	4.5	4.5	8.5	---	4.0
105------------- Rumney	IIIw	20	3.5	4.0	6.5	---	---
108------------- Hadley	I	28	4.5	---	---	7.5	5.0
109------------- Limerick	IVw	---	---	---	---	---	---
114------------- Walpole-Binghamville	IVw	---	---	---	---	---	---
130A------------ Hitchcock	I	26	4.5	4.5	8.5	---	4.5
130B------------ Hitchcock	IIe	26	4.5	4.5	8.5	---	4.5
130C------------ Hitchcock	IIIe	22	4.0	4.5	7.5	---	4.0

See footnote at end of table.

Table 6.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Corn silage	Grass-legume hay	Grass hay	Pasture	Grass-clover	Alfalfa hay
		Tons	Tons	Tons	AUM*	AUM*	Tons
130E------------ Hitchcock	VIIe	---	---	---	---	---	---
132A------------ Dartmouth	IIw	24	4.0	4.0	---	7.5	3.5
132B------------ Dartmouth	IIe	24	4.0	4.0	---	7.5	4.0
173C, 173D, 173E----------- Berkshire	VIIs	---	---	---	---	---	---
201------------- Ondawa	I	26	4.0	---	7.6	---	4.5
254B------------ Monadnock and Hermon	IIe	18	3.5	3.3	---	---	4.0
254C------------ Monadnock and Hermon	IIIe	15	3.3	3.0	---	---	4.0
254D------------ Monadnock and Hermon	IVe	13	2.8	2.5	---	---	3.5
255B, 255C, 255D----------- Monadnock and Hermon	VIs	---	---	---	---	---	---
255E------------ Monadnock and Hermon	VIIs	---	---	---	---	---	---
295------------- Greenwood	VIIw	---	---	---	---	---	---
298**. Pits							
299**. Udorthents							
310A, 310B------ Quonset	IIIs	12	2.0	---	---	3.6	2.5
310C------------ Quonset	IVs	---	---	---	---	2.5	---
310E------------ Quonset	VIIs	---	---	---	---	---	---

See footnote at end of table.

Table 6.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Corn silage	Grass-legume hay	Grass hay	Pasture	Grass-clover	Alfalfa hay
		Tons	Tons	Tons	AUM*	AUM*	Tons
313------------- Deerfield	IIIw	16	3.0	---	---	5.8	3.5
330B------------ Bernardston	IIe	22	4.0	---	---	7.5	4.5
330C------------ Bernardston	IIIe	20	3.5	---	---	6.5	4.0
330D------------ Bernardston	IVe	18	3.0	---	---	5.5	3.5
331B, 331C, 331D----------- Bernardston	VIs	---	---	---	---	---	---
331E------------ Bernardston	VIIs	---	---	---	---	---	---
334B------------ Pittstown	IIe	20	3.5	---	---	6.5	4.0
334C------------ Pittstown	IIIe	18	3.5	---	---	6.5	4.0
336B, 336C, 336D----------- Pittstown	VIs	---	---	---	---	---	---
341A, 341B------ Stissing	VIIs	---	---	---	---	---	---
347A, 347B------ Lyme and Moosilauke	VIIs	---	---	---	---	---	---
355C, 355D, 355E----------- Hermon	VIIs	---	---	---	---	---	---
360B------------ Cardigan-Kearsarge	IIIe	18	---	3.1	---	6.3	3.8
360C------------ Cardigan-Kearsarge	IVe	17	---	2.9	---	5.7	3.6
360D------------ Cardigan-Kearsarge	VIe	---	---	---	---	---	---

See footnote at end of table.

Table 6.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Corn silage	Grass-legume hay	Grass hay	Pasture	Grass-clover	Alfalfa hay
		Tons	Tons	Tons	AUM*	AUM*	Tons
361B**: Cardigan-Kearsarge-Rock outcrop	VIs	---	---	---	---	---	---
361C: Cardigan-Kearsarge	VIs	---	---	---	---	---	---
361D**: Cardigan-Kearsarge-Rock outcrop	VIs	---	---	---	---	---	---
361E**: Cardigan-Kearsarge-Rock outcrop	VIIs	---	---	---	---	---	---
395: Chocorua	VIIIw	---	---	---	---	---	---
398**. Pits							
401: Occum	I	24	4.0	4.0	---	6.4	4.5
406: Medomak	VIw	---	---	---	---	---	---
534: Binghamville	IVw	---	---	---	---	---	---
558B: Skerry	IIe	18	4.0	4.0	---	7.0	3.5
559B, 559C, 559D: Skerry	VIs	---	---	---	---	---	---
613: Croghan	IIw	14	3.0	---	5.5	---	3.0
614: Kinsman	IVw	---	---	---	4.5	---	---
632A: Nicholville	IIw	20	4.0	---	7.5	---	4.5
632B: Nicholville	IIe	20	4.0	---	7.5	---	4.5
633: Pemi	IVw	---	---	---	---	5.0	---

See footnote at end of table.

Table 6.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Corn silage	Grass-legume hay	Grass hay	Pasture	Grass-clover	Alfalfa hay
		Tons	Tons	Tons	AUM*	AUM*	Tons
647A, 647B------ Pillsbury	VIIs	---	---	---	---	---	---
701B**:							
Becket---------	VIs	---	---	---	---	---	---
Skerry---------	VIs	---	---	---	---	---	---
703D**:							
Becket---------	VIs	---	---	---	---	---	---
Monadnock------	VIs	---	---	---	---	---	---
703E**:							
Becket---------	VIIs	---	---	---	---	---	---
Monadnock------	VIIs	---	---	---	---	---	---
709D**:							
Becket---------	VIIs	---	---	---	---	---	---
Tunbridge------	VIIs	---	---	---	---	---	---
709E**:							
Becket---------	VIIs	---	---	---	---	---	---
Tunbridge------	VIIs	---	---	---	---	---	---
710D**:							
Becket---------	VIIs	---	---	---	---	---	---
Lyman----------	VIIs	---	---	---	---	---	---
Rock outcrop.							
710E**:							
Becket---------	VIIs	---	---	---	---	---	---
Lyman----------	VIIs	---	---	---	---	---	---
Rock outcrop.							
711B**, 711D**:							
Monadnock------	VIs	---	---	---	---	---	---
Hermon---------	VIs	---	---	---	---	---	---
711E**:							
Monadnock------	VIIs	---	---	---	---	---	---
Hermon---------	VIIs	---	---	---	---	---	---
712B**, 712D**, 712E**:							
Hermon--------	VIIs	---	---	---	---	---	---

See footnote at end of table.

Table 6.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Corn silage	Grass-legume hay	Grass hay	Pasture	Grass-clover	Alfalfa hay
		Tons	Tons	Tons	AUM*	AUM*	Tons
712B**, 712D**, 712E**:							
Monadnock-----	VIIs	---	---	---	---	---	---
713B**, 713D**:							
Hermon---------	VIs	---	---	---	---	---	---
Waumbek--------	VIs	---	---	---	---	---	---
717**:							
Lyme-----------	VIIs	---	---	---	---	---	---
Peacham--------	VIIs	---	---	---	---	---	---
719D**:							
Marlow---------	VIIs	---	---	---	---	---	---
Tunbridge------	VIIs	---	---	---	---	---	---
719E**:							
Marlow---------	VIIs	---	---	---	---	---	---
Tunbridge------	VIIs	---	---	---	---	---	---
720D**:							
Marlow---------	VIIs	---	---	---	---	---	---
Lyman----------	VIIs	---	---	---	---	---	---
Rock outcrop.							
720E**:							
Marlow---------	VIIs	---	---	---	---	---	---
Lyman----------	VIIs	---	---	---	---	---	---
Rock outcrop.							
721B**:							
Peru-----------	VIs	---	---	---	---	---	---
Marlow---------	VIs	---	---	---	---	---	---
722D**:							
Marlow---------	VIIs	---	---	---	---	---	---
Berkshire------	VIIs	---	---	---	---	---	---
723B**:							
Peru-----------	VIIs	---	---	---	---	---	---
Pillsbury------	VIIs	---	---	---	---	---	---
724B**:							
Skerry---------	VIs	---	---	---	---	---	---
Tunbridge------	VIs	---	---	---	---	---	---

See footnote at end of table.

Table 6.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Corn silage	Grass-legume hay	Grass hay	Pasture	Grass-clover	Alfalfa hay
		Tons	Tons	Tons	AUM*	AUM*	Tons
726D**:							
Rock outcrop	VIIs	---	---	---	---	---	---
Lyman	VIIs	---	---	---	---	---	---
726E**:							
Rock outcrop	VIIs	---	---	---	---	---	---
Lyman	VIIs	---	---	---	---	---	---
727**. Rubble land							
729B**:							
Waumbek	VIIs	---	---	---	---	---	---
Lyme	VIIs	---	---	---	---	---	---
730B**:							
Skerry	VIIs	---	---	---	---	---	---
Lyman	VIIs	---	---	---	---	---	---
Rock outcrop	VIIIs	---	---	---	---	---	---
731**:							
Peacham	VIIIw	---	---	---	1.8	---	---
Ossipee	VIIIw	---	---	---	---	---	---
734D**:							
Surplus	VIIs	---	---	---	---	---	---
Sisk	VIIs	---	---	---	---	---	---
735E**:							
Saddleback	VIIs	---	---	---	---	---	---
Ricker	VIIs	---	---	---	---	---	---
Rock outcrop	VIIIs	---	---	---	---	---	---
740D**:							
Hermon	VIIs	---	---	---	---	---	---
Redstone	VIIs	---	---	---	---	---	---
741D**	VIIs	---	---	---	---	---	---
741E**:							
Redstone	VIIs	---	---	---	---	---	---
Canaan	VIIs	---	---	---	---	---	---
Rock outcrop	VIIIs	---	---	---	---	---	---

See footnote at end of table.

Table 6.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Corn silage	Grass-legume hay	Grass hay	Pasture	Grass-clover	Alfalfa hay
		Tons	Tons	Tons	AUM*	AUM*	Tons
819B**:							
Peru-----------	VIs	---	---	---	---	---	---
Tunbridge------	VIIs	---	---	---	---	---	---

* Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

** See description of the map unit for composition and behavior characteristics of the map unit.

Table 7.--Woodland Management and Productivity

(Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available)

Soil name and map symbol	Rating: Ordination symbol	Rating: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
1--------------- Occum	9A	IA	Slight	Slight	Slight	Slight	Moderate	Eastern white pine-	70	9	Eastern white pine, white spruce, red pine.
								Northern red oak---	65	3	
								Sugar maple--------	60	3	
2--------------- Suncook	6S	IB	Slight	Slight	Severe	Slight	Slight	Eastern white pine-	55	6	Eastern white pine, red pine.
								Black oak----------	50	2	
								Northern red oak---	50	2	
								Red maple----------	50	2	
4--------------- Pootatuck	10A	IA	Slight	Slight	Slight	Slight	Moderate	Eastern white pine-	75	10	Eastern white pine, white spruce.
								Red pine-----------	75	10	
								Red maple----------	60	3	
								Yellow birch-------	60	3	
5--------------- Rippowam	3W	IIB	Slight	Severe	Severe	Severe	Severe	Red maple----------	75	3	Eastern white pine, white spruce.
								Eastern white pine-	65	8	
8--------------- Hadley	9A	IA	Slight	Slight	Slight	Slight	Severe--	Eastern white pine-	70	9	Eastern white pine, black walnut, European larch.
								Sugar maple--------	63	3	
								Red pine-----------	70	8	
9--------------- Winooski	4A	IA	Slight	Slight	Slight	Slight	Severe--	Northern red oak---	70	4	Eastern white pine, red pine, European larch.
								Eastern white pine-	75	10	
								White spruce-------	70	10	
								Sugar maple--------	65	3	
15-------------- Searsport	6W	NR	Slight	Severe	Severe	Severe	Severe	Eastern white pine-	55	6	Northern whitecedar, European larch.
								Red maple----------	55	2	
								Northern whitecedar	45	5	
								Black spruce-------	---	--	
								Balsam fir---------	53	7	
								European larch-----	---	--	
								Tamarack-----------	---	--	
22A, 22B, 22C--- Colton	3S	IC	Slight	Slight	Severe	Slight	Slight--	Sugar maple--------	61	3	Eastern white pine, red pine, European larch.
								Eastern white pine-	62	8	
								Red spruce---------	39	6	
								Red pine-----------	52	6	
								White spruce-------	52	8	
22E------------- Colton	3R	IIA	Moderate	Severe	Severe	Slight	Slight--	Sugar maple--------	61	3	Eastern white pine, red pine, European larch.
								Eastern white pine-	62	8	
								Red spruce---------	39	6	
								Red pine-----------	52	6	
								White spruce-------	52	8	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Rating: Ordination symbol	Rating: Impt. Forest Soil Group	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
24A, 24B-------- Agawam	9A	IA	Slight	Slight	Slight	Slight	Moderate	Eastern white pine- Northern red oak--- Red pine----------- Sugar maple--------	70 65 70 ---	9 9 9 --	Eastern white pine.
26A, 26B, 26C--- Windsor	7S	IC	Slight	Slight	Severe	Slight	Slight	Eastern white pine- Northern red oak--- Red pine----------- Sugar maple--------	57 52 61 55	7 2 7 2	Eastern white pine, red pine, Norway spruce.
26E------------- Windsor	7R	IIA	Severe	Severe	Severe	Slight	Slight	Eastern white pine- Northern red oak--- Red pine----------- Sugar maple--------	57 52 61 55	7 2 7 2	Eastern white pine, red pine, Norway spruce.
27A, 27B, 27C--- Groveton	10A	IA	Slight	Slight	Slight	Slight	Slight	Eastern white pine- Red spruce--------- Balsam fir--------- Eastern hemlock---- Northern red oak--- Paper birch--------	75 50 55 70 65 70	10 8 8 -- 3 6	Eastern white pine, northern red oak, paper birch.
27E------------- Groveton	10R	IIA	Severe	Severe	Slight	Slight	Slight	Eastern white pine- Red spruce--------- Balsam fir--------- Eastern hemlock---- Northern red oak--- Paper birch--------	75 50 55 70 65 70	10 8 8 -- 3 6	Eastern white pine, northern red oak, paper birch.
28A, 28B-------- Madawaska	8A	IA	Slight	Slight	Slight	Slight	Moderate	Eastern white pine- White spruce------- Sugar maple-------- Balsam fir--------- Paper birch-------- Red spruce---------	68 51 63 51 58 49	8 8 3 7 4 7	Eastern white pine, white spruce, balsam fir, European larch.
36A, 36B, 36C--- Adams	3S	IC	Slight	Slight	Severe	Slight	Slight--	Sugar maple-------- Red maple---------- American beech----- Eastern hemlock---- Eastern white pine-	61 --- --- --- 66	3 -- -- -- 8	Eastern white pine, red pine, European larch.
36E------------- Adams	3R	IIA	Moderate	Severe	Severe	Slight	Slight--	Sugar maple-------- Red maple---------- American beech----- Eastern hemlock---- Eastern white pine-	61 --- --- --- 66	3 -- -- -- 8	Eastern white pine, red pine, European larch.

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
56B, 56C-------- Becket	9A	IA	Slight	Slight	Slight	Moderate	Moderate	Eastern white pine-	69	9	Eastern white pine, white spruce.
								Balsam fir---------	55	8	
								White spruce-------	55	9	
								Sugar maple--------	60	3	
								Paper birch--------	71	6	
56D------------ Becket	9R	IA	Moderate	Moderate	Slight	Moderate	Moderate	Eastern white pine-	69	9	Eastern white pine, white spruce.
								Balsam fir---------	55	8	
								White spruce-------	55	9	
								Sugar maple--------	60	3	
								Paper birch--------	71	6	
57B, 57C-------- Becket	9A	IA	Slight	Slight	Slight	Moderate	Moderate	Eastern white pine-	69	9	Eastern white pine, white spruce.
								Balsam fir---------	55	8	
								White spruce-------	55	9	
								Sugar maple--------	60	3	
								Paper birch--------	71	6	
57D, 57E-------- Becket	9R	IA	Moderate	Moderate	Slight	Moderate	Moderate	Eastern white pine-	69	9	Eastern white pine, white spruce.
								Balsam fir---------	55	8	
								White spruce-------	55	9	
								Sugar maple--------	60	3	
								Paper birch--------	71	6	
59B, 59C-------- Waumbek	8A	IB	Slight	Slight	Slight	Moderate	Moderate	Eastern white pine-	65	8	Eastern white pine, white spruce, balsam fir.
								White spruce-------	55	9	
								Sugar maple--------	55	2	
								Balsam fir---------	50	7	
								Paper birch--------	45	3	
								Paper birch--------	45	3	
								Red spruce---------	45	7	
61B**, 61C**:		IIA									
Tunbridge------	3A		Slight	Slight	Slight	Moderate	Slight	Sugar maple--------	60	3	Eastern white pine, red spruce, white spruce, balsam fir.
								Northern red oak---	---	--	
								Eastern white pine-	50	6	
								Red spruce---------	50	8	
								Yellow birch-------	55	2	
								Paper birch--------	---	--	
								White spruce-------	55	9	
								Balsam fir---------	---	--	
								White ash----------	65	3	
Lyman----------	2D		Slight	Slight	Moderate	Severe	Moderate	Sugar maple--------	50	2	White spruce, balsam fir, eastern white pine, red pine.
								White spruce-------	55	9	
								Balsam fir---------	60	8	
								Red spruce---------	40	6	
Rock outcrop.											

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
61D**:		IIA									
Tunbridge------	3R		Moderate	Moderate	Slight	Moderate	Slight	Sugar maple--------	60	3	Eastern white pine, red spruce, white spruce, balsam fir.
								Northern red oak---	---	--	
								Eastern white pine-	50	6	
								Red spruce---------	50	8	
								Yellow birch-------	55	2	
								Paper birch--------	---	--	
								White spruce-------	55	9	
								Balsam fir---------	---	--	
								White ash----------	65	3	
Lyman----------	2D		Moderate	Moderate	Moderate	Severe	Moderate	Sugar maple--------	50	2	White spruce, balsam fir, eastern white pine, red pine.
								White spruce-------	55	9	
								Balsam fir---------	60	8	
								Red spruce---------	40	6	
Rock outcrop.											
61E**:		IIA									
Tunbridge------	3R		Severe	Severe	Slight	Moderate	Slight	Sugar maple--------	60	3	Eastern white pine, red spruce, white spruce, balsam fir.
								Northern red oak---	---	--	
								Eastern white pine-	50	6	
								Red spruce---------	50	8	
								Yellow birch-------	55	2	
								Paper birch--------	---	--	
								White spruce-------	55	9	
								Balsam fir---------	---	--	
								White ash----------	65	3	
Lyman----------	2R		Severe	Severe	Moderate	Severe	Moderate	Sugar maple--------	50	2	White spruce, balsam fir, eastern white pine, red pine.
								White spruce-------	55	9	
								Balsam fir---------	60	8	
								Red spruce---------	40	6	
Rock outcrop.											
62B, 62C-------- Charlton	3A	IA	Slight	Slight	Slight	Slight	Slight	Northern red oak---	65	3	Eastern white pine, red pine, white spruce, eastern hemlock, European larch.
								Eastern white pine-	65	8	
								Red pine-----------	70	9	
								Red spruce---------	50	8	
								Red maple----------	55	2	
								Shagbark hickory---	---	--	
								Sugar maple--------	55	2	
62D------------ Charlton	3R	IA	Moderate	Moderate	Slight	Slight	Slight	Northern red oak---	65	3	Eastern white pine, red pine, white spruce, eastern hemlock, European larch.
								Eastern white pine-	65	8	
								Red pine-----------	70	9	
								Red spruce---------	50	8	
								Red maple----------	55	2	
								Shagbark hickory---	---	--	
								Sugar maple--------	55	2	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
63B, 63C-------- Charlton	3A	IA	Slight	Slight	Slight	Slight	Slight	Northern red oak--- Eastern white pine- Red pine----------- Red spruce--------- Red maple---------- Shagbark hickory--- Sugar maple--------	65 65 70 50 55 --- 55	3 8 9 8 2 -- 2	Eastern white pine, red pine, white spruce, eastern hemlock, European larch.
63D, 63E-------- Charlton	3R	IA	Moderate	Moderate	Slight	Slight	Slight	Northern red oak--- Eastern white pine- Red pine----------- Red spruce--------- Red maple---------- Shagbark hickory--- Sugar maple--------	65 65 70 50 55 --- 55	3 8 9 8 2 -- 2	Eastern white pine, red pine, white spruce, eastern hemlock, European larch.
72B, 72C-------- Berkshire	9A	IA	Slight	Slight	Slight	Slight	Slight	Eastern white pine- Sugar maple-------- Red spruce--------- White ash---------- Yellow birch------- Paper birch-------- Balsam fir--------- White spruce------- Red pine-----------	72 52 50 62 55 60 60 55 65	9 2 8 3 2 4 8 9 8	Eastern white pine, balsam fir, white spruce, red pine, Douglas fir.
72D------------- Berkshire	9R	IA	Slight	Moderate	Slight	Slight	Slight	Eastern white pine- Sugar maple-------- Red spruce--------- White ash---------- Yellow birch------- Paper birch-------- Balsam fir--------- White spruce------- Red pine-----------	72 52 50 62 55 60 60 55 65	9 2 8 3 2 4 8 9 8	Eastern white pine, balsam fir, white spruce, red pine, Douglas fir.
73B, 73C-------- Berkshire	9A	IA	Slight	Slight	Slight	Slight	Slight	Eastern white pine- Sugar maple-------- Red spruce--------- White ash---------- Yellow birch------- Paper birch-------- Balsam fir--------- White spruce------- Red pine-----------	72 52 50 62 55 60 60 55 65	9 2 8 3 2 4 8 9 8	Eastern white pine, balsam fir, white spruce, red pine.

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
73D, 73E--------Berkshire	9R	IA	Slight	Moderate	Slight	Slight	Slight	Eastern white pine-	72	9	Eastern white pine, balsam fir, white spruce, red pine.
								Sugar maple--------	52	2	
								Red spruce---------	50	8	
								White ash----------	62	3	
								Yellow birch-------	55	2	
								Paper birch--------	60	4	
								Balsam fir---------	60	8	
								White spruce-------	55	9	
								Red pine-----------	65	8	
76B, 76C--------Marlow	8A	IA	Slight	Slight	Slight	Moderate	Moderate	Eastern white pine-	66	8	Eastern white pine, white spruce, red pine.
								Balsam fir---------	58	8	
								Red spruce---------	48	7	
								Sugar maple--------	60	3	
								Red pine-----------	65	8	
								Yellow birch-------	60	3	
								Paper birch--------	65	5	
								White spruce-------	60	10	
								White ash----------	67	3	
								American beech-----	60	3	
								Northern red oak---	67	3	
								American basswood--	56	2	
76D-------------Marlow	8R	IA	Moderate	Moderate	Slight	Moderate	Moderate	Eastern white pine-	66	8	Eastern white pine, white spruce, red pine.
								Balsam fir---------	58	8	
								Red spruce---------	48	7	
								Sugar maple--------	60	3	
								Red pine-----------	65	8	
								Yellow birch-------	60	3	
								Paper birch--------	65	5	
								White spruce-------	60	10	
								White ash----------	67	3	
								American beech-----	60	3	
								Northern red oak---	67	3	
								American basswood--	56	2	
77B, 77C--------Marlow	8A	IA	Slight	Slight	Slight	Moderate	Moderate	Eastern white pine-	66	8	Eastern white pine, white spruce, red pine.
								Balsam fir---------	58	8	
								Red spruce---------	48	7	
								Sugar maple--------	60	3	
								Red pine-----------	65	8	
								Yellow birch-------	60	3	
								Paper birch--------	65	5	
								White spruce-------	60	10	
								White ash----------	67	3	
								American beech-----	60	3	
								Northern red oak---	67	3	
								American basswood--	56	2	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
77D, 77E-------- Marlow	8R	IA	Moderate	Moderate	Slight	Moderate	Moderate	Eastern white pine-	66	8	Eastern white pine, white spruce, red pine.
								Balsam fir---------	58	8	
								Red spruce---------	48	7	
								Sugar maple--------	60	3	
								Red pine-----------	65	8	
								Yellow birch-------	60	3	
								Paper birch--------	65	5	
								White spruce-------	60	10	
								White ash----------	67	3	
								American beech-----	60	3	
								Northern red oak---	67	3	
								American basswood--	56	2	
78B, 78C-------- Peru	8A	IA	Slight	Slight	Slight	Moderate	Moderate	Eastern white pine-	67	8	Eastern white pine.
								Sugar maple--------	60	3	
								Northern red oak---	67	3	
								Red spruce---------	39	6	
								Balsam fir---------	55	8	
								White spruce-------	53	8	
								White ash----------	64	3	
								Red pine-----------	61	7	
								Yellow birch-------	60	3	
79B, 79C-------- Peru	8A	IA	Slight	Slight	Slight	Moderate	Moderate	Eastern white pine-	67	8	Eastern white pine.
								Sugar maple--------	60	3	
								Northern red oak---	70	4	
								Red spruce---------	39	6	
								Balsam fir---------	55	8	
								White spruce-------	53	8	
								White ash----------	64	3	
								Red pine-----------	61	7	
								Yellow birch-------	60	3	
79D------------ Peru	8R	IA	Moderate	Moderate	Slight	Moderate	Moderate	Eastern white pine-	67	8	Eastern white pine.
								Sugar maple--------	60	3	
								Northern red oak---	70	4	
								Red spruce---------	39	6	
								Balsam fir---------	55	8	
								White spruce-------	53	8	
								White ash----------	64	3	
								Red pine-----------	61	7	
								Yellow birch-------	60	3	
90B**, 90C**:		IB									
Tunbridge------	3A		Slight	Slight	Slight	Moderate	Slight	Sugar maple--------	60	3	Eastern white pine, red spruce, white spruce, balsam fir, Norway spruce.
								Northern red oak---	68	4	
								Eastern white pine-	65	8	
								Red spruce---------	45	7	
								Yellow birch-------	60	3	
								Paper birch--------	78	3	
								White spruce-------	55	9	
								Balsam fir---------	---	--	
								White ash----------	65	3	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordi- nation symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equip- ment limita- tion	Management concerns: Seedling mortal- ity	Management concerns: Wind- throw hazard	Management concerns: Plant competi- tion	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Produc- tivity class*	Trees to plant
90B**, 90C**:		IB									
Lyman----------	2D		Slight	Slight	Moderate	Severe	Moderate	Sugar maple--------	---	--	White spruce, balsam fir, eastern white pine.
								White spruce-------	55	9	
								Balsam fir---------	48	8	
								Red spruce---------	42	6	
								Eastern white pine-	56	7	
								Northern red oak---	54	3	
								Paper birch--------	---	--	
								Eastern hemlock----	---	--	
								American beech-----	---	--	
90D**:											
Tunbridge------	3R	IB	Moderate	Moderate	Moderate	Moderate	Slight	Sugar maple--------	60	3	Eastern white pine, red spruce, white spruce, balsam fir, Norway spruce.
								Northern red oak---	68	4	
								Eastern white pine-	65	8	
								Red spruce---------	45	7	
								Yellow birch-------	60	3	
								Paper birch--------	78	3	
								White spruce-------	55	9	
								Balsam fir---------	---	--	
								White ash----------	65	3	
Lyman----------	2D		Moderate	Moderate	Moderate	Severe	Moderate	Sugar maple--------	---	--	White spruce, balsam fir, eastern white pine.
								White spruce-------	55	9	
								Balsam fir---------	48	8	
								Red spruce---------	42	6	
								Eastern white pine-	56	7	
								Northern red oak---	54	3	
								Paper birch--------	---	--	
								Eastern hemlock----	---	--	
								American beech-----	---	--	
101------------- Ondawa	7A	IA	Slight	Slight	Slight	Slight	Slight	Eastern white pine-	57	7	Eastern white pine, white spruce, red pine.
								Northern red oak---	60	3	
								Red pine-----------	65	8	
								Red spruce---------	45	7	
								Sugar maple--------	55	2	
102------------- Sunday	6S	IB	Slight	Slight	Severe	Slight	Slight	Eastern white pine-	55	6	Eastern white pine, red pine, European larch.
								Red maple----------	---	--	
								Northern red oak---	50	2	
								Balsam poplar------	55	--	
								Sugar maple--------	48	2	
104------------- Podunk	9A	IA	Slight	Slight	Slight	Slight	Moderate	Eastern white pine-	74	9	Eastern white pine, red pine, white spruce.
								Red pine-----------	75	10	
								Red spruce---------	45	7	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
105------------- Rumney	7W	IIB	Slight	Severe	Severe	Severe	Severe	Eastern white pine-	56	7	Eastern white pine, white spruce, northern whitecedar.
								Red maple----------	65	3	
								Red spruce---------	45	7	
108------------- Hadley	9A	IA	Slight	Slight	Slight	Slight	Severe	Eastern white pine-	70	9	Eastern white pine, black walnut, European larch.
								Sugar maple--------	63	3	
								Red pine-----------	70	8	
109------------- Limerick	2W	IIB	Slight	Severe	Severe	Severe	Severe	Red maple----------	40	2	Eastern white pine, white spruce, northern whitecedar.
								Eastern white pine-	65	8	
114**:		IIB									
Walpole--------	3W		Slight	Severe	Severe	Severe	Severe	Red maple----------	75	3	Eastern white pine, white spruce, northern whitecedar, Norway spruce.
								White ash----------	61	3	
								Eastern hemlock----	54	8	
								Eastern white pine-	68	8	
Binghamville---	3W		Slight	Severe	Severe	Severe	Severe	Red maple----------	68	3	Eastern white pine, white spruce, northern whitecedar.
								Eastern white pine-	65	8	
								White spruce-------	55	9	
								Red spruce---------	45	7	
								Yellow birch-------	59	3	
130A, 130B------ Hitchcock	10A	IA	Slight	Slight	Slight	Slight	Moderate	Eastern white pine-	75	10	Eastern white pine, red pine, white spruce, Norway spruce.
								Sugar maple--------	65	3	
130C------------ Hitchcock	10R	IA	Moderate	Slight	Slight	Slight	Moderate	Eastern white pine-	75	10	Eastern white pine, red pine, white spruce, Norway spruce.
								Sugar maple--------	65	3	
130E------------ Hitchcock	10R	IIA	Severe	Severe	Moderate	Slight	Moderate	Eastern white pine-	75	10	Eastern white pine, red pine, white spruce, Norway spruce.
								Sugar maple--------	65	3	
132A, 132B------ Dartmouth	10A	IA	Slight	Slight	Slight	Slight	Moderate	Eastern white pine-	75	10	Eastern white pine, red pine, European larch, white spruce.
								White spruce-------	65	10	
								Northern red oak---	62	3	
173C, 173D, 173E Berkshire	9X	IA	Slight	Moderate	Slight	Slight	Severe	Eastern white pine-	72	9	Eastern white pine, balsam fir, white spruce, red pine.
								Sugar maple--------	52	2	
								Red spruce---------	50	8	
								White ash----------	62	3	
								Yellow birch-------	55	2	
								Paper birch--------	60	4	
								Balsam fir---------	60	8	
								White spruce-------	55	9	
								Red pine-----------	65	8	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
201------------- Ondawa	7A	IA	Slight	Slight	Slight	Slight	Moderate	Eastern white pine-	57	7	Eastern white pine, white spruce, red pine.
								Northern red oak---	60	3	
								Red pine-----------	65	8	
								Red spruce---------	45	7	
								Sugar maple--------	55	2	
254B**, 254C**:		IB									
Monadnock------	8A		Slight	Slight	Slight	Slight	Moderate	Eastern white pine-	63	8	Eastern white pine, red pine, white spruce.
								Northern red oak---	55	3	
								Red pine-----------	60	7	
								White spruce-------	55	9	
Hermon---------	7S		Slight	Slight	Moderate	Slight	Slight	Eastern white pine-	59	7	Eastern white pine, red pine, European larch.
								White spruce-------	45	7	
								Red spruce---------	46	7	
								Red pine-----------	59	6	
								Sugar maple--------	55	2	
254D**:		IB									
Monadnock------	8R		Moderate	Moderate	Slight	Slight	Moderate	Eastern white pine-	63	8	Eastern white pine, red pine, white spruce.
								Northern red oak---	55	3	
								Red pine-----------	60	7	
								White spruce-------	55	9	
Hermon---------	7R		Moderate	Moderate	Moderate	Slight	Slight	Eastern white pine-	59	7	Eastern white pine, red pine, European larch.
								White spruce-------	45	7	
								Red spruce---------	46	7	
								Red pine-----------	59	6	
								Sugar maple--------	55	2	
255B**, 255C**:		IB									
Monadnock------	8A		Slight	Slight	Slight	Slight	Moderate	Eastern white pine-	63	8	Eastern white pine, red pine, white spruce.
								Northern red oak---	55	3	
								Red pine-----------	60	7	
								White spruce-------	55	9	
Hermon---------	7S		Slight	Slight	Moderate	Slight	Slight	Eastern white pine-	59	7	Eastern white pine, red pine, European larch.
								White spruce-------	45	7	
								Red spruce---------	46	7	
								Red pine-----------	59	6	
								Sugar maple--------	55	2	
255D**, 255E**:		IB									
Monadnock------	8R		Moderate	Moderate	Slight	Slight	Moderate	Eastern white pine-	63	8	Eastern white pine, red pine, white spruce.
								Northern red oak---	55	3	
								Red pine-----------	60	7	
								White spruce-------	55	9	
Hermon---------	7R		Moderate	Moderate	Moderate	Slight	Slight	Eastern white pine-	59	7	Eastern white pine, red pine, European larch.
								White spruce-------	45	7	
								Red spruce---------	46	7	
								Red pine-----------	59	6	
								Sugar maple--------	55	2	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings		Management concerns					Potential productivity			Trees to plant
	Ordination symbol	Impt. Forest Soil Group	Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Productivity class	
295------------- Greenwood	2W	NR	Slight	Severe	Severe	Severe	Severe	Black spruce-------	15	2	
								Balsam fir---------	39	5	
								Tamarack-----------	---	--	
310A, 310B, 310C Quonset	7S	IC	Slight	Slight	Severe	Slight	Slight	Eastern white pine-	61	7	Eastern white pine, red pine.
								Northern red oak---	47	2	
								Red pine-----------	60	6	
								Sugar maple--------	52	2	
310E------------ Quonset	7R	IIA	Moderate	Severe	Severe	Slight	Moderate	Eastern white pine-	61	7	Eastern white pine, red pine.
								Northern red oak---	47	2	
								Red pine-----------	60	6	
								Sugar maple--------	52	2	
313------------- Deerfield	8S	IC	Slight	Slight	Moderate	Slight	Moderate	Eastern white pine-	65	8	Eastern white pine, red pine, European larch, white spruce, Douglas fir.
								Northern red oak---	55	3	
330B, 330C------ Bernardston	3A	IA	Slight	Slight	Slight	Moderate	Moderate	Northern red oak---	55	3	Eastern white pine, eastern hemlock, white spruce, Douglas fir, Fraser fir.
								Eastern white pine-	65	8	
								Sugar maple--------	65	3	
								Eastern hemlock----	65	--	
330D------------ Bernardston	3R	IA	Moderate	Moderate	Slight	Moderate	Moderate	Northern red oak---	55	3	Eastern white pine, eastern hemlock, white spruce, Douglas fir, Fraser fir.
								Eastern white pine-	65	8	
								Sugar maple--------	65	3	
								Eastern hemlock----	65	--	
331B, 331C------ Bernardston	3A	IA	Slight	Slight	Slight	Moderate	Moderate	Northern red oak---	55	3	Eastern white pine, eastern hemlock, Douglas fir, white spruce, Fraser fir.
								Eastern white pine-	65	8	
								Sugar maple--------	65	3	
								Eastern hemlock----	65	--	
331D, 331E------ Bernardston	3R	IA	Moderate	Moderate	Slight	Moderate	Moderate	Northern red oak---	55	3	Eastern white pine, eastern hemlock, Douglas fir, white spruce, Fraser fir.
								Eastern white pine-	65	8	
								Sugar maple--------	65	3	
								Eastern hemlock----	65	--	
334B, 334C, 336B 336C----------- Pittstown	4A	IA	Slight	Slight	Slight	Moderate	Moderate	Northern red oak---	72	4	Eastern white pine, balsam fir, white spruce, Scotch pine.
								Sugar maple--------	66	3	
								Eastern white pine-	80	10	
								Red spruce---------	50	8	
336D------------ Pittstown	4R	IA	Moderate	Moderate	Slight	Moderate	Moderate	Northern red oak---	72	4	Eastern white pine, balsam fir, white spruce, Scotch pine.
								Sugar maple--------	66	3	
								Eastern white pine-	80	10	
								Red spruce---------	50	8	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
341A, 341B------ Stissing	8W	IIB	Slight	Severe	Severe	Severe	Severe	Eastern white pine-	65	8	Eastern white pine, white spruce.
								Red spruce---------	40	6	
347A**, 347B**:		IIB									
Lyme-----------	8W		Slight	Severe	Moderate	Severe	Severe	Eastern white pine-	65	8	Eastern white pine, white spruce.
								Red spruce---------	50	8	
								Red maple----------	65	3	
								Balsam fir---------	50	8	
Moosilauke-----	8W		Slight	Severe	Moderate	Severe	Severe	Eastern white pine-	65	8	Eastern white pine, white spruce.
								Red maple----------	65	3	
								Red spruce---------	55	9	
								Yellow birch-------	50	2	
								Balsam fir---------	50	7	
355C------------ Hermon	7X	IIA	Slight	Severe	Severe	Slight	Slight	Eastern white pine-	59	7	Eastern white pine, red pine, European larch.
								White spruce-------	45	7	
								Red spruce---------	46	7	
								Red pine-----------	59	6	
								Sugar maple--------	55	2	
355D, 355E------ Hermon	7X	IIA	Moderate	Severe	Severe	Slight	Slight	Eastern white pine-	59	7	Eastern white pine, red pine, European larch.
								White spruce-------	45	7	
								Red spruce---------	46	7	
								Red pine-----------	59	6	
								Sugar maple--------	55	2	
360B**, 360C**:		IB									
Cardigan-------	9A		Slight	Slight	Moderate	Moderate	Moderate	Eastern white pine-	73	9	Eastern white pine, red pine, European larch.
								Sugar maple--------	65	3	
								Northern red oak---	65	3	
Kearsarge------	9D		Slight	Slight	Moderate	Severe	Slight	Eastern white pine-	70	9	Eastern white pine, European larch.
								Northern red oak---	65	3	
								Sugar maple--------	60	3	
360D**:		IB									
Cardigan-------	9R		Moderate	Moderate	Moderate	Moderate	Moderate	Eastern white pine-	73	9	Eastern white pine, red pine, European larch.
								Sugar maple--------	65	3	
								Northern red oak---	65	3	
Kearsarge------	9D		Moderate	Moderate	Moderate	Severe	Slight	Eastern white pine-	70	9	Eastern white pine, European larch.
								Northern red oak---	65	3	
								Sugar maple--------	60	3	
361B**:		IIA									
Cardigan-------	9A		Slight	Slight	Moderate	Moderate	Moderate	Eastern white pine-	73	9	Eastern white pine, red pine, European larch.
								Northern red oak---	65	3	
								Sugar maple--------	65	3	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Impt. Forest Soil Group	Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Productivity class*	Trees to plant
361B**:		IIA									
Kearsarge------	9D		Slight	Slight	Moderate	Severe	Slight	Eastern white pine-	70	9	Eastern white pine, European larch.
								Northern red oak---	65	3	
								Sugar maple--------	60	3	
Rock outcrop.											
361C**:		IIA									
Cardigan-------	9A		Slight	Slight	Moderate	Moderate	Moderate	Eastern white pine-	73	9	Eastern white pine, red pine, European larch.
								Northern red oak---	65	3	
								Sugar maple--------	65	3	
Kearsarge------	9D		Slight	Slight	Moderate	Severe	Slight	Eastern white pine-	70	9	Eastern white pine, European larch.
								Northern red oak---	65	3	
								Sugar maple--------	60	3	
361D**:		IIA									
Cardigan-------	9R		Moderate	Moderate	Moderate	Moderate	Moderate	Eastern white pine-	73	9	Eastern white pine, red pine, European larch.
								Northern red oak---	65	3	
								Sugar maple--------	65	3	
Kearsarge------	9D		Moderate	Moderate	Moderate	Severe	Slight	Eastern white pine-	70	9	Eastern white pine, European larch.
								Northern red oak---	65	3	
								Sugar maple--------	60	3	
Rock outcrop.											
361E**:		IIA									
Cardigan-------	9R		Severe	Severe	Moderate	Moderate	Moderate	Eastern white pine-	73	9	Eastern white pine, red pine, European larch.
								Northern red oak---	65	3	
								Sugar maple--------	65	3	
Kearsarge------	9R		Severe	Severe	Moderate	Severe	Slight	Eastern white pine-	70	9	Eastern white pine, European larch.
								Northern red oak---	65	3	
								Sugar maple--------	60	3	
Rock outcrop.											
395------------- Chocorua	2W	NR	Slight	Severe	Severe	Severe	Severe	Black spruce-------	25	2	
								Tamarack-----------	---	--	
								Balsam fir---------	---	--	
								Yellow birch-------	---	--	
								Speckled alder-----	---	--	
								Black ash----------	---	--	
401------------- Occum	9A	IA	Slight	Slight	Slight	Slight	Moderate	Eastern white pine-	70	9	Eastern white pine, white spruce, red pine.
								Northern red oak---	65	3	
								Sugar maple--------	60	3	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
406------------- Medomak	6W	NR	Slight	Severe	Severe	Severe	Severe	Eastern white pine-	55	6	Black spruce.
								Tamarack-----------	---	--	
								Black spruce-------	---	--	
								Red maple----------	47	2	
								Gray birch---------	---	--	
534------------- Binghamville	3W	IIB	Slight	Severe	Severe	Severe	Severe	Red maple----------	68	3	Eastern white pine, white spruce, northern whitecedar.
								Eastern white pine-	65	8	
								White spruce-------	55	9	
								Red spruce---------	45	7	
								Yellow birch-------	59	3	
558B, 559B, 559C Skerry	10A	IA	Slight	Slight	Slight	Moderate	Moderate	Eastern white pine-	80	10	Eastern white pine, white spruce.
								Sugar maple--------	60	3	
								White spruce-------	60	10	
								Balsam fir---------	57	8	
559D------------ Skerry	10R	IA	Moderate	Moderate	Slight	Moderate	Moderate	Eastern white pine-	80	10	Eastern white pine, white spruce.
								Sugar maple--------	60	3	
								White spruce-------	60	10	
								Balsam fir---------	57	8	
613------------- Croghan	10S	IC	Slight	Slight	Moderate	Slight	Moderate	Eastern white pine-	65	10	Eastern white pine, European larch, Norway spruce.
								Sugar maple--------	55	2	
								Red maple----------	---	--	
614------------- Kinsman	8W	IIB	Slight	Severe	Moderate	Severe	Severe	White spruce-------	50	8	Norway spruce, eastern white pine.
								Red maple----------	60	3	
632A, 632B------ Nicholville	3A	IA	Slight	Slight	Slight	Slight	Severe	Sugar maple--------	65	3	Norway spruce, eastern white pine, European larch, white spruce.
								Northern red oak---	70	4	
								Eastern white pine-	75	12	
633------------- Pemi	8W	IIB	Slight	Severe	Moderate	Severe	Severe	Balsam fir---------	55	8	Balsam fir, white spruce, eastern white pine, European larch.
								Red spruce---------	45	7	
								Red maple----------	55	2	
								Gray birch---------	---	--	
								White spruce-------	55	9	
								Eastern white pine-	65	8	
								Hemlock------------	---	--	
								Tamarack-----------	---	--	
647A, 647B------ Pillsbury	7W	IIB	Slight	Severe	Moderate	Severe	Severe	Eastern white pine-	60	7	Eastern white pine, white spruce.
								Northern red oak---	60	3	
								Red spruce---------	47	7	
								Sugar maple--------	55	2	
								Balsam fir---------	51	7	
701B**:		IA									
Becket---------	9A		Slight	Slight	Slight	Moderate	Moderate	Eastern white pine-	69	9	Eastern white pine, white spruce.
								Balsam fir---------	55	8	
								White spruce-------	55	9	
								Sugar maple--------	60	3	
								Paper birch--------	71	6	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
701B**:		IA									
Skerry---------	10A		Slight	Slight	Slight	Moderate	Moderate	Eastern white pine-	80	10	Eastern white pine, white spruce.
								Sugar maple--------	60	3	
								White spruce-------	60	10	
								Balsam fir---------	57	8	
703D**:		IB									
Becket---------	9R		Moderate	Moderate	Slight	Moderate	Moderate	Eastern white pine-	69	9	Eastern white pine, white spruce.
								Balsam fir---------	55	8	
								White spruce-------	55	9	
								Sugar maple--------	60	3	
								Paper birch--------	71	6	
Monadnock------	8R		Moderate	Moderate	Slight	Slight	Moderate	Eastern white pine-	63	8	Eastern white pine, red pine, white spruce.
								Northern red oak---	55	3	
								Red pine-----------	60	7	
								White spruce-------	55	9	
703E**:		IIA									
Becket---------	9R		Severe	Severe	Slight	Moderate	Moderate	Eastern white pine-	69	9	Eastern white pine, white spruce.
								Balsam fir---------	55	8	
								White spruce-------	55	9	
								Sugar maple--------	60	3	
								Paper birch--------	71	6	
Monadnock------	8R		Severe	Severe	Slight	Slight	Moderate	Eastern white pine-	63	8	Eastern white pine, red pine, white spruce.
								Northern red oak---	55	3	
								Red pine-----------	60	7	
								White spruce-------	55	9	
709D**:		IB									
Becket---------	9R		Moderate	Moderate	Moderate	Moderate	Moderate	Eastern white pine-	69	9	Eastern white pine, white spruce.
								Balsam fir---------	55	8	
								White spruce-------	55	9	
								Sugar maple--------	60	3	
								Paper birch--------	71	6	
Tunbridge------	3R		Moderate	Moderate	Moderate	Moderate	Slight	Sugar maple--------	60	3	Eastern white pine, red spruce, white spruce, balsam fir.
								Northern red oak---	---	--	
								Eastern white pine-	50	6	
								Red spruce---------	50	8	
								Yellow birch-------	55	2	
								Paper birch--------	---	--	
								White spruce-------	55	9	
								Balsam fir---------	---	--	
								White ash----------	65	3	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
709E**:		IIA									
Becket---------	9R		Severe	Severe	Slight	Moderate	Moderate	Eastern white pine-	69	9	Eastern white pine, white spruce.
								Balsam fir---------	55	8	
								White spruce-------	55	9	
								Sugar maple--------	60	3	
								Paper birch--------	71	6	
Tunbridge------	3R		Severe	Severe	Moderate	Moderate	Slight	Sugar maple--------	60	3	Eastern white pine, red spruce, white spruce, balsam fir.
								Northern red oak---	---	--	
								Eastern white pine-	50	6	
								Red spruce---------	50	8	
								Yellow birch-------	55	2	
								Paper birch--------	---	--	
								White spruce-------	55	9	
								Balsam fir---------	---	--	
								White ash----------	65	3	
710D**:		IIA									
Becket---------	9R		Moderate	Moderate	Slight	Moderate	Moderate	Eastern white pine-	69	9	Eastern white pine, white spruce.
								Balsam fir---------	55	8	
								White spruce-------	55	9	
								Sugar maple--------	60	3	
								Paper birch--------	71	6	
Lyman----------	2D		Moderate	Moderate	Moderate	Severe	Moderate	Sugar maple--------	50	2	White spruce, balsam fir, eastern white pine, red pine.
								White spruce-------	55	9	
								Balsam fir---------	60	8	
								Red spruce---------	40	6	
Rock outcrop.											
710E**:		IIA									
Becket---------	9R		Severe	Severe	Slight	Moderate	Moderate	Eastern white pine-	69	9	Eastern white pine, white spruce.
								Balsam fir---------	55	8	
								White spruce-------	55	9	
								Sugar maple--------	60	3	
								Paper birch--------	71	6	
Lyman----------	2R		Severe	Severe	Moderate	Severe	Moderate	Sugar maple--------	50	2	White spruce, balsam fir, eastern white pine, red pine.
								White spruce-------	55	9	
								Balsam fir---------	60	8	
								Red spruce---------	40	6	
Rock outcrop.											
711B**:		IB									
Monadnock------	8A		Slight	Slight	Slight	Slight	Moderate	Eastern white pine-	63	8	Eastern white pine, red pine, white spruce.
								Northern red oak---	55	3	
								Red pine-----------	60	7	
								White spruce-------	55	9	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
711B**:		IB									
Hermon	7S		Slight	Slight	Moderate	Slight	Slight	Eastern white pine	59	7	Eastern white pine, red pine, European larch.
								White spruce	45	7	
								Red spruce	46	7	
								Red pine	59	6	
								Sugar maple	55	2	
711D**:		IB									
Monadnock	8R		Moderate	Moderate	Slight	Slight	Moderate	Eastern white pine	63	8	Eastern white pine, red pine, white spruce.
								Northern red oak	55	3	
								Red pine	60	7	
								White spruce	55	9	
Hermon	7R		Moderate	Moderate	Moderate	Slight	Slight	Eastern white pine	59	7	Eastern white pine, red pine, European larch.
								White spruce	45	7	
								Red spruce	46	7	
								Red pine	59	6	
								Sugar maple	55	2	
711E**:		IIA									
Monadnock	8R		Severe	Severe	Slight	Slight	Moderate	Eastern white pine	63	8	Eastern white pine, red pine, white spruce.
								Northern red oak	55	3	
								Red pine	60	7	
								White spruce	55	9	
Hermon	7R		Severe	Severe	Severe	Slight	Slight	Eastern white pine	59	7	Eastern white pine, red pine, European larch.
								White spruce	45	7	
								Red spruce	46	7	
								Red pine	59	6	
								Sugar maple	55	2	
712B**:		IIA									
Hermon	7X		Slight	Severe	Severe	Slight	Slight	Eastern white pine	59	7	Eastern white pine, red pine, European larch.
								White spruce	45	7	
								Red spruce	46	7	
								Red pine	59	6	
								Sugar maple	55	2	
Monadnock	8X		Slight	Moderate	Slight	Slight	Moderate	Eastern white pine	63	8	Red pine, white spruce, eastern white pine.
								Northern red oak	53	3	
								Red pine	60	7	
								White spruce	55	9	
712D**:		IIA									
Hermon	7X		Moderate	Severe	Severe	Slight	Slight	Eastern white pine	59	7	Eastern white pine, red pine, European larch.
								White spruce	45	7	
								Red spruce	46	7	
								Red pine	59	6	
								Sugar maple	55	2	
Monadnock	8X		Moderate	Severe	Slight	Slight	Moderate	Eastern white pine	63	8	Red pine, white spruce, eastern white pine.
								Northern red oak	53	3	
								Red pine	60	7	
								White spruce	55	9	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
712E**:		IIA									
Hermon---------	7R		Severe	Severe	Severe	Slight	Slight	Eastern white pine-	59	7	Eastern white pine, red pine, European larch.
								White spruce-------	45	7	
								Red spruce---------	46	7	
								Red pine-----------	59	6	
								Sugar maple--------	55	2	
Monadnock------	8R		Severe	Severe	Slight	Slight	Moderate	Eastern white pine-	63	8	Red pine, white spruce, eastern white pine.
								Northern red oak---	53	3	
								Red pine-----------	60	7	
								White spruce-------	55	9	
713B**:		IB									
Hermon---------	7S		Slight	Slight	Moderate	Slight	Slight	Eastern white pine-	59	7	Eastern white pine, red pine, European larch.
								White spruce-------	45	7	
								Red spruce---------	46	7	
								Red pine-----------	59	6	
								Sugar maple--------	55	2	
Waumbek--------	8A		Slight	Slight	Slight	Moderate	Moderate	Eastern white pine-	65	8	Eastern white pine, white spruce, balsam fir.
								White spruce-------	55	9	
								Sugar maple--------	55	2	
								Balsam fir---------	50	7	
								Paper birch--------	45	3	
								Paper birch--------	45	3	
								Red spruce---------	45	7	
713D**:		IB									
Hermon---------	7R		Moderate	Moderate	Moderate	Slight	Slight	Eastern white pine-	59	7	Eastern white pine, red pine, European larch.
								White spruce-------	45	7	
								Red spruce---------	46	7	
								Red pine-----------	59	6	
								Sugar maple--------	55	2	
Waumbek--------	8A		Slight	Slight	Slight	Moderate	Moderate	Eastern white pine-	65	8	Eastern white pine, white spruce, balsam fir.
								White spruce-------	55	9	
								Sugar maple--------	55	2	
								Balsam fir---------	50	7	
								Paper birch--------	45	3	
								Paper birch--------	45	3	
								Red spruce---------	45	7	
717**:		IIB									
Lyme-----------	8W		Slight	Severe	Moderate	Severe	Severe	Eastern white pine-	65	8	Eastern white pine, white spruce.
								Red spruce---------	50	8	
								Red maple----------	65	3	
								Balsam fir---------	50	8	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
717**:		IIB									
Peacham----------	3W		Slight	Severe	Severe	Severe	Severe	Red maple----------	60	3	
								Eastern white pine-	---	--	
								European alder-----	---	--	
								Red spruce---------	---	--	
								Northern whitecedar	---	--	
								Black spruce-------	---	--	
								Tamarack-----------	---	--	
719D**:		IB									
Marlow---------	8R		Moderate	Moderate	Slight	Moderate	Moderate	Eastern white pine-	66	8	Eastern white pine, white spruce, red pine.
								Balsam fir---------	58	8	
								Red spruce---------	48	7	
								Sugar maple--------	60	3	
								Red pine-----------	65	8	
								Yellow birch-------	60	3	
								Paper birch--------	65	5	
								White spruce-------	60	10	
								White ash----------	67	3	
								American beech-----	60	3	
								Northern red oak---	67	3	
								American basswood--	56	2	
Tunbridge------	3R		Moderate	Moderate	Moderate	Moderate	Slight	Sugar maple--------	60	3	Eastern white pine, red spruce, white spruce, balsam fir.
								Northern red oak---	---	--	
								Eastern white pine-	50	6	
								Red spruce---------	50	8	
								Yellow birch-------	55	2	
								Paper birch--------	---	--	
								White spruce-------	55	9	
								Balsam fir---------	---	--	
								White ash----------	65	3	
719E**:		IIA									
Marlow---------	8R		Severe	Severe	Slight	Moderate	Moderate	Eastern white pine-	66	8	Eastern white pine, white spruce, red pine.
								Balsam fir---------	58	8	
								Red spruce---------	48	7	
								Sugar maple--------	60	3	
								Red pine-----------	65	8	
								Yellow birch-------	60	3	
								Paper birch--------	65	5	
								White spruce-------	60	10	
								White ash----------	67	3	
								American beech-----	60	3	
								Northern red oak---	67	3	
								American basswood--	56	2	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
719E**:		IIA									
Tunbridge------	3R		Severe	Severe	Moderate	Moderate	Slight	Sugar maple--------	60	3	Eastern white pine, red spruce, white spruce, balsam fir.
								Northern red oak---	---	--	
								Eastern white pine-	50	6	
								Red spruce---------	50	8	
								Yellow birch-------	55	2	
								Paper birch--------	---	--	
								White spruce-------	55	9	
								Balsam fir---------	---	--	
								White ash----------	65	3	
720D**:		IIA									
Marlow---------	8R		Moderate	Moderate	Slight	Moderate	Moderate	Eastern white pine-	66	8	Eastern white pine, white spruce, red pine.
								Balsam fir---------	58	8	
								Red spruce---------	48	7	
								Sugar maple--------	60	3	
								Red pine-----------	65	8	
								Yellow birch-------	60	3	
								Paper birch--------	65	5	
								White spruce-------	60	10	
								White ash----------	67	3	
								American beech-----	60	3	
								Northern red oak---	67	3	
								American basswood--	56	2	
Lyman----------	2D		Moderate	Moderate	Moderate	Severe	Moderate	Sugar maple--------	50	2	White spruce, balsam fir, eastern white pine, red pine.
								White spruce-------	55	9	
								Balsam fir---------	60	8	
								Red spruce---------	40	6	
Rock outcrop.											
720E**:		IIA									
Marlow---------	8R		Severe	Severe	Slight	Moderate	Moderate	Eastern white pine-	66	8	Eastern white pine, white spruce, red pine.
								Balsam fir---------	58	8	
								Red spruce---------	48	7	
								Sugar maple--------	60	3	
								Red pine-----------	65	8	
								Yellow birch-------	60	3	
								Paper birch--------	65	5	
								White spruce-------	60	10	
								White ash----------	67	3	
								American beech-----	60	3	
								Northern red oak---	67	3	
								American basswood--	56	2	
Lyman----------	2R		Severe	Severe	Moderate	Severe	Moderate	Sugar maple--------	50	2	White spruce, balsam fir, eastern white pine, red pine.
								White spruce-------	55	9	
								Balsam fir---------	60	8	
								Red spruce---------	40	6	
Rock outcrop.											

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
721B**:		IA									
Peru-----------	8A		Slight	Slight	Slight	Moderate	Moderate	Eastern white pine-	67	8	Eastern white pine.
								Sugar maple--------	60	3	
								Northern red oak---	70	4	
								Red spruce---------	39	6	
								Balsam fir---------	55	8	
								White spruce-------	53	8	
								White ash----------	64	3	
								Red pine-----------	61	7	
								Yellow birch-------	60	3	
Marlow---------	8A		Slight	Slight	Slight	Moderate	Moderate	Eastern white pine-	66	8	Eastern white pine, white spruce, red pine.
								Balsam fir---------	58	8	
								Red spruce---------	48	7	
								Sugar maple--------	60	3	
								Red pine-----------	65	8	
								Yellow birch-------	60	3	
								Paper birch--------	65	5	
								White spruce-------	60	10	
								White ash----------	67	3	
								American beech-----	60	3	
								Northern red oak---	67	3	
								American basswood--	56	2	
722D**:		IA									
Marlow---------	8R		Moderate	Moderate	Slight	Moderate	Moderate	Eastern white pine-	66	8	Eastern white pine, white spruce, red pine.
								Balsam fir---------	58	8	
								Red spruce---------	48	7	
								Sugar maple--------	60	3	
								Red pine-----------	65	8	
								Yellow birch-------	60	3	
								Paper birch--------	65	5	
								White spruce-------	60	10	
								White ash----------	67	3	
								American beech-----	60	3	
								Northern red oak---	67	3	
								American basswood--	56	2	
Berkshire------	9X		Slight	Moderate	Slight	Slight	Slight	Eastern white pine-	72	9	Eastern white pine, balsam fir, white spruce, red pine.
								Sugar maple--------	52	2	
								Red spruce---------	50	8	
								White ash----------	62	3	
								Yellow birch-------	55	2	
								Paper birch--------	60	4	
								Balsam fir---------	60	8	
								White spruce-------	55	9	
								Red pine-----------	65	8	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
723B**:		IIB									
Peru	8A		Slight	Slight	Slight	Moderate	Moderate	Eastern white pine	67	8	Eastern white pine.
								Sugar maple	60	3	
								Northern red oak	70	4	
								Red spruce	39	6	
								Balsam fir	55	8	
								White spruce	53	8	
								White ash	64	3	
								Red pine	61	7	
								Yellow birch	60	3	
Pillsbury	7W		Slight	Severe	Moderate	Severe	Severe	Eastern white pine	60	7	Eastern white pine, white spruce.
								Northern red oak	60	3	
								Red spruce	47	7	
								Sugar maple	55	2	
								Balsam fir	51	7	
724B**:		IB									
Skerry	10A		Slight	Slight	Slight	Moderate	Moderate	Eastern white pine	80	10	Eastern white pine, white spruce.
								Sugar maple	60	3	
								White spruce	60	10	
								Balsam fir	57	8	
Tunbridge	3X		Slight	Slight	Slight	Moderate	Slight	Sugar maple	60	3	Eastern white pine, red spruce, white spruce, balsam fir.
								Northern red oak	---	--	
								Eastern white pine	50	6	
								Red spruce	50	8	
								Yellow birch	55	2	
								Paper birch	---	--	
								White spruce	55	9	
								Balsam fir	---	--	
								White ash	65	3	
726D**:		NR									
Rock outcrop.											
Lyman	2D		Moderate	Moderate	Moderate	Severe	Moderate	Sugar maple	50	2	White spruce, balsam fir, eastern white pine, red pine.
								White spruce	55	9	
								Balsam fir	60	8	
								Red spruce	40	6	
726E**:		NR									
Rock outcrop.											
Lyman	2R		Severe	Severe	Moderate	Severe	Moderate	Sugar maple	50	2	White spruce, balsam fir, eastern white pine, red pine.
								White spruce	55	9	
								Balsam fir	60	8	
								Red spruce	40	6	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
729B**:		IIB									
Waumbek--------	8A		Slight	Slight	Slight	Moderate	Moderate	Eastern white pine-	65	8	Eastern white pine, white spruce, balsam fir.
								White spruce-------	55	9	
								Sugar maple--------	55	2	
								Balsam fir---------	50	7	
								Paper birch--------	45	3	
								Paper birch--------	45	3	
								Red spruce---------	45	7	
Lyme-----------	8W		Slight	Severe	Moderate	Severe	Severe	Eastern white pine-	65	8	Eastern white pine, white spruce.
								Red spruce---------	50	8	
								Red maple----------	65	3	
								Balsam fir---------	50	8	
730B**:		IIA									
Skerry---------	10A		Slight	Slight	Slight	Moderate	Moderate	Eastern white pine-	80	10	Eastern white pine, white spruce.
								Sugar maple--------	60	3	
								White spruce-------	60	10	
								Balsam fir---------	57	8	
Lyman----------	2X		Slight	Slight	Moderate	Severe	Moderate	Sugar maple--------	50	2	White spruce, balsam fir, eastern white pine, red pine.
								White spruce-------	55	9	
								Balsam fir---------	60	8	
								Red spruce---------	40	6	
Rock outcrop.											
731**:		NR									
Peacham--------	3W		Slight	Severe	Severe	Severe	Severe	Red maple----------	60	3	
								Eastern white pine-	---	--	
								European alder-----	---	--	
								Red spruce---------	---	--	
								Northern whitecedar	---	--	
								Black spruce-------	---	--	
								Tamarack-----------	---	--	
Ossipee--------	2W		Slight	Severe	Severe	Severe	Severe	Black spruce-------	25	2	
								Tamarack-----------	---	--	
								Balsam fir---------	---	--	
								Yellow birch-------	---	--	
								Black ash----------	---	--	
734D**:		IIA									
Surplus--------	4R		Moderate	Moderate	Slight	Moderate	Severe	Balsam fir---------	30	4	Red spruce.
								Paper birch--------	---	--	
								Red spruce---------	30	4	
								American mountainash	---	--	

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
734D**:		IIA									
Sisk	4R		Moderate	Moderate	Slight	Moderate	Slight	Balsam fir	35	4	Red spruce.
								Paper birch	---	--	
								Red spruce	35	5	
								American mountainas	---	--	
735E**:		NR									
Saddleback	5R		Severe	Severe	Moderate	Severe	Moderate	Balsam fir	36	5	Red spruce, white spruce.
								Red spruce	35	5	
								Paper birch	45	3	
								Yellow birch	45	2	
								Mountain maple	---	--	
								Striped maple	---	--	
								Mountainash	---	--	
Ricker	2R		Severe	Severe	Severe	Severe	--------	Red spruce	20	2	
								Balsam fir	20	4	
								Yellow birch	---	--	
								Paper birch	---	--	
								Mountainash	---	--	
Rock outcrop.											
740D**:		IB									
Hermon	7R		Moderate	Moderate	Moderate	Slight	Slight	Eastern white pine	59	7	Eastern white pine, red pine, European larch.
								White spruce	45	7	
								Red spruce	46	7	
								Red pine	59	6	
								Sugar maple	55	2	
Redstone	8S		Moderate	Moderate	Moderate	Moderate	Moderate	Eastern white pine	65	8	Eastern white pine, red pine.
								Sugar maple	55	2	
								Red spruce	45	7	
								White spruce	55	9	
741D**:		IIA									
Redstone	8S		Moderate	Moderate	Moderate	Moderate	Moderate	Eastern white pine	65	8	Eastern white pine, red pine.
								Sugar maple	55	2	
								Red spruce	45	7	
								White spruce	55	9	
Canaan	7D		Moderate	Moderate	Moderate	Severe	Moderate	Red spruce	45	7	White spruce, eastern white pine, red pine, balsam fir.
								White spruce	55	9	
								Balsam fir	55	8	
								Sugar maple	50	2	
Rock outcrop.											

See footnote at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ratings: Ordination symbol	Ratings: Impt. Forest Soil Group	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
741E**:		IIA									
Redstone-------	8R		Severe	Severe	Moderate	Moderate	Moderate	Eastern white pine-	65	8	Eastern white pine, red pine.
								Sugar maple--------	55	2	
								Red spruce---------	45	7	
								White spruce-------	55	9	
Canaan---------	7R		Severe	Severe	Moderate	Severe	Moderate	Red spruce---------	45	7	White spruce, eastern white pine, red pine, balsam fir.
								White spruce-------	55	9	
								Balsam fir---------	55	8	
								Sugar maple--------	50	2	
Rock outcrop.											
819B**:		IB									
Peru-----------	8A		Slight	Slight	Slight	Moderate	Moderate	Eastern white pine-	67	8	Eastern white pine.
								Sugar maple--------	60	3	
								Northern red oak---	70	4	
								Red spruce---------	39	6	
								Balsam fir---------	55	8	
								White spruce-------	53	8	
								White ash----------	64	3	
								Red pine-----------	61	7	
								Yellow birch-------	60	3	
Tunbridge------	3A		Slight	Slight	Slight	Moderate	Slight	Sugar maple--------	60	3	Eastern white pine, red spruce, white spruce, balsam fir.
								Northern red oak---	---	--	
								Eastern white pine-	50	6	
								Red spruce---------	50	8	
								Yellow birch-------	55	2	
								Paper birch--------	---	--	
								White spruce-------	55	9	
								Balsam fir---------	---	--	
								White ash----------	65	3	

* Productivity class is the yield in cubic meters per hectare per year calculated at the age of culmination of mean annual increment for fully stocked natural stands.

** See description of the map unit for composition and behavior characteristics of the map unit.

Table 8.--Recreational Development

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated)

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
1-------------------- Occum	Severe: flooding.	Moderate: flooding.	Severe: flooding.	Moderate: flooding.	Severe: flooding.
2-------------------- Suncook	Severe: flooding.	Moderate: flooding, too sandy.	Severe: flooding.	Moderate: too sandy, flooding.	Severe: flooding.
4-------------------- Pootatuck	Severe: flooding.	Moderate: flooding, wetness.	Severe: flooding.	Moderate: wetness, flooding.	Severe: flooding.
5-------------------- Rippowam	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
8-------------------- Hadley	Severe: flooding.	Moderate: flooding.	Severe: flooding.	Slight----------	Severe: flooding.
9-------------------- Winooski	Severe: flooding.	Moderate: flooding, wetness.	Severe: flooding.	Slight----------	Severe: flooding.
15------------------- Searsport	Severe: small stones, ponding.	Severe: ponding, excess humus, small stones.	Severe: small stones, excess humus, ponding.	Severe: ponding, excess humus.	Severe: small stones, ponding, droughty.
22A, 22B------------- Colton	Moderate: small stones.	Moderate: small stones.	Severe: small stones.	Slight----------	Severe: small stones, droughty.
22C------------------ Colton	Moderate: small stones, slope.	Moderate: small stones, slope.	Severe: slope, small stones.	Slight----------	Severe: small stones, droughty.
22E------------------ Colton	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: small stones, droughty, slope.
24A------------------ Agawam	Slight----------	Slight----------	Slight----------	Slight----------	Slight.
24B------------------ Agawam	Slight----------	Slight----------	Moderate: slope.	Slight----------	Slight.
26A------------------ Windsor	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: droughty.
26B------------------ Windsor	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
26C: Windsor	Moderate: slope, too sandy.	Moderate: slope, too sandy.	Severe: slope.	Moderate: too sandy.	Moderate: droughty, slope.
26E: Windsor	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
27A: Groveton	Slight	Slight	Slight	Slight	Slight.
27B: Groveton	Slight	Slight	Moderate: slope.	Slight	Slight.
27C: Groveton	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
27E: Groveton	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
28A, 28B: Madawaska	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
36A: Adams	Slight	Slight	Slight	Slight	Severe: droughty.
36B: Adams	Slight	Slight	Moderate: slope.	Slight	Severe: droughty.
36C: Adams	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Severe: droughty.
36E: Adams	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, droughty.
56B: Becket	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope.	Slight	Moderate: small stones.
56C: Becket	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight	Moderate: small stones, slope.
56D: Becket	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
57B: Becket	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: large stones, slope.	Slight	Moderate: large stones.
57C: Becket	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight	Moderate: large stones, slope.
57D: Becket	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
57E: Becket	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.

See footnote at end of table.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
59B------------------- Waumbek	Moderate: large stones, wetness.	Moderate: wetness, large stones.	Severe: large stones, small stones.	Moderate: wetness.	Moderate: wetness, large stones.
59C------------------- Waumbek	Moderate: slope, large stones, wetness.	Moderate: slope, wetness, large stones.	Severe: large stones, slope, small stones.	Moderate: wetness, large stones.	Moderate: wetness, large stones, slope.
61B*:					
Tunbridge------------	Moderate: small stones.	Moderate: small stones.	Severe: large stones, small stones.	Slight----------	Moderate: small stones, large stones, droughty.
Lyman----------------	Severe: depth to rock.	Severe: depth to rock.	Severe: large stones, depth to rock.	Slight----------	Severe: depth to rock.
Rock outcrop.					
61C*:					
Tunbridge------------	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: large stones, slope, small stones.	Slight----------	Moderate: small stones, large stones, droughty.
Lyman----------------	Severe: depth to rock.	Severe: depth to rock.	Severe: large stones, slope, depth to rock.	Slight----------	Severe: depth to rock.
Rock outcrop.					
61D*:					
Tunbridge------------	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: slope.	Moderate: small stones, large stones, droughty.
Lyman----------------	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: large stones, slope, depth to rock.	Moderate: slope.	Severe: slope, depth to rock.
Rock outcrop.					
61E*:					
Tunbridge------------	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Severe: slope.	Moderate: small stones, large stones, droughty.
Lyman----------------	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: large stones, slope, depth to rock.	Severe: slope.	Severe: slope, depth to rock.

See footnote at end of table.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
61E*: Rock outcrop.					
62B------------------- Charlton	Slight----------	Slight----------	Moderate: slope, small stones.	Slight----------	Slight.
62C------------------- Charlton	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight----------	Moderate: slope.
62D------------------- Charlton	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
63B------------------- Charlton	Moderate: large stones.	Moderate: large stones.	Severe: large stones.	Slight----------	Moderate: large stones.
63C------------------- Charlton	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: large stones, slope.	Slight----------	Moderate: large stones, slope.
63D------------------- Charlton	Severe: slope.	Severe: slope.	Severe: large stones, slope.	Moderate: slope.	Severe: slope.
63E------------------- Charlton	Severe: slope.	Severe: slope.	Severe: large stones, slope.	Severe: slope.	Severe: slope.
72B------------------- Berkshire	Moderate: small stones.	Moderate: small stones.	Severe: small stones.	Slight----------	Moderate: small stones, large stones.
72C------------------- Berkshire	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Slight----------	Moderate: small stones, large stones, slope.
72D------------------- Berkshire	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
73B------------------- Berkshire	Moderate: large stones, small stones.	Moderate: large stones, small stones.	Severe: large stones.	Slight----------	Moderate: small stones, large stones.
73C------------------- Berkshire	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: large stones, slope.	Slight----------	Moderate: small stones, large stones.
73D------------------- Berkshire	Severe: slope.	Severe: slope.	Severe: large stones, slope.	Moderate: slope.	Severe: slope.

See footnote at end of table.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
73E------------------- Berkshire	Severe: slope.	Severe: slope.	Severe: large stones, slope.	Severe: slope.	Severe: slope.
76B------------------- Marlow	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, small stones.	Slight----------	Slight.
76C------------------- Marlow	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight----------	Moderate: slope.
76D------------------- Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
77B------------------- Marlow	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: large stones, slope.	Slight----------	Moderate: large stones.
77C------------------- Marlow	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight----------	Moderate: large stones, slope.
77D------------------- Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
77E------------------- Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
78B------------------- Peru	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, small stones, wetness.	Moderate: wetness.	Moderate: wetness.
78C------------------- Peru	Moderate: slope, wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Severe: slope.	Moderate: wetness.	Moderate: wetness, slope.
79B------------------- Peru	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: large stones, slope, wetness.	Moderate: wetness.	Moderate: large stones, wetness.
79C------------------- Peru	Moderate: slope, wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Severe: slope.	Moderate: wetness.	Severe: large stones, wetness, slope.
79D------------------- Peru	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: wetness, slope.	Severe: slope.

See footnote at end of table.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
90B*:					
Tunbridge	Slight	Slight	Moderate: slope, small stones.	Slight	Moderate: droughty.
Lyman	Severe: depth to rock.	Severe: depth to rock.	Severe: small stones, depth to rock.	Slight	Severe: depth to rock.
90C*:					
Tunbridge	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: droughty, slope.
Lyman	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, small stones, depth to rock.	Slight	Severe: depth to rock.
90D*:					
Tunbridge	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, small stones, depth to rock.	Moderate: slope.	Severe: slope, depth to rock.
101 Ondawa	Severe: flooding.	Moderate: flooding.	Severe: flooding.	Moderate: flooding.	Severe: flooding.
102 Sunday	Severe: flooding.	Moderate: flooding, too sandy.	Severe: flooding.	Moderate: too sandy, flooding.	Severe: droughty, flooding.
104 Podunk	Severe: flooding.	Moderate: flooding, wetness.	Severe: flooding.	Moderate: flooding, wetness.	Severe: flooding.
105 Rumney	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: flooding, wetness.
108 Hadley	Severe: flooding.	Slight	Moderate: flooding.	Slight	Moderate: flooding.
109 Limerick	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
114*:					
Walpole	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Binghamville	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, erodes easily.	Severe: wetness.

See footnote at end of table.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
130A------------------ Hitchcock	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: percs slowly.	Severe: erodes easily.	Slight.
130B------------------ Hitchcock	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, percs slowly.	Severe: erodes easily.	Slight.
130C------------------ Hitchcock	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Severe: erodes easily.	Moderate: slope.
130E------------------ Hitchcock	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, erodes easily.	Severe: slope.
132A------------------ Dartmouth	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Severe: erodes easily.	Moderate: wetness.
132B------------------ Dartmouth	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Severe: erodes easily.	Moderate: wetness.
173C------------------ Berkshire	Severe: large stones.	Severe: large stones.	Severe: large stones, slope.	Moderate: large stones.	Severe: large stones.
173D------------------ Berkshire	Severe: slope, large stones.	Severe: slope, large stones.	Severe: large stones, slope.	Moderate: large stones, slope.	Severe: large stones, slope.
173E------------------ Berkshire	Severe: slope, large stones.	Severe: slope, large stones.	Severe: large stones, slope.	Severe: slope.	Severe: large stones, slope.
201------------------- Ondawa	Severe: flooding.	Slight----------	Moderate: flooding.	Slight----------	Moderate: flooding.
254B*:					
Monadnock------------	Slight----------	Slight----------	Moderate: slope, small stones.	Slight----------	Slight.
Hermon---------------	Slight----------	Slight----------	Moderate: slope, small stones.	Slight----------	Severe: droughty.
254C*:					
Monadnock------------	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight----------	Moderate: slope.
Hermon---------------	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight----------	Severe: droughty, slope.

See footnote at end of table.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
254D*:					
Monadnock	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Hermon	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
255B*:					
Monadnock	Moderate: large stones.	Moderate: large stones.	Severe: small stones.	Slight	Moderate: large stones.
Hermon	Moderate: large stones, small stones.	Moderate: large stones, small stones.	Severe: large stones, small stones.	Moderate: large stones.	Severe: droughty, small stones, large stones.
255C*:					
Monadnock	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, small stones.	Slight	Moderate: large stones, slope.
Hermon	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: large stones, slope, small stones.	Moderate: large stones.	Severe: droughty, small stones, large stones.
255D*:					
Monadnock	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
Hermon	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: large stones, slope.	Severe: droughty, slope.
255E*:					
Monadnock	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
Hermon	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: slope.
295 Greenwood	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding.	Severe: ponding, excess humus.	Severe: ponding, excess humus.
298*. Pits					
299*. Udorthents					

See footnote at end of table.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
310A------------------ Quonset	Slight----------	Slight----------	Moderate: small stones.	Slight----------	Severe: droughty.
310B------------------ Quonset	Slight----------	Slight----------	Moderate: slope, small stones.	Slight----------	Severe: droughty.
310C------------------ Quonset	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight----------	Severe: droughty.
310E------------------ Quonset	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: droughty, slope.
313------------------- Deerfield	Moderate: too sandy, wetness.	, too sandy.	Moderate: slope, wetness.	Moderate: too sandy.	Moderate: wetness, droughty.
330B------------------ Bernardston	Moderate: small stones, wetness.	Moderate: wetness, small stones.	Severe: small stones.	Slight----------	Slight.
330C------------------ Bernardston	Moderate: slope, small stones, wetness.	Moderate: slope, wetness, small stones.	Severe: slope, small stones.	Slight----------	Moderate: slope.
330D------------------ Bernardston	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
331B------------------ Bernardston	Moderate: large stones, percs slowly.	Moderate: large stones, percs slowly.	Severe: large stones, small stones.	Slight----------	Moderate: large stones.
331C------------------ Bernardston	Moderate: large stones, percs slowly.	Moderate: large stones, percs slowly.	Severe: large stones, slope, small stones.	Slight----------	Moderate: large stones, slope.
331D------------------ Bernardston	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: slope.	Severe: slope.
331E------------------ Bernardston	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: slope.
334B------------------ Pittstown	Moderate: wetness.	Moderate: wetness.	Moderate: slope, wetness, small stones.	Moderate: wetness.	Slight.
334C------------------ Pittstown	Moderate: slope, wetness.	Moderate: slope, wetness.	Severe: slope.	Moderate: wetness.	Moderate: slope.

See footnote at end of table.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
336B------------------ Pittstown	Moderate: large stones, wetness.	Moderate: large stones, wetness.	Severe: large stones, small stones.	Moderate: wetness.	Moderate: large stones, small stones.
336C------------------ Pittstown	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, large stones, small stones.	Moderate: wetness.	Moderate: slope, large stones.
336D------------------ Pittstown	Severe: slope.	Severe: slope.	Severe: slope, large stones, small stones.	Moderate: slope, wetness.	Severe: slope.
341A, 341B------------ Stissing	Severe: wetness.	Severe: wetness.	Severe: large stones, small stones.	Severe: wetness.	Severe: wetness.
347A*, 347B*:					
Lyme-----------------	Severe: wetness.	Severe: wetness.	Severe: small stones, wetness.	Severe: wetness.	Severe: wetness.
Moosilauke-----------	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
355C------------------ Hermon	Severe: large stones.	Severe: large stones.	Severe: large stones, slope, small stones.	Moderate: large stones.	Severe: large stones, droughty.
355D------------------ Hermon	Severe: slope, large stones.	Severe: slope, large stones.	Severe: large stones, slope, small stones.	Moderate: large stones, slope.	Severe: large stones, droughty, slope.
355E------------------ Hermon	Severe: slope, large stones.	Severe: slope, large stones.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: large stones, droughty, slope.
360B*:					
Cardigan-------------	Slight----------	Slight----------	Moderate: slope, depth to rock.	Severe: erodes easily.	Moderate: thin layer.
Kearsarge------------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: erodes easily.	Severe: thin layer.
360C*:					
Cardigan-------------	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: erodes easily.	Moderate: slope, thin layer.
Kearsarge------------	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: erodes easily.	Severe: thin layer.

See footnote at end of table.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
360D*:					
Cardigan	Severe: slope.	Severe: slope.	Severe: slope.	Severe: erodes easily.	Severe: slope.
Kearsarge	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: erodes easily.	Severe: slope, thin layer.
361B*:					
Cardigan	Moderate: large stones.	Moderate: large stones.	Severe: small stones.	Slight	Moderate: small stones, large stones, thin layer.
Kearsarge	Severe: depth to rock.	Severe: depth to rock.	Severe: small stones, depth to rock.	Slight	Severe: thin layer.
Rock outcrop.					
361C*:					
Cardigan	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope, small stones.	Slight	Moderate: small stones, large stones, slope.
Kearsarge	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, small stones.	Slight	Severe: thin layer.
361D*:					
Cardigan	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
Kearsarge	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, small stones.	Moderate: slope.	Severe: slope, thin layer.
Rock outcrop.					
361E*:					
Cardigan	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
Kearsarge	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, small stones.	Severe: slope.	Severe: slope, thin layer.
Rock outcrop.					
395 Chocorua	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding.	Severe: ponding, excess humus.	Severe: ponding, excess humus.

See footnote at end of table.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
398*. Pits					
401 Occum	Severe: flooding.	Slight	Moderate: flooding.	Slight	Moderate: flooding.
406 Medomak	Severe: flooding, ponding.	Severe: ponding.	Severe: ponding, flooding.	Severe: ponding.	Severe: ponding, flooding.
534 Binghamville	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, erodes easily.	Severe: wetness.
558B Skerry	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, small stones, percs slowly.	Moderate: wetness.	Moderate: small stones, wetness.
559B Skerry	Moderate: large stones, wetness.	Moderate: wetness, large stones.	Moderate: large stones, slope.	Moderate: wetness.	Moderate: large stones, wetness.
559C Skerry	Moderate: slope, large stones, wetness.	Moderate: slope, wetness, large stones.	Severe: slope.	Moderate: wetness.	Moderate: large stones, wetness, slope.
559D Skerry	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: wetness, slope.	Severe: slope.
613 Croghan	Moderate: wetness.	Moderate: wetness.	Moderate: slope, wetness.	Moderate: wetness.	Severe: droughty.
614 Kinsman	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.
632A Nicholville	Slight	Slight	Slight	Slight	Slight.
632B Nicholville	Slight	Slight	Moderate: slope.	Slight	Slight.
633 Pemi	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, erodes easily.	Severe: wetness.
647A, 647B Pillsbury	Severe: wetness.	Severe: wetness.	Severe: small stones, wetness.	Severe: wetness.	Severe: wetness.

See footnote at end of table.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
701B*:					
Becket	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: large stones, slope.	Slight	Moderate: large stones.
Skerry	Moderate: large stones, wetness.	Moderate: wetness, large stones.	Moderate: large stones, slope.	Moderate: wetness.	Moderate: large stones, wetness.
703D*:					
Becket	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Monadnock	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
703E*:					
Becket	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Monadnock	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
709D*:					
Becket	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Tunbridge	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Severe: large stones.	Severe: large stones.
709E*:					
Becket	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Tunbridge	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Severe: large stones, slope.	Severe: large stones.
710D*:					
Becket	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: large stones, slope, depth to rock.	Moderate: slope.	Severe: slope, depth to rock.
Rock outcrop.					

See footnote at end of table.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
710E*:					
Becket	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: large stones, slope, depth to rock.	Severe: slope.	Severe: slope, depth to rock.
Rock outcrop.					
711B*:					
Monadnock	Moderate: large stones.	Moderate: large stones.	Severe: small stones.	Slight	Moderate: large stones.
Hermon	Moderate: large stones, small stones.	Moderate: large stones, small stones.	Severe: large stones, small stones.	Moderate: large stones.	Severe: droughty.
711D*:					
Monadnock	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Moderate: slope.	Severe: slope.
Hermon	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: large stones, slope.	Severe: droughty, slope.
711E*:					
Monadnock	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope.
Hermon	Severe: slope, large stones.	Severe: slope, large stones.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: large stones, droughty, slope.
712B*:					
Hermon	Severe: large stones.	Severe: large stones.	Severe: large stones, small stones.	Moderate: large stones.	Severe: large stones, droughty.
Monadnock	Severe: large stones.	Severe: large stones.	Severe: large stones, small stones.	Moderate: large stones.	Severe: large stones.
712D*:					
Hermon	Severe: slope, large stones.	Severe: slope, large stones.	Severe: large stones, slope, small stones.	Moderate: large stones, slope.	Severe: large stones, droughty, slope.
Monadnock	Severe: slope, large stones.	Severe: slope, large stones.	Severe: large stones, slope, small stones.	Moderate: large stones, slope.	Severe: large stones, slope.

See footnote at end of table.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
712E*:					
Hermon	Severe: slope, large stones.	Severe: slope, large stones.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: large stones, droughty, slope.
Monadnock	Severe: slope, large stones.	Severe: slope, large stones.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: large stones, slope.
713B*:					
Hermon	Moderate: large stones, small stones.	Moderate: large stones, small stones.	Severe: large stones, small stones.	Moderate: large stones.	Severe: droughty.
Waumbek	Moderate: large stones, wetness.	Moderate: wetness, large stones.	Severe: large stones, small stones.	Moderate: wetness.	Moderate: wetness, large stones.
713D*:					
Hermon	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: large stones, slope.	Severe: droughty, slope.
Waumbek	Moderate: slope, large stones, wetness.	Moderate: slope, wetness, large stones.	Severe: large stones, slope, small stones.	Moderate: wetness.	Moderate: wetness, large stones, slope.
717*:					
Lyme	Severe: wetness.	Severe: wetness.	Severe: small stones, wetness.	Severe: wetness.	Severe: wetness.
Peacham	Severe: ponding, percs slowly.	Severe: ponding, excess humus.	Severe: large stones, excess humus, ponding.	Severe: ponding, excess humus.	Severe: large stones, ponding, excess humus.
719D*:					
Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Tunbridge	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Severe: large stones.	Severe: large stones.
719E*:					
Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Tunbridge	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Severe: large stones, slope.	Severe: large stones.

See footnote at end of table.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
720D*:					
Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: large stones, slope, depth to rock.	Moderate: slope.	Severe: slope, depth to rock.
Rock outcrop.					
720E*:					
Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: large stones, slope, depth to rock.	Severe: slope.	Severe: slope, depth to rock.
Rock outcrop.					
721B*:					
Peru	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: large stones, slope, wetness.	Moderate: wetness.	Moderate: large stones, wetness.
Marlow	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: large stones, slope.	Slight	Moderate: large stones.
722D*:					
Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Berkshire	Severe: slope, large stones.	Severe: slope, large stones.	Severe: large stones, slope, small stones.	Moderate: large stones, slope.	Severe: large stones, slope.
723B*:					
Peru	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: large stones, slope, wetness.	Moderate: wetness.	Moderate: large stones, wetness.
Pillsbury	Severe: wetness.	Severe: wetness.	Severe: small stones, wetness.	Severe: wetness.	Severe: wetness.
724B*:					
Skerry	Moderate: large stones, wetness.	Moderate: wetness, large stones.	Moderate: large stones, slope.	Moderate: wetness.	Moderate: large stones, wetness.
Tunbridge	Moderate: small stones.	Moderate: small stones.	Severe: large stones, small stones.	Severe: large stones.	Severe: large stones.

See footnote at end of table.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
726D*:					
Rock outcrop.					
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: large stones, slope, depth to rock.	Moderate: slope.	Severe: slope, depth to rock.
726E*:					
Rock outcrop.					
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: large stones, slope, depth to rock.	Severe: slope.	Severe: slope, depth to rock.
727*.					
Rubble land					
729B*:					
Waumbek	Moderate: large stones, wetness.	Moderate: wetness, large stones.	Severe: large stones, small stones.	Moderate: wetness.	Moderate: wetness, large stones.
Lyme	Severe: wetness.	Severe: wetness.	Severe: small stones, wetness.	Severe: wetness.	Severe: wetness.
730B*:					
Skerry	Moderate: large stones, wetness.	Moderate: wetness, large stones.	Moderate: large stones, slope.	Moderate: wetness.	Moderate: large stones, wetness.
Lyman	Severe: depth to rock, large stones.	Severe: large stones, depth to rock.	Severe: large stones, depth to rock.	Slight	Severe: depth to rock.
Rock outcrop.					
731*:					
Peacham	Severe: ponding, percs slowly.	Severe: ponding, excess humus.	Severe: large stones, excess humus, ponding.	Severe: ponding, excess humus.	Severe: large stones, ponding, excess humus.
Ossipee	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding.	Severe: ponding, excess humus.	Severe: ponding, excess humus.
734D*:					
Surplus	Severe: slope, wetness.	Severe: slope, percs slowly.	Severe: large stones, slope, small stones.	Moderate: wetness, slope.	Severe: slope.
Sisk	Severe: slope, percs slowly.	Severe: slope, percs slowly.	Severe: large stones, slope, percs slowly.	Moderate: slope.	Severe: slope.

See footnote at end of table.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
735E*:					
Saddleback	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, small stones, depth to rock.	Severe: slope.	Severe: slope, depth to rock.
Ricker	Severe: slope, excess humus, depth to rock.	Severe: slope, excess humus, depth to rock.	Severe: slope, excess humus, depth to rock.	Severe: excess humus, slope, fragile.	Severe: slope, thin layer, excess humus.
Rock outcrop.					
740D*:					
Hermon	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: large stones, slope.	Severe: droughty, slope.
Redstone	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: slope.	Severe: slope.
741D*:					
Redstone	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Moderate: slope.	Severe: slope.
Canaan	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: large stones, slope, small stones.	Moderate: slope.	Severe: droughty, slope.
Rock outcrop.					
741E*:					
Redstone	Severe: slope.	Severe: slope.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: slope.
Canaan	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: large stones, slope, small stones.	Severe: slope.	Severe: droughty, slope.
Rock outcrop.					
819B*:					
Peru	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: large stones, slope, wetness.	Moderate: wetness.	Moderate: large stones, wetness.

See footnote at end of table.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
819B*:					
Tunbridge------------	Moderate: small stones.	Moderate: small stones.	Severe: large stones, small stones.	Severe: large stones.	Severe: large stones.
W*. Water					

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 9.--Wildlife Habitat

(See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated)

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
1 Occum	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
2 Suncook	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
4 Pootatuck	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor.
5 Rippowam	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
8 Hadley	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
9 Winooski	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor.
15 Searsport	Very poor.	Poor	Poor	Poor	Poor	Good	Fair	Poor	Poor	Fair.
22A, 22B, 22C Colton	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
22E Colton	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
24A Agawam	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
24B Agawam	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
26A, 26B, 26C Windsor	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
26E Windsor	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
27A Groveton	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
27B Groveton	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
27C Groveton	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

Table 9.--Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
27E: Groveton	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Very poor.	Good	Very poor.
28A: Madawaska	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
28B: Madawaska	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
36A, 36B, 36C: Adams	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
36E: Adams	Very poor.	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
56B: Becket	Fair	Good	Good	Fair	Fair	Poor	Very poor.	Good	Fair	Very poor.
56C: Becket	Fair	Good	Good	Fair	Fair	Very poor.	Very poor.	Good	Fair	Very poor.
56D: Becket	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
57B, 57C, 57D, 57E: Becket	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
59B: Waumbek	Very poor.	Poor	Fair	Good	Good	Poor	Very poor.	Poor	Fair	Very poor.
59C: Waumbek	Very poor.	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
61B*:										
Tunbridge	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
Lyman	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										
61C*, 61D*:										
Tunbridge	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Lyman	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										
61E*:										
Tunbridge	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.

See footnote at end of table.

Table 9.--Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
61E*:										
Lyman	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										
62B: Charlton	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
62C: Charlton	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
62D: Charlton	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
63B: Charlton	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
63C, 63D, 63E: Charlton	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
72B: Berkshire	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
72C: Berkshire	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
72D: Berkshire	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
73B: Berkshire	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
73C, 73D, 73E: Berkshire	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
76B: Marlow	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
76C: Marlow	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
76D: Marlow	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
77B: Marlow	Poor	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
77C, 77D: Marlow	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
77E: Marlow	Very poor.	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
78B: Peru	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

See footnote at end of table.

Table 9.--Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
78C-------- Peru	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
79B-------- Peru	Poor	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
79C, 79D-------- Peru	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
90B*:										
Tunbridge--------	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Lyman--------	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
90C*:										
Tunbridge--------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Lyman--------	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
90D*:										
Tunbridge--------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Lyman--------	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
101-------- Ondawa	Poor	Fair	Fair	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
102-------- Sunday	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
104-------- Podunk	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor.
105-------- Rumney	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
108-------- Hadley	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
109-------- Limerick	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
114*:										
Walpole--------	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Binghamville--------	Poor	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair	Fair.
130A-------- Hitchcock	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

See footnote at end of table.

Table 9.--Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
130B--------------- Hitchcock	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
130C--------------- Hitchcock	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
130E--------------- Hitchcock	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
132A--------------- Dartmouth	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
132B--------------- Dartmouth	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
173C, 173D, 173E--- Berkshire	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
201---------------- Ondawa	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
254B*:										
Monadnock---------	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Hermon------------	Fair	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
254C*:										
Monadnock---------	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Hermon------------	Fair	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
254D*:										
Monadnock---------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Hermon------------	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
255B*:										
Monadnock---------	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
Hermon------------	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
255C*, 255D*, 255E*:										
Monadnock--------	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Hermon-----------	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.

See footnote at end of table.

Table 9.--Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
295---------------- Greenwood	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
298*. Pits										
299*. Udorthents										
310A, 310B, 310C--- Quonset	Poor	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
310E--------------- Quonset	Very poor.	Poor	Poor	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
313---------------- Deerfield	Poor	Fair	Fair	Poor	Poor	Poor	Poor	Fair	Poor	Poor.
330B--------------- Bernardston	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
330C--------------- Bernardston	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
330D--------------- Bernardston	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
331B--------------- Bernardston	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
331C, 331D, 331E--- Bernardston	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
334B--------------- Pittstown	Fair	Good	Good	Fair	Fair	Poor	Very poor.	Good	Fair	Very poor.
334C--------------- Pittstown	Fair	Good	Good	Fair	Fair	Very poor.	Very poor.	Good	Fair	Very poor.
336B--------------- Pittstown	Very poor.	Poor	Good	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
336C, 336D--------- Pittstown	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
341A--------------- Stissing	Very poor.	Poor	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.
341B--------------- Stissing	Very poor.	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
347A*:										
Lyme--------------	Very poor.	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
Moosilauke--------	Very poor.	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.

See footnote at end of table.

Table 9.--Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
347B*:										
Lyme	Very poor.	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
Moosilauke	Very poor.	Poor	Fair	Fair	Fair	Fair	Very poor.	Poor	Fair	Very poor.
355C, 355D, 355E Hermon	Very poor.	Very poor.	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
360B*, 360C*:										
Cardigan	Fair	Fair	Good	Good	Good	Poor	Very poor.	Fair	Fair	Very poor.
Kearsarge	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
360D*:										
Cardigan	Poor	Poor	Good	Good	Good	Very poor.	Very poor.	Fair	Fair	Very poor.
Kearsarge	Poor	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
361B*:										
Cardigan	Poor	Poor	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Kearsarge	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Rock outcrop.										
361C*:										
Cardigan	Poor	Poor	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Kearsarge	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
361D*, 361E*:										
Cardigan	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Kearsarge	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Rock outcrop.										
395 Chocorua	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
398*. Pits										

See footnote at end of table.

Table 9.--Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
401 Occum	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
406 Medomak	Very poor.	Poor	Poor	Poor	Poor	Good	Fair	Poor	Poor	Fair.
534 Binghamville	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
558B Skerry	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
559B Skerry	Very poor.	Poor	Good	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
559C, 559D Skerry	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
613 Croghan	Poor	Fair	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor.
614 Kinsman	Poor	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair	Fair.
632A Nicholville	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
632B Nicholville	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
633 Pemi	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
647A Pillsbury	Very poor.	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
647B Pillsbury	Very poor.	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
701B*:										
Becket	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Skerry	Very poor.	Poor	Good	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
703D*, 703E*:										
Becket	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Monadnock	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.

See footnote at end of table.

Table 9.--Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
709D*, 709E*:										
Becket	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Tunbridge	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
710D*, 710E*:										
Becket	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Lyman	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										
711B*:										
Monadnock	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
Hermon	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
711D*:										
Monadnock	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Hermon	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
711E*:										
Monadnock	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Hermon	Very poor.	Very poor.	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
712B*:										
Hermon	Very poor.	Very poor.	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Monadnock	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor	Very poor.	Poor	Very poor.	Very poor.
712D*, 712E*:										
Hermon	Very poor.	Very poor.	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Monadnock	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.
713B*:										
Hermon	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Waumbek	Very poor.	Poor	Fair	Good	Good	Poor	Very poor.	Poor	Fair	Very poor.

See footnote at end of table.

Table 9.--Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
713D*:										
Hermon	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Waumbek	Very poor.	Poor	Fair	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
717*:										
Lyme	Very poor.	Poor	Fair	Fair	Fair	Good	Good	Poor	Fair	Good.
Peacham	Very poor.	Poor	Poor	Poor	Poor	Good	Poor	Poor	Poor	Fair.
719D*:										
Marlow	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Tunbridge	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
719E*:										
Marlow	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Tunbridge	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
720D*:										
Marlow	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Lyman	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										
720E*:										
Marlow	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Lyman	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										
721B*:										
Peru	Poor	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
Marlow	Poor	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.

See footnote at end of table.

Table 9.--Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
722D*:										
Marlow	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Berkshire	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
723B*:										
Peru	Poor	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
Pillsbury	Very poor.	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
724B*:										
Skerry	Very poor.	Poor	Good	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
Tunbridge	Very poor.	Very poor.	Good	Good	Good	Poor	Very poor.	Poor	Fair	Very poor.
726D*, 726E*:										
Rock outcrop.										
Lyman	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
727*.										
Rubble land										
729B*:										
Waumbek	Very poor.	Poor	Fair	Good	Good	Poor	Very poor.	Poor	Fair	Very poor.
Lyme	Very poor.	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
730B*:										
Skerry	Very poor.	Poor	Good	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
Lyman	Very poor.	Very poor.	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										
731*:										
Peacham	Very poor.	Poor	Poor	Poor	Poor	Good	Poor	Poor	Poor	Fair.
Ossipee	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.

See footnote at end of table.

Table 9.--Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
734D*:										
Surplus	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Fair	Fair	Very poor.
Sisk	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
735E*:										
Saddleback	Very poor.	Poor	Fair	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Ricker	Very poor.	Very poor.	Poor	Poor	Poor	Very poor.	Very poor.	Very poor.	Poor	Very poor.
Rock outcrop.										
740D*:										
Hermon	Very poor.	Poor	Good	Fair	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
Redstone	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
741D*, 741E*:										
Redstone	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Canaan	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										
819B*:										
Peru	Poor	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
Tunbridge	Very poor.	Very poor.	Good	Good	Good	Poor	Very poor.	Poor	Fair	Very poor.

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 10.--Building Site Development

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
1----------------- Occum	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.
2----------------- Suncook	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.
4----------------- Pootatuck	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Severe: flooding.
5----------------- Rippowam	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding, frost action.	Severe: wetness, flooding.
8----------------- Hadley	Moderate: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding, frost action.	Severe: flooding.
9----------------- Winooski	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding, frost action.	Severe: flooding.
15---------------- Searsport	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: small stones, ponding.
22A--------------- Colton	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Severe: small stones, droughty.
22B--------------- Colton	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Severe: small stones, droughty.
22C--------------- Colton	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Severe: small stones, droughty.
22E--------------- Colton	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: small stones, droughty, slope.
24A--------------- Agawam	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Slight.
24B--------------- Agawam	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Slight.

Table 10.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
26A--------------- Windsor	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Moderate: droughty.
26B--------------- Windsor	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Moderate: droughty.
26C--------------- Windsor	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: droughty, slope.
26E--------------- Windsor	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
27A--------------- Groveton	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Slight.
27B--------------- Groveton	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Slight.
27C--------------- Groveton	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
27E--------------- Groveton	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
28A, 28B---------- Madawaska	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness, frost action.	Moderate: wetness, droughty.
36A--------------- Adams	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Severe: droughty.
36B--------------- Adams	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Severe: droughty.
36C--------------- Adams	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Severe: droughty.
36E--------------- Adams	Severe: slope, cutbanks cave.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, droughty.
56B--------------- Becket	Moderate: wetness.	Slight---------	Moderate: wetness.	Moderate: slope.	Moderate: frost action.	Moderate: small stones.
56C--------------- Becket	Moderate: wetness, slope.	Moderate: slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: small stones, slope.
56D--------------- Becket	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
57B--------------- Becket	Moderate: wetness.	Slight---------	Moderate: wetness.	Moderate: slope.	Moderate: frost action.	Moderate: large stones.

Table 10.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
57C-------------- Becket	Moderate-------	Moderate: slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: large stones, slope.
57D, 57E---------- Becket	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
59B-------------- Waumbek	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Moderate: wetness, frost action.	Moderate: wetness, large stones.
59C-------------- Waumbek	Severe: cutbanks cave, wetness.	Moderate: wetness, slope.	Severe: wetness.	Severe: slope.	Moderate: wetness, slope, frost action.	Moderate: wetness, large stones, slope.
61B*:						
Tunbridge--------	Severe: depth to rock.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: slope, depth to rock.	Moderate: depth to rock, frost action.	Moderate: small stones, large stones, droughty.
Lyman------------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.
Rock outcrop.						
61C*:						
Tunbridge--------	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Moderate: depth to rock, slope, frost action.	Moderate: small stones, large stones, droughty.
Lyman------------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock.	Severe: depth to rock.
Rock outcrop.						
61D*, 61E*:						
Tunbridge--------	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Moderate: small stones, large stones, droughty.
Lyman------------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: slope, depth to rock.
Rock outcrop.						
62B-------------- Charlton	Slight---------	Slight---------	Slight---------	Moderate: slope.	Slight---------	Slight.
62C-------------- Charlton	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.

See footnote at end of table.

Table 10.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
62D: Charlton	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
63B: Charlton	Slight	Slight	Slight	Moderate: slope.	Slight	Moderate: large stones.
63C: Charlton	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: large stones, slope.
63D, 63E: Charlton	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
72B: Berkshire	Slight	Slight	Slight	Moderate: slope.	Moderate: frost action.	Moderate: small stones, large stones.
72C: Berkshire	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: small stones, large stones, slope.
72D: Berkshire	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
73B: Berkshire	Slight	Slight	Slight	Moderate: slope.	Moderate: frost action.	Moderate: small stones, large stones.
73C: Berkshire	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: small stones, large stones.
73D, 73E: Berkshire	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
76B: Marlow	Moderate: dense layer, wetness.	Slight	Moderate: wetness.	Moderate: slope.	Moderate: frost action.	Slight.
76C: Marlow	Moderate: dense layer, slope, wetness.	Moderate: slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: frost action.	Moderate: slope.
76D: Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
77B: Marlow	Moderate: dense layer, wetness.	Slight	Moderate: wetness.	Moderate: slope.	Moderate: frost action.	Moderate: large stones.
77C: Marlow	Moderate: dense layer, wetness, slope.	Moderate: slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: large stones, slope.

See footnote at end of table.

Table 10.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
77D, 77E----------Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
78B---------------Peru	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Moderate: wetness.
78C---------------Peru	Severe: wetness.	Moderate: wetness, slope.	Severe: wetness.	Severe: slope.	Severe: frost action.	Moderate: wetness, slope.
79B---------------Peru	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Moderate: large stones, wetness.
79C---------------Peru	Severe: wetness.	Moderate: wetness, slope.	Severe: wetness.	Severe: slope.	Severe: frost action.	Severe: large stones, wetness, slope.
79D---------------Peru	Severe: wetness, slope.	Severe: slope.	Severe: wetness, slope.	Severe: slope.	Severe: slope, frost action.	Severe: slope.
90B*:						
Tunbridge--------	Severe: depth to rock.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: slope, depth to rock.	Moderate: depth to rock, frost action.	Moderate: droughty.
Lyman------------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.
90C*:						
Tunbridge--------	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Moderate: depth to rock, slope, frost action.	Moderate: droughty, slope.
Lyman------------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock.	Severe: depth to rock.
90D*:						
Tunbridge--------	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Severe: slope.
Lyman------------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: slope, depth to rock.
101---------------Ondawa	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.
102---------------Sunday	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: droughty, flooding.

See footnote at end of table.

Table 10.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
104 Podunk	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding, frost action.	Severe: flooding.
105 Rumney	Severe: wetness, cutbanks cave.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness, frost action.	Severe: flooding, wetness.
108 Hadley	Moderate: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding, frost action.	Moderate: flooding.
109 Limerick	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding, frost action.	Severe: wetness, flooding.
114*:						
Walpole	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
Binghamville	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
130A Hitchcock	Slight	Slight	Slight	Slight	Severe: frost action.	Slight.
130B Hitchcock	Slight	Slight	Slight	Moderate: slope.	Severe: frost action.	Slight.
130C Hitchcock	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Severe: frost action.	Moderate: slope.
130E Hitchcock	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, frost action.	Severe: slope.
132A Dartmouth	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Severe: frost action.	Moderate: wetness.
132B Dartmouth	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: slope, wetness.	Severe: frost action.	Moderate: wetness.
173C Berkshire	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Severe: large stones.
173D, 173E Berkshire	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: large stones, slope.
201 Ondawa	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding.

See footnote at end of table.

Table 10.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
254B*:						
Monadnock	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Slight.
Hermon	Severe: cutbanks cave.	Moderate: large stones.	Moderate: large stones.	Moderate: slope, large stones.	Moderate: large stones.	Moderate: droughty.
254C*:						
Monadnock	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
Hermon	Severe: cutbanks cave.	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope.	Moderate: slope, large stones.	Moderate: slope.
254D*:						
Monadnock	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Hermon	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
255B*:						
Monadnock	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: large stones.
Hermon	Severe: cutbanks cave.	Moderate: large stones.	Moderate: large stones.	Moderate: slope, large stones.	Moderate: large stones.	Moderate: droughty, small stones, large stones.
255C*:						
Monadnock	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: large stones, slope.
Hermon	Severe: cutbanks cave.	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope.	Moderate: slope, large stones.	Moderate: droughty, small stones, large stones.
255D*, 255E*:						
Monadnock	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Hermon	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
295 Greenwood	Severe: excess humus, ponding.	Severe: ponding, low strength.	Severe: ponding, low strength.	Severe: ponding, low strength.	Severe: ponding, excess humus.	Severe: ponding, excess humus.

See footnote at end of table.

Table 10.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
298*. Pits						
299*. Udorthents						
310A-------------- Quonset	Severe: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Severe: droughty.
310B-------------- Quonset	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Severe: droughty.
310C-------------- Quonset	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Severe: droughty.
310E-------------- Quonset	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: droughty, slope.
313--------------- Deerfield	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, frost action.	Moderate: wetness, droughty.
330B-------------- Bernardston	Moderate: dense layer, wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, slope.	Moderate: wetness, frost action.	Slight.
330C-------------- Bernardston	Moderate: dense layer, wetness, slope.	Moderate: wetness, slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: wetness, slope, frost action.	Moderate: slope.
330D-------------- Bernardston	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
331B-------------- Bernardston	Moderate: dense layer, wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, slope.	Moderate: wetness, frost action.	Moderate: large stones.
331C-------------- Bernardston	Moderate: dense layer, wetness, slope.	Moderate: wetness, slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: wetness, slope, frost action.	Moderate: large stones, slope.
331D, 331E-------- Bernardston	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
334B-------------- Pittstown	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: slope, wetness.	Moderate: wetness, frost action.	Slight.
334C-------------- Pittstown	Severe: wetness.	Moderate: slope, wetness.	Severe: wetness.	Severe: slope.	Moderate: wetness, slope, frost action.	Moderate: slope.

See footnote at end of table.

Table 10.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
336B------------- Pittstown	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: slope, wetness.	Moderate: wetness, frost action.	Moderate: large stones, small stones.
336C------------- Pittstown	Severe: wetness.	Moderate: slope, wetness.	Severe: wetness.	Severe: slope.	Moderate: wetness, slope, frost action.	Moderate: slope, large stones.
336D------------- Pittstown	Severe: slope, wetness.	Severe: slope.	Severe: slope, wetness.	Severe: slope.	Severe: slope.	Severe: slope.
341A, 341B-------- Stissing	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
347A*, 347B*:						
Lyme-------------	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
Moosilauke-------	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
355C------------- Hermon	Severe: cutbanks cave.	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope.	Moderate: slope, large stones.	Severe: large stones, droughty.
355D, 355E-------- Hermon	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: large stones, droughty, slope.
360B*:						
Cardigan---------	Severe: depth to rock.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: slope, depth to rock.	Moderate: depth to rock, frost action.	Moderate: thin layer.
Kearsarge--------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: thin layer.
360C*:						
Cardigan---------	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Moderate: depth to rock, slope, frost action.	Moderate: slope, thin layer.
Kearsarge--------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: thin layer.

See footnote at end of table.

Table 10.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
360D*:						
Cardigan	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Severe: slope.
Kearsarge	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, thin layer.
361B*:						
Cardigan	Severe: depth to rock.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: slope, depth to rock.	Moderate: depth to rock, frost action.	Moderate: small stones, large stones, thin layer.
Kearsarge	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: thin layer.
Rock outcrop.						
361C*:						
Cardigan	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Moderate: depth to rock, slope, frost action.	Moderate: small stones, large stones, slope.
Kearsarge	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: thin layer.
361D*, 361E*:						
Cardigan	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Severe: slope.
Kearsarge	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, thin layer.
Rock outcrop.						
395 Chocorua	Severe: cutbanks cave, excess humus, ponding.	Severe: ponding, shrink-swell, low strength.	Severe: ponding.	Severe: ponding, shrink-swell, low strength.	Severe: low strength, ponding, frost action.	Severe: ponding, excess humus.
398*. Pits						
401 Occum	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding.
406 Medomak	Severe: cutbanks cave, ponding.	Severe: flooding, ponding.	Severe: flooding, ponding.	Severe: flooding, ponding.	Severe: ponding, flooding, frost action.	Severe: ponding, flooding.

See footnote at end of table.

Table 10.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
534--------------- Binghamville	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
558B-------------- Skerry	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Moderate: small stones, wetness.
559B-------------- Skerry	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Moderate: large stones, wetness.
559C-------------- Skerry	Severe: wetness.	Moderate: wetness, slope.	Severe: wetness.	Severe: slope.	Severe: frost action.	Moderate: large stones, wetness, slope.
559D-------------- Skerry	Severe: wetness, slope.	Severe: slope.	Severe: wetness, slope.	Severe: slope.	Severe: slope, frost action.	Severe: slope.
613--------------- Croghan	Severe: wetness, cutbanks cave.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: frost action, wetness.	Severe: droughty.
614--------------- Kinsman	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.
632A, 632B-------- Nicholville	Severe: wetness.	Severe: frost action.	Severe: wetness.	Severe: frost action.	Severe: frost action.	Slight.
633--------------- Pemi	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
647A, 647B-------- Pillsbury	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
701B*:						
Becket-----------	Moderate: wetness.	Slight---------	Moderate: wetness.	Moderate: slope.	Moderate: frost action.	Moderate: large stones.
Skerry-----------	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Moderate: large stones, wetness.
703D*, 703E*:						
Becket-----------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Monadnock--------	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.

See footnote at end of table.

Table 10.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
709D*, 709E*:						
Becket	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Tunbridge	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Severe: large stones.
710D*, 710E*:						
Becket	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Lyman	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: slope, depth to rock.
Rock outcrop.						
711B*:						
Monadnock	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: large stones.
Hermon	Severe: cutbanks cave.	Moderate: large stones.	Moderate: large stones.	Moderate: slope, large stones.	Moderate: large stones.	Severe: droughty.
711D*:						
Monadnock	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Hermon	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: droughty, slope.
711E*:						
Monadnock	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Hermon	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: large stones, droughty, slope.
712B*:						
Hermon	Severe: cutbanks cave.	Moderate: large stones.	Moderate: large stones.	Moderate: slope, large stones.	Moderate: large stones.	Severe: large stones, droughty.
Monadnock	Severe: cutbanks cave.	Moderate: large stones.	Moderate: large stones.	Moderate: slope, large stones.	Moderate: large stones.	Severe: large stones.

See footnote at end of table.

Table 10.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
712D*, 712E*:						
Hermon-----------	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: large stones, droughty, slope.
Monadnock--------	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: large stones, slope.
713B*:						
Hermon-----------	Severe: cutbanks cave.	Moderate: large stones.	Moderate: large stones.	Moderate: slope, large stones.	Moderate: large stones.	Severe: droughty.
Waumbek----------	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Moderate: wetness, frost action.	Moderate: wetness, large stones.
713D*:						
Hermon-----------	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: droughty, slope.
Waumbek----------	Severe: cutbanks cave, wetness.	Moderate: wetness, slope.	Severe: wetness.	Severe: slope.	Moderate: wetness, slope, frost action.	Moderate: wetness, large stones, slope.
717*:						
Lyme-------------	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
Peacham----------	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding, frost action.	Severe: large stones, ponding, excess humus.
719D*, 719E*:						
Marlow-----------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Tunbridge--------	Severe: depth to rock, slope.	Severe: slope.	Severe: depth to rock, slope.	Severe: slope.	Severe: slope.	Severe: large stones.
720D*, 720E*:						
Marlow-----------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Lyman------------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: slope, depth to rock.
Rock outcrop.						

See footnote at end of table.

Table 10.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
721B*:						
Peru	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Moderate: large stones, wetness.
Marlow	Moderate: dense layer, wetness.	Slight	Moderate: wetness.	Moderate: slope.	Moderate: frost action.	Moderate: large stones.
722D*:						
Marlow	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Berkshire	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: large stones, slope.
723B*:						
Peru	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Moderate: large stones, wetness.
Pillsbury	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.
724B*:						
Skerry	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Moderate: large stones, wetness.
Tunbridge	Severe: depth to rock.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: slope, depth to rock.	Moderate: depth to rock, frost action.	Severe: large stones.
726D*, 726E*:						
Rock outcrop.						
Lyman	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: depth to rock, slope.	Severe: slope, depth to rock.
727*.						
Rubble land						
729B*:						
Waumbek	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Moderate: wetness, frost action.	Moderate: wetness, large stones.
Lyme	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.

See footnote at end of table.

Table 10.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
730B*:						
Skerry-----------	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Moderate: large stones, wetness.
Lyman------------	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.
Rock outcrop.						
731*:						
Peacham----------	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding, frost action.	Severe: large stones, ponding, excess humus.
Ossipee----------	Severe: excess humus, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: frost action, ponding.	Severe: ponding, excess humus.
734D*:						
Surplus----------	Severe: wetness, slope.	Severe: wetness, slope.	Severe: wetness, slope.	Severe: wetness, slope.	Severe: slope, frost action.	Severe: slope.
Sisk-------------	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
735E*:						
Saddleback-------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.
Ricker-----------	Severe: depth to rock, excess humus, slope.	Severe: low strength, slope, depth to rock.	Severe: depth to rock, slope.	Severe: low strength, slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, thin layer, excess humus.
Rock outcrop.						
740D*:						
Hermon-----------	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: droughty, slope.
Redstone---------	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
741D*, 741E*:						
Redstone---------	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.

See footnote at end of table.

Table 10.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
741D*, 741E*:						
Canaan-----------	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: slope, depth to rock.	Severe: depth to rock, slope.	Severe: droughty, slope.
Rock outcrop.						
819B*:						
Peru-------------	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness, slope.	Severe: frost action.	Moderate: large stones, wetness.
Tunbridge--------	Severe: depth to rock.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: slope, depth to rock.	Moderate: depth to rock, frost action.	Severe: large stones.

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 11.--Sanitary Facilities

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "good," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
1------------------------------------- Occum	Severe: flooding, poor filter.	Severe: seepage, flooding.
2------------------------------------- Suncook	Severe: flooding, poor filter.	Severe: seepage, flooding.
4------------------------------------- Pootatuck	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.
5------------------------------------- Rippowam	Severe: flooding, wetness, poor filter.	Severe: flooding, seepage, wetness.
8------------------------------------- Hadley	Severe: flooding.	Severe: flooding, seepage.
9------------------------------------- Winooski	Severe: flooding, wetness.	Severe: flooding, wetness, seepage.
15------------------------------------ Searsport	Severe: ponding, poor filter.	Severe: seepage, excess humus, ponding.
22A, 22B------------------------------ Colton	Severe: poor filter.	Severe: seepage.
22C----------------------------------- Colton	Severe: poor filter.	Severe: seepage, slope.
22E----------------------------------- Colton	Severe: poor filter, slope.	Severe: seepage, slope.
24A, 24B------------------------------ Agawam	Severe: poor filter.	Severe: seepage.
26A, 26B------------------------------ Windsor	Severe: poor filter.	Severe: seepage.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
26C: Windsor	Severe: poor filter.	Severe: seepage, slope.
26E: Windsor	Severe: poor filter, slope.	Severe: seepage, slope.
27A, 27B: Groveton	Slight	Severe: seepage.
27C: Groveton	Moderate: slope.	Severe: seepage, slope.
27E: Groveton	Severe: slope.	Severe: seepage, slope.
28A, 28B: Madawaska	Severe: wetness, poor filter.	Severe: seepage, wetness.
36A, 36B: Adams	Severe: poor filter.	Severe: seepage.
36C: Adams	Severe: poor filter.	Severe: slope, seepage.
36E: Adams	Severe: poor filter, slope.	Severe: slope, seepage.
56B: Becket	Severe: percs slowly.	Moderate: seepage, slope.
56C: Becket	Severe: percs slowly.	Severe: slope.
56D: Becket	Severe: percs slowly, slope.	Severe: slope.
57B: Becket	Severe: percs slowly.	Moderate: seepage, slope.
57C: Becket	Severe: percs slowly.	Severe: slope.
57D, 57E: Becket	Severe: percs slowly, slope.	Severe: slope.

See footnote at end of table.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
59B Waumbek	Severe: wetness, poor filter.	Severe: seepage, wetness.
59C Waumbek	Severe: wetness, poor filter.	Severe: seepage, slope, wetness.
61B*:		
Tunbridge	Severe: depth to rock.	Severe: seepage, depth to rock.
Lyman	Severe: depth to rock.	Severe: depth to rock.
Rock outcrop.		
61C*:		
Tunbridge	Severe: depth to rock.	Severe: seepage, depth to rock, slope.
Lyman	Severe: depth to rock.	Severe: slope, depth to rock.
Rock outcrop.		
61D*, 61E*:		
Tunbridge	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock.
Rock outcrop.		
62B Charlton	Slight	Severe: seepage.
62C Charlton	Moderate: slope.	Severe: seepage, slope.
62D Charlton	Severe: slope.	Severe: seepage, slope.
63B Charlton	Slight	Severe: seepage.

See footnote at end of table.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
63C Charlton	Moderate: slope.	Severe: seepage, slope.
63D, 63E Charlton	Severe: slope.	Severe: seepage, slope.
72B Berkshire	Moderate: percs slowly.	Severe: seepage.
72C Berkshire	Moderate: percs slowly, slope.	Severe: seepage, slope.
72D Berkshire	Severe: slope.	Severe: seepage, slope.
73B Berkshire	Moderate: percs slowly.	Severe: seepage.
73C Berkshire	Moderate: percs slowly, slope.	Severe: seepage, slope.
73D, 73E Berkshire	Severe: slope.	Severe: seepage, slope.
76B Marlow	Severe: percs slowly.	Moderate: seepage, slope.
76C Marlow	Severe: percs slowly.	Severe: slope.
76D Marlow	Severe: percs slowly, slope.	Severe: slope.
77B Marlow	Severe: percs slowly.	Moderate: seepage, slope.
77C Marlow	Severe: percs slowly.	Severe: slope.
77D, 77E Marlow	Severe: percs slowly, slope.	Severe: slope.
78B Peru	Severe: wetness, percs slowly.	Moderate: seepage, slope.

See footnote at end of table.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
78C: Peru	Severe: wetness, percs slowly.	Severe: slope.
79B: Peru	Severe: wetness, percs slowly.	Moderate: seepage, slope.
79C: Peru	Severe: wetness, percs slowly.	Severe: slope.
79D: Peru	Severe: wetness, percs slowly, slope.	Severe: slope.
90B*:		
Tunbridge	Severe: depth to rock.	Severe: seepage, depth to rock.
Lyman	Severe: depth to rock.	Severe: depth to rock.
90C*:		
Tunbridge	Severe: depth to rock.	Severe: seepage, depth to rock, slope.
Lyman	Severe: depth to rock.	Severe: slope, depth to rock.
90D*:		
Tunbridge	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock.
101: Ondawa	Severe: flooding, poor filter.	Severe: flooding, seepage.
102: Sunday	Severe: flooding, poor filter.	Severe: seepage, flooding.
104: Podunk	Severe: flooding, wetness, poor filter.	Severe: flooding, wetness, seepage.

See footnote at end of table.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
105: Rumney	Severe: flooding, wetness, poor filter.	Severe: flooding, wetness, seepage.
108: Hadley	Severe: flooding.	Severe: flooding, seepage.
109: Limerick	Severe: flooding, wetness.	Severe: flooding, wetness.
114*:		
Walpole	Severe: wetness, poor filter.	Severe: seepage, wetness.
Binghamville	Severe: wetness, percs slowly.	Severe: wetness.
130A: Hitchcock	Severe: percs slowly.	Slight.
130B: Hitchcock	Severe: percs slowly.	Moderate: slope.
130C: Hitchcock	Severe: percs slowly.	Severe: slope.
130E: Hitchcock	Severe: percs slowly, slope.	Severe: slope.
132A: Dartmouth	Severe: wetness, percs slowly.	Slight.
132B: Dartmouth	Severe: wetness, percs slowly.	Moderate: slope.
173C: Berkshire	Moderate: percs slowly, slope.	Severe: seepage, slope.
173D, 173E: Berkshire	Severe: slope.	Severe: seepage, slope.
201: Ondawa	Severe: flooding, poor filter.	Severe: flooding, seepage.

See footnote at end of table.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
254B*:		
Monadnock	Slight	Severe: seepage.
Hermon	Severe: poor filter.	Severe: seepage.
254C*:		
Monadnock	Moderate: slope.	Severe: seepage, slope.
Hermon	Severe: poor filter.	Severe: seepage, slope.
254D*:		
Monadnock	Severe: slope.	Severe: seepage, slope.
Hermon	Severe: poor filter, slope.	Severe: seepage, slope.
255B*:		
Monadnock	Slight	Severe: seepage.
Hermon	Severe: poor filter.	Severe: seepage.
255C*:		
Monadnock	Moderate: slope.	Severe: seepage, slope.
Hermon	Severe: poor filter.	Severe: seepage, slope.
255D*, 255E*:		
Monadnock	Severe: slope.	Severe: seepage, slope.
Hermon	Severe: poor filter, slope.	Severe: seepage, slope.
295 Greenwood	Severe: ponding.	Severe: seepage, excess humus, ponding.
298*. Pits		

See footnote at end of table.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
299*. Udorthents		
310A, 310B: Quonset	Severe: poor filter.	Severe: seepage.
310C: Quonset	Severe: poor filter.	Severe: slope, seepage.
310E: Quonset	Severe: poor filter, slope.	Severe: slope, seepage.
313: Deerfield	Severe: wetness, poor filter.	Severe: seepage, wetness.
330B: Bernardston	Severe: percs slowly.	Moderate: slope.
330C: Bernardston	Severe: percs slowly.	Severe: slope.
330D: Bernardston	Severe: percs slowly, slope.	Severe: slope.
331B: Bernardston	Severe: percs slowly.	Moderate: slope.
331C: Bernardston	Severe: percs slowly.	Severe: slope.
331D, 331E: Bernardston	Severe: percs slowly, slope.	Severe: slope.
334B: Pittstown	Severe: wetness, percs slowly.	Moderate: slope.
334C: Pittstown	Severe: wetness, percs slowly.	Severe: slope.
336B: Pittstown	Severe: percs slowly, wetness.	Moderate: slope.
336C: Pittstown	Severe: percs slowly, wetness.	Severe: slope.
336D: Pittstown	Severe: slope, percs slowly, wetness.	Severe: slope.

See footnote at end of table.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
341A: Stissing	Severe: wetness, percs slowly.	Slight.
341B: Stissing	Severe: wetness, percs slowly.	Moderate: slope.
347A*, 347B*:		
Lyme	Severe: wetness.	Severe: seepage, wetness.
Moosilauke	Severe: wetness, poor filter.	Severe: seepage, wetness.
355C: Hermon	Severe: poor filter.	Severe: seepage, slope.
355D, 355E: Hermon	Severe: poor filter, slope.	Severe: seepage, slope.
360B*:		
Cardigan	Severe: depth to rock.	Severe: depth to rock.
Kearsarge	Severe: depth to rock.	Severe: depth to rock.
360C*:		
Cardigan	Severe: depth to rock.	Severe: depth to rock, slope.
Kearsarge	Severe: depth to rock.	Severe: depth to rock, slope.
360D*:		
Cardigan	Severe: depth to rock, slope.	Severe: depth to rock, slope.
Kearsarge	Severe: depth to rock, slope.	Severe: depth to rock, slope.
361B*:		
Cardigan	Severe: depth to rock.	Severe: depth to rock.
Kearsarge	Severe: depth to rock.	Severe: depth to rock.
Rock outcrop.		

See footnote at end of table.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
361C*:		
Cardigan	Severe: depth to rock.	Severe: depth to rock, slope.
Kearsarge	Severe: depth to rock.	Severe: depth to rock, slope.
361D*, 361E*:		
Cardigan	Severe: depth to rock, slope.	Severe: depth to rock, slope.
Kearsarge	Severe: depth to rock, slope.	Severe: depth to rock, slope.
Rock outcrop.		
395 Chocorua	Severe: ponding, poor filter.	Severe: seepage, excess humus, ponding.
398*. Pits		
401 Occum	Severe: flooding, poor filter.	Severe: seepage, flooding.
406 Medomak	Severe: flooding, ponding.	Severe: flooding, ponding.
534 Binghamville	Severe: wetness, percs slowly.	Severe: wetness.
558B, 559B Skerry	Severe: wetness, percs slowly.	Moderate: seepage, slope.
559C Skerry	Severe: wetness, percs slowly.	Severe: slope.
559D Skerry	Severe: wetness, percs slowly, slope.	Severe: slope.
613 Croghan	Severe: wetness, poor filter.	Severe: seepage, wetness.

See footnote at end of table.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
614----------------------------------- Kinsman	Severe: wetness, poor filter.	Severe: seepage, wetness.
632A, 632B---------------------------- Nicholville	Severe: wetness.	Severe: wetness.
633----------------------------------- Pemi	Severe: wetness, percs slowly.	Severe: wetness.
647A, 647B---------------------------- Pillsbury	Severe: wetness, percs slowly.	Severe: wetness.
701B*:		
Becket--------------------------------	Severe: percs slowly.	Moderate: seepage, slope.
Skerry--------------------------------	Severe: wetness, percs slowly.	Moderate: seepage, slope.
703D*, 703E*:		
Becket--------------------------------	Severe: percs slowly, slope.	Severe: slope.
Monadnock-----------------------------	Severe: slope.	Severe: seepage, slope.
709D*, 709E*:		
Becket--------------------------------	Severe: percs slowly, slope.	Severe: slope.
Tunbridge-----------------------------	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.
710D*, 710E*:		
Becket--------------------------------	Severe: percs slowly, slope.	Severe: slope.
Lyman---------------------------------	Severe: slope, depth to rock.	Severe: slope, depth to rock.
Rock outcrop.		

See footnote at end of table.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
711B*:		
Monadnock	Slight	Severe: seepage.
Hermon	Severe: poor filter.	Severe: seepage.
711D*, 711E*:		
Monadnock	Severe: slope.	Severe: seepage, slope.
Hermon	Severe: poor filter, slope.	Severe: seepage, slope.
712B*:		
Hermon	Severe: poor filter.	Severe: seepage.
Monadnock	Moderate: large stones.	Severe: seepage, large stones.
712D*, 712E*:		
Hermon	Severe: poor filter, slope.	Severe: seepage, slope.
Monadnock	Severe: slope.	Severe: seepage, slope, large stones.
713B*:		
Hermon	Severe: poor filter.	Severe: seepage.
Waumbek	Severe: wetness, poor filter.	Severe: seepage, wetness.
713D*:		
Hermon	Severe: poor filter, slope.	Severe: seepage, slope.
Waumbek	Severe: wetness, poor filter.	Severe: seepage, slope, wetness.
717*:		
Lyme	Severe: wetness.	Severe: seepage, wetness.

See footnote at end of table.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
717*:		
Peacham	Severe: ponding, percs slowly.	Severe: excess humus, ponding.
719D*, 719E*:		
Marlow	Severe: percs slowly, slope.	Severe: slope.
Tunbridge	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.
720D*, 720E*:		
Marlow	Severe: percs slowly, slope.	Severe: slope.
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock.
Rock outcrop.		
721B*:		
Peru	Severe: wetness, percs slowly.	Moderate: seepage, slope.
Marlow	Severe: percs slowly.	Moderate: seepage, slope.
722D*:		
Marlow	Severe: percs slowly, slope.	Severe: slope.
Berkshire	Severe: slope.	Severe: seepage, slope.
723B*:		
Peru	Severe: wetness, percs slowly.	Moderate: seepage, slope.
Pillsbury	Severe: wetness, percs slowly.	Severe: wetness.
724B*:		
Skerry	Severe: wetness, percs slowly.	Moderate: seepage, slope.

See footnote at end of table.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
724B*:		
Tunbridge	Severe: depth to rock.	Severe: seepage, depth to rock.
726D*, 726E*:		
Rock outcrop.		
Lyman	Severe: slope, depth to rock.	Severe: slope, depth to rock.
727*:		
Rubble land		
729B*:		
Waumbek	Severe: wetness, poor filter.	Severe: seepage, wetness.
Lyme	Severe: wetness.	Severe: seepage, wetness.
730B*:		
Skerry	Severe: wetness, percs slowly.	Moderate: seepage, slope.
Lyman	Severe: depth to rock.	Severe: depth to rock.
Rock outcrop.		
731*:		
Peacham	Severe: ponding, percs slowly.	Severe: excess humus, ponding.
Ossipee	Severe: ponding, percs slowly.	Severe: seepage, excess humus, ponding.
734D*:		
Surplus	Severe: wetness, percs slowly, slope.	Severe: slope.
Sisk	Severe: percs slowly, slope.	Severe: slope.

See footnote at end of table.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas
735E*:		
Saddleback	Severe: depth to rock, slope.	Severe: depth to rock, slope.
Ricker	Severe: depth to rock, slope.	Severe: depth to rock, slope, excess humus.
Rock outcrop.		
740D*:		
Hermon	Severe: poor filter, slope.	Severe: seepage, slope.
Redstone	Severe: poor filter, slope.	Severe: seepage, slope.
741D*, 741E*:		
Redstone	Severe: poor filter, slope.	Severe: seepage, slope.
Canaan	Severe: depth to rock, slope.	Severe: seepage, depth to rock, slope.
Rock outcrop.		
819B*:		
Peru	Severe: wetness, percs slowly.	Moderate: seepage, slope.
Tunbridge	Severe: depth to rock.	Severe: seepage, depth to rock.
W*. Water		

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 12.--Construction Materials

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
1 Occum	Good	Probable	Improbable: too sandy.	Fair: area reclaim, thin layer.
2 Suncook	Good	Probable	Improbable: too sandy.	Poor: too sandy.
4 Pootatuck	Fair: wetness.	Probable	Improbable: too sandy.	Fair: thin layer.
5 Rippowam	Poor: wetness.	Probable	Improbable: too sandy.	Poor: wetness.
8 Hadley	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
9 Winooski	Fair: wetness, low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
15 Searsport	Poor: wetness.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
22A, 22B, 22C Colton	Good	Probable	Probable	Poor: small stones, too sandy.
22E Colton	Poor: slope.	Probable	Probable	Poor: slope, small stones, too sandy.
24A, 24B Agawam	Good	Probable	Probable	Poor: too sandy, area reclaim.
26A, 26B, 26C Windsor	Good	Probable	Improbable: too sandy.	Poor: too sandy.
26E Windsor	Poor: slope.	Probable	Improbable: too sandy.	Poor: too sandy, slope.
27A, 27B Groveton	Good	Probable	Improbable: too sandy.	Fair: thin layer.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
27C Groveton	Good	Probable	Improbable: too sandy.	Fair: slope, thin layer.
27E Groveton	Poor: slope.	Probable	Improbable: too sandy.	Poor: slope.
28A, 28B Madawaska	Fair: wetness.	Probable	Improbable: too sandy.	Fair: small stones, thin layer.
36A, 36B, 36C Adams	Good	Probable	Improbable: too sandy.	Poor: too sandy.
36E Adams	Poor: slope.	Probable	Improbable: too sandy.	Poor: slope, too sandy.
56B, 56C Becket	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
56D Becket	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
57B, 57C Becket	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
57D Becket	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
57E Becket	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
59B, 59C Waumbek	Fair: wetness.	Probable	Probable	Poor: large stones, area reclaim.
61B*, 61C*:				
Tunbridge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Lyman	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones.
Rock outcrop.				
61D*:				
Tunbridge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.

See footnote at end of table.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
61D*:				
Lyman	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
Rock outcrop.				
61E*:				
Tunbridge	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Lyman	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
Rock outcrop.				
62B Charlton	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
62C Charlton	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, slope.
62D Charlton	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
63B Charlton	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
63C Charlton	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, slope.
63D Charlton	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
63E Charlton	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
72B, 72C Berkshire	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
72D Berkshire	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
73B, 73C Berkshire	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.

See footnote at end of table.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
73D: Berkshire	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
73E: Berkshire	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
76B, 76C: Marlow	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
76D: Marlow	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
77B, 77C: Marlow	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
77D: Marlow	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
77E: Marlow	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
78B, 78C, 79B, 79C: Peru	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
79D: Peru	Fair: wetness, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
90B*, 90C*:				
Tunbridge	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Lyman	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, area reclaim, small stones.
90D*:				
Tunbridge	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Lyman	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope, depth to rock, small stones.
101: Ondawa	Good	Probable	Improbable: too sandy.	Fair: thin layer, small stones.

See footnote at end of table.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
102 Sunday	Good	Probable	Improbable: too sandy.	Poor: too sandy.
104 Podunk	Fair: wetness.	Probable	Improbable: too sandy.	Fair: small stones, thin layer, area reclaim.
105 Rumney	Poor: wetness.	Probable	Improbable: too sandy.	Poor: wetness, small stones, area reclaim.
108 Hadley	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
109 Limerick	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
114*:				
Walpole	Poor: wetness.	Probable	Probable	Poor: small stones, area reclaim, wetness.
Binghamville	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
130A, 130B Hitchcock	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
130C Hitchcock	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: slope.
130E Hitchcock	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
132A, 132B Dartmouth	Fair: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
173C Berkshire	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
173D Berkshire	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
173E Berkshire	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
201 Ondawa	Good	Probable	Improbable: too sandy.	Fair: thin layer, small stones.

See footnote at end of table.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
254B*:				
Monadnock	Good	Probable	Improbable: too sandy.	Fair: small stones.
Hermon	Fair: large stones.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
254C*:				
Monadnock	Good	Probable	Improbable: too sandy.	Fair: small stones, slope.
Hermon	Fair: large stones.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
254D*:				
Monadnock	Fair: slope.	Probable	Improbable: too sandy.	Poor: slope.
Hermon	Fair: large stones, slope.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
255B*, 255C*:				
Monadnock	Good	Probable	Improbable: too sandy.	Poor: small stones.
Hermon	Fair: large stones.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
255D*:				
Monadnock	Fair: slope.	Probable	Improbable: too sandy.	Poor: small stones, slope.
Hermon	Fair: large stones, slope.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
255E*:				
Monadnock	Poor: slope.	Probable	Improbable: too sandy.	Poor: small stones, slope.
Hermon	Poor: slope.	Probable	Probable	Poor: too sandy, small stones, area reclaim.

See footnote at end of table.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
295 Greenwood	Poor: wetness, low strength.	Improbable: excess humus.	Improbable: excess humus.	Poor: excess humus, wetness.
298*. Pits				
299*. Udorthents				
310A, 310B, 310C Quonset	Good	Probable	Probable	Poor: small stones, area reclaim.
310E Quonset	Poor: slope.	Probable	Probable	Poor: small stones, area reclaim, slope.
313 Deerfield	Fair: wetness.	Probable	Improbable: excess fines.	Poor: too sandy.
330B, 330C Bernardston	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
330D Bernardston	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
331B, 331C Bernardston	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
331D Bernardston	Fair: low strength, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
331E Bernardston	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
334B, 334C, 336B, 336C Pittstown	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim.
336D Pittstown	Fair: slope, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
341A, 341B Stissing	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, wetness.

See footnote at end of table.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
347A*, 347B*:				
Lyme	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, wetness.
Moosilauke	Poor: wetness.	Probable	Probable	Poor: too sandy, wetness.
355C Hermon	Fair: large stones.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
355D Hermon	Fair: large stones, slope.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
355E Hermon	Poor: slope.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
360B*:				
Cardigan	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Fair: area reclaim, small stones.
Kearsarge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
360C*:				
Cardigan	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Fair: area reclaim, slope.
Kearsarge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
360D*:				
Cardigan	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
Kearsarge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, slope.
361B*:				
Cardigan	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.

See footnote at end of table.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
361B*:				
Kearsarge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
Rock outcrop.				
361C*:				
Cardigan	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Kearsarge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones.
361D*:				
Cardigan	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Kearsarge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, slope.
Rock outcrop.				
361E*:				
Cardigan	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Kearsarge	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, small stones, slope.
Rock outcrop.				
395 Chocorua	Poor: wetness.	Probable	Improbable: too sandy.	Poor: excess humus, wetness.
398*. Pits				
401 Occum	Good	Probable	Improbable: too sandy.	Fair: area reclaim, thin layer.
406 Medomak	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
534 Binghamville	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.

See footnote at end of table.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
558B: Skerry	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
559B, 559C: Skerry	Fair: wetness.	Probable	Probable	Poor: small stones.
559D: Skerry	Fair: wetness, slope.	Probable	Probable	Poor: small stones, slope.
613: Croghan	Fair: wetness.	Probable	Improbable: too sandy.	Fair: too sandy, small stones.
614: Kinsman	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, small stones, wetness.
632A, 632B: Nicholville	Poor: frost action.	Improbable: excess fines.	Improbable: excess fines.	Good.
633: Pemi	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
647A, 647B: Pillsbury	Poor: thin layer, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, wetness.
701B*:				
Becket	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Skerry	Fair: wetness.	Probable	Probable	Poor: small stones.
703D*:				
Becket	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Monadnock	Fair: slope.	Probable	Improbable: too sandy.	Poor: small stones, slope.
703E*:				
Becket	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Monadnock	Poor: slope.	Probable	Improbable: too sandy.	Poor: small stones, slope.

See footnote at end of table.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
709D*:				
Becket	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Tunbridge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
709E*:				
Becket	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Tunbridge	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
710D*:				
Becket	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Lyman	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
Rock outcrop.				
710E*:				
Becket	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Lyman	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
Rock outcrop.				
711B*:				
Monadnock	Good	Probable	Improbable: too sandy.	Poor: small stones.
Hermon	Fair: large stones.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
711D*:				
Monadnock	Fair: slope.	Probable	Improbable: too sandy.	Poor: small stones, slope.

See footnote at end of table.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
711D*:				
Hermon	Fair: large stones, slope.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
711E*:				
Monadnock	Poor: slope.	Probable	Improbable: too sandy.	Poor: small stones, slope.
Hermon	Poor: slope.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
712B*:				
Hermon	Fair: large stones.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
Monadnock	Fair: large stones.	Probable	Improbable: too sandy.	Poor: large stones, small stones.
712D*:				
Hermon	Fair: large stones, slope.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
Monadnock	Fair: large stones, slope.	Probable	Improbable: too sandy.	Poor: large stones, small stones, slope.
712E*:				
Hermon	Poor: slope.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
Monadnock	Poor: slope.	Probable	Improbable: too sandy.	Poor: large stones, small stones, slope.
713B*:				
Hermon	Fair: large stones.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
Waumbek	Fair: wetness.	Probable	Probable	Poor: large stones, area reclaim.

See footnote at end of table.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
713D*:				
Hermon	Fair: large stones, slope.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
Waumbek	Fair: wetness.	Probable	Probable	Poor: large stones, area reclaim.
717*:				
Lyme	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, wetness.
Peacham	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, excess humus, small stones.
719D*:				
Marlow	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Tunbridge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
719E*:				
Marlow	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Tunbridge	Poor: area reclaim, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
720D*:				
Marlow	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Lyman	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
Rock outcrop.				
720E*:				
Marlow	Poor: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.

See footnote at end of table.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
720E*:				
Lyman	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
Rock outcrop.				
721B*:				
Peru	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Marlow	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
722D*:				
Marlow	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
Berkshire	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, slope.
723B*:				
Peru	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Pillsbury	Poor: thin layer, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, wetness.
724B*:				
Skerry	Fair: wetness.	Probable	Probable	Poor: small stones.
Tunbridge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
726D*:				
Rock outcrop.				
Lyman	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
726E*:				
Rock outcrop.				
Lyman	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
727*.				
Rubble land				

See footnote at end of table.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
729B*:				
Waumbek	Fair: wetness.	Probable	Probable	Poor: large stones, area reclaim.
Lyme	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, wetness.
730B*:				
Skerry	Fair: wetness.	Probable	Probable	Poor: small stones.
Lyman	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones.
Rock outcrop.				
731*:				
Peacham	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, excess humus, small stones.
Ossipee	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess humus, wetness.
734D*:				
Surplus	Fair: wetness, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
Sisk	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, slope.
735E*:				
Saddleback	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
Ricker	Poor: area reclaim, thin layer, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: area reclaim, slope, excess humus.
Rock outcrop.				

See footnote at end of table.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
740D*:				
Hermon	Fair: large stones, slope.	Probable	Probable	Poor: too sandy, small stones, area reclaim.
Redstone	Fair: slope.	Probable	Probable	Poor: small stones, slope.
741D*:				
Redstone	Fair: slope.	Probable	Probable	Poor: small stones, slope.
Canaan	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
Rock outcrop.				
741E*:				
Redstone	Poor: slope.	Probable	Probable	Poor: small stones, slope.
Canaan	Poor: depth to rock, slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, small stones, slope.
Rock outcrop.				
819B*:				
Peru	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Tunbridge	Poor: area reclaim.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
W*. Water				

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 13.--Water Management

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not evaluated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
1 Occum	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Deep to water	Too sandy	Favorable.
2 Suncook	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Deep to water	Too sandy	Droughty.
4 Pootatuck	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Flooding, cutbanks cave.	Wetness, too sandy.	Favorable.
5 Rippowam	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Flooding, frost action, cutbanks cave.	Wetness, too sandy, poor outlets.	Wetness.
8 Hadley	Severe: seepage.	Severe: piping.	Moderate: deep to water.	Deep to water	Erodes easily	Erodes easily.
9 Winooski	Severe: seepage.	Severe: piping.	Severe: cutbanks cave.	Flooding, frost action, cutbanks cave.	Erodes easily, wetness.	Erodes easily.
15 Searsport	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: cutbanks cave.	Ponding, cutbanks cave.	Ponding, too sandy.	Wetness, droughty.
22A, 22B Colton	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Large stones, too sandy.	Large stones, droughty.
22C, 22E Colton	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, large stones, too sandy.	Large stones, slope, droughty.
24A, 24B Agawam	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Too sandy	Favorable.
26A, 26B Windsor	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Too sandy	Droughty.
26C, 26E Windsor	Severe: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Slope, too sandy.	Slope, droughty.

Table 13.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
27A, 27B Groveton	Severe: seepage.	Severe: piping, seepage.	Severe: no water.	Deep to water	Favorable	Favorable.
27C, 27E Groveton	Severe: seepage, slope.	Severe: piping, seepage.	Severe: no water.	Deep to water	Slope	Slope.
28A Madawaska	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, too sandy.	Wetness, droughty.
28B Madawaska	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Slope, cutbanks cave.	Wetness, too sandy.	Wetness, droughty.
36A, 36B Adams	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Too sandy	Droughty.
36C, 36E Adams	Severe: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Slope, too sandy.	Slope, droughty.
56B Becket	Moderate: seepage, slope.	Moderate: seepage.	Severe: no water.	Deep to water	Percs slowly	Rooting depth, percs slowly.
56C, 56D Becket	Severe: slope.	Moderate: seepage.	Severe: no water.	Deep to water	Slope, percs slowly.	Slope, rooting depth, percs slowly.
57B Becket	Moderate: seepage, slope.	Moderate: seepage.	Severe: no water.	Deep to water	Percs slowly	Rooting depth, percs slowly.
57C, 57D, 57E Becket	Severe: slope.	Moderate: seepage.	Severe: no water.	Deep to water	Slope, percs slowly.	Slope, rooting depth, percs slowly.
59B Waumbek	Severe: seepage.	Severe: seepage, wetness.	Severe: cutbanks cave.	Large stones, cutbanks cave, slope.	Large stones, wetness.	Large stones.
59C Waumbek	Severe: seepage, slope.	Severe: seepage, wetness.	Severe: cutbanks cave.	Large stones, cutbanks cave, slope.	Slope, large stones, wetness.	Large stones, slope.
61B*:						
Tunbridge	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Large stones, depth to rock.	Large stones, droughty.

See footnote at end of table.

Table 13.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
61B*:						
Lyman	Severe: depth to rock.	Severe: thin layer, piping.	Severe: no water.	Deep to water	Depth to rock	Droughty, depth to rock.
Rock outcrop.						
61C*, 61D*, 61E*:						
Tunbridge	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Lyman	Severe: depth to rock, slope.	Severe: thin layer, piping.	Severe: no water.	Deep to water	Slope, depth to rock.	Slope, droughty, depth to rock.
Rock outcrop.						
62B Charlton	Severe: seepage.	Moderate: seepage, piping.	Severe: no water.	Deep to water	Favorable	Favorable.
62C, 62D Charlton	Severe: slope, seepage.	Moderate: seepage, piping.	Severe: no water.	Deep to water	Slope	Slope.
63B Charlton	Severe: seepage.	Moderate: seepage, piping.	Severe: no water.	Deep to water	Favorable	Favorable.
63C, 63D, 63E Charlton	Severe: slope, seepage.	Moderate: seepage, piping.	Severe: no water.	Deep to water	Slope	Slope.
72B Berkshire	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Large stones, soil blowing.	Large stones.
72C, 72D Berkshire	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, large stones, soil blowing.	Large stones, slope.
73B Berkshire	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Large stones	Large stones, droughty.
73C, 73D, 73E Berkshire	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, large stones.	Large stones, slope, droughty.
76B Marlow	Moderate: slope.	Severe: piping.	Severe: no water.	Deep to water	Percs slowly	Rooting depth, percs slowly.
76C, 76D Marlow	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, percs slowly.	Slope, rooting depth, percs slowly.
77B Marlow	Moderate: slope.	Severe: piping.	Severe: no water.	Deep to water	Percs slowly	Rooting depth, percs slowly.

See footnote at end of table.

Table 13.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
77C, 77D, 77E-----Marlow	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, percs slowly.	Slope, rooting depth, percs slowly.
78B---------------Peru	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Percs slowly, frost action, slope.	Wetness, percs slowly.	Rooting depth, percs slowly.
78C---------------Peru	Severe: slope.	Severe: piping.	Severe: no water.	Percs slowly, frost action, slope.	Slope, wetness, percs slowly.	Slope, rooting depth, percs slowly.
79B---------------Peru	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Percs slowly, frost action, slope.	Wetness, percs slowly.	Rooting depth, percs slowly.
79C, 79D----------Peru	Severe: slope.	Severe: piping.	Severe: no water.	Percs slowly, frost action, slope.	Slope, wetness, percs slowly.	Slope, rooting depth, percs slowly.
90B*:						
Tunbridge--------	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Depth to rock	Droughty, depth to rock.
Lyman------------	Severe: depth to rock.	Severe: thin layer, piping.	Severe: no water.	Deep to water	Depth to rock	Droughty, depth to rock.
90C*, 90D*:						
Tunbridge--------	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, depth to rock.	Slope, droughty, depth to rock.
Lyman------------	Severe: depth to rock, slope.	Severe: thin layer, piping.	Severe: no water.	Deep to water	Slope, depth to rock.	Slope, droughty, depth to rock.
101---------------Ondawa	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Too sandy, erodes easily.	Erodes easily.
102---------------Sunday	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Too sandy------	Droughty.
104---------------Podunk	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Frost action, flooding, cutbanks cave.	Wetness, too sandy, erodes easily.	Erodes easily.
105---------------Rumney	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Frost action, flooding, cutbanks cave.	Wetness, too sandy, erodes easily.	Wetness, erodes easily.

See footnote at end of table.

Table 13.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
108--------------- Hadley	Severe: seepage.	Severe: piping.	Moderate: deep to water.	Deep to water	Erodes easily	Erodes easily.
109--------------- Limerick	Moderate: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Flooding, frost action.	Erodes easily, wetness.	Wetness, erodes easily.
114*:						
Walpole----------	Severe: seepage.	Severe: seepage, wetness.	Severe: cutbanks cave.	Frost action, cutbanks cave.	Wetness, too sandy.	Wetness.
Binghamville-----	Moderate: seepage.	Severe: piping, wetness.	Severe: slow refill.	Percs slowly, frost action.	Wetness, erodes easily, percs slowly.	Wetness, erodes easily, percs slowly.
130A-------------- Hitchcock	Slight---------	Severe: piping.	Severe: no water.	Deep to water	Erodes easily	Erodes easily.
130B-------------- Hitchcock	Moderate: slope.	Severe: piping.	Severe: no water.	Deep to water	Erodes easily	Erodes easily.
130C, 130E-------- Hitchcock	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, erodes easily.	Slope, erodes easily.
132A-------------- Dartmouth	Slight---------	Severe: piping, wetness.	Severe: slow refill.	Percs slowly, frost action.	Erodes easily, wetness, percs slowly.	Erodes easily, percs slowly.
132B-------------- Dartmouth	Moderate: slope.	Severe: piping, wetness.	Severe: slow refill.	Percs slowly, frost action, slope.	Erodes easily, wetness, percs slowly.	Erodes easily, percs slowly.
173C, 173D, 173E-- Berkshire	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, large stones.	Large stones, slope, droughty.
201--------------- Ondawa	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Too sandy, erodes easily.	Erodes easily.
254B*:						
Monadnock--------	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Too sandy------	Favorable.
Hermon-----------	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Large stones, too sandy.	Large stones, droughty.
254C*, 254D*:						
Monadnock--------	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, too sandy.	Slope.
Hermon-----------	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, large stones, too sandy.	Large stones, slope, droughty.

See footnote at end of table.

Table 13.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
255B*:						
Monadnock	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Too sandy	Favorable.
Hermon	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Large stones, too sandy.	Large stones, droughty.
255C*, 255D*, 255E*:						
Monadnock	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, too sandy.	Slope.
Hermon	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, large stones, too sandy.	Large stones, slope, droughty.
295 Greenwood	Severe: seepage.	Severe: excess humus, ponding.	Moderate: slow refill.	Ponding, frost action.	Ponding	Wetness.
298*. Pits						
299*. Udorthents						
310A, 310B Quonset	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Too sandy	Droughty.
310C, 310E Quonset	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, too sandy.	Slope, droughty.
313 Deerfield	Severe: seepage.	Severe: seepage.	Severe: cutbanks cave.	Cutbanks cave	Wetness, too sandy.	Droughty.
330B Bernardston	Moderate: slope.	Severe: piping.	Severe: no water.	Deep to water	Percs slowly	Rooting depth, percs slowly.
330C, 330D Bernardston	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, percs slowly.	Slope, percs slowly, rooting depth.
331B Bernardston	Moderate: slope.	Severe: piping.	Severe: no water.	Deep to water	Large stones, percs slowly.	Large stones, percs slowly, rooting depth.
331C, 331D, 331E Bernardston	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, large stones, percs slowly.	Large stones, slope, percs slowly.
334B Pittstown	Moderate: slope.	Severe: piping.	Severe: no water.	Percs slowly, slope.	Percs slowly, wetness.	Percs slowly, wetness, rooting depth.

See footnote at end of table.

Table 13.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
334C: Pittstown	Severe: slope.	Severe: piping.	Severe: no water.	Percs slowly, slope.	Slope, percs slowly, wetness.	Slope, percs slowly, rooting depth.
336B: Pittstown	Moderate: slope.	Severe: piping.	Severe: no water.	Percs slowly, slope.	Large stones, percs slowly, wetness.	Large stones, rooting depth, wetness.
336C, 336D: Pittstown	Severe: slope.	Severe: piping.	Severe: no water.	Percs slowly, slope.	Slope, large stones, percs slowly.	Large stones, slope, rooting depth.
341A: Stissing	Slight	Severe: piping, wetness.	Severe: no water.	Percs slowly, frost action.	Large stones, wetness, rooting depth.	Large stones, wetness, rooting depth.
341B: Stissing	Moderate: slope.	Severe: piping, wetness.	Severe: no water.	Percs slowly, frost action, slope.	Large stones, wetness, rooting depth.	Large stones, wetness, rooting depth.
347A*:						
Lyme	Severe: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Frost action	Wetness	Wetness.
Moosilauke	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Frost action, cutbanks cave.	Wetness, too sandy.	Wetness.
347B*:						
Lyme	Severe: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Frost action, slope.	Wetness	Wetness.
Moosilauke	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Frost action, slope, cutbanks cave.	Wetness, too sandy.	Wetness.
355C, 355D, 355E: Hermon	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, large stones, too sandy.	Large stones, slope, droughty.
360B*:						
Cardigan	Moderate: seepage, depth to rock, slope.	Severe: piping.	Severe: no water.	Deep to water	Depth to rock, erodes easily.	Erodes easily, depth to rock.
Kearsarge	Severe: depth to rock.	Severe: piping.	Severe: no water.	Deep to water	Depth to rock, erodes easily.	Erodes easily, depth to rock.

See footnote at end of table.

Table 13.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
360C*, 360D*:						
Cardigan	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, depth to rock, erodes easily.	Slope, erodes easily, depth to rock.
Kearsarge	Severe: depth to rock, slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, depth to rock, erodes easily.	Slope, erodes easily, depth to rock.
361B*:						
Cardigan	Moderate: seepage, depth to rock, slope.	Severe: piping.	Severe: no water.	Deep to water, depth to rock, slope.	Depth to rock	Depth to rock.
Kearsarge	Severe: depth to rock.	Severe: piping.	Severe: no water.	Deep to water, depth to rock, slope.	Depth to rock	Depth to rock.
Rock outcrop.						
361C*:						
Cardigan	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water, depth to rock, slope.	Slope, depth to rock.	Slope, depth to rock.
Kearsarge	Severe: depth to rock, slope.	Severe: piping.	Severe: no water.	Deep to water, depth to rock, slope.	Slope, depth to rock.	Slope, depth to rock.
361D*, 361E*:						
Cardigan	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water, depth to rock, slope.	Slope, depth to rock.	Slope, depth to rock.
Kearsarge	Severe: depth to rock, slope.	Severe: piping.	Severe: no water.	Deep to water, depth to rock, slope.	Slope, depth to rock.	Slope, depth to rock.
Rock outcrop.						
395 Chocorua	Severe: seepage.	Severe: seepage, ponding, piping.	Severe: cutbanks cave.	Subsides, frost action, cutbanks cave.	Ponding	Wetness.
398*. Pits						
401 Occum	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Deep to water	Too sandy	Favorable.
406 Medomak	Moderate: seepage.	Severe: piping, ponding.	Severe: cutbanks cave.	Ponding, flooding, frost action.	Erodes easily, ponding.	Wetness, erodes easily.

See footnote at end of table.

Table 13.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
534-- Binghamville	Moderate: seepage.	Severe: piping, wetness.	Severe: slow refill.	Percs slowly, frost action.	Wetness, erodes easily, percs slowly.	Wetness, erodes easily, percs slowly.
558B-- Skerry	Moderate: seepage, slope.	Moderate: seepage.	Severe: no water.	Percs slowly, frost action, slope.	Wetness, percs slowly.	Rooting depth, percs slowly.
559B-- Skerry	Moderate: seepage, slope.	Moderate: seepage.	Severe: no water.	Percs slowly, frost action, slope.	Large stones, wetness, percs slowly.	Large stones, rooting depth, percs slowly.
559C, 559D-- Skerry	Severe: slope.	Moderate: seepage.	Severe: no water.	Percs slowly, frost action, slope.	Slope, large stones, wetness.	Large stones, slope, rooting depth.
613-- Croghan	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, too sandy.	Droughty.
614-- Kinsman	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, too sandy.	Wetness, droughty.
632A-- Nicholville	Moderate: seepage.	Severe: piping.	Severe: no water.	Cutbanks cave	Not needed--	Erodes easily.
632B-- Nicholville	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Cutbanks cave	Erodes easily	Erodes easily.
633-- Pemi	Slight--	Severe: piping, wetness.	Severe: slow refill.	Percs slowly, frost action.	Erodes easily, wetness, percs slowly.	Wetness, erodes easily, percs slowly.
647A-- Pillsbury	Slight--	Severe: piping, wetness.	Severe: no water.	Percs slowly, frost action.	Wetness, percs slowly.	Wetness, rooting depth.
647B-- Pillsbury	Moderate: slope.	Severe: piping, wetness.	Severe: no water.	Percs slowly, slope.	Wetness, percs slowly.	Wetness, rooting depth.
701B*:						
Becket--	Moderate: seepage, slope.	Moderate: seepage.	Severe: no water.	Deep to water	Percs slowly--	Rooting depth, percs slowly.
Skerry--	Moderate: seepage, slope.	Moderate: seepage.	Severe: no water.	Percs slowly, frost action, slope.	Large stones, wetness, percs slowly.	Large stones, rooting depth, percs slowly.

See footnote at end of table.

Table 13.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
703D*, 703E*:						
Becket	Severe: slope.	Moderate: seepage.	Severe: no water.	Deep to water	Slope, percs slowly.	Slope, rooting depth, percs slowly.
Monadnock	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, too sandy.	Slope.
709D*, 709E*:						
Becket	Severe: slope.	Moderate: seepage.	Severe: no water.	Deep to water	Slope, percs slowly.	Slope, rooting depth, percs slowly.
Tunbridge	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, large stones, depth to rock.	Large stones, slope, droughty.
710D*, 710E*:						
Becket	Severe: slope.	Moderate: seepage.	Severe: no water.	Deep to water	Slope, percs slowly.	Slope, rooting depth, percs slowly.
Lyman	Severe: depth to rock, slope.	Severe: thin layer, piping.	Severe: no water.	Deep to water	Slope, depth to rock.	Slope, droughty, depth to rock.
Rock outcrop.						
711B*:						
Monadnock	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Too sandy	Favorable.
Hermon	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Large stones, too sandy.	Large stones, droughty.
711D*, 711E*:						
Monadnock	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, too sandy.	Slope.
Hermon	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, large stones, too sandy.	Large stones, slope, droughty.
712B*:						
Hermon	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Large stones, too sandy.	Large stones, droughty.
Monadnock	Severe: seepage.	Severe: seepage, large stones.	Severe: no water.	Deep to water, large stones.	Large stones, too sandy.	Large stones.

See footnote at end of table.

Table 13.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
712D*, 712E*:						
Hermon	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, large stones, too sandy.	Large stones, slope, droughty.
Monadnock	Severe: seepage, slope.	Severe: seepage, large stones.	Severe: no water.	Deep to water, large stones.	Slope, large stones, too sandy.	Large stones, slope.
713B*:						
Hermon	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Large stones, too sandy.	Large stones, droughty.
Waumbek	Severe: seepage.	Severe: seepage, wetness.	Severe: cutbanks cave.	Large stones, cutbanks cave, slope.	Large stones, wetness.	Large stones.
713D*:						
Hermon	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, large stones, too sandy.	Large stones, slope, droughty.
Waumbek	Severe: seepage, slope.	Severe: seepage, wetness.	Severe: cutbanks cave.	Large stones, cutbanks cave, slope.	Slope, large stones, wetness.	Large stones, slope.
717*:						
Lyme	Severe: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Frost action	Wetness	Wetness.
Peacham	Slight	Severe: piping, ponding.	Severe: slow refill.	Ponding, percs slowly, frost action.	Large stones, ponding, rooting depth.	Large stones, wetness, droughty.
719D*, 719E*:						
Marlow	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, percs slowly.	Slope, rooting depth, percs slowly.
Tunbridge	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, large stones, depth to rock.	Large stones, slope, droughty.
720D*, 720E*:						
Marlow	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, percs slowly.	Slope, rooting depth, percs slowly.
Lyman	Severe: depth to rock, slope.	Severe: thin layer, piping.	Severe: no water.	Deep to water	Slope, depth to rock.	Slope, droughty, depth to rock.
Rock outcrop.						

See footnote at end of table.

Table 13.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
721B*:						
Peru	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Percs slowly, frost action, slope.	Wetness, percs slowly.	Rooting depth, percs slowly.
Marlow	Moderate: slope.	Severe: piping.	Severe: no water.	Deep to water	Percs slowly	Rooting depth, percs slowly.
722D*:						
Marlow	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, percs slowly.	Slope, rooting depth, percs slowly.
Berkshire	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, large stones.	Large stones, slope, droughty.
723B*:						
Peru	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Percs slowly, frost action, slope.	Wetness, percs slowly.	Rooting depth, percs slowly.
Pillsbury	Moderate: slope.	Severe: piping, wetness.	Severe: no water.	Percs slowly, slope.	Wetness, percs slowly.	Wetness, rooting depth.
724B*:						
Skerry	Moderate: seepage, slope.	Moderate: seepage.	Severe: no water.	Percs slowly, frost action, slope.	Large stones, wetness, percs slowly.	Large stones, rooting depth, percs slowly.
Tunbridge	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Large stones, depth to rock.	Large stones, droughty.
726D*, 726E*:						
Rock outcrop.						
Lyman	Severe: depth to rock, slope.	Severe: thin layer, piping.	Severe: no water.	Deep to water	Slope, depth to rock.	Slope, droughty, depth to rock.
727*.						
Rubble land						
729B*:						
Waumbek	Severe: seepage.	Severe: seepage, wetness.	Severe: cutbanks cave.	Large stones, cutbanks cave, slope.	Large stones, wetness.	Large stones.
Lyme	Severe: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Frost action, slope.	Wetness	Wetness.

See footnote at end of table.

Table 13.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
730B*:						
Skerry	Moderate: seepage, slope.	Moderate: seepage.	Severe: no water.	Percs slowly, frost action, slope.	Large stones, wetness, percs slowly.	Large stones, rooting depth, percs slowly.
Lyman	Severe: depth to rock.	Severe: thin layer, piping.	Severe: no water.	Deep to water	Depth to rock, large stones.	Large stones, droughty, depth to rock.
Rock outcrop.						
731*:						
Peacham	Slight	Severe: piping, ponding.	Severe: slow refill.	Ponding, percs slowly, frost action.	Large stones, ponding, rooting depth.	Large stones, wetness, droughty.
Ossipee	Severe: seepage.	Severe: piping, ponding.	Severe: slow refill.	Ponding, frost action, subsides.	Ponding	Wetness.
734D*:						
Surplus	Severe: slope.	Severe: piping.	Severe: no water.	Percs slowly, frost action, slope.	Slope, wetness.	Wetness, slope.
Sisk	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, large stones, percs slowly.	Large stones, slope, rooting depth.
735E*:						
Saddleback	Severe: depth to rock, slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, large stones, depth to rock.	Large stones, slope, depth to rock.
Ricker	Severe: depth to rock, slope.	Severe: thin layer.	Severe: deep to water.	Depth to rock, slope.	Slope, depth to rock, erodes easily.	Slope, erodes easily, depth to rock.
Rock outcrop.						
740D*:						
Hermon	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, large stones, too sandy.	Large stones, slope, droughty.
Redstone	Severe: seepage, slope.	Severe: seepage.	No water	Deep to water	Slope, too sandy.	Slope, droughty.
741D*, 741E*:						
Redstone	Severe: seepage, slope.	Severe: seepage.	No water	Deep to water	Slope, too sandy.	Slope, droughty.

See footnote at end of table.

Table 13.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Terraces and diversions	Grassed waterways
741D*, 741E*:						
Canaan-----------	Severe: depth to rock, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, large stones, depth to rock.	Large stones, slope, droughty.
Rock outcrop.						
819B*:						
Peru-------------	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Percs slowly, frost action, slope.	Wetness, percs slowly.	Rooting depth, percs slowly.
Tunbridge--------	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Large stones, depth to rock.	Large stones, droughty.
W*. Water						

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 14.--Engineering Index Properties

(The symbol < means less than; > means more than. Absence of an entry indicates that data were not estimated)

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
1---------------- Occum	0-8	Fine sandy loam	SM	A-2, A-4	0	95-100	75-100	45-80	25-50	<25	NP-4
	8-25	Sandy loam, fine sandy loam, loam.	SM, ML	A-2, A-4	0	95-100	75-100	45-85	25-70	<25	NP-4
	25-44	Sandy loam, fine sandy loam, loamy fine sand.	SM	A-2, A-4	0	95-100	75-100	45-85	25-50	<25	NP-3
	44-65	Stratified loamy fine sand to very gravelly coarse sand.	SM, SP-SM, SP	A-1, A-2, A-3	0-10	65-100	30-100	15-75	0-25	---	NP
2---------------- Suncook	0-8	Loamy fine sand	SM	A-2	0	95-100	85-100	45-85	15-35	---	NP
	8-32	Stratified loamy fine sand to coarse sand.	SP, SM	A-1, A-2, A-3	0	90-100	70-100	20-85	0-35	---	NP
	32-65	Stratified loamy fine sand to gravelly coarse sand.	SP, SM	A-1, A-2, A-3	0	60-100	45-100	20-85	0-35	---	NP
4---------------- Pootatuck	0-7	Very fine sandy loam.	SM, ML	A-2, A-4	0	95-100	80-100	55-95	30-75	<25	NP-4
	7-32	Fine sandy loam, sandy loam.	SM	A-2, A-4	0	95-100	80-100	55-85	30-50	<20	NP-2
	32-65	Stratified loamy fine sand to very gravelly coarse sand.	SP, SP-SM, SM	A-1, A-2, A-3	0-15	70-100	45-100	25-75	0-25	---	NP
5---------------- Rippowam	0-10	Fine sandy loam	SM, ML	A-2, A-4	0	95-100	80-100	55-95	30-75	<25	NP-4
	10-26	Fine sandy loam, sandy loam.	SM	A-2, A-4	0	95-100	80-100	55-85	30-50	<20	NP-2
	26-65	Stratified loamy fine sand to very gravelly coarse sand.	SP, SP-SM, SM	A-1, A-2, A-3	0-10	70-100	45-100	25-75	0-25	---	NP
8---------------- Hadley	0-10	Silt loam--------	ML, CL-ML	A-4	0	100	95-100	85-100	60-90	<30	NP-7
	10-65	Silt loam, very fine sandy loam, loamy fine sand.	ML, CL-ML	A-4	0	100	95-100	80-100	50-90	<39	NP-10
9---------------- Winooski	0-8	Silt loam--------	ML, SM	A-4	0	100	95-100	90-100	40-90	<30	NP
	8-65	Silt loam, very fine sandy loam, loamy very fine sand.	ML, SM	A-4	0	100	95-100	90-100	40-90	<30	NP
15--------------- Searsport	0-12	Mucky-peat-------	PT	A-8	0	45-100	40-100	15-80	1-45	---	---
	12-17	Loamy fine sand, fine sandy loam, mucky sand.	SM, SP-SM	A-1, A-2, A-3	0	85-100	75-100	40-85	5-55	<20	NP
	17-65	Loamy fine sand, coarse sand, loamy sand.	SM, SP, SP-SM	A-1, A-2, A-3	0	80-100	75-100	25-80	2-45	---	NP

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
22A, 22B, 22C, 22E------------- Colton	0-11	Loamy sand-------	SM, SW-SM, SP-SM	A-1, A-2, A-3, A-4	0-5	80-90	75-85	40-70	5-45	<10	NP-2
	11-22	Gravelly loamy fine sand, very gravelly sand, loamy sand.	GM, SM, SP, GP	A-1	5-20	30-80	25-75	20-50	2-20	<10	NP
	22-65	Gravelly loamy fine sand, very gravelly loamy sand, gravelly coarse sand.	SP, GP, GW, SW	A-1	10-45	20-55	15-50	10-30	0-5	---	NP
24A, 24B--------- Agawam	0-10	Fine sandy loam	SM, ML	A-4	0	95-100	85-100	65-85	35-55	<25	NP-3
	10-19	Fine sandy loam, very fine sandy loam, loam.	SM, ML	A-2, A-4	0	80-100	60-100	50-85	30-55	<25	NP-3
	19-23	Fine sandy loam	SM, ML	A-2, A-4	0	80-100	60-100	50-85	30-55	<20	NP-3
	23-65	Stratified loamy fine sand to gravelly sand.	SM, SP-SM, GM, GP-GM	A-1, A-2, A-3	0-5	60-100	50-100	35-80	5-35	---	NP
26A, 26B, 26C, 26E------------- Windsor	0-10	Loamy fine sand	SM	A-1, A-2	0	95-100	80-100	45-90	20-35	---	NP
	10-27	Loamy sand, loamy fine sand.	SM	A-1, A-2	0	95-100	80-100	45-90	15-30	---	NP
	27-65	Sand, fine sand, loamy sand.	SM, SP, SP-SM	A-1, A-2, A-3	0	90-100	75-100	40-90	2-30	---	NP
27A, 27B, 27C---- Groveton	0-3	Fine sandy loam	SM, ML	A-4	0	100	95-100	65-90	40-60	<25	NP-3
	3-28	Fine sandy loam, sandy loam, very fine sandy loam.	SM, SP-SM	A-2, A-3, A-4	0	100	90-100	60-90	5-50	<20	NP-3
	28-65	Fine sandy loam, loamy fine sand, fine sand.	SM, SP-SM	A-1, A-2, A-3	0	95-100	90-100	40-90	5-35	---	NP
27E-------------- Groveton	0-3	Fine sandy loam	SM, ML	A-4	0	100	95-100	60-90	45-70	<25	NP-3
	3-28	Fine sandy loam, sandy loam, very fine sandy loam.	SM, SP-SM	A-2, A-3, A-4	0	100	90-100	60-90	5-50	<20	NP-3
	28-65	Fine sandy loam, loamy fine sand, fine sand.	SM, SP-SM	A-1, A-2, A-3	0	95-100	90-100	40-90	5-35	---	NP
28A, 28B--------- Madawaska	0-11	Fine sandy loam	SM, ML, SC-SM, CL-ML	A-4, A-2	0	90-100	85-100	60-95	30-75	<40	NP-10
	11-31	Fine sandy loam, very fine sandy loam.	SM, ML, SC-SM, CL-ML	A-4, A-2	0	90-100	85-100	60-95	30-75	<40	NP-10
	31-65	Fine sand, sand, loamy fine sand.	SM, SP-SM	A-2, A-3, A-1	0	90-100	85-100	40-85	5-35	---	NP
36A, 36B, 36C, 36E------------- Adams	0-6	Loamy sand-------	SM, SP-SM	A-1, A-2, A-3, A-4	0	95-100	95-100	45-85	5-40	---	NP
	6-26	Loamy sand, sand, loamy fine sand.	SM, SP-SM	A-1, A-2, A-3, A-4	0	95-100	95-100	35-95	5-40	---	NP
	26-65	Fine sand, coarse sand, gravelly sand.	SP-SM, SW-SM, SP	A-1, A-2, A-3	0-1	80-100	70-100	20-90	0-10	---	NP

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
56B, 56C, 56D---- Becket	0-7	Fine sandy loam	SM	A-2, A-4	0-10	85-95	75-90	60-85	20-50	<18	NP
	7-22	Fine sandy loam, sandy loam, gravelly sandy loam.	SM	A-2, A-4	5-15	75-95	60-95	50-75	20-45	<12	NP
	22-65	Sandy loam, loamy sand, gravelly loamy fine sand.	SM, SP-SM, GM, GP-GM	A-1, A-2	5-25	60-85	45-75	30-70	10-35	---	NP
57B, 57C, 57D, 57E------------- Becket	0-7	Very stony fine sandy loam.	SM, SC, SC-SM	A-2, A-4, A-1-B	5-25	70-95	60-90	30-85	20-50	<30	NP-10
	7-22	Fine sandy loam, sandy loam, gravelly sandy loam.	SM, SC, SC-SM	A-2, A-4	5-15	75-95	60-95	50-75	25-45	<25	NP-10
	22-65	Sandy loam, loamy sand, gravelly loamy fine sand.	SM, SP-SM, GM, GP-GM	A-1, A-2	5-25	60-85	45-75	30-70	10-35	---	NP
59B, 59C--------- Waumbek	0-4	Very stony loamy sand.	SM	A-2, A-4, A-1-B	15-25	70-95	60-85	35-85	15-40	<10	NP
	4-10	Fine sandy loam, gravelly fine sandy loam, very gravelly loamy fine sand.	SM	A-2, A-4, A-1-B	10-30	70-95	60-85	35-85	15-40	<10	NP
	10-65	Very cobbly loamy sand, extremely gravelly loamy sand, cobbly loamy sand.	SM, GM, SP-SM, GP-GM	A-1	20-40	45-80	25-65	20-50	5-20	---	NP
61B*, 61C*, 61D*, 61E*:											
Tunbridge------	0-3	Very stony fine sandy loam.	SM, ML, GM	A-4, A-2	5-25	55-100	50-95	35-90	20-60	<20	NP-2
	3-21	Silt loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-5, A-2	0-15	70-100	65-95	45-95	25-85	<50	NP-6
	21-28	Silt loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-2, A-4	0-15	70-100	65-95	45-95	25-85	<20	NP-2
	28	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Lyman----------	0-7	Very stony fine sandy loam.	SM, ML, GM	A-1, A-2, A-4	5-20	65-95	60-90	35-80	15-75	<30	NP-6
	7-16	Loam, channery fine sandy loam, gravelly loam.	SM, ML, GM	A-1, A-2, A-4	0-20	65-95	60-90	35-85	20-80	<30	NP-4
	16	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
62B, 62C, 62D---- Charlton	0-6	Fine sandy loam	SM, ML	A-2, A-4	0-5	85-95	75-90	50-85	25-65	<25	NP-5
	6-28	Fine sandy loam, gravelly fine sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-15	65-90	60-90	40-80	20-65	<25	NP-3
	28-65	Gravelly sandy loam, gravelly fine sandy loam, loam.	SM, GM	A-2, A-4	5-25	60-90	55-85	40-75	20-45	---	NP
63B, 63C, 63D, 63E------------ Charlton	0-6	Very stony fine sandy loam.	SM, ML	A-2, A-4	10-20	75-95	70-90	60-85	30-70	<25	NP-5
	6-28	Fine sandy loam, gravelly fine sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-15	65-90	60-90	50-80	20-65	<25	NP-3
	28-65	Fine sandy loam, gravelly fine sandy loam, gravelly sandy loam.	SM, GM	A-2, A-4	5-25	60-90	55-85	40-75	20-45	---	NP
72B, 72C, 72D---- Berkshire	0-7	Loam------------	SM, ML	A-2, A-4	0-10	80-95	70-90	45-90	20-70	<30	NP-10
	7-18	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-20	75-95	65-85	40-85	20-65	<30	NP-10
	18-65	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-20	75-90	65-85	40-80	20-60	<20	NP-6
73B, 73C, 73D, 73E------------ Berkshire	0-7	Very stony loam	SM, ML	A-2, A-4, A-5	15-25	80-95	70-90	45-85	25-65	<50	NP-10
	7-18	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4, A-5	0-20	75-95	65-85	40-75	20-60	<50	NP-10
	18-65	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-20	75-90	65-85	40-80	20-55	<20	NP-6
76B, 76C, 76D---- Marlow	0-6	Fine sandy loam	SM, ML, CL-ML, SC	A-2, A-4	0-10	90-100	75-90	50-90	30-80	<30	NP-10
	6-31	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	75-95	60-90	40-85	20-65	<30	NP-10
	31-65	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	70-90	60-85	35-80	20-60	<30	NP-10
77B, 77C, 77D, 77E------------ Marlow	0-6	Very stony fine sandy loam.	SM, ML, CL-ML, SC	A-2, A-4	5-15	90-100	75-90	50-90	30-80	<30	NP-10
	6-31	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	75-95	60-90	40-85	20-65	<30	NP-10
	31-65	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	70-90	60-85	35-80	20-60	<30	NP-10

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
78B, 78C--------- Peru	0-6	Fine sandy loam	SM, ML, CL-ML	A-2, A-4	0-10	90-100	75-90	50-90	30-80	<30	NP-10
	6-24	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	75-95	60-90	40-85	20-65	<30	NP-10
	24-65	Fine sandy loam, loam, sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	70-95	55-95	35-80	20-60	<30	NP-10
79B, 79C, 79D---- Peru	0-6	Very stony fine sandy loam.	SM, ML, CL-ML, SC	A-2, A-4	5-15	90-100	75-90	50-90	30-80	<30	NP-10
	6-24	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	75-95	60-90	40-85	20-65	<30	NP-10
	24-65	Fine sandy loam, loam, sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	70-95	55-95	35-80	20-60	<30	NP-10
90B*, 90C*, 90D*:											
Tunbridge-------	0-3	Fine sandy loam	SM, ML	A-4, A-2	0-5	85-100	80-95	55-95	30-85	<20	NP-2
	3-21	Silt loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-2, A-5	0-15	70-100	65-95	45-95	25-85	<50	NP-6
	21-28	Silt loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-2, A-4	0-15	70-100	65-95	45-95	25-85	<20	NP-2
	28	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Lyman-----------	0-7	Fine sandy loam	ML, SM	A-4, A-1, A-2	0-15	80-95	70-90	40-85	20-80	<35	NP-6
	7-16	Loam, channery fine sandy loam, gravelly loam.	SM, ML, GM	A-2, A-4, A-1	0-20	65-95	60-90	35-85	20-80	<30	NP-4
	16	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
101-------------- Ondawa	0-10	Fine sandy loam	SM, ML	A-2, A-4	0	100	95-100	60-100	30-60	---	NP
	10-33	Fine sandy loam, sandy loam, loam.	SM, ML	A-2, A-4	0	100	95-100	80-95	20-70	---	NP
	33-65	Stratified loamy fine sand to very gravelly coarse sand.	SP, SM, SP-SM	A-2, A-3, A-1	0	70-100	45-100	25-75	0-25	---	NP
102-------------- Sunday	0-9	Loamy sand-------	SM	A-2, A-4	0	100	95-100	60-90	15-50	---	NP
	9-65	Loamy sand, fine sand, coarse sand.	SM, SP-SM	A-1, A-2, A-3	0	95-100	95-100	30-80	5-35	---	NP

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
104-------------- Podunk	0-14	Fine sandy loam	SM, ML	A-2, A-4	0	100	100	60-100	30-90	---	NP
	14-24	Fine sandy loam, sandy loam, loam.	SM, ML	A-2, A-4	0	100	100	60-95	30-75	---	NP
	24-65	Stratified loamy fine sand to very gravelly coarse sand.	SP-SM, SM, SP	A-2, A-1, A-3	0	70-100	45-100	25-75	0-25	---	NP
105-------------- Rumney	0-8	Loam-------------	ML, SM	A-4	0	100	85-100	70-100	40-85	---	NP
	8-24	Fine sandy loam, sandy loam, loam.	SM, ML	A-2, A-4	0	100	85-100	50-95	25-75	---	NP
	24-65	Stratified loamy fine sand to very gravelly coarse sand.	SM, SP-SM, SP	A-1, A-2, A-3	0	70-100	45-100	25-75	0-25	---	NP
108-------------- Hadley	0-10	Silt loam--------	ML, CL-ML	A-4	0	100	95-100	85-100	60-90	<30	NP-7
	10-65	Silt loam, very fine sandy loam, very fine sand.	ML, CL-ML	A-4	0	100	95-100	80-100	50-90	<39	NP-10
109-------------- Limerick	0-5	Silt loam--------	ML	A-4	0	100	100	95-100	80-95	---	NP
	5-14	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	80-95	---	NP
	14-65	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	80-95	---	NP
114*:											
Walpole---------	0-8	Fine sandy loam	SM, ML	A-2, A-4	0-5	90-100	75-100	55-90	25-60	<25	NP-3
	8-21	Sandy loam, fine sandy loam, gravelly sandy loam.	SM	A-2, A-4	0-5	85-100	60-100	40-85	20-50	---	NP
	21-65	Stratified loamy fine sand to very gravelly coarse sand.	SP, SM, GP, GM	A-1, A-2, A-3	0-20	55-100	50-100	25-80	2-30	---	NP
Binghamville----	0-6	Silt loam--------	ML	A-4	0	100	95-100	90-100	85-90	---	NP
	6-18	Silt, silt loam, very fine sandy loam.	ML	A-4	0	100	95-100	90-100	80-90	<30	NP-7
	18-65	Silt loam, silt, very fine sandy loam.	ML, CL, CL-ML	A-4, A-6	0	100	95-100	90-100	55-95	<30	NP-15
130A, 130B, 130C, 130E------------ Hitchcock	0-8	Silt loam--------	ML	A-4	0	100	95-100	85-100	65-90	<35	NP-8
	8-19	Silt loam, very fine sandy loam.	ML	A-4	0	100	95-100	85-100	65-90	<35	NP-8
	19-65	Silt, silt loam, very fine sandy loam.	ML	A-4	0	100	95-100	85-100	65-100	<35	NP-8

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
132A, 132B------- Dartmouth	0-11	Silt loam--------	ML	A-4	0	100	95-100	85-100	65-90	<35	NP-8
	11-22	Silt loam, very fine sandy loam.	ML	A-4	0	100	95-100	85-100	65-90	<35	NP-8
	22-65	Silt loam, very fine sandy loam, loamy very fine sand.	ML	A-4	0	100	95-100	85-100	65-100	<35	NP-8
173C, 173D, 173E- Berkshire	0-8	Extremely stony loam.	SM, ML	A-2, A-4, A-5	20-45	80-95	70-90	45-85	25-65	<50	NP-10
	8-18	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4, A-5	0-20	75-95	65-85	40-75	20-60	<50	NP-10
	18-65	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-20	75-90	65-85	40-80	20-55	<20	NP-6
201-------------- Ondawa	0-10	Fine sandy loam	SM, ML	A-2, A-4	0	100	95-100	60-100	30-60	---	NP
	10-33	Fine sandy loam, sandy loam, loam.	SM, ML	A-2, A-4	0	100	95-100	80-95	20-70	---	NP
	33-65	Stratified loamy fine sand to sand.	SP, SM, SP-SM	A-2, A-3, A-1	0	70-100	45-100	25-75	0-25	---	NP
254B*, 254C*, 254D*:											
Monadnock------	0-6	Fine sandy loam	SM, ML	A-2, A-4	0-5	90-100	85-100	55-85	30-60	<18	NP
	6-23	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-10	80-100	70-100	50-85	30-60	<12	NP
	23-65	Loamy sand, gravelly loamy sand, very gravelly loamy sand.	SM, SP-SM, SW-SM	A-1, A-2	0-35	65-100	50-100	20-60	10-30	---	NP
Hermon---------	0-7	Fine sandy loam	SM	A-2, A-4	0-5	80-95	75-90	50-80	15-45	<40	NP-10
	7-22	Gravelly loamy sand, gravelly fine sandy loam, extremely gravelly sandy loam.	SM, GM, SP-SM, GP-GM	A-2, A-4, A-1	10-30	40-80	30-75	15-65	10-40	<40	NP-10
	22-65	Very gravelly coarse sand, very gravelly loamy sand, extremely gravelly sand.	SP-SM, SM, GP-GM, GM	A-1, A-2, A-3	10-30	40-80	30-75	10-55	5-25	---	NP

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag-ments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct					Pct	
255B*, 255C*, 255D*, 255E*:											
Monadnock------	0-6	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-15	80-100	70-90	50-85	30-60	<18	NP
	6-23	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-10	80-95	70-90	50-85	30-60	<12	NP
	23-65	Loamy sand, gravelly loamy sand, very gravelly loamy sand.	SM, SP-SM, SW-SM	A-1, A-2	0-35	65-85	50-80	20-60	10-30	---	NP
Hermon---------	0-5	Very stony fine sandy loam.	SM	A-2, A-4, A-1	5-30	60-95	50-90	30-80	15-45	<40	NP-10
	5-7	Fine sandy loam, sandy loam, very gravelly coarse sandy loam.	SM	A-1, A-2, A-4	5-30	70-95	50-90	30-80	15-45	<40	NP-10
	7-22	Very gravelly coarse sand, gravelly fine sandy loam, extremely gravelly sandy loam.	SM, GM, SP-SM, GP-GM	A-2, A-4, A-1	10-30	40-80	30-75	15-65	10-40	<40	NP-10
	22-65	Very gravelly coarse sand, gravelly loamy sand, extremely gravelly sand.	SP-SM, SM, GP-GM, GM	A-1, A-2, A-3	10-30	40-80	35-75	10-55	5-25	---	NP
295-------------- Greenwood	0-10	Hemic material---	PT	A-8	0	---	---	---	---	---	---
	10-65	Sapric material, hemic material, fibric material.	PT	A-8	0	---	---	---	---	---	---
298*. Pits											
299*. Udorthents											
310A, 310B, 310C, 310E------------ Quonset	0-8	Loamy sand-------	SP-SM, SM, ML	A-2, A-4	0-5	75-100	70-100	50-85	10-55	---	NP
	8-20	Channery loamy sand, very gravelly loamy sand, loamy sand	GP-GM, GM, SP-SM, SM	A-1, A-2	0-5	45-75	40-75	20-50	5-20	---	NP
	20-65	Stratified very channery coarse sand to very channery sand.	GP, GP-GM, SP, SP-SM	A-1, A-2	0-5	20-70	10-60	5-45	0-10	---	NP
313-------------- Deerfield	0-9	Fine sandy loam	SM, ML	A-2, A-4	0	95-100	80-100	50-85	25-55	---	NP
	9-27	Loamy sand, sand, loamy fine sand.	SM, SP-SM	A-1, A-2, A-3	0	95-100	80-100	40-80	5-40	---	NP
	27-65	Sand, fine sand, coarse sand.	SP, SM	A-1, A-2, A-3	0	95-100	65-100	30-75	3-30	---	NP

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag-ments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct					Pct	
330B, 330C, 330D-Bernardston	0-6	Silt loam--------	ML, CL-ML	A-4, A-6, A-7	0-5	80-100	70-95	65-95	50-85	24-45	4-14
	6-16	Channery silt loam, silt loam, loam.	ML, CL-ML, SM, SC-SM	A-2, A-4	0-10	65-95	50-90	45-90	30-80	22-35	2-10
	16-65	Silt loam, loam, channery loam.	ML, CL-ML, SM, SC-SM	A-2, A-4	0-10	65-90	50-85	45-85	30-75	20-32	2-8
331B, 331C, 331D, 331E------------ Bernardston	0-6	Very stony silt loam.	ML, CL-ML, SM, SC-SM	A-2, A-4, A-6, A-7	10-20	60-90	45-85	40-85	30-75	24-45	4-14
	6-16	Channery silt loam, silt loam, loam.	ML, CL-ML, SM, SC-SM	A-2, A-4	0-10	65-95	50-90	45-90	30-80	22-35	2-10
	16-65	Silt loam, loam, channery loam.	ML, CL-ML, SM, SC-SM	A-2, A-4	0-10	65-90	50-85	45-85	30-75	20-32	2-8
334B, 334C------- Pittstown	0-8	Loam-------------	ML, CL-ML	A-4, A-6, A-7	0-5	80-100	70-95	65-95	50-85	25-45	4-15
	8-25	Silt loam, channery loam, very fine sandy loam.	ML, SM, CL-ML, SC-SM	A-2, A-4	0-15	65-95	60-90	50-90	30-80	20-35	2-10
	25-65	Channery silt loam, channery loam, very fine sandy loam.	ML, SM, CL-ML, SC-SM	A-2, A-4	0-15	60-95	55-85	45-85	30-75	20-30	2-10
336B, 336C, 336D-Pittstown	0-8	Very stony loam	ML, SM, CL-ML, SC-SM	A-2, A-4, A-6, A-7	10-20	65-90	60-85	50-85	30-75	25-45	4-15
	8-25	Silt loam, very fine sandy loam, channery loam.	ML, SM, CL-ML, SC-SM	A-2, A-4	0-15	65-95	60-90	50-90	30-80	20-35	2-10
	25-65	Channery silt loam, channery very fine sandy loam, loam.	ML, SM, CL-ML, SC-SM	A-2, A-4	0-15	60-95	55-85	45-85	30-75	20-30	2-10
341A, 341B------- Stissing	0-10	Very stony silt loam.	SM, SC-SM, ML, CL-ML	A-4, A-6, A-7, A-5	10-20	70-95	60-90	50-85	35-80	24-45	4-14
	10-20	Channery silt loam, silt loam, gravelly loam.	SM, ML, SC-SM, CL-ML	A-4	0-15	70-100	60-90	50-85	35-80	22-34	2-10
	20-65	Channery silt loam, silt loam, channery loam.	GM-GC, CL-ML, GM, ML	A-4	0-15	65-80	55-75	45-70	35-65	20-32	2-8
347A*, 347B*:											
Lyme------------	0-5	Cobbly fine sandy loam.	SM, ML	A-2, A-4	5-15	80-100	70-95	40-95	25-85	<25	NP-3
	5-17	Loam, sandy loam, cobbly fine sandy loam.	SM, ML	A-2, A-4	0-15	80-95	70-90	40-80	25-60	<25	NP-3
	17-65	Fine sandy loam, sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-15	80-95	65-90	40-80	25-60	<25	NP-3

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
347A*, 347B*:											
Moosilauke------	0-5	Very stony fine sandy loam.	SM	A-2, A-4	5-15	90-100	75-100	70-100	30-50	<25	NP-3
	5-22	Loamy sand, sandy loam, fine sandy loam.	SM	A-2, A-4	0-5	85-100	75-95	40-95	25-50	---	NP
	22-65	Loamy sand, sand, gravelly sand.	SP-SM, SP, SM, GP-GM	A-1, A-2, A-3	0-15	55-100	50-95	25-90	0-25	---	NP
355C, 355D, 355E- Hermon	0-5	Extremely bouldery fine sandy loam.	SM	A-1, A-2, A-4	10-50	60-95	50-90	30-80	15-45	<40	NP-10
	5-7	Fine sandy loam, sandy loam, very gravelly coarse sandy loam.	SM	A-1, A-2, A-4	5-30	70-95	50-90	30-80	15-45	<40	NP-10
	7-22	Very gravelly coarse sand, gravelly fine sandy loam, extremely gravelly sandy loam.	SM, GM, GP-GM, GP-GM	A-1, A-2, A-4	10-30	40-80	30-75	15-65	10-40	<40	NP-10
	22-65	Very gravelly coarse sand, gravelly loamy sand, extremely gravelly sand.	SP-SM, SM, GP-GM, GM	A-1, A-2, A-3	10-30	40-80	30-75	10-55	5-25	---	NP
360B*, 360C*, 360D*:											
Cardigan-------	0-6	Silt loam--------	ML, SM	A-4	0-5	90-100	85-95	65-85	45-80	<33	NP-5
	6-23	Silt loam, loam, channery silt loam.	ML, SM	A-4	0-10	80-95	70-95	60-75	35-70	<33	NP-5
	23	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Kearsarge------	0-4	Silt loam--------	ML, SM	A-4	0-5	90-100	85-95	65-85	45-80	<33	NP-5
	4-15	Silt loam, loam, channery silt loam.	ML, SM	A-4	0-10	80-95	70-95	60-75	35-70	<33	NP-5
	15	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
361B*:											
Cardigan--------	0-6	Very stony silt loam.	ML, SM	A-4	5-15	80-100	70-95	60-85	35-80	<33	NP-5
	6-23	Silt loam, loam, channery silt loam.	ML, SM	A-4	0-10	80-95	70-95	60-75	35-70	<33	NP-5
	23	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Kearsarge-------	0-4	Very stony silt loam.	ML, SM	A-4	5-15	80-100	70-95	60-85	45-80	<33	NP-5
	4-15	Silt loam, loam, channery silt loam.	ML, SM	A-4	0-10	80-95	70-95	60-75	35-70	<30	NP-5
	15	Unweathered bedrock.	---	---	---	---	---	---	---	---	---

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments 3-10 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
361B*:											
Rock outcrop.											
361C*:											
Cardigan--------	0-6	Very stony silt loam.	ML, SM	A-4	5-15	80-100	70-95	60-85	35-80	<33	NP-5
	6-23	Silt loam, loam, channery silt loam.	ML, SM	A-4	0-10	80-95	70-95	60-75	35-70	<33	NP-5
	23	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Kearsarge-------	0-4	Very stony silt loam.	ML, SM	A-4	5-15	80-100	70-95	60-85	45-80	<33	NP-5
	4-15	Silt loam, loam, channery silt loam.	ML, SM	A-4	0-10	80-95	70-95	60-75	35-70	<30	NP-5
	15	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
361D*, 361E*:											
Cardigan--------	0-6	Very stony silt loam.	ML, SM	A-4	5-15	80-100	70-95	60-85	35-80	<33	NP-5
	6-23	Silt loam, loam, channery silt loam.	ML, SM	A-4	0-10	80-95	70-95	60-75	35-70	<33	NP-5
	23	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Kearsarge-------	0-4	Very stony silt loam.	ML, SM	A-4	5-15	80-100	70-95	60-85	45-80	<33	NP-5
	4-15	Silt loam, loam, channery silt loam.	ML, SM	A-4	0-10	80-95	70-95	60-75	35-70	<30	NP-5
	15	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
395-------------- Chocorua	0-5	Hemic material---	PT	A-8	5-15	---	---	---	---	---	---
	5-26	Hemic material---	PT	A-8	5-15	---	---	---	---	---	---
	26-65	Stratified gravelly sand to loamy fine sand.	SP, SM	A-1, A-2, A-3	0	75-100	60-100	30-80	0-30	---	NP
398*. Pits											
401-------------- Occum	0-8	Fine sandy loam	SM	A-2, A-4	0	95-100	75-100	45-80	25-50	<25	NP-4
	8-25	Sandy loam, fine sandy loam, loam.	SM, ML	A-2, A-4	0	95-100	75-100	45-85	25-70	<25	NP-4
	25-44	Sandy loam, fine sandy loam, loamy fine sand.	SM	A-2, A-4	0	95-100	75-100	45-85	25-50	<25	NP-3
	44-65	Stratified loamy fine sand to very gravelly coarse sand.	SM, SP-SM, SP	A-1, A-2, A-3	0-10	65-100	30-100	15-75	0-25	---	NP

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
406-------------- Medomak	0-11	Silt loam--------	ML, CL-ML, CL	A-4, A-6	0	95-100	90-100	85-100	80-95	<40	NP-15
	11-65	Silt loam, very fine sandy loam, loamy very fine sand.	ML, CL-ML, CL	A-4	0	95-100	90-100	85-100	60-95	<40	NP-10
534-------------- Binghamville	0-6	Silt loam--------	ML	A-4	0	100	95-100	90-100	85-90	---	NP
	6-18	Silt, silt loam, very fine sandy loam.	ML	A-4	0	100	95-100	90-100	80-90	<30	NP-7
	18-65	Silt loam, silt, very fine sandy loam.	ML, CL, CL-ML	A-4, A-6	0	100	95-100	90-100	55-95	<30	NP-15
558B------------- Skerry	0-12	Fine sandy loam	SM, SC, SC-SM	A-2, A-4	0-10	80-95	75-90	60-85	30-50	<30	NP-10
	12-21	Gravelly fine sandy loam, gravelly sandy loam, fine sandy loam.	SM, SC, SC-SM	A-2, A-4	5-15	75-95	60-95	50-75	20-45	<25	NP-10
	21-65	Gravelly loamy sand, loamy sand, gravelly fine sandy loam.	SM, GM, GP-GM, SP-SM	A-1, A-2	5-25	60-85	45-75	30-70	10-35	---	NP
559B, 559C, 559D- Skerry	0-12	Very stony fine sandy loam.	SM, SC, SC-SM	A-2, A-4, A-1-B	5-25	70-95	60-90	30-85	20-50	<30	NP-10
	12-21	Gravelly fine sandy loam, gravelly sandy loam, fine sandy loam.	SM, SC, SC-SM	A-2, A-4	5-15	75-95	60-95	50-75	20-45	<25	NP-10
	21-65	Gravelly loamy sand, loamy sand, gravelly fine sandy loam.	SM, GM, GP-GM, SP-SM	A-1, A-2	5-25	60-85	45-75	30-70	10-35	---	NP
613-------------- Croghan	0-11	Loamy fine sand	SM, SP-SM, SW-SM	A-1, A-3, A-4, A-2	0	95-100	95-100	45-80	5-40	---	NP
	11-23	Sand, loamy sand, loamy fine sand.	SM, SP-SM, SW-SM	A-1, A-2, A-3, A-4	0	80-100	75-100	45-80	5-40	---	NP
	23-65	Fine sand, loamy sand, coarse sand.	SM, SP-SM, SW-SM	A-1, A-2, A-3	0	80-100	75-100	45-75	5-30	---	NP
614-------------- Kinsman	0-8	Sand-------------	SM, SW-SM, SP-SM	A-2, A-3, A-4	0	90-100	80-100	50-85	5-45	---	NP
	8-24	Loamy fine sand, loamy sand, sand.	SM, SP-SM, SW-SM	A-1, A-2, A-3	0	90-100	80-100	45-85	5-35	---	NP
	24-65	Loamy sand, sand, gravelly sand.	SM, SP-SM, SW-SM	A-1, A-2, A-3	0-5	90-95	55-90	45-75	5-25	---	NP

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag-ments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct					Pct	
632A, 632B------- Nicholville	0-9	Very fine sandy loam.	ML, CL-ML	A-4, A-6	0	90-100	85-100	70-100	60-90	20-40	2-12
	9-15	Silt loam, very fine sandy loam, loamy very fine sand.	ML, CL-ML	A-4	0	90-100	85-100	75-100	60-90	15-25	NP-5
	15-22	Very fine sandy loam, silt loam, very fine sand.	ML, CL-ML, SM, SC-SM	A-4, A-2	0	90-100	85-100	65-100	30-90	15-25	NP-5
	22-65	Silt loam, very fine sand, sandy loam.	ML, CL-ML, SM, SC-SM	A-4, A-2	0	90-100	85-100	50-100	25-90	15-25	NP-5
633------------- Pemi	0-6	Silt loam--------	ML, CL, CL-ML	A-4	0	100	90-100	80-100	55-95	<30	NP-10
	6-11	Silt loam, very fine sandy loam.	ML, CL, CL-ML	A-4	0	100	90-100	80-100	55-95	<30	NP-10
	11-65	Silt, silt loam, very fine sandy loam.	ML	A-4	0	100	95-100	80-100	55-95	<40	NP-10
647A, 647B------- Pillsbury	0-7	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-15	80-100	55-95	35-95	25-85	<25	NP-3
	7-30	Loam, fine sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-15	80-95	55-95	35-80	25-60	<25	NP-3
	30-65	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-15	80-95	55-95	35-80	25-60	<25	NP-3
701B*:											
Becket----------	0-7	Very stony fine sandy loam.	SM, SC, SC-SM	A-2, A-4, A-1-B	5-25	70-95	60-90	30-85	20-50	<30	NP-10
	7-22	Fine sandy loam, sandy loam, gravelly sandy loam.	SM, SC, SC-SM	A-2, A-4	5-15	75-95	60-95	50-75	25-45	<25	NP-10
	22-65	Sandy loam, loam, gravelly loamy fine sand.	SM, SP-SM, GM, GP-GM	A-1, A-2	5-25	60-85	45-75	30-70	10-35	---	NP
Skerry----------	0-12	Very stony fine sandy loam.	SM, SC, SC-SM	A-2, A-4, A-1-B	5-25	70-95	60-90	30-85	20-50	<30	NP-10
	12-21	Gravelly fine sandy loam, gravelly sandy loam, fine sandy loam.	SM, SC, SC-SM	A-2, A-4	5-15	75-95	60-95	50-75	20-45	<25	NP-10
	21-65	Gravelly loamy fine sand, loamy sand, gravelly fine sandy loam.	SM, GM, GP-GM, SP-SM	A-1, A-2	5-25	60-85	45-75	30-70	10-35	---	NP

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
703D*, 703E*:											
Becket----------	0-7	Very stony fine sandy loam.	SM, SC, SC-SM	A-2, A-4, A-1-B	5-25	70-95	60-90	30-85	20-50	<30	NP-10
	7-22	Fine sandy loam, sandy loam, gravelly sandy loam.	SM, SC, SC-SM	A-2, A-4	5-15	75-95	60-95	50-75	25-45	<25	NP-10
	22-65	Sandy loam, loam, gravelly loamy fine sand.	SM, SP-SM, GM, GP-GM	A-1, A-2	5-25	60-85	45-75	30-70	10-35	---	NP
Monadnock-------	0-6	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-15	80-100	70-90	50-85	30-60	<18	NP
	6-23	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-10	80-95	70-90	50-85	30-60	<12	NP
	23-65	Loamy sand, gravelly loamy sand, very gravelly loamy sand.	SM, SP-SM, SW-SM	A-1, A-2	0-35	65-85	50-80	20-60	10-30	---	NP
709D*, 709E*:											
Becket----------	0-7	Very stony fine sandy loam.	SM, SC, SC-SM	A-2, A-4, A-1-B	5-25	70-95	60-90	30-85	20-50	<30	NP-10
	7-22	Fine sandy loam, sandy loam, gravelly sandy loam.	SM, SC, SC-SM	A-2, A-4	5-15	75-95	60-95	50-75	25-45	<25	NP-10
	22-65	Sandy loam, loam, gravelly sandy loam.	SM, SP-SM, GM, GP-GM	A-1, A-2	5-25	60-85	45-75	30-70	10-35	---	NP
Tunbridge-------	0-3	Very stony fine sandy loam.	SM, ML, GM	A-4, A-2	10-35	65-100	60-95	40-95	25-85	<20	NP-2
	3-21	Silt loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-5, A-2	0-15	70-100	65-95	45-95	25-85	<50	NP-6
	21-28	Silt loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-2, A-4	0-15	70-100	65-95	45-95	25-85	<20	NP-2
	28	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
710D*, 710E*:											
Becket----------	0-7	Very stony fine sandy loam.	SM, SC, SC-SM	A-2, A-4, A-1-B	5-25	70-95	60-90	30-85	20-50	<30	NP-10
	7-22	Fine sandy loam, sandy loam, gravelly sandy loam.	SM, SC, SC-SM	A-2, A-4	5-15	75-95	60-95	50-75	25-45	<25	NP-10
	22-65	Sandy loam, loam, gravelly loamy fine sand.	SM, SP-SM, GM, GP-GM	A-1, A-2	5-25	60-85	45-75	30-70	10-35	---	NP

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
710D*, 710E*:											
Lyman-----------	0-7	Very stony fine sandy loam.	SM, ML, GM	A-1, A-2, A-4	5-20	65-95	60-90	35-80	15-75	<30	NP-6
	7-16	Loam, channery fine sandy loam, gravelly loam.	SM, ML, GM	A-1, A-2, A-4	0-20	65-95	60-90	35-85	20-80	<30	NP-4
	16	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
711B*, 711D*:											
Monadnock-------	0-6	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-15	80-100	70-90	50-85	30-60	<18	NP
	6-23	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-10	80-95	70-90	50-85	30-60	<12	NP
	23-65	Loamy sand, gravelly loamy sand, very gravelly loamy sand.	SM, SP-SM, SW-SM	A-1, A-2	0-35	65-85	50-80	20-60	10-30	---	NP
Hermon----------	0-5	Very stony fine sandy loam.	SM	A-2, A-4, A-1	5-30	60-95	50-90	30-80	15-45	<40	NP-10
	5-7	Fine sandy loam, sandy loam, very gravelly coarse sandy loam.	SM	A-1, A-2, A-4	5-30	70-95	50-90	30-80	15-45	<40	NP-10
	7-22	Very gravelly coarse sand, gravelly fine sandy loam, extremely gravelly sandy loam.	SM, GM, SP-SM, GP-GM	A-2, A-4, A-1	10-30	40-80	30-75	15-65	10-40	<40	NP-10
	22-65	Very gravelly coarse sand, gravelly loamy sand, extremely gravelly sand.	SP-SM, SM, GP-GM, GM	A-1, A-2, A-3	10-30	40-80	35-75	10-55	5-25	---	NP
711E*:											
Monadnock-------	0-6	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-15	80-100	70-90	50-85	30-60	<18	NP
	6-23	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-10	80-95	70-90	50-85	30-60	<12	NP
	23-65	Loamy sand, gravelly loamy sand, very gravelly loamy sand.	SM, SP-SM, SW-SM	A-1, A-2	0-35	65-85	50-80	20-60	10-30	---	NP

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
711E*:											
Hermon	0-5	Very stony fine sandy loam.	SM	A-2, A-4, A-1	10-50	60-95	50-90	30-80	15-45	<40	NP-10
	5-7	Fine sandy loam, sandy loam, very gravelly coarse sandy loam.	SM	A-1, A-2, A-4	5-30	70-95	50-90	30-80	15-45	<40	NP-10
	7-22	Very gravelly coarse sand, gravelly fine sandy loam, extremely gravelly sandy loam.	SM, GM, SP-SM, GP-GM	A-2, A-4, A-1	10-30	40-80	30-75	15-65	10-40	<40	NP-10
	22-65	Very gravelly coarse sand, gravelly loamy sand, extremely gravelly sand.	SP-SM, SM, GP-GM, GM	A-1, A-2, A-3	10-30	40-80	35-75	10-55	5-25	---	NP
712B*, 712D*, 712E*:											
Hermon	0-5	Extremely bouldery fine sandy loam.	SM	A-1, A-2, A-4	10-50	60-95	50-90	30-80	15-45	<40	NP-10
	5-7	Fine sandy loam, sandy loam, very gravelly coarse sandy loam.	SM	A-1, A-2, A-4	5-30	70-95	50-90	30-80	15-45	<40	NP-10
	7-22	Very gravelly coarse sand, gravelly fine sandy loam, extremely gravelly sandy loam.	SM, GM, GP-GM, GP-GM	A-1, A-2, A-4	10-30	40-80	30-75	15-65	10-40	<40	NP-10
	22-65	Very gravelly coarse sand, gravelly loamy sand, extremely gravelly sand.	SP-SM, SM, GP-GM, GM	A-1, A-2, A-3	10-30	40-80	30-75	10-55	5-25	---	NP
Monadnock	0-6	Extremely bouldery fine sandy loam.	SM, ML	A-2, A-4	30-55	80-95	70-90	40-85	25-60	<15	NP
	6-23	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-10	80-95	70-90	50-85	30-60	<12	NP
	23-65	Loamy sand, gravelly loamy sand, very gravelly loamy sand.	SM, SP-SM, SW-SM	A-1, A-2	0-35	65-85	50-80	20-60	10-30	---	NP

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
713B*, 713D*:											
Hermon----------	0-5	Very stony fine sandy loam.	SM	A-2, A-4, A-1	5-30	60-95	50-90	30-80	15-45	<40	NP-10
	5-7	Fine sandy loam, sandy loam, very gravelly coarse sandy loam.	SM	A-1, A-2, A-4	5-30	70-95	50-90	30-80	15-45	<40	NP-10
	7-22	Very gravelly coarse sand, gravelly fine sandy loam, extremely gravelly sandy loam.	SM, GM, SP-SM, GP-GM	A-2, A-4, A-1	10-30	40-80	30-75	15-65	10-40	<40	NP-10
	22-65	Very gravelly coarse sand, gravelly loamy sand, extremely gravelly sand.	SP-SM, SM, GP-GM, GM	A-1, A-2, A-3	10-30	40-80	35-75	10-55	5-25	---	NP
Waumbek---------	0-5	Very stony loamy sand.	SM	A-2, A-4, A-1-B	15-25	70-95	60-85	35-85	15-40	<10	NP
	5-15	Fine sandy loam, cobbly fine sandy loam, very cobbly loamy sand.	SM	A-2, A-4, A-1-B	10-30	70-95	60-85	35-85	15-40	<10	NP
	15-65	Very cobbly loamy sand, extremely gravelly loamy sand, cobbly coarse sand.	SM, GM, SP-SM, GP-GM	A-1	20-40	45-80	25-65	20-50	5-20	---	NP
717*:											
Lyme------------	0-5	Cobbly fine sandy loam.	SM, ML	A-2, A-4	5-15	80-100	70-95	40-95	25-85	<25	NP-3
	5-17	Loam, sandy loam, cobbly fine sandy loam.	SM, ML	A-2, A-4	0-15	80-95	70-90	40-80	25-60	<25	NP-3
	17-65	Fine sandy loam, sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-15	80-95	65-90	40-80	25-60	<25	NP-3
Peacham---------	0-7	Very stony muck	PT	A-8	5-15	---	---	---	---	---	---
	7-15	Silt loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4, A-6	0-15	75-100	65-100	50-100	30-90	<30	NP-15
	15-65	Sandy loam, loam, gravelly sandy loam.	SM, ML	A-2, A-4, A-6	0-15	75-100	65-100	50-100	30-90	<30	NP-15
719D*, 719E*:											
Marlow----------	0-6	Very stony fine sandy loam.	SM, ML, CL-ML, SC	A-2, A-4	5-15	90-100	75-90	50-90	30-80	<30	NP-10
	6-31	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	75-95	60-90	40-85	20-65	<30	NP-10
	31-65	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	70-90	60-85	35-80	20-60	<30	NP-10

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag-ments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct					Pct	
719D*, 719E*:											
Tunbridge-------	0-3	Very stony fine sandy loam.	SM, ML, GM	A-4, A-2	10-35	65-100	60-95	40-95	25-85	<20	NP-2
	3-21	Silt loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-5, A-2	0-15	70-100	65-95	45-95	25-85	<50	NP-6
	21-28	Silt loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-2, A-4	0-15	70-100	65-95	45-95	25-85	<20	NP-2
	28	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
720D*, 720E*:											
Marlow----------	0-6	Very stony fine sandy loam.	SM, ML, CL-ML, SC	A-2, A-4	5-15	90-100	75-90	50-90	30-80	<30	NP-10
	6-31	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	75-95	60-90	40-85	20-65	<30	NP-10
	31-65	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	70-90	60-85	35-80	20-60	<30	NP-10
Lyman-----------	0-7	Very stony fine sandy loam.	SM, ML, GM	A-1, A-2, A-4	5-20	65-95	60-90	35-80	15-75	<30	NP-6
	7-16	Loam, channery fine sandy loam, gravelly loam.	SM, ML, GM	A-1, A-2, A-4	0-20	65-95	60-90	35-85	20-80	<30	NP-4
	16	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
721B*:											
Peru------------	0-6	Very stony fine sandy loam.	SM, ML, CL-ML, SC	A-2, A-4	5-15	90-100	75-90	50-90	30-80	<30	NP-10
	6-24	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	75-95	60-90	40-85	20-65	<30	NP-10
	24-65	Fine sandy loam, loam, sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	70-95	55-95	35-80	20-60	<30	NP-10
Marlow----------	0-6	Very stony fine sandy loam.	SM, ML, CL-ML, SC	A-2, A-4	5-15	90-100	75-90	50-90	30-80	<30	NP-10
	6-31	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	75-95	60-90	40-85	20-65	<30	NP-10
	31-65	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	70-90	60-85	35-80	20-60	<30	NP-10

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
722D*:											
Marlow----------	0-6	Very stony fine sandy loam.	SM, ML, CL-ML, SC	A-2, A-4	5-15	90-100	75-90	50-90	30-80	<30	NP-10
	6-31	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	75-95	60-90	40-85	20-65	<30	NP-10
	31-65	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	70-90	60-85	35-80	20-60	<30	NP-10
Berkshire-------	0-8	Very stony loam	SM, ML	A-2, A-4, A-5	15-25	80-95	70-90	45-85	25-65	<50	NP-10
	8-18	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4, A-5	0-20	75-95	65-85	40-75	20-60	<50	NP-10
	18-65	Fine sandy loam, sandy loam, gravelly loam.	SM, ML	A-2, A-4	0-20	75-90	65-85	40-80	20-55	<20	NP-6
723B*:											
Peru------------	0-6	Very stony fine sandy loam.	SM, ML, CL-ML, SC	A-2, A-4	5-15	90-100	75-90	50-90	30-80	<30	NP-10
	6-24	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	75-95	60-90	40-85	20-65	<30	NP-10
	24-65	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	70-95	55-95	35-80	20-60	<30	NP-10
Pillsbury-------	0-7	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-15	80-100	55-95	35-95	25-85	<25	NP-3
	7-30	Loam, fine sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-15	80-95	55-95	35-80	25-60	<25	NP-3
	30-65	Fine sandy loam, sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-15	80-95	55-95	35-80	25-60	<25	NP-3
724B*:											
Skerry----------	0-12	Very stony fine sandy loam.	SM, SC, SC-SM	A-2, A-4, A-1-B	5-25	70-95	60-90	30-85	20-50	<30	NP-10
	12-21	Gravelly fine sandy loam, gravelly sandy loam, fine sandy loam.	SM, SC, SC-SM	A-2, A-4	5-15	75-95	60-95	50-75	20-45	<25	NP-10
	21-65	Gravelly loamy fine sand, loamy sand, gravelly fine sandy loam.	SM, GM, GP-GM, SP-SM	A-1, A-2	5-25	60-85	45-75	30-70	10-35	---	NP

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
724B*:											
Tunbridge-------	0-3	Extremely stony fine sandy loam.	SM, ML, GM	A-4, A-2	10-35	65-100	60-95	40-95	25-85	<20	NP-2
	3-21	Silt loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-5, A-2	0-15	70-100	65-95	45-95	25-85	<50	NP-6
	21-28	Silt loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-2, A-4	0-15	70-100	65-95	45-95	25-85	<20	NP-2
	28	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
726D*, 726E*:											
Rock outcrop.											
Lyman-----------	0-7	Very stony fine sandy loam.	SM, ML, GM	A-1, A-2, A-4	5-20	65-95	60-90	35-80	15-75	<30	NP-6
	7-16	Loam, channery fine sandy loam, gravelly loam.	SM, ML, GM	A-1, A-2, A-4	0-20	65-95	60-90	35-85	20-80	<30	NP-4
	16	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
727*.											
Rubble land											
729B*:											
Waumbek---------	0-5	Very stony loamy sand.	SM	A-2, A-4, A-1-B	15-25	70-95	60-85	35-85	15-40	<10	NP
	5-15	Fine sandy loam, cobbly fine sandy loam, very cobbly loamy sand.	SM	A-2, A-4, A-1-B	10-30	70-95	60-85	35-85	15-40	<10	NP
	15-65	Very cobbly loamy sand, extremely gravelly loamy sand, cobbly coarse sand.	SM, GM, SP-SM, GP-GM	A-1	20-40	45-80	25-65	20-50	5-20	---	NP
Lyme------------	0-5	Cobbly fine sandy loam.	SM, ML	A-2, A-4	5-15	80-100	70-95	40-95	25-85	<25	NP-3
	5-17	Loam, sandy loam, cobbly fine sandy loam.	SM, ML	A-2, A-4	0-15	80-95	70-90	40-80	25-60	<25	NP-3
	17-65	Fine sandy loam, sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-15	80-95	65-90	40-80	25-60	<25	NP-3

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct					Pct	
730B*:											
Skerry----------	0-12	Very stony fine sandy loam.	SM, SC, SC-SM	A-2, A-4, A-1-B	5-25	70-95	60-90	30-85	20-50	<30	NP-10
	12-21	Gravelly fine sandy loam, gravelly sandy loam, fine sandy loam.	SM, SC, SC-SM	A-2, A-4	5-15	75-95	60-95	50-75	20-45	<25	NP-10
	21-65	Gravelly loamy fine sand, loamy sand, gravelly fine sandy loam.	SM, GM, GP-GM, SP-SM	A-1, A-2	5-25	60-85	45-75	30-70	10-35	---	NP
Lyman-----------	0-7	Very stony fine sandy loam.	SM, ML, GM	A-1, A-2, A-4	10-30	65-95	55-90	30-75	15-70	<30	NP-6
	7-16	Loam, channery fine sandy loam, gravelly loam.	SM, ML, GM	A-1, A-2, A-4	0-20	65-95	60-90	35-85	20-80	<30	NP-4
	16	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
731*:											
Peacham---------	0-7	Very stony muck	PT	A-8	5-15	---	---	---	---	---	---
	7-15	Silt loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4, A-6	0-15	75-100	65-100	50-100	30-90	<30	NP-15
	15-65	Silt loam, loam, gravelly fine sandy loam.	SM, ML	A-2, A-4, A-6	0-15	75-100	65-100	50-100	30-90	<30	NP-15
Ossipee---------	0-6	Fibric material	PT	A-8	2-15	---	---	---	---	---	---
	6-41	Hemic material---	PT	A-8	2-15	---	---	---	---	---	---
	41-65	Silt loam, very fine sandy loam, sandy loam.	SM, ML, CL-ML, SC	A-4	0	100	100	100	40-90	<30	NP-10
734D*:											
Surplus---------	0-6	Very stony sandy loam.	SM, ML, CL-ML, SC-SM	A-2, A-4	1-15	65-95	60-95	40-90	25-85	<35	NP-10
	6-23	Fine sandy loam, silt loam, gravelly sandy loam.	SM, ML, CL-ML, SC-SM	A-2, A-4	0-15	65-95	60-95	35-90	25-85	<35	NP-10
	23-65	Sandy loam, gravelly sandy loam, loam.	SM, ML, CL-ML, SC-SM	A-2, A-4	0-15	60-95	60-95	35-90	25-70	<25	NP-8
Sisk------------	0-5	Very stony fine sandy loam.	SM, ML, CL-ML, SC-SM	A-2, A-4	1-15	65-95	60-95	40-90	25-85	<35	NP-10
	5-24	Silt loam, gravelly sandy loam, stony fine sandy loam.	SM, ML, CL-ML, SC-SM	A-2, A-4	0-25	65-95	60-95	35-90	25-85	<35	NP-10
	24-65	Gravelly fine sandy loam, gravelly sandy loam, loam.	SM, ML, CL-ML, SC-SM	A-2, A-4	5-15	65-95	60-95	35-90	25-70	<25	NP-8

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag-ments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In				Pct					Pct	
735E*:											
Saddleback------	0-3	Very stony sandy loam.	SM, ML, CL-ML, SC-SM	A-2, A-4	0-15	80-95	75-90	55-90	25-80	<35	NP-6
	3-16	Sandy loam, silt loam, gravelly sandy loam.	SM, ML, CL-ML, SC-SM	A-1, A-2, A-4	0-20	70-95	65-90	40-90	20-80	<30	NP-6
	16	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Ricker----------	0-2	Fibric material	PT	A-8	---	---	---	---	---	---	---
	2-10	Hemic material, sapric material.	PT	A-8	---	---	---	---	---	---	---
	10	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
740D*:											
Hermon----------	0-5	Very stony fine sandy loam.	SM	A-2, A-4, A-1	5-30	60-95	50-90	30-80	15-45	<40	NP-10
	5-7	Fine sandy loam, sandy loam, very gravelly coarse sandy loam.	SM	A-1, A-2, A-4	5-30	70-95	50-90	30-80	15-45	<40	NP-10
	7-22	Gravelly loamy sand, gravelly fine sandy loam, extremely gravelly sandy loam.	SM, GM, SP-SM, GP-GM	A-2, A-4, A-1	10-30	40-80	30-75	15-65	10-40	<40	NP-10
	22-65	Very gravelly coarse sand, very gravely loamy sand, extremely gravelly sand.	SP-SM, SM, GP-GM, GM	A-1, A-2, A-3	10-30	40-80	35-75	10-55	5-25	---	NP
Redstone--------	0-2	Very stony fine sandy loam.	SM, SP-SM	A-1, A-2, A-4	10-20	70-90	60-85	35-65	10-45	---	NP
	2-22	Sandy loam, gravelly sandy loam, gravelly loamy sand.	SM, SP-SM, GM, GP-GM	A-1, A-2, A-3	5-15	55-75	45-65	35-55	5-30	---	NP
	22-65	Gravel, extremely gravelly very coarse sand.	GP, GP-GM	A-1	0-10	30-40	15-30	5-10	0-5	---	NP

See footnote at end of table.

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Frag- ments 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct					Pct	
741D*, 741E*:											
Redstone--------	0-2	Extremely stony sandy loam.	SM, SP-SM	A-1, A-2, A-4	10-20	70-90	60-85	35-65	10-45	---	NP
	2-22	Sandy loam, gravelly sandy loam, gravelly loamy sand.	SM, SP-SM, GM, GP-GM	A-1, A-2, A-3	5-15	55-75	45-65	35-55	5-30	---	NP
	22-65	Gravel, extremely gravelly very coarse sand.	GP, GP-GM	A-1	0-10	30-40	15-30	5-10	0-5	---	NP
Canaan----------	0-3	Extremely stony gravelly loamy sand.	SM	A-1, A-2, A-4	5-20	65-75	50-70	30-60	15-40	---	NP
	3-17	Very gravelly fine sandy loam, gravelly sandy loam, very gravelly sandy loam.	GM	A-1, A-2	10-30	45-60	40-55	30-50	15-30	---	NP
	17	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
819B*:											
Peru------------	0-6	Very stony fine sandy loam.	SM, ML, CL-ML, SC	A-2, A-4	5-15	90-100	75-90	50-90	30-80	<30	NP-10
	6-24	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	75-95	60-90	40-85	20-65	<30	NP-10
	24-65	Fine sandy loam, loam, sandy loam.	SM, ML, SC-SM, CL-ML	A-2, A-4, A-1-B	0-15	70-95	55-95	35-80	20-60	<30	NP-10
Tunbridge-------	0-3	Very stony fine sandy loam.	SM, ML, GM	A-4, A-2	10-35	65-100	60-95	40-95	25-85	<20	NP-2
	3-21	Silt loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-5, A-2	0-15	70-100	65-95	45-95	25-85	<50	NP-6
	28	Silt loam, gravelly fine sandy loam, channery fine sandy loam.	SM, ML	A-2, A-4	0-15	70-100	65-95	45-95	25-85	<20	NP-2
	28-32	Unweathered bedrock.	---	---	---	---	---	---	---	---	---

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 15.--Physical and Chemical Properties of the Soils

(The symbol < means less than; > means more than. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Organic matter" apply only to the surface layer. Absence of an entry indicates that data were not available or were not estimated)

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
1---------------- Occum	0-8	2-12	1.05-1.40	0.6-6.0	0.11-0.18	4.5-7.3	Low----------	0.20	5	2-6
	8-25	2-12	1.20-1.50	0.6-6.0	0.10-0.20	4.5-6.5	Low----------	0.20		
	25-44	2-8	1.20-1.50	0.6-2.0	0.10-0.18	4.5-6.5	Low----------	0.20		
	44-65	0-5	1.30-1.60	>6.0	0.01-0.10	4.5-6.5	Low----------	0.17		
2---------------- Suncook	0-8	1-3	1.10-1.30	>6.0	0.07-0.12	4.5-6.5	Low----------	0.17	5	2-5
	8-32	0-3	1.20-1.50	>6.0	0.03-0.10	4.5-6.5	Low----------	0.17		
	32-65	0-3	1.20-1.50	>6.0	0.01-0.10	4.5-6.5	Low----------	0.10		
4---------------- Pootatuck	0-7	2-6	1.10-1.35	0.6-6.0	0.11-0.21	4.5-7.3	Low----------	0.20	5	2-6
	7-32	1-6	1.20-1.45	0.6-6.0	0.09-0.18	4.5-6.5	Low----------	0.20		
	32-65	0-2	1.25-1.50	>6.0	0.01-0.10	4.5-6.5	Low----------	0.17		
5---------------- Rippowam	0-10	2-6	1.10-1.35	0.6-6.0	0.11-0.21	4.5-7.3	Low----------	0.20	5	3-8
	10-26	1-6	1.20-1.45	0.6-6.0	0.09-0.18	4.5-7.3	Low----------	0.20		
	26-65	0-2	1.25-1.50	>6.0	0.01-0.10	4.5-7.3	Low----------	0.17		
8---------------- Hadley	0-10	4-10	1.20-1.50	0.6-2.0	0.15-0.25	4.5-7.3	Low----------	0.49	5	2-5
	10-65	2-10	1.20-1.50	0.6-6.0	0.13-0.20	4.5-7.8	Low----------	0.49		
9---------------- Winooski	0-8	5-18	1.15-1.35	0.6-6.0	0.15-0.23	4.5-7.3	Low----------	0.49	5	2-5
	8-65	2-10	1.20-1.50	0.6-6.0	0.13-0.21	4.5-7.3	Low----------	0.49		
15--------------- Searsport	0-12	0-2	0.55-0.75	0.2-6.0	0.20-0.45	3.6-6.5	-------------	----	---	80-99
	12-17	1-5	1.15-1.35	>6.0	0.01-0.13	3.6-6.5	Low----------	0.17		
	17-65	0-2	1.35-1.55	>6.0	0.01-0.09	4.5-6.5	Low----------	0.17		
22A, 22B, 22C, 22E------------- Colton	0-11	1-5	1.10-1.40	>6.0	0.03-0.07	3.6-6.0	Low----------	0.17	3	3-8
	11-22	0-7	1.15-1.45	>6.0	0.05-0.12	3.6-6.0	Low----------	0.17		
	22-65	0-5	1.25-1.55	>6.0	0.02-0.05	3.6-6.0	Low----------	0.17		
24A, 24B--------- Agawam	0-10	4-10	1.10-1.20	2.0-6.0	0.15-0.21	4.5-6.5	Low----------	0.28	3	1-5
	10-19	1-10	1.20-1.40	2.0-6.0	0.11-0.21	4.5-6.5	Low----------	0.37		
	19-23	1-6	1.30-1.40	2.0-6.0	0.11-0.18	4.5-6.5	Low----------	0.28		
	23-65	1-2	1.30-1.40	6.0-20	0.02-0.12	4.5-6.5	Low----------	0.17		
26A, 26B, 26C, 26E------------- Windsor	0-10	1-3	1.00-1.20	>6.0	0.09-0.12	4.5-6.0	Low----------	0.17	5	2-4
	10-27	0-3	1.30-1.55	>6.0	0.07-0.10	4.5-6.0	Low----------	0.17		
	27-65	0-2	1.40-1.65	>6.0	0.04-0.10	4.5-6.5	Low----------	0.10		
27A, 27B, 27C---- Groveton	0-3	1-10	1.10-1.20	0.6-2.0	0.13-0.18	4.5-6.5	Low----------	0.28	3	2-6
	3-28	1-10	1.30-1.40	0.6-2.0	0.10-0.19	4.5-6.5	Low----------	0.32		
	28-65	1-5	1.30-1.50	0.6-6.0	0.05-0.16	5.1-6.5	Low----------	0.28		
27E-------------- Groveton	0-3	1-10	1.10-1.20	0.6-2.0	0.20-0.22	4.5-6.5	Low----------	0.32	3	2-6
	3-28	1-10	1.30-1.40	0.6-2.0	0.10-0.19	4.5-6.5	Low----------	0.32		
	28-65	1-5	1.30-1.50	0.6-6.0	0.05-0.16	5.1-6.5	Low----------	0.28		

Table 15.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
28A, 28B---------Madawaska	0-11	3-13	0.95-1.25	0.6-2.0	0.16-0.25	4.5-6.0	Low----------	0.28	3	2-9
	11-31	2-12	1.00-1.50	0.6-2.0	0.10-0.22	4.5-6.0	Low----------	0.28		
	31-65	0-5	1.25-1.65	6.0-20	0.06-0.18	4.5-6.0	Low----------	0.17		
36A, 36B, 36C, 36E-------------Adams	0-6	0-5	1.00-1.30	6.0-20	0.06-0.12	3.6-6.0	Low----------	0.17	5	2-5
	6-26	0-5	1.10-1.45	6.0-20	0.03-0.10	4.5-6.0	Low----------	0.17		
	26-65	0-5	1.20-1.50	>20	0.03-0.04	4.5-6.5	Low----------	0.17		
56B, 56C, 56D----Becket	0-7	2-6	0.60-1.20	0.6-2.0	0.10-0.23	3.6-6.5	Low----------	0.20	3	2-6
	7-22	2-7	1.30-1.60	0.6-2.0	0.06-0.16	3.6-6.5	Low----------	0.28		
	22-65	1-5	1.60-1.75	0.06-0.6	0.03-0.09	5.1-7.3	Low----------	0.17		
57B, 57C, 57D, 57E-------------Becket	0-7	2-6	0.60-1.30	0.6-2.0	0.06-0.23	3.6-6.5	Low----------	0.17	3	---
	7-22	2-7	1.30-1.60	0.6-2.0	0.06-0.16	3.6-6.5	Low----------	0.28		
	22-65	1-5	1.60-1.75	0.06-0.6	0.03-0.09	5.1-7.3	Low----------	0.17		
59B, 59C---------Waumbek	0-4	2-4	0.80-1.10	2.0-20	0.04-0.17	3.6-6.0	Low----------	0.17	3	---
	4-10	2-4	1.05-1.15	2.0-20	0.03-0.10	3.6-6.0	Low----------	0.17		
	10-65	1-2	1.65-1.70	6.0-20	0.01-0.05	3.6-6.0	Low----------	0.17		
61B*, 61C*, 61D*, 61E*:										
Tunbridge------	0-3	5-9	0.80-1.20	0.6-6.0	0.11-0.21	3.6-6.0	Low----------	0.20	2	2-8
	3-21	3-9	1.20-1.40	0.6-6.0	0.10-0.21	3.6-6.0	Low----------	0.20		
	21-28	3-7	1.20-1.50	0.6-6.0	0.09-0.15	5.1-6.5	Low----------	0.20		
	28	---	---	---	---	---	-------------	----		
Lyman----------	0-7	2-10	0.75-1.20	2.0-6.0	0.13-0.24	3.6-6.0	Low----------	0.20	2	---
	7-16	2-10	0.90-1.40	2.0-6.0	0.08-0.28	3.6-6.0	Low----------	0.32		
	16	---	---	---	---	---	-------------	----		
Rock outcrop.										
62B, 62C, 62D----Charlton	0-6	3-8	1.00-1.25	0.6-6.0	0.08-0.23	4.5-6.0	Low----------	0.24	3	2-5
	6-28	3-8	1.40-1.65	0.6-6.0	0.07-0.20	4.5-6.0	Low----------	0.24		
	28-65	1-8	1.45-1.70	0.6-6.0	0.05-0.16	4.5-6.0	Low----------	0.24		
63B, 63C, 63D, 63E-------------Charlton	0-6	3-8	1.00-1.25	0.6-6.0	0.08-0.23	4.5-6.0	Low----------	0.20	3	---
	6-28	3-8	1.40-1.65	0.6-6.0	0.07-0.20	4.5-6.0	Low----------	0.24		
	28-65	1-8	1.45-1.70	0.6-6.0	0.05-0.16	4.5-6.0	Low----------	0.24		
72B, 72C, 72D----Berkshire	0-7	3-10	1.10-1.15	0.6-6.0	0.10-0.22	3.6-6.0	Low----------	0.24	3	2-5
	7-18	3-10	1.15-1.30	0.6-6.0	0.10-0.20	3.6-6.0	Low----------	0.32		
	18-65	1-10	1.30-1.60	0.6-6.0	0.10-0.18	3.6-6.0	Low----------	0.24		
73B, 73C, 73D, 73E-------------Berkshire	0-7	3-10	1.10-1.15	0.6-6.0	0.06-0.22	3.6-6.0	Low----------	0.20	3	2-5
	7-18	3-10	1.15-1.30	0.6-6.0	0.10-0.20	3.6-6.0	Low----------	0.32		
	18-65	1-10	1.30-1.60	0.6-6.0	0.10-0.18	3.6-6.0	Low----------	0.24		
76B, 76C, 76D----Marlow	0-6	3-10	1.00-1.30	0.6-2.0	0.10-0.23	3.6-6.0	Low----------	0.24	3	2-6
	6-31	3-10	1.30-1.60	0.6-2.0	0.06-0.20	3.6-6.0	Low----------	0.32		
	31-65	3-10	1.70-2.05	0.06-0.6	0.05-0.12	3.6-6.0	Low----------	0.20		

See footnote at end of table.

Table 15.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
77B, 77C, 77D, 77E------------- Marlow	0-6	3-10	1.00-1.30	0.6-2.0	0.10-0.23	3.6-6.0	Low----------	0.20	3	---
	6-31	3-10	1.30-1.60	0.6-2.0	0.06-0.20	3.6-6.0	Low----------	0.32		
	31-65	3-10	1.70-2.05	0.06-0.6	0.05-0.12	3.6-6.0	Low----------	0.20		
78B, 78C--------- Peru	0-6	3-10	1.00-1.30	0.6-2.0	0.14-0.23	3.6-6.0	Low----------	0.24	3	2-6
	6-24	3-10	1.30-1.60	0.6-2.0	0.06-0.20	3.6-6.0	Low----------	0.32		
	24-65	3-10	1.60-2.05	0.06-0.6	0.05-0.12	3.6-6.0	Low----------	0.24		
79B, 79C, 79D---- Peru	0-6	3-10	0.80-1.00	0.6-2.0	0.16-0.24	3.6-6.0	Low----------	0.20	3	---
	6-24	3-10	1.30-1.60	0.6-2.0	0.06-0.20	3.6-6.0	Low----------	0.32		
	24-65	3-10	1.60-2.05	0.06-0.6	0.05-0.12	3.6-6.0	Low----------	0.24		
90B*, 90C*, 90D*:										
Tunbridge-------	0-3	5-9	0.80-1.20	0.6-6.0	0.14-0.23	3.6-6.0	Low----------	0.24	2	2-8
	3-21	3-9	1.20-1.40	0.6-6.0	0.10-0.21	3.6-6.0	Low----------	0.20		
	21-28	3-7	1.20-1.50	0.6-6.0	0.09-0.15	5.1-6.5	Low----------	0.20		
	28	---	---	---	---	---	-------------	----		
Lyman-----------	0-7	2-10	0.75-1.20	2.0-6.0	0.08-0.25	3.6-6.0	Low----------	0.28	2	1-4
	7-16	2-10	0.90-1.40	2.0-6.0	0.08-0.28	3.6-6.0	Low----------	0.32		
	16	---	---	---	---	---	-------------	----		
101-------------- Ondawa	0-10	1-9	1.15-1.40	0.6-6.0	0.12-0.24	4.5-6.5	Low----------	0.24	5	4-8
	10-33	1-9	1.15-1.45	0.6-6.0	0.12-0.22	4.5-6.5	Low----------	0.37		
	33-65	0-3	1.30-1.50	>6.0	0.04-0.13	4.5-6.5	Low----------	0.20		
102-------------- Sunday	0-9	0-5	1.25-1.55	>6.0	0.08-0.17	4.5-6.5	Low----------	0.15	5	1-3
	9-65	0-2	1.25-1.55	>6.0	0.01-0.10	4.5-6.5	Low----------	0.15		
104-------------- Podunk	0-14	1-15	1.15-1.40	0.6-6.0	0.12-0.24	4.5-6.5	Low----------	0.24	5	4-8
	14-24	1-12	1.15-1.45	0.6-6.0	0.12-0.22	4.5-6.5	Low----------	0.37		
	24-65	0-6	1.30-1.50	>6.0	0.04-0.13	4.5-6.5	Low----------	0.20		
105-------------- Rumney	0-8	1-10	1.10-1.40	0.6-6.0	0.15-0.27	4.5-7.3	Low----------	0.28	5	4-8
	8-24	1-9	1.15-1.45	0.6-6.0	0.12-0.22	4.5-7.3	Low----------	0.37		
	24-65	0-3	1.30-1.50	>6.0	0.04-0.13	4.5-7.3	Low----------	0.20		
108-------------- Hadley	0-10	4-10	1.20-1.50	0.6-2.0	0.15-0.25	4.5-7.3	Low----------	0.49	5	2-5
	10-65	2-10	1.20-1.50	0.6-6.0	0.13-0.20	4.5-7.8	Low----------	0.49		
109-------------- Limerick	0-5	4-10	1.10-1.50	0.6-2.0	0.18-0.30	5.1-7.3	Low----------	0.49	5	2-5
	5-14	2-10	1.10-1.50	0.6-2.0	0.18-0.26	5.6-7.3	Low----------	0.49		
	14-65	1-8	1.20-1.50	0.6-2.0	0.18-0.25	5.6-7.3	Low----------	0.49		
114*:										
Walpole---------	0-8	2-6	1.00-1.25	2.0-6.0	0.10-0.18	4.5-7.3	Low----------	0.20	3	2-8
	8-21	2-6	1.30-1.55	2.0-6.0	0.07-0.15	4.5-7.3	Low----------	0.24		
	21-65	0-2	1.40-1.65	>6.0	0.01-0.10	4.5-7.3	Low----------	0.10		
Binghamville----	0-6	5-10	1.20-1.50	0.6-2.0	0.20-0.25	5.6-7.3	Low----------	0.49	3	2-8
	6-18	5-10	1.20-1.50	0.2-2.0	0.18-0.22	5.1-7.3	Low----------	0.64		
	18-65	5-20	1.20-1.50	0.06-0.2	0.18-0.22	5.6-7.3	Low----------	0.64		

See footnote at end of table.

Table 15.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
130A, 130B, 130C, 130E------------ Hitchcock	0-8	3-10	1.00-1.30	0.6-2.0	0.18-0.30	4.5-6.5	Low----------	0.49	3	1-5
	8-19	3-15	1.20-1.50	0.6-2.0	0.18-0.25	4.5-6.5	Low----------	0.49		
	19-65	3-15	1.20-1.50	0.06-0.6	0.18-0.25	4.5-6.5	Low----------	0.49		
132A, 132B------- Dartmouth	0-11	3-10	1.00-1.30	0.6-2.0	0.18-0.30	4.5-6.5	Low----------	0.49	3	1-5
	11-22	3-15	1.10-1.50	0.6-2.0	0.18-0.25	4.5-6.5	Low----------	0.49		
	22-65	3-15	1.20-1.50	0.06-0.6	0.18-0.25	4.5-6.5	Low----------	0.49		
173C, 173D, 173E- Berkshire	0-8	3-10	1.10-1.15	0.6-6.0	0.06-0.22	3.6-6.0	Low----------	0.20	3	2-5
	8-18	3-10	1.15-1.30	0.6-6.0	0.10-0.20	3.6-6.0	Low----------	0.32		
	18-65	1-10	1.30-1.60	0.6-6.0	0.10-0.18	3.6-6.0	Low----------	0.24		
201-------------- Ondawa	0-10	1-9	1.15-1.40	0.6-6.0	0.12-0.24	4.5-6.5	Low----------	0.24	5	4-8
	10-33	1-9	1.15-1.45	0.6-6.0	0.12-0.22	4.5-6.5	Low----------	0.37		
	33-65	0-3	1.30-1.50	>6.0	0.04-0.13	4.5-6.5	Low----------	0.20		
254B*, 254C*, 254D*:										
Monadnock------	0-6	1-8	0.80-1.20	0.6-2.0	0.15-0.21	3.6-6.0	Low----------	0.28	3	3-8
	6-23	1-8	0.80-1.30	0.6-2.0	0.09-0.17	3.6-6.0	Low----------	0.28		
	23-65	1-5	1.30-1.60	2.0-6.0	0.04-0.08	3.6-6.0	Low----------	0.17		
Hermon---------	0-7	2-6	0.85-1.20	2.0-20	0.09-0.20	3.6-5.5	Low----------	0.17	3	3-7
	7-22	2-7	0.85-1.30	2.0-20	0.05-0.10	3.6-6.0	Low----------	0.10		
	22-65	1-4	1.10-1.70	>6.0	0.02-0.06	5.1-6.0	Low----------	0.10		
255B*, 255C*, 255D*, 255E*:										
Monadnock------	0-6	1-8	0.80-1.20	0.6-2.0	0.10-0.20	3.6-6.0	Low----------	0.24	3	---
	6-23	1-8	0.80-1.30	0.6-2.0	0.09-0.17	3.6-6.0	Low----------	0.28		
	23-65	1-5	1.30-1.60	2.0-6.0	0.04-0.08	3.6-6.0	Low----------	0.17		
Hermon---------	0-5	2-6	0.85-1.20	2.0-20	0.07-0.15	3.6-5.5	Low----------	0.10	3	0-2
	5-7	2-6	0.85-1.20	2.0-20	0.07-0.15	3.6-5.5	Low----------	0.10		
	7-22	2-7	0.85-1.30	2.0-20	0.05-0.10	3.6-6.0	Low----------	0.10		
	22-65	1-4	1.10-1.70	>6.0	0.02-0.06	5.1-6.0	Low----------	0.10		
295-------------- Greenwood	0-10	---	0.10-0.25	>6.0	0.45-0.55	3.6-4.4	-------------	----	5	55-75
	10-65	---	0.10-0.25	0.6-6.0	0.45-0.55	3.6-4.4	-------------	----		
298*. Pits										
299*. Udorthents										
310A, 310B, 310C, 310E------------ Quonset	0-8	2-7	1.20-1.30	2.0-20	0.08-0.18	3.6-5.5	Low----------	0.20	3	.6-7
	8-20	1-4	1.40-1.50	2.0-20	0.04-0.07	3.6-5.5	Low----------	0.17		
	20-65	0-2	1.40-1.50	>20	0.01-0.03	5.1-6.5	Low----------	0.10		
313-------------- Deerfield	0-9	2-7	1.00-1.20	6.0-20	0.07-0.13	4.5-6.5	Low----------	0.17	5	1-4
	9-27	1-7	1.20-1.45	6.0-20	0.01-0.13	4.5-6.5	Low----------	0.17		
	27-65	0-5	1.40-1.50	>20	0.01-0.08	4.5-6.5	Low----------	0.17		

See footnote at end of table.

Table 15.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
330B, 330C, 330D-- Bernardston	0-6	2-12	1.00-1.15	0.6-2.0	0.15-0.22	4.5-6.0	Low----------	0.28	3	2-5
	6-16	2-12	1.25-1.50	0.6-2.0	0.13-0.20	4.5-6.0	Low----------	0.37		
	16-65	1-12	1.75-1.90	0.06-0.2	0.07-0.16	4.5-6.0	Low----------	0.28		
331B, 331C, 331D, 331E------------ Bernardston	0-6	2-12	1.00-1.20	0.6-2.0	0.13-0.20	4.5-6.0	Low----------	0.20	3	2-5
	6-16	2-12	1.25-1.50	0.6-2.0	0.13-0.20	4.5-6.0	Low----------	0.37		
	16-65	1-12	1.75-1.90	0.06-0.2	0.07-0.16	4.5-6.0	Low----------	0.28		
334B, 334C------- Pittstown	0-8	2-12	1.00-1.30	0.6-2.0	0.15-0.20	4.5-6.0	Low----------	0.28	3	2-6
	8-25	2-12	1.30-1.60	0.6-2.0	0.15-0.20	4.5-6.0	Low----------	0.37		
	25-65	2-12	1.70-2.00	0.06-0.6	0.10-0.15	4.5-6.0	Low----------	0.28		
336B, 336C, 336D-- Pittstown	0-8	2-12	1.00-1.30	0.6-2.0	0.15-0.20	4.5-6.0	Low----------	0.20	3	---
	8-25	2-12	1.30-1.60	0.6-2.0	0.15-0.20	4.5-6.0	Low----------	0.37		
	25-65	2-12	1.70-2.00	0.06-0.2	0.10-0.15	4.5-6.0	Low----------	0.28		
341A, 341B------- Stissing	0-10	2-12	1.00-1.10	0.6-2.0	0.18-0.23	3.6-6.0	Low----------	0.20	3	---
	10-20	2-12	1.20-1.50	0.6-2.0	0.13-0.20	3.6-6.0	Low----------	0.37		
	20-65	1-12	1.70-1.90	0.06-0.2	0.02-0.06	3.6-6.0	Low----------	0.28		
347A*, 347B*:										
Lyme------------	0-5	3-10	1.00-1.25	0.6-6.0	0.06-0.24	4.5-5.5	Low----------	0.24	3	---
	5-15	3-10	1.35-1.60	0.6-6.0	0.05-0.20	4.5-5.5	Low----------	0.32		
	15-65	2-7	1.45-1.70	0.6-6.0	0.04-0.16	4.5-5.5	Low----------	0.24		
Moosilauke------	0-5	2-10	0.80-1.20	2.0-6.0	0.10-0.23	4.5-6.0	Low----------	0.24	3	---
	5-22	2-6	1.30-1.55	2.0-6.0	0.07-0.18	4.5-6.0	Low----------	0.24		
	22-65	0-2	1.40-1.65	>6.0	0.01-0.13	4.5-6.0	Low----------	0.10		
355C, 355D, 355E-- Hermon	0-5	2-6	0.85-1.20	2.0-20	0.05-0.13	3.6-5.5	Low----------	0.10	3	0-2
	5-7	2-6	0.85-1.20	2.0-20	0.06-0.14	3.6-5.5	Low----------	0.10		
	7-22	2-7	0.85-1.30	2.0-20	0.05-0.10	3.6-6.0	Low----------	0.10		
	22-65	1-4	1.10-1.70	>6.0	0.02-0.06	5.1-6.0	Low----------	0.10		
360B*, 360C*, 360D*:										
Cardigan-------	0-6	8-18	1.00-1.20	0.6-2.0	0.15-0.21	4.5-6.0	Low----------	0.37	2	3-8
	6-23	8-18	1.20-1.40	0.6-2.0	0.10-0.20	4.5-6.0	Low----------	0.37		
	23	---	---	---	---	---	-------------	----		
Kearsarge------	0-4	8-18	1.00-1.20	0.6-2.0	0.15-0.21	4.5-6.0	Low----------	0.37	2	2-7
	4-15	4-18	1.20-1.50	0.6-2.0	0.10-0.20	4.5-6.0	Low----------	0.37		
	15	---	---	---	---	---	-------------	----		
361B*:										
Cardigan--------	0-6	8-18	1.00-1.20	0.6-2.0	0.11-0.16	4.5-6.0	Low----------	0.28	2	---
	6-23	8-18	1.20-1.40	0.6-2.0	0.10-0.20	4.5-6.0	Low----------	0.37		
	23	---	---	---	---	---	-------------	----		
Kearsarge-------	0-4	8-18	1.00-1.20	0.6-2.0	0.11-0.16	4.5-6.0	Low----------	0.28	2	---
	4-15	4-18	1.20-1.50	0.6-2.0	0.10-0.20	4.5-6.0	Low----------	0.37		
	15	---	---	---	---	---	-------------	----		
Rock outcrop.										

See footnote at end of table.

Table 15.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
361C*:										
Cardigan--------	0-6	8-18	1.00-1.20	0.6-2.0	0.11-0.16	4.5-6.0	Low----------	0.28	2	---
	6-23	8-18	1.20-1.40	0.6-2.0	0.10-0.20	4.5-6.0	Low----------	0.37		
	23	---	---	---	---	---	-------------	----		
Kearsarge-------	0-4	8-18	1.00-1.20	0.6-2.0	0.11-0.16	4.5-6.0	Low----------	0.28	2	---
	4-15	4-18	1.20-1.50	0.6-2.0	0.10-0.20	4.5-6.0	Low----------	0.37		
	15	---	---	---	---	---	-------------	----		
361D*, 361E*:										
Cardigan--------	0-6	8-18	1.00-1.20	0.6-2.0	0.11-0.16	4.5-6.0	Low----------	0.28	2	---
	6-23	8-18	1.20-1.40	0.6-2.0	0.10-0.20	4.5-6.0	Low----------	0.37		
	23	---	---	---	---	---	-------------	----		
Kearsarge-------	0-4	8-18	1.00-1.20	0.6-2.0	0.11-0.16	4.5-6.0	Low----------	0.28	2	---
	4-15	4-18	1.20-1.50	0.6-2.0	0.10-0.20	4.5-6.0	Low----------	0.37		
	15	---	---	---	---	---	-------------	----		
Rock outcrop.										
395-------------- Chocorua	0-5	---	0.15-0.25	0.6-6.0	0.45-0.60	3.6-4.4	High---------	----	---	80-95
	5-26	---	0.15-0.25	0.6-6.0	0.45-0.60	3.6-4.4	High---------	----		
	26-65	1-5	1.20-1.50	>6.0	0.01-0.11	4.5-6.0	Low----------	0.17		
398*. Pits										
401-------------- Occum	0-8	2-12	1.05-1.40	0.6-6.0	0.11-0.18	4.5-7.3	Low----------	0.20	5	2-6
	8-25	2-12	1.20-1.50	0.6-6.0	0.10-0.20	4.5-6.5	Low----------	0.20		
	25-44	2-8	1.20-1.50	0.6-2.0	0.10-0.18	4.5-6.5	Low----------	0.20		
	44-65	0-5	1.30-1.60	>6.0	0.01-0.10	4.5-6.5	Low----------	0.17		
406-------------- Medomak	0-11	2-10	0.90-1.20	0.6-2.0	0.20-0.30	3.6-6.5	Low----------	0.32	5	2-10
	11-65	2-10	1.10-1.35	0.6-2.0	0.20-0.30	3.6-6.5	Low----------	0.49		
534-------------- Binghamville	0-6	5-10	1.20-1.50	0.6-2.0	0.20-0.25	5.6-7.3	Low----------	0.49	3	2-8
	6-18	5-10	1.20-1.50	0.2-2.0	0.18-0.22	5.1-7.3	Low----------	0.64		
	18-65	5-20	1.20-1.50	0.06-0.2	0.18-0.22	5.6-7.3	Low----------	0.64		
558B------------- Skerry	0-12	2-6	0.60-1.20	0.6-2.0	0.10-0.23	4.5-6.5	Low----------	0.24	3	2-8
	12-21	2-7	1.30-1.60	0.6-2.0	0.06-0.16	4.5-6.5	Low----------	0.28		
	21-65	1-5	1.60-1.75	0.06-0.6	0.03-0.09	4.5-7.3	Low----------	0.17		
559B, 559C, 559D- Skerry	0-12	2-6	0.60-1.30	0.6-2.0	0.06-0.23	4.5-6.5	Low----------	0.20	3	---
	12-21	2-7	1.30-1.60	0.6-2.0	0.06-0.16	4.5-6.5	Low----------	0.28		
	21-65	1-5	1.60-1.75	0.06-0.6	0.03-0.09	4.5-7.3	Low----------	0.17		
613-------------- Croghan	0-11	0-5	1.10-1.50	6.0-20	0.05-0.09	3.6-6.0	Low----------	0.17	5	2-9
	11-23	0-5	1.20-1.50	>20	0.03-0.07	4.5-6.0	Low----------	0.17		
	23-65	0-5	1.20-1.50	>20	0.03-0.06	4.5-6.0	Low----------	0.17		
614-------------- Kinsman	0-8	1-5	1.10-1.50	6.0-20	0.05-0.09	3.6-5.5	Low----------	0.17	5	3-15
	8-24	1-5	1.20-1.50	6.0-20	0.05-0.08	3.6-5.5	Low----------	0.17		
	24-65	1-5	1.45-1.65	6.0-20	0.04-0.06	4.5-6.0	Low----------	0.17		

See footnote at end of table.

Table 15.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
632A, 632B-------Nicholville	0-9	2-18	1.20-1.50	0.6-2.0	0.16-0.22	3.6-6.0	Low----------	0.49	3	2-6
	9-15	2-18	1.20-1.50	0.6-2.0	0.15-0.20	4.5-6.0	Low----------	0.64		
	15-22	2-18	1.45-1.65	0.6-2.0	0.10-0.20	4.5-6.5	Low----------	0.64		
	22-65	2-18	1.45-1.65	0.6-2.0	0.12-0.20	4.5-6.5	Low----------	0.49		
633--------------Pemi	0-6	3-16	0.85-1.25	0.6-2.0	0.25-0.35	5.1-6.5	Low----------	0.43	3	3-5
	6-11	3-16	1.30-1.60	0.6-2.0	0.20-0.30	5.1-6.5	Low----------	0.64		
	11-65	3-16	1.40-1.70	0.06-0.6	0.16-0.26	5.1-7.3	Low----------	0.64		
647A, 647B-------Pillsbury	0-7	2-10	1.00-1.30	0.6-2.0	0.06-0.24	4.5-5.5	Low----------	0.24	3	---
	7-30	2-10	1.20-1.60	0.6-2.0	0.04-0.20	4.5-5.5	Low----------	0.32		
	30-65	2-10	1.80-2.00	0.06-0.2	0.01-0.05	4.5-6.0	Low----------	0.24		
701B*:										
Becket----------	0-7	2-6	0.60-1.30	0.6-2.0	0.06-0.23	3.6-6.5	Low----------	0.17	3	---
	7-22	2-7	1.30-1.60	0.6-2.0	0.06-0.16	3.6-6.5	Low----------	0.28		
	22-65	1-5	1.60-1.75	0.06-0.6	0.03-0.09	5.1-7.3	Low----------	0.17		
Skerry----------	0-12	2-6	0.60-1.30	0.6-2.0	0.06-0.23	4.5-6.5	Low----------	0.20	3	---
	12-21	2-7	1.30-1.60	0.6-2.0	0.06-0.16	4.5-6.5	Low----------	0.28		
	21-65	1-5	1.60-1.75	0.06-0.6	0.03-0.09	4.5-7.3	Low----------	0.17		
703D*, 703E*:										
Becket----------	0-7	2-6	0.60-1.30	0.6-2.0	0.06-0.23	3.6-6.5	Low----------	0.17	3	---
	7-22	2-7	1.30-1.60	0.6-2.0	0.06-0.16	3.6-6.5	Low----------	0.28		
	22-65	1-5	1.60-1.75	0.06-0.6	0.03-0.09	5.1-7.3	Low----------	0.17		
Monadnock-------	0-6	1-8	0.80-1.20	0.6-2.0	0.10-0.20	3.6-6.0	Low----------	0.24	3	---
	6-23	1-8	0.80-1.30	0.6-2.0	0.09-0.17	3.6-6.0	Low----------	0.28		
	23-65	1-5	1.30-1.60	2.0-6.0	0.04-0.08	3.6-6.0	Low----------	0.17		
709D*, 709E*:										
Becket----------	0-7	2-6	0.60-1.30	0.6-2.0	0.06-0.23	3.6-6.5	Low----------	0.17	3	---
	7-22	2-7	1.30-1.60	0.6-2.0	0.06-0.16	3.6-6.5	Low----------	0.28		
	22-65	1-5	1.60-1.75	0.06-0.6	0.03-0.09	5.1-7.3	Low----------	0.17		
Tunbridge-------	0-3	5-9	0.80-1.20	0.6-6.0	0.10-0.19	3.6-6.0	Low----------	0.17	2	2-8
	3-21	3-9	1.20-1.40	0.6-6.0	0.10-0.21	3.6-6.0	Low----------	0.20		
	21-28	3-7	1.20-1.50	0.6-6.0	0.09-0.15	5.1-6.5	Low----------	0.20		
	28	---	---	---	---	---	-------------	----		
710D*, 710E*:										
Becket----------	0-7	2-6	0.60-1.30	0.6-2.0	0.06-0.23	3.6-6.5	Low----------	0.17	3	---
	7-22	2-7	1.30-1.60	0.6-2.0	0.06-0.16	3.6-6.5	Low----------	0.28		
	22-65	1-5	1.60-1.75	0.06-0.6	0.03-0.09	5.1-7.3	Low----------	0.17		
Lyman-----------	0-7	2-10	0.75-1.20	2.0-6.0	0.13-0.24	3.6-6.0	Low----------	0.20	2	---
	7-16	2-10	0.90-1.40	2.0-6.0	0.08-0.28	3.6-6.0	Low----------	0.32		
	16	---	---	---	---	---	-------------	----		
Rock outcrop.										

See footnote at end of table.

Table 15.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
711B*, 711D*:										
Monadnock-------	0-6	1-8	0.80-1.20	0.6-2.0	0.10-0.20	3.6-6.0	Low----------	0.24	3	---
	6-23	1-8	0.80-1.30	0.6-2.0	0.09-0.17	3.6-6.0	Low----------	0.28		
	23-65	1-5	1.30-1.60	2.0-6.0	0.04-0.08	3.6-6.0	Low----------	0.17		
Hermon----------	0-5	2-6	0.85-1.20	2.0-20	0.07-0.15	3.6-5.5	Low----------	0.10	3	0-2
	5-7	2-6	0.85-1.20	2.0-20	0.07-0.15	3.6-5.5	Low----------	0.10		
	7-22	2-7	0.85-1.30	2.0-20	0.05-0.10	3.6-6.0	Low----------	0.10		
	22-65	1-4	1.10-1.70	>6.0	0.02-0.06	5.1-6.0	Low----------	0.10		
711E*:										
Monadnock-------	0-6	1-8	0.80-1.20	0.6-2.0	0.10-0.20	3.6-6.0	Low----------	0.24	3	---
	6-23	1-8	0.80-1.30	0.6-2.0	0.09-0.17	3.6-6.0	Low----------	0.28		
	23-65	1-5	1.30-1.60	2.0-6.0	0.04-0.08	3.6-6.0	Low----------	0.17		
Hermon----------	0-5	2-6	0.85-1.20	2.0-20	0.06-0.15	3.6-5.5	Low----------	0.10	3	0-2
	5-7	2-6	0.85-1.20	2.0-20	0.07-0.15	3.6-5.5	Low----------	0.10		
	7-22	2-7	0.85-1.30	2.0-20	0.05-0.10	3.6-6.0	Low----------	0.10		
	22-65	1-4	1.10-1.70	>6.0	0.02-0.06	5.1-6.0	Low----------	0.10		
712B*, 712D*, 712E*:										
Hermon---------	0-5	2-6	0.85-1.20	2.0-20	0.05-0.13	3.6-5.5	Low----------	0.10	3	0-2
	5-7	2-6	0.85-1.20	2.0-20	0.06-0.14	3.6-5.5	Low----------	0.10		
	7-22	2-7	0.85-1.30	2.0-20	0.05-0.10	3.6-6.0	Low----------	0.10		
	22-65	1-4	1.10-1.70	>6.0	0.02-0.06	5.1-6.0	Low----------	0.10		
Monadnock------	0-6	1-8	0.80-1.20	0.6-2.0	0.07-0.17	3.6-6.0	Low----------	0.17	3	---
	6-23	1-8	0.80-1.30	0.6-2.0	0.09-0.17	3.6-6.0	Low----------	0.28		
	23-65	1-5	1.30-1.60	2.0-6.0	0.04-0.08	3.6-6.0	Low----------	0.17		
713B*, 713D*:										
Hermon----------	0-5	2-6	0.85-1.20	2.0-20	0.07-0.15	3.6-5.5	Low----------	0.10	3	0-2
	5-7	2-6	0.85-1.20	2.0-20	0.07-0.15	3.6-5.5	Low----------	0.10		
	7-22	2-7	0.85-1.30	2.0-20	0.05-0.10	3.6-6.0	Low----------	0.10		
	22-65	1-4	1.10-1.70	>6.0	0.02-0.06	5.1-6.0	Low----------	0.10		
Waumbek---------	0-5	2-4	0.80-1.10	2.0-20	0.04-0.17	3.6-6.0	Low----------	0.17	3	---
	5-15	2-4	1.05-1.15	2.0-20	0.03-0.10	3.6-6.0	Low----------	0.17		
	15-65	1-2	1.65-1.70	6.0-20	0.01-0.05	3.6-6.0	Low----------	0.17		
717*:										
Lyme------------	0-5	3-10	1.00-1.25	0.6-6.0	0.06-0.24	4.5-5.5	Low----------	0.24	3	---
	5-17	3-10	1.35-1.60	0.6-6.0	0.05-0.20	4.5-5.5	Low----------	0.32		
	17-65	2-7	1.45-1.70	0.6-6.0	0.04-0.16	4.5-5.5	Low----------	0.24		
Peacham---------	0-7	---	0.30-0.50	0.2-0.6	0.32-0.42	4.5-7.3	Low----------	----	---	20-60
	7-15	3-10	1.20-1.40	0.6-2.0	0.11-0.22	4.5-7.3	Low----------	0.28		
	15-65	3-10	1.80-2.00	<0.2	0.02-0.06	4.5-7.3	Low----------	0.28		
719D*, 719E*:										
Marlow----------	0-6	3-10	1.00-1.30	0.6-2.0	0.10-0.23	3.6-6.0	Low----------	0.20	3	---
	6-31	3-10	1.30-1.60	0.6-2.0	0.06-0.20	3.6-6.0	Low----------	0.32		
	31-65	3-10	1.70-2.05	0.06-0.6	0.05-0.12	3.6-6.0	Low----------	0.20		

See footnote at end of table.

Table 15.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
719D*, 719E*:										
Tunbridge-------	0-3	5-9	0.80-1.20	0.6-6.0	0.10-0.19	3.6-6.0	Low----------	0.17	2	2-8
	3-21	3-9	1.20-1.40	0.6-6.0	0.10-0.21	3.6-6.0	Low----------	0.20		
	21-28	3-7	1.20-1.50	0.6-6.0	0.09-0.15	5.1-6.5	Low----------	0.20		
	28	---	---	---	---	---	-------------	----		
720D*, 720E*:										
Marlow----------	0-6	3-10	1.00-1.30	0.6-2.0	0.10-0.23	3.6-6.0	Low----------	0.20	3	---
	6-31	3-10	1.30-1.60	0.6-2.0	0.06-0.20	3.6-6.0	Low----------	0.32		
	31-65	3-10	1.70-2.05	0.06-0.6	0.05-0.12	3.6-6.0	Low----------	0.20		
Lyman-----------	0-7	2-10	0.75-1.20	2.0-6.0	0.13-0.24	3.6-6.0	Low----------	0.20	2	---
	7-16	2-10	0.90-1.40	2.0-6.0	0.08-0.28	3.6-6.0	Low----------	0.32		
	16	---	---	---	---	---	-------------	----		
Rock outcrop.										
721B*:										
Peru------------	0-6	3-10	0.80-1.00	0.6-2.0	0.16-0.24	3.6-6.0	Low----------	0.20	3	---
	6-24	3-10	1.30-1.60	0.6-2.0	0.06-0.20	3.6-6.0	Low----------	0.32		
	24-65	3-10	1.60-2.05	0.06-0.6	0.05-0.12	3.6-6.0	Low----------	0.24		
Marlow----------	0-6	3-10	1.00-1.30	0.6-2.0	0.10-0.23	3.6-6.0	Low----------	0.20	3	---
	6-31	3-10	1.30-1.60	0.6-2.0	0.06-0.20	3.6-6.0	Low----------	0.32		
	31-65	3-10	1.70-2.05	0.06-0.6	0.05-0.12	3.6-6.0	Low----------	0.20		
722D*:										
Marlow----------	0-6	3-10	1.00-1.30	0.6-2.0	0.10-0.23	3.6-6.0	Low----------	0.20	3	---
	6-31	3-10	1.30-1.60	0.6-2.0	0.06-0.20	3.6-6.0	Low----------	0.32		
	31-65	3-10	1.70-2.05	0.06-0.6	0.05-0.12	3.6-6.0	Low----------	0.20		
Berkshire-------	0-8	3-10	1.10-1.15	0.6-6.0	0.06-0.22	3.6-6.0	Low----------	0.20	3	2-5
	8-18	3-10	1.15-1.30	0.6-6.0	0.10-0.20	3.6-6.0	Low----------	0.32		
	18-65	1-10	1.30-1.60	0.6-6.0	0.10-0.18	3.6-6.0	Low----------	0.24		
723B*:										
Peru------------	0-6	3-10	0.80-1.00	0.6-2.0	0.16-0.24	3.6-6.0	Low----------	0.20	3	---
	6-24	3-10	1.30-1.60	0.6-2.0	0.06-0.20	3.6-6.0	Low----------	0.32		
	24-65	3-10	1.60-2.05	0.06-0.6	0.05-0.12	3.6-6.0	Low----------	0.24		
Pillsbury-------	0-7	2-10	1.00-1.30	0.6-2.0	0.06-0.24	4.5-5.5	Low----------	0.24	3	---
	7-30	2-10	1.20-1.60	0.6-2.0	0.04-0.20	4.5-5.5	Low----------	0.32		
	30-65	2-10	1.80-2.00	0.06-0.2	0.01-0.05	4.5-6.0	Low----------	0.24		
724B*:										
Skerry----------	0-12	2-6	0.60-1.30	0.6-2.0	0.06-0.23	4.5-6.5	Low----------	0.20	3	---
	12-21	2-7	1.30-1.60	0.6-2.0	0.06-0.16	4.5-6.5	Low----------	0.28		
	21-65	1-5	1.60-1.75	0.06-0.6	0.03-0.09	4.5-7.3	Low----------	0.17		
Tunbridge-------	0-3	5-9	0.80-1.20	0.6-6.0	0.10-0.19	3.6-6.0	Low----------	0.17	2	2-8
	3-21	3-9	1.20-1.40	0.6-6.0	0.10-0.21	3.6-6.0	Low----------	0.20		
	21-28	3-7	1.20-1.50	0.6-6.0	0.09-0.15	5.1-6.5	Low----------	0.20		
	28	---	---	---	---	---	-------------	----		

See footnote at end of table.

Table 15.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
726D*, 726E*:										
Rock outcrop.										
Lyman-----------	0-7	2-10	0.75-1.20	2.0-6.0	0.13-0.24	3.6-6.0	Low----------	0.20	2	---
	7-16	2-10	0.90-1.40	2.0-6.0	0.08-0.28	3.6-6.0	Low----------	0.32		
	16	---	---	---	---	---	-------------	----		
727*:										
Rubble land										
729B*:										
Waumbek---------	0-5	2-4	0.80-1.10	2.0-20	0.04-0.17	3.6-6.0	Low----------	0.17	3	---
	5-15	2-4	1.05-1.15	2.0-20	0.03-0.10	3.6-6.0	Low----------	0.17		
	15-65	1-2	1.65-1.70	6.0-20	0.01-0.05	3.6-6.0	Low----------	0.17		
Lyme------------	0-5	3-10	1.00-1.25	0.6-6.0	0.06-0.24	4.5-5.5	Low----------	0.24	3	---
	5-17	3-10	1.35-1.60	0.6-6.0	0.05-0.20	4.5-5.5	Low----------	0.32		
	17-65	2-7	1.45-1.70	0.6-6.0	0.04-0.16	4.5-5.5	Low----------	0.24		
730B*:										
Skerry----------	0-12	2-6	0.60-1.30	0.6-2.0	0.06-0.23	4.5-6.5	Low----------	0.20	3	---
	12-21	2-7	1.30-1.60	0.6-2.0	0.06-0.16	4.5-6.5	Low----------	0.28		
	21-65	1-5	1.60-1.75	0.06-0.6	0.03-0.09	4.5-7.3	Low----------	0.17		
Lyman-----------	0-7	2-10	0.75-1.20	2.0-6.0	0.11-0.23	3.6-6.0	Low----------	0.20	2	---
	7-16	2-10	0.90-1.40	2.0-6.0	0.08-0.28	3.6-6.0	Low----------	0.32		
	16	---	---	---	---	---	-------------	----		
Rock outcrop.										
731*:										
Peacham---------	0-7	---	0.30-0.50	0.2-0.6	0.32-0.42	4.5-7.3	Low----------	----	---	20-60
	7-15	3-10	1.20-1.40	0.6-2.0	0.11-0.22	4.5-7.3	Low----------	0.28		
	15-65	3-10	1.80-2.00	<0.2	0.02-0.06	4.5-7.3	Low----------	0.28		
Ossipee---------	0-6	---	0.10-0.20	2.0-6.0	0.55-0.65	3.6-4.4	High---------	----	---	90-95
	6-41	---	0.15-0.25	0.6-6.0	0.45-0.60	3.6-4.4	High---------	----		
	41-65	5-10	1.20-1.50	0.2-2.0	0.11-0.19	5.1-6.5	Low----------	----		
734D*:										
Surplus---------	0-6	3-10	0.90-1.10	0.6-2.0	0.15-0.30	3.6-5.5	Low----------	0.28	3	0-2
	6-23	3-10	1.20-1.50	0.6-2.0	0.15-0.25	3.6-5.5	Low----------	0.32		
	23-65	3-15	1.60-1.90	<0.6	0.05-0.12	4.5-5.5	Low----------	0.32		
Sisk------------	0-5	3-10	0.90-1.10	0.6-2.0	0.15-0.30	3.6-5.5	Low----------	0.28	3	0-2
	5-24	3-15	1.20-1.30	0.6-2.0	0.15-0.25	3.6-5.5	Low----------	0.32		
	24-65	3-15	1.60-1.90	<0.6	0.05-0.12	3.6-5.5	Low----------	0.32		
735E*:										
Saddleback------	0-3	1-5	1.00-1.20	0.6-2.0	0.15-0.25	3.6-5.5	Low----------	0.28	2	0-2
	3-16	2-10	0.80-1.10	0.6-2.0	0.25-0.35	3.6-5.5	Low----------	0.28		
	16	---	---	---	---	---	-------------	----		
Ricker----------	0-2	---	0.07-0.30	2.0-6.0	0.45-0.65	3.6-4.4	Low----------	----	---	---
	2-10	---	0.15-0.60	2.0-6.0	0.35-0.45	3.6-4.4	Low----------	----		
	10	---	---	---	---	---	-------------	----		
Rock outcrop.										

Table 15.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors K	Erosion factors T	Organic matter
	In	Pct	G/cc	In/hr	In/in	pH				Pct
740D*:										
Hermon----------	0-5	2-6	0.85-1.20	2.0-20	0.07-0.15	3.6-5.5	Low----------	0.10	3	0-2
	5-7	2-6	0.85-1.20	2.0-20	0.07-0.15	3.6-5.5	Low----------	0.10		
	7-22	2-7	0.85-1.30	2.0-20	0.05-0.10	3.6-6.0	Low----------	0.10		
	22-65	1-4	1.10-1.70	>6.0	0.02-0.06	5.1-6.0	Low----------	0.10		
Redstone--------	0-2	2-6	1.00-1.20	2.0-6.0	0.05-0.16	3.6-6.0	Low----------	0.17	3	---
	2-22	2-5	1.20-1.50	2.0-6.0	0.02-0.12	3.6-6.0	Low----------	0.17		
	22-65	0-2	1.30-1.60	6.0-20	0.01-0.06	3.6-6.0	Low----------	0.02		
741D*, 741E*:										
Redstone--------	0-2	2-6	1.00-1.20	2.0-6.0	0.05-0.16	3.6-6.0	Low----------	0.17	3	---
	2-22	2-5	1.20-1.50	2.0-6.0	0.02-0.12	3.6-6.0	Low----------	0.17		
	22-65	0-2	1.30-1.60	6.0-20	0.01-0.06	3.6-6.0	Low----------	0.02		
Canaan----------	0-3	2-6	1.00-1.20	2.0-20	0.06-0.16	4.5-6.0	Low----------	0.20	2	---
	3-17	1-5	1.30-1.60	2.0-20	0.02-0.12	4.5-6.0	Low----------	0.17		
	17	---	---	---	---	---	-------------	----		
Rock outcrop.										
819B*:										
Peru------------	0-6	3-10	0.80-1.00	0.6-2.0	0.16-0.24	3.6-6.0	Low----------	0.20	3	---
	6-24	3-10	1.30-1.60	0.6-2.0	0.06-0.20	3.6-6.0	Low----------	0.32		
	24-65	3-10	1.60-2.05	0.06-0.6	0.05-0.12	3.6-6.0	Low----------	0.24		
Tunbridge-------	0-3	5-9	0.80-1.20	0.6-6.0	0.10-0.19	3.6-6.0	Low----------	0.17	2	2-8
	3-21	3-9	1.20-1.40	0.6-6.0	0.10-0.21	3.6-6.0	Low----------	0.20		
	21-28	3-7	1.20-1.50	0.6-6.0	0.09-0.15	5.1-6.5	Low----------	0.20		
	28	---	---	---	---	---	-------------	----		

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 16.--Soil and Water Features

("Flooding" and "water table" and terms such as "rare," "brief," "apparent," and "perched" are explained in the text. The symbol < means less than; > means more than. Absence of an entry indicates that the feature is not a concern or that data were not estimated)

Soil name and map symbol	Hydrologic group	Flooding: Frequency	Flooding: Duration	Flooding: Months	High water table: Depth	High water table: Kind	High water table: Months	Bedrock: Depth	Bedrock: Hardness	Potential frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
					Ft			In				
1: Occum	B	Frequent	Brief	Feb-Apr	4.0-6.0	Apparent	Nov-Apr	>60	---	Moderate	Low	Moderate.
2: Suncook	A	Frequent	Brief	Mar-May	3.0-6.0	Apparent	Jan-Apr	>60	---	Low	Low	High.
4: Pootatuck	B	Frequent	Brief	Nov-Apr	1.5-2.5	Apparent	Nov-Apr	>60	---	Moderate	Moderate	Moderate.
5: Rippowam	C	Frequent	Brief	Oct-May	0-1.5	Apparent	Sep-Jun	>60	---	High	High	High.
8: Hadley	B	Frequent	Brief	Feb-Apr	4.0-6.0	Apparent	Nov-Apr	>60	---	High	Low	Moderate.
9: Winooski	B	Frequent	Brief	Feb-Apr	1.5-3.0	Apparent	Nov-Apr	>60	---	High	Moderate	Moderate.
15: Searsport	D	None	---	---	+1-1.0	Apparent	Sep-Jul	>60	---	Moderate	High	High.
22A, 22B, 22C, 22E: Colton	A	None	---	---	>6.0	---	---	>60	---	Low	Low	High.
24A, 24B: Agawam	B	None	---	---	>6.0	---	---	>60	---	Low	Low	High.
26A, 26B, 26C, 26E: Windsor	A	None	---	---	>6.0	---	---	>60	---	Low	Low	High.
27A, 27B, 27C, 27E: Groveton	B	None	---	---	>6.0	---	---	>60	---	Low	Low	Moderate.
28A, 28B: Madawaska	B	None	---	---	1.0-3.0	Apparent	Nov-May	>60	---	Moderate	Moderate	High.
36A, 36B, 36C, 36E: Adams	A	None	---	---	>6.0	---	---	>60	---	Low	Low	High.
56B, 56C, 56D, 57B, 57C, 57D, 57E: Becket	C	None	---	---	2.0-3.5	Perched	Mar-Apr	>60	---	Moderate	Low	Moderate.

Table 16.--Soil and Water Features--Continued

Soil name and map symbol	Hydrologic group	Flooding: Frequency	Flooding: Duration	Flooding: Months	High water table: Depth	High water table: Kind	High water table: Months	Bedrock: Depth	Bedrock: Hardness	Potential frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
					Ft			In				
59B, 59C----------Waumbek	B	None--------	---	---	1.5-2.5	Apparent	Nov-May	>60	---	Moderate	Moderate	High.
61B*, 61C*, 61D*, 61E*:												
Tunbridge-------	C	None--------	---	---	>6.0	---	---	20-40	Hard	Moderate	High-----	High.
Lyman-----------	C/D	None--------	---	---	>6.0	---	---	10-20	Hard	Moderate	Low------	High.
Rock outcrop.												
62B, 62C, 62D, 63B, 63C, 63D, 63E--------------Charlton	B	None--------	---	---	>6.0	---	---	>60	---	Low------	Low------	High.
72B, 72C, 72D, 73B, 73C, 73D, 73E--------------Berkshire	B	None--------	---	---	>6.0	---	---	>60	---	Moderate	Low------	High.
76B, 76C, 76D, 77B, 77C, 77D, 77E--------------Marlow	C	None--------	---	---	2.0-3.5	Perched	Mar-Apr	>60	---	Moderate	Low------	Moderate.
78B, 78C, 79B, 79C, 79D---------Peru	C	None--------	---	---	1.5-2.5	Perched	Nov-May	>60	---	High-----	Moderate	Moderate.
90B*, 90C*, 90D*:												
Tunbridge--------	C	None--------	---	---	>6.0	---	---	20-40	Hard	Moderate	High-----	High.
Lyman------------	C/D	None--------	---	---	>6.0	---	---	10-20	Hard	Moderate	Low------	High.
101---------------Ondawa	B	Frequent----	Brief-----	Nov-Apr	>6.0	---	---	>60	---	Moderate	Low------	Moderate.
102---------------Sunday	A	Frequent----	Brief-----	Mar-Oct	>6.0	---	---	>60	---	Low------	Low------	Moderate.
104---------------Podunk	B	Frequent----	Brief-----	Nov-Apr	1.5-3.0	Apparent	Nov-May	>60	---	High-----	Moderate	Moderate.
105---------------Rumney	C	Frequent----	Brief-----	Oct-May	0-1.5	Apparent	Nov-May	>60	---	High-----	High-----	High.
108---------------Hadley	B	Occasional	Brief-----	Feb-Apr	4.0-6.0	Apparent	Nov-Apr	>60	---	High-----	Low------	Moderate.
109---------------Limerick	C	Frequent----	Brief-----	Nov-May	0-1.5	Apparent	Nov-Jun	>60	---	High-----	High-----	Low.

See footnote at end of table.

Table 16.--Soil and Water Features--Continued

Soil name and map symbol	Hydro-logic group	Flooding: Frequency	Flooding: Duration	Flooding: Months	High water table: Depth	High water table: Kind	High water table: Months	Bedrock: Depth	Bedrock: Hardness	Potential frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
					Ft			In				
114*:												
Walpole----------	C	None--------	---	---	0-1.0	Apparent	Nov-May	>60	---	High-----	Low------	Moderate.
Binghamville-----	D	None--------	---	---	0.5-1.5	Apparent	Nov-Jun	>60	---	High-----	High-----	Moderate.
130A, 130B, 130C, 130E------------- Hitchcock	B	None--------	---	---	>6.0	---	---	>60	---	High-----	Low------	Low.
132A, 132B-------- Dartmouth	B	None--------	---	---	1.5-3.5	Apparent	Nov-Apr	>60	---	High-----	Moderate	Moderate.
173C, 173D, 173E-- Berkshire	B	None--------	---	---	>6.0	---	---	>60	---	Moderate	Low------	High.
201--------------- Ondawa	B	Occasional	Brief-----	Nov-Apr	>6.0	---	---	>60	---	Moderate	Low------	Moderate.
254B*, 254C*, 254D*, 255B*, 255C*, 255D*, 255E*:												
Monadnock-------	B	None--------	---	---	>6.0	---	---	>60	---	Low------	Low------	High.
Hermon----------	A	None--------	---	---	>6.0	---	---	>60	---	Low------	Low------	High.
295--------------- Greenwood	A/D	None--------	---	---	+1-1.0	Apparent	Jan-Dec	>60	---	High-----	High-----	High.
298*. Pits												
299*. Udorthents												
310A, 310B, 310C, 310E------------- Quonset	A	None--------	---	---	>6.0	---	---	>60	---	Low------	Low------	High.
313--------------- Deerfield	B	None--------	---	---	1.5-3.0	Apparent	Dec-Apr	>60	---	Moderate	Low------	High.
330B, 330C, 330D-- Bernardston	C	None--------	---	---	1.5-3.0	Perched	Feb-Apr	>60	---	Moderate	Low------	High.
331B, 331C, 331D, 331E------------- Bernardston	C	None--------	---	---	1.5-3.0	Perched	Feb-Apr	>60	---	Moderate	Low------	High.
334B, 334C, 336B, 336C, 336D------- Pittstown	C	None--------	---	---	1.5-3.0	Perched	Nov-Apr	>60	---	Moderate	Moderate	High.

See footnote at end of table.

Table 16.--Soil and Water Features--Continued

Soil name and map symbol	Hydro-logic group	Flooding: Frequency	Flooding: Duration	Flooding: Months	High water table: Depth	High water table: Kind	High water table: Months	Bedrock: Depth	Bedrock: Hardness	Potential frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
					Ft			In				
341A, 341B-------- Stissing	C	None--------	---	---	0-1.5	Perched	Oct-May	>60	---	High-----	High-----	High.
347A*, 347B*:												
Lyme------------	C	None--------	---	---	0-1.5	Apparent	Nov-May	>60	---	High-----	Low------	High.
Moosilauke-------	C	None--------	---	---	0-1.5	Apparent	Nov-May	>60	---	High-----	Low------	High.
355C, 355D, 355E-- Hermon	A	None--------	---	---	>6.0	---	---	>60	---	Low------	Low------	High.
360B*, 360C*, 360D*:												
Cardigan--------	B	None--------	---	---	>6.0	---	---	20-40	Hard	Moderate	Low------	High.
Kearsarge-------	B	None--------	---	---	>6.0	---	---	10-20	Hard	Moderate	Low------	High.
361B*:												
Cardigan---------	B	None--------	---	---	>6.0	---	---	20-40	Hard	Moderate	Low------	High.
Kearsarge--------	B	None--------	---	---	>6.0	---	---	10-20	Hard	Moderate	Low------	High.
Rock outcrop.												
361C*:												
Cardigan---------	B	None--------	---	---	>6.0	---	---	20-40	Hard	Moderate	Low------	High.
Kearsarge--------	B	None--------	---	---	>6.0	---	---	10-20	Hard	Moderate	Low------	High.
361D*, 361E*:												
Cardigan---------	B	None--------	---	---	>6.0	---	---	20-40	Hard	Moderate	Low------	High.
Kearsarge--------	B	None--------	---	---	>6.0	---	---	10-20	Hard	Moderate	Low------	High.
Rock outcrop.												
395--------------- Chocorua	D	None--------	---	---	+1-0.5	Apparent	Jan-Dec	>60	---	High-----	Moderate	High.
398*. Pits												
401--------------- Occum	B	Occasional	Brief-----	Feb-Apr	4.0-6.0	Apparent	Nov-Apr	>60	---	Moderate	Low------	Moderate.
406--------------- Medomak	D	Frequent----	Long------	Mar-Oct	+1-0.5	Apparent	Sep-Jun	>60	---	High-----	High-----	Moderate.
534--------------- Binghamville	D	None--------	---	---	0.5-1.5	Apparent	Nov-Jun	>60	---	High-----	High-----	Moderate.
558B, 559B, 559C, 559D------------ Skerry	C	None--------	---	---	1.5-2.5	Perched	Nov-May	>60	---	High-----	Low------	Moderate.

See footnote at end of table.

Table 16.--Soil and Water Features--Continued

Soil name and map symbol	Hydro-logic group	Flooding: Frequency	Flooding: Duration	Flooding: Months	High water table: Depth	High water table: Kind	High water table: Months	Bedrock: Depth	Bedrock: Hardness	Potential frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
					Ft			In				
613-------------- Croghan	B	None--------	---	---	1.5-2.0	Apparent	Nov-May	>60	---	Moderate	Low------	High.
614-------------- Kinsman	C	None--------	---	---	0-1.5	Apparent	Nov-May	>60	---	Moderate	High-----	High.
632A, 632B-------- Nicholville	C	None--------	---	---	1.5-2.0	Perched	Nov-May	>60	---	High-----	Low------	Moderate.
633-------------- Pemi	C	None--------	---	---	0.5-1.5	Apparent	Nov-May	>60	---	High-----	High-----	Moderate.
647A, 647B-------- Pillsbury	C	None--------	---	---	0-1.5	Perched	Nov-May	>60	---	High-----	High-----	High.
701B*:												
Becket-----------	C	None--------	---	---	2.0-3.5	Perched	Mar-Apr	>60	---	Moderate	Low------	Moderate.
Skerry-----------	C	None--------	---	---	1.5-2.5	Perched	Nov-May	>60	---	High-----	Low------	Moderate.
703D*, 703E*:												
Becket-----------	C	None--------	---	---	2.0-3.5	Perched	Mar-Apr	>60	---	Moderate	Low------	Moderate.
Monadnock--------	B	None--------	---	---	>6.0	---	---	>60	---	Low------	Low------	High.
709D*, 709E*:												
Becket-----------	C	None--------	---	---	2.0-3.5	Perched	Mar-Apr	>60	---	Moderate	Low------	Moderate.
Tunbridge--------	C	None--------	---	---	>6.0	---	---	20-40	Hard	Moderate	High-----	High.
710D*, 710E*:												
Becket-----------	C	None--------	---	---	2.0-3.5	Perched	Mar-Apr	>60	---	Moderate	Low------	Moderate.
Lyman------------	C/D	None--------	---	---	>6.0	---	---	10-20	Hard	Moderate	Low------	High.
Rock outcrop.												
711B*, 711D*, 711E*:												
Monadnock-------	B	None--------	---	---	>6.0	---	---	>60	---	Low------	Low------	High.
Hermon----------	A	None--------	---	---	>6.0	---	---	>60	---	Low------	Low------	High.
712B*, 712D*, 712E*:												
Hermon----------	A	None--------	---	---	>6.0	---	---	>60	---	Low------	Low------	High.
Monadnock-------	B	None--------	---	---	>6.0	---	---	>60	---	Low------	Low------	High.
713B*, 713D*:												
Hermon-----------	A	None--------	---	---	>6.0	---	---	>60	---	Low------	Low------	High.
Waumbek----------	B	None--------	---	---	1.5-2.5	Apparent	Nov-May	>60	---	Moderate	Moderate	High.

See footnote at end of table.

Table 16.--Soil and Water Features--Continued

Soil name and map symbol	Hydro-logic group	Flooding: Frequency	Flooding: Duration	Flooding: Months	High water table: Depth	High water table: Kind	High water table: Months	Bedrock: Depth	Bedrock: Hardness	Potential frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
					Ft			In				
717*:												
Lyme	C	None	---	---	0-1.5	Apparent	Nov-May	>60	---	High	Low	High.
Peacham	D	None	---	---	+1-0.5	Apparent	Oct-Jun	>60	---	High	Moderate	High.
719D*, 719E*:												
Marlow	C	None	---	---	2.0-3.5	Perched	Mar-Apr	>60	---	Moderate	Low	Moderate.
Tunbridge	C	None	---	---	>6.0	---	---	20-40	Hard	Moderate	High	High.
720D*, 720E*:												
Marlow	C	None	---	---	2.0-3.5	Perched	Mar-Apr	>60	---	Moderate	Low	Moderate.
Lyman	C/D	None	---	---	>6.0	---	---	10-20	Hard	Moderate	Low	High.
Rock outcrop.												
721B*:												
Peru	C	None	---	---	1.5-2.5	Perched	Nov-May	>60	---	High	Moderate	Moderate.
Marlow	C	None	---	---	2.0-3.5	Perched	Mar-Apr	>60	---	Moderate	Low	Moderate.
722D*:												
Marlow	C	None	---	---	2.0-3.5	Perched	Mar-Apr	>60	---	Moderate	Low	Moderate.
Berkshire	B	None	---	---	>6.0	---	---	>60	---	Moderate	Low	High.
723B*:												
Peru	C	None	---	---	1.5-2.5	Perched	Nov-May	>60	---	High	Moderate	Moderate.
Pillsbury	C	None	---	---	0-1.5	Perched	Nov-May	>60	---	High	High	High.
724B*:												
Skerry	C	None	---	---	1.5-2.5	Perched	Nov-May	>60	---	High	Low	Moderate.
Tunbridge	C	None	---	---	>6.0	---	---	20-40	Hard	Moderate	High	High.
726D*, 726E*:												
Rock outcrop.												
Lyman	C/D	None	---	---	>6.0	---	---	10-20	Hard	Moderate	Low	High.
727*.												
Rubble land												
729B*:												
Waumbek	B	None	---	---	1.5-2.5	Apparent	Nov-May	>60	---	Moderate	Moderate	High.
Lyme	C	None	---	---	0-1.5	Apparent	Nov-May	>60	---	High	Low	High.
730B*:												
Skerry	C	None	---	---	1.5-2.5	Perched	Nov-May	>60	---	High	Low	Moderate.
Lyman	C/D	None	---	---	>6.0	---	---	10-20	Hard	Moderate	Low	High.
Rock outcrop.												

See footnote at end of table.

Table 16.--Soil and Water Features--Continued

Soil name and map symbol	Hydro-logic group	Flooding: Frequency	Flooding: Duration	Flooding: Months	High water table: Depth	High water table: Kind	High water table: Months	Bedrock: Depth	Bedrock: Hardness	Potential frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
					Ft			In				
731*:												
Peacham	D	None	---	---	+1-0.5	Apparent	Oct-Jun	>60	---	High	Moderate	High.
Ossipee	D	None	---	---	+1-0.5	Apparent	Jan-Dec	>60	---	High	Moderate	High.
734D*:												
Surplus	C	None	---	---	1.0-2.0	Perched	Oct-May	>60	---	High	Moderate	High.
Sisk	C	None	---	---	>6.0	---	---	>60	---	Moderate	Low	High.
735E*:												
Saddleback	C/D	None	---	---	>6.0	---	---	10-25	Hard	Moderate	Low	High.
Ricker	A	None	---	---	>6.0	---	---	2-26	Hard	Low	High	High.
Rock outcrop.												
740D*:												
Hermon	A	None	---	---	>6.0	---	---	>60	---	Low	Low	High.
Redstone	A	None	---	---	>6.0	---	---	>60	---	Low	Low	High.
741D*, 741E*:												
Redstone	A	None	---	---	>6.0	---	---	>60	---	Low	Low	High.
Canaan	C	None	---	---	>6.0	---	---	10-20	Hard	Moderate	Low	Moderate.
Rock outcrop.												
819B*:												
Peru	C	None	---	---	1.5-2.5	Perched	Nov-May	>60	---	High	Moderate	Moderate.
Tunbridge	C	None	---	---	>6.0	---	---	20-40	Hard	Moderate	High	High.

* See description of the map unit for composition and behavior characteristics of the map unit.

Table 17.--Classification of the Soils

Soil name	Family or higher taxonomic class
Adams	Sandy, mixed, frigid Typic Haplorthods
Agawam	Coarse-loamy over sandy or sandy-skeletal, mixed, mesic Typic Dystrochrepts
Becket	Coarse-loamy, mixed, frigid Typic Haplorthods
Berkshire	Coarse-loamy, mixed, frigid Typic Haplorthods
Bernardston	Coarse-loamy, mixed, mesic Typic Dystrochrepts
Binghamville	Coarse-silty, mixed, nonacid, mesic Typic Haplaquepts
Canaan	Loamy-skeletal, mixed, frigid Lithic Haplorthods
Cardigan	Coarse-loamy, mixed, mesic Typic Dystrochrepts
Charlton	Coarse-loamy, mixed, mesic Typic Dystrochrepts
Chocorua	Sandy or sandy-skeletal, mixed, dysic Terric Borohemists
Colton	Sandy-skeletal, mixed, frigid Typic Haplorthods
Croghan	Sandy, mixed, frigid Aquic Haplorthods
Dartmouth	Coarse-silty, mixed, mesic Aquic Dystrochrepts
Deerfield	Mixed, mesic Aquic Udipsamments
Greenwood	Dysic Typic Borohemists
Groveton	Coarse-loamy, mixed, frigid Typic Haplorthods
Hadley	Coarse-silty, mixed, nonacid, mesic Typic Udifluvents
Hermon	Sandy-skeletal, mixed, frigid Typic Haplorthods
Hitchcock	Coarse-silty, mixed, mesic Typic Dystrochrepts
Kearsarge	Loamy, mixed, mesic Lithic Dystrochrepts
Kinsman	Sandy, mixed, frigid Aeric Haplaquods
Limerick	Coarse-silty, mixed, nonacid, mesic Typic Fluvaquents
Lyman	Loamy, mixed, frigid Lithic Haplorthods
Lyme	Coarse-loamy, mixed, acid, frigid Aeric Haplaquepts
Madawaska	Coarse-loamy over sandy or sandy-skeletal, mixed, frigid Aquic Haplorthods
Marlow	Coarse-loamy, mixed, frigid Typic Haplorthods
Medomak	Coarse-silty, mixed, nonacid, frigid Fluvaquentic Humaquepts
Monadnock	Coarse-loamy over sandy or sandy-skeletal, mixed, frigid Typic Haplorthods
Moosilauke	Sandy, mixed, frigid Aeric Haplaquepts
Nicholville	Coarse-silty, mixed, frigid Aquic Haplorthods
Occum	Coarse-loamy, mixed, mesic Fluventic Dystrochrepts
Ondawa	Coarse-loamy, mixed, frigid Fluventic Dystrochrepts
Ossipee	Loamy, mixed, dysic Terric Borohemists
Peacham	Coarse-loamy, mixed, nonacid, frigid Histic Humaquepts
Pemi	Coarse-silty, mixed, nonacid, frigid Typic Haplaquepts
Peru	Coarse-loamy, mixed, frigid Aquic Haplorthods
Pillsbury	Coarse-loamy, mixed, acid, frigid Aeric Haplaquepts
Pittstown	Coarse-loamy, mixed, mesic Aquic Dystrochrepts
Podunk	Coarse-loamy, mixed, frigid Fluvaquentic Dystrochrepts
Pootatuck	Coarse-loamy, mixed, mesic Fluvaquentic Dystrochrepts
Quonset	Sandy-skeletal, mixed, mesic Typic Udorthents
Redstone	Fragmental, mixed, frigid Typic Haplorthods
Ricker	Dysic Lithic Borofolists
Rippowam	Coarse-loamy, mixed, nonacid, mesic Aeric Fluvaquents
Rumney	Coarse-loamy, mixed, nonacid, frigid Aeric Fluvaquents
Saddleback	Thixotropic Humic Lithic Cryorthods
Searsport	Sandy, mixed, frigid Histic Humaquepts
Sisk	Thixotropic over loamy, mixed Humic Cryorthods
Skerry	Coarse-loamy, mixed, frigid Aquic Haplorthods
Stissing	Coarse-loamy, mixed, acid, mesic Typic Haplaquepts
Suncook	Mixed, mesic Typic Udipsamments
Sunday	Mixed, frigid Typic Udipsamments
Surplus	Thixotropic over loamy, mixed Typic Cryorthods
Tunbridge	Coarse-loamy, mixed, frigid Typic Haplorthods
Walpole	Sandy, mixed, mesic Aeric Haplaquepts
Waumbek	Sandy-skeletal, mixed, frigid Aquic Haplorthods
Windsor	Mixed, mesic Typic Udipsamments
Winooski	Coarse-silty, mixed, nonacid, mesic Aquic Udifluvents