USDA United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with the University of Florida, Institute of Food and Agricultural Sciences, Agricultural Experiment Stations, and Soil and Water Science Department; and the Florida Department of Agriculture and Consumer Services

Soil Survey of Taylor County, Florida

How to Use This Soil Survey

General Soil Map

The general soil map, which is a color map, 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.

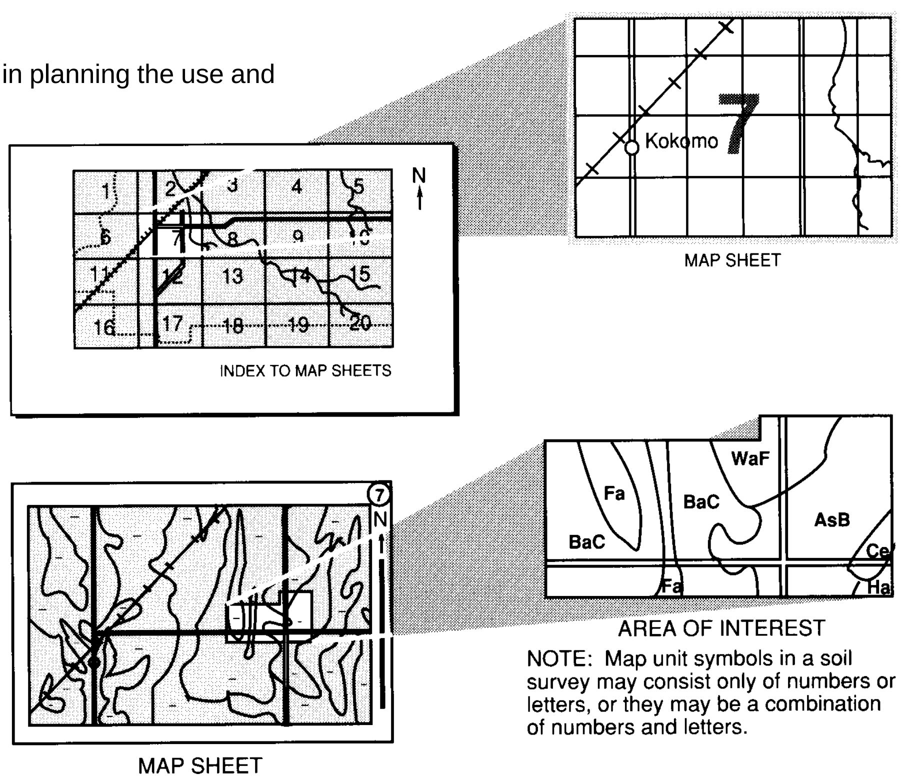
Detailed Soil Maps

The detailed soil maps 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**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit 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.



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 1994. Soil names and descriptions were approved in 1998. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1995. This survey was made cooperatively by the Natural Resources Conservation Service and the University of Florida's Institute of Food and Agricultural Sciences, Agricultural Experiment Stations, and Soil and Water Science Department; the Florida Department of Agriculture and Consumer Services; and the Florida Department of Transportation. The survey is part of the technical assistance furnished to the Taylor County Soil and Water Conservation District. The Taylor County Board of County Commissioners contributed office space for the soil survey project office.

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.

Cover: A nursery in an area of Ortega fine sand, 0 to 5 percent slopes, where pine seeds are planted and grown to seedlings.

Additional information about the Nation's natural resources is available on the Natural Resources Conservation Service home page on the World Wide Web. The address is http://www.nrcs.usda.gov (click on "Technical Resources").

Contents

Issued 2000

Foreword

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, 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.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations that affect various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

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.

T. Niles Glasgow
State Conservationist
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Soil Survey of
Taylor County, Florida

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United States Department of Agriculture, Natural Resources Conservation Service,
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Taylor County is on the coast of the Gulf of Mexico in the northwestern part of the Florida Peninsula (fig. 1). It is bordered on the north by Madison County, on the west by Jefferson County, on the south by Dixie County, and on the east by Lafayette County. Taylor County has an irregular outline; the Acuilla River forms part of the western border, and the Steinhatchee River forms part of the southern border.

The total area of the county, including areas of water, is 667,700 acres, or 1,055 square miles. The county is about 44 miles long from north to south and 37 miles from east to west.

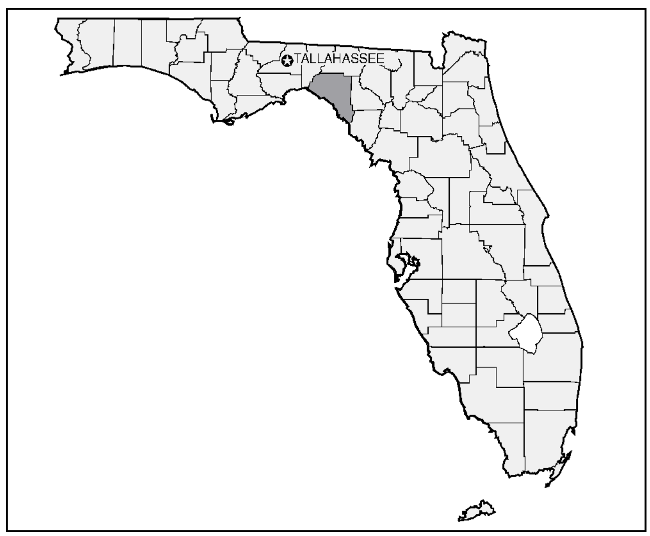

Figure 1.—Location of Taylor County in Florida.

General Nature of the County

This section gives general information about the county. It describes the climate, seasonal high water tables, history and development, farming, transportation facilities, and mineral resources.

Climate

The climate in Taylor County is characterized by long, hot, humid summers and mild winters (USDC, 1990). It is favorable for the production of crops, livestock, and pine trees. The moderating influence of the Gulf of Mexico on maximum temperatures in summer and on minimum temperatures in winter is pronounced along the coast but diminishes a few miles inland.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Perry, Florida, for the period 1961 to 1990. 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 temperature is 57 degrees F and the average daily minimum temperature is 44 degrees F. The lowest temperature on record, which occurred at Perry on January 21, 1985, is 7 degrees F. In summer, the average temperature is 81 degrees and the average daily maximum temperature is 91 degrees. The highest recorded temperature, which occurred on July 15, 1980, is 104 degrees F.

Of the total annual precipitation, 36 inches, or 62 percent, usually falls in April through September, which includes the growing season for most crops. In 2 years out of 10, the rainfall in April through September is less than 19 inches. The heaviest 1-day rainfall during the period of record was 10.26 inches at Perry on July 25, 1980. Thunderstorms occur on about 83 days each year, and most occur in summer.

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.

Snowfall is rare. No measurable snowfall occurs in 99 percent of the winters. In 1 percent, the snowfall, usually of short duration, is less than 1 inch.

The average relative humidity in midafternoon is about 55 percent. Humidity is higher at night, and the average at dawn is about 90 percent. The sun shines 65 percent of the time possible in summer and 60 percent in winter. The prevailing wind is from the south. Average windspeed is highest, 8 miles per hour, in spring.

Every few years a tropical storm or hurricane affects the area. During a two or three day period, 15 or more inches of precipitation can fall.

Seasonal High Water Tables

The seasonal high water table is the depth to free water that stands in an unlined borehole for a significant period of time (more than a few weeks) during the wettest seasons of the year. In Taylor County, the soils typically are wettest from late December through March and from June through September. These wet periods correspond to the seasonally highest periods of rainfall. More rain falls in the summer than in the winter; however, more evapotranspiration occurs in the summer (SSSA, 1997). The driest part of the year is October through the first part of December. This dry period corresponds to the seasonally lowest period of rainfall. The second driest part of the year is April and May. During these months evapotranspiration rates are much greater than in the winter, and although more rain falls than in November and early December, less rain falls than in winter or summer.

History and Development

Mary Lou Whitfield, historian, prepared this section.

Indians occupied Florida for thousands of years before the arrival of the first European explorers. The Indians were from five main groups: the Timucua, Apalachee, Ais, Tekesta, and Calusa. The Timucua Indians, who had fifteen different tribes, occupied the area that is now Taylor County (Fernald, 1981).

In 1513, Juan Ponce de Leon landed on the coast of what is now northeastern Florida and was credited with discovering Florida. He named the land La Florida (La-Flor-EE-da) for Pascua Florida, Spain’s Easter Feast of the Flowers (Florida Department of State, n.d.). When Spain lost control of the area to the English in 1762, the Timucuan Indians lost their tribal identify and were absorbed by the Seminole Indian tribe. Spain regained possession of the area in 1783 and encouraged migration into Florida through land grants.

The early Spanish explorers are believed to have established a mission on the lower Fenholloway River in the area now known as the Thomas Mill Hammock (Cash, 1948).

During the settlement period, the area supported a tribe of Seminole Indians whom the settlers considered a constant source of peril. General Andrew Jackson was sent to punish these Seminole Indians for their raids. His troops engaged them at Natural Bridge on the Econfina River on April 12, 1818 (Cash, 1948). No other fighting in Taylor County was reported.

Florida became an American territory in 1821.

In 1838, General Zachary Taylor, for whom the county was later named, commanded troops against the warring Seminole Indians during the Seminole Indian War of 1835–1842. He and his troops built five forts on the Econfina, Fenholloway, and Steinhatchee Rivers.

Florida became a state on March 3, 1845.

In the early 1850’s, the first settlement, “Pisgah,” was established. A post office named “Fenholloway” was established at Pisgah on May 6, 1854. It is possible that one of the houses in Pisgah was the first house in Taylor County made from sawed lumber instead of being of log construction. This house was used in the later part of the Civil War as headquarters for Confederate Major Charles H. Canfield.

Taylor County, named in honor of President Zachary Taylor, was partitioned from Madison County on December 23, 1856, as Florida's 34th county. In 1860, the first census of the county reported the population at 1,384. The next census showed an increase of 99.

A post office named "Rose Head" was established in the county on February 23, 1869. On May 28, 1875, the name was changed to Perry.

The first turpentine still was built in 1899 about 5 miles north of Perry. Gum rosin was produced from the large areas of virgin slash pine and longleaf pine in the county.

The first railroad to enter the county was the South Georgia Railway. It entered the county in 1902 from the north. Other railroads entered the county to transport timber products in the early 1900's from the east and south. The only railroad still in the county is the Southern Railway System, which uses the old route of the South Georgia Railway.

Taylor County has grown slowly over the years. It has remained mostly rural, dependent upon commercial woodland production and agriculture. The 1990 census reported a population of 20,002. Of this total, 8,231 were in the city of Perry.

Farming

Mary Lou Whitfield, historian, prepared this section.

The favorable climate and soils in Taylor County attracted settlers from the southeastern states from about 1815 to the late 1820's and early 1830's. During the Civil War, beef cattle, hogs, and sugarcane were grown for the troops. Also, salt was produced from boiled-down seawater.

In the 1870's, agriculture in the county consisted of small farms raising scrub cattle and hogs on an open range. Cedar trees were cut along coastal swamps and then dragged by teams of oxen or floated in streams to the Gulf of Mexico. These cedar logs were rafted to Cedar Key for processing into pencils.

The first timber mills in Taylor County processed red cypress, yellow pine, or both. Pine was used for building homes and other buildings; oak and cedar were used for furniture. The wood was also processed for automobile parts and skiing equipment.

Cotton was grown in the county following the Civil War. It thrived until 1916 when the Mexican boll weevil all but wiped it out.

In the 1920's, dipping cattle became compulsory for the eradication of the Texas fever tick and thousands of range cattle were sold off. These cattle were restocked with Brahma, Hereford, and Angus beef cattle, resulting in improved herds. Several dairy herds of Jerseys and Guernseys were in operation for a time.

In 1940, statewide legislation required fencing livestock off public highways. In 1964, a county referendum required stockholders to keep their stock within fenced-in areas. This brought the open range to a close.

In the early 1950's, a cellulose plant was established at Foley, the former location of a wood-pulp processing plant.

A wide variety of crops, including flue-cured tobacco, corn, watermelons, peanuts, soybeans, peaches, wheat, oats, rye grains, and field peas have been grown in the county. These crops are still grown in the county. Most of the cropland, however, has been converted to pasture or the production of pine.

More than 20,500 acres in the county is used for crops and pasture (University of Florida, 1994). The acreage used for crops and pasture has gradually decreased as land is used for urban development and timber production.

Transportation Facilities

Taylor County is served by a good network of county, State, and Federal highways. U.S. Highway 19 crosses the county in a north-south route, U.S. Highway 27 crosses the county in a north-east route, U.S. Highway 98 crosses the county in a west-south route, and U.S. Highway 221 crosses the county north from Perry. All of the highways pass through the Perry. They generally follow the same routes as the first "hardroads" constructed beginning in 1916. Numerous forestry roads have been built throughout the county. They facilitate the growing and harvesting of timber and reforestation. They provide transportation to most areas of the county.

The Seaboard Coast Line Railroad provides freight transportation northward from Perry using the route of the South Georgia Railway, which was the first railroad to enter the county.

Regularly scheduled commercial air transportation is not available in the county. A small local airport is in Perry.

Mineral Resources

Taylor County contains deposits of several economic mineral commodities. The most important of these is dolostone. Other minerals of lesser potential include limestone and sand. The economic potential and mining status of each commodity are summarized in the following paragraphs (Spencer, 1996).

Figure 2.—An area of Wekiva-Tennille-Tooles complex, occasionally flooded, where the limestone bedrock is quarried for lime. Lime is used to raise soil reaction and for road construction.

Dolomite

Shallow, dolomitized Suwannee Limestone is present in the Cabbage Grove area (Townships 3 and 4 South; Ranges 4, 5, and 6 East) in the northwestern part of Taylor County (fig. 2). This area is one of only about five high-quality dolomite producing areas in Florida (Schmidt, 1979). The dolomite in Taylor County is mined primarily for use as road gravel. The rock is extracted by dragline, crushed onsite, and trucked to customers. Four companies operate in the Cabbage Grove area.

Elsewhere in the county, private pits produce dolomite on a sporadic, as-needed basis. The Florida Department of Transportation operates a road-base pit in Section 4, Township 5 South, Range 5 East, and a private construction company maintains a pit southwest of Perry. Although sufficient dolomite reserves for continued commercial mining are present in Taylor County, the lack of more extensive local markets for the product precludes an extensive industry in this commodity.

Limestone

The Ocala Limestone is near the surface under the southernmost part of Taylor County. The economic grade varies considerably from one area to another. Although mining potential remains high, no companies commercially mine limestone in the county. A private construction company operates a private pit in the Suwannee Limestone southwest of Perry, and another corporation maintains two private road-base pits in the southeastern part of the county. Low local demand precludes extensive mining of this mineral.

Sand

A number of shallow private pits in Taylor County produce fill sand. Pleistocene quartz sand deposits are present as a blanket of variable thickness over most of the county. Because of low local demand for sand products, the potential for commercial mining is low.

Clay

Clay is sporadically present as a component of the undifferentiated surficial sediments covering Taylor County. Due to the impure nature of the clay, it is not an economic commodity in the county.

Peat

Peat forms in a wet, reducing environment when the rate of accumulation of organic materials exceeds the rate of decomposition. Shallow wetlands in the San Pedro Bay region in the northeastern part of Taylor County provide potential sites of peat formation. Although a peat survey has not been conducted in the county, studies in adjacent counties indicate that the peat formed in such areas is too thin to be of economic interest (Davis, 1946; Bond, 1986).

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock (USDA, National Soil Survey Handbook; USDA, 1993). 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 biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area 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-vegetation-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 color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, 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. Soil taxonomy, 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 interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are 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 are 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 predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict 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.

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. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the 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. In the detailed soil map units, these latter soils are called inclusions or included soils. In the general soil map units, they are called minor 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 soils 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 broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one map unit 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 map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

Soils on Rises and Knolls and in Depressions

1. Ortega-Kershaw-Ridgewood

Very deep, moderately well drained, excessively drained, and somewhat poorly drained soils that formed in sandy and loamy marine sediments on the lower Coastal Plain

Setting

Location: Southwestern part of the county
Landscape: Lowlands
Landform: Rises, knolls, and depressions
Slope: 0 to 8 percent

Composition

Percent of the survey area: 8.4
Ortega soils—56 percent
Kershaw soils—18 percent
Ridgewood soils—11 percent
Minor soils—15 percent

Soil Characteristics

Ortega
Surface layer: Gray fine sand
Substratum: Very pale brown, light yellowish brown, and white fine sand
Depth class: Very deep
Drainage class: Moderately well drained
Depth to seasonal high water table: 42 to 72 inches
Slope: 0 to 5 percent
Parent material: Sandy marine sediments

Kershaw
Surface layer: Dark grayish brown fine sand
Substratum: Yellowish brown, brownish yellow, and very pale brown fine sand
Depth class: Very deep
Drainage class: Excessively drained
Depth to seasonal high water table: More than 72 inches
Slope: 0 to 8 percent
Parent material: Sandy marine sediments

Ridgewood
Surface layer: Grayish brown fine sand
Substratum: Yellowish brown, light yellowish brown, and light gray fine sand
Depth class: Very deep
Drainage class: Somewhat poorly drained
Depth to seasonal high water table: 18 to 42 inches
Slope: 0 to 3 percent
Parent material: Sandy marine sediments

Minor soils
- Clara, Osier, and Pottsburg soils on flats
- Leon and Mandarin soils in areas of flatwoods
- Albany, Hurricane, Otela, and Resota soils on rises and knolls

Use and Management

Major use: Woodland

Woodland
Management concerns: Equipment limitations, seedling mortality, plant competition

Cropland
Management concerns: Droughtiness, fast intake, wetness

Pasture and hayland
Management concerns: Droughtiness, fast intake, wetness

Urban development
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, corrosivity

2. Ridgewood-Pamlico-Ortega

Very deep, somewhat poorly drained, very poorly drained, and moderately well drained soils that formed in sandy marine sediments and highly decomposed organic material on the lower Coastal Plain

Setting

Location: Throughout the county
Landscape: Lowlands
Landform: Ridgewood and Ortega—rises and knolls; Pamlico—depressions
Slope: 0 to 5 percent

Composition

Percent of the survey area: 7.2
Ridgewood soils—31 percent
Pamlico soils—12 percent
Ortega soils—11 percent
Minor soils—46 percent

Soil Characteristics

Ridgewood
Surface layer: Grayish brown fine sand
Substratum: Yellowish brown, light yellowish brown, and light gray fine sand
Depth class: Very deep
Drainage class: Somewhat poorly drained
Depth to seasonal high water table: 18 to 42 inches
Slope: 0 to 3 percent
Parent material: Sandy marine sediments

Pamlico
Surface layer: Dark brown muck
Subsurface layer: Black and dark reddish brown muck
Substratum: Black mucky fine sand and brown fine sand
Depth class: Very deep
Drainage class: Very poorly drained
Seasonal high water table: At the surface to 24 inches above the surface
Slope: 0 to 1 percent
Parent material: Highly decomposed organic matter

Ortega
Surface layer: Gray fine sand
Substratum: Very pale brown, light yellowish brown, and white fine sand
Depth class: Very deep
Drainage class: Moderately well drained
Depth to seasonal high water table: 42 to 72 inches
Slope: 0 to 5 percent
Parent material: Sandy marine sediments

Minor soils
- Chipley, Hurricane, and Kershaw soils on rises and knolls
- Leon, Melvina, and Mandarin soils in areas of flatwoods
- Clara soils on flats and in areas of flatwoods
- Evergreen, Pamlico, and Wesconnett soils in depressions

Use and Management

Major use: Woodland

Woodland
Management concerns: Ridgewood and Ortega—droughtiness, fast intake, wetness, equipment limitations, seedling mortality, plant competition; Pamlico—not suited

Cropland
Management concerns: Ridgewood and Ortega—droughtiness, fast intake, wetness; Pamlico—not suited

Pasture and hayland
Management concerns: Ridgewood and Ortega—droughtiness, fast intake, wetness; Pamlico—not suited

Urban development
Management concerns: Ridgewood and Ortega—wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, corrosivity; Pamlico—not suited

3. Albany-Otela-Surrency

Very deep, somewhat poorly drained, moderately well drained, and very poorly drained soils that formed in sandy and loamy marine sediments on the lower Coastal Plain

Setting

Location: In and north of Perry
Landscape: Lowlands
Landform: Albany and Otela—rises and knolls; Surrency—depressions

Slope: 0 to 5 percent

Composition

Percent of the survey area: 1.9
Albany soils—29 percent
Otela soils—22 percent
Surrency soils—12 percent
Minor soils—37 percent

Soil Characteristics

Albany
Surface layer: Dark grayish brown sand
Subsurface layer: Grayish brown, very pale brown, and light gray sand
Subsoil: Pale brown fine sandy loam and light gray sandy clay loam
Depth class: Very deep
Drainage class: Somewhat poorly drained
Depth to seasonal high water table: 12 to 30 inches
Slope: 0 to 5 percent
Parent material: Sandy and loamy marine sediments

Otela
Surface layer: Dark brown fine sand
Subsurface layer: Brownish yellow, very pale brown, and yellowish brown fine sand to loamy fine sand
Subsoil: Yellowish brown fine sandy loam and gray sandy clay loam
Depth class: Very deep
Drainage class: Moderately well drained
Depth to seasonal high water table: 48 to 72 inches
Slope: 0 to 5 percent
Parent material: Sandy and loamy marine sediments

Surrency
Surface layer: Black mucky fine sand
Subsurface layer: Light gray fine sand
Subsoil: Gray sandy clay loam
Depth class: Very deep
Drainage class: Very poorly drained
Seasonal high water table: At the surface to 12 inches above the surface
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments

Minor soils
- Ortega and Otela soils on rises and knolls
- Plummer soils on flats and in areas of flatwoods
- Croatan and Starke soils in depressions

Use and Management

Major use: Woodland

Woodland
Management concerns: Albany and Otela—equipment limitations, seedling mortality, plant competition; Surrency—not suited

Cropland
Management concerns: Albany and Otela—droughtiness, fast intake, wetness: Surrency—not suited

Pasture and hayland
Management concerns: Albany and Otela—droughtiness, fast intake, wetness: Surrency—not suited

Urban development
Management concerns: Albany and Otela—wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, corrosivity; Surrency—not suited

Soils in Areas of Flatwoods, on Flats, in Depressions, and on Flood Plains

4. Leon-Pamlico-Wesconnett

Very deep, poorly drained and very poorly drained soils that formed in sandy marine sediments and highly decomposed organic material on the lower Coastal Plain

Setting

Location: Throughout the county
Landscape: Lowlands
Landform: Leon—flatwoods; Pamlico and Wesconnett—depressions
Slope: 0 to 2 percent

Composition

Percent of the survey area: 22.2
Leon soils—34 percent
Pamlico soils—14 percent
Wesconnett soils—9 percent
Minor soils—43 percent

Soil Characteristics

Leon
Surface layer: Very dark gray fine sand
Subsurface layer: Grayish brown and light gray fine sand
Subsoil: Black and dark reddish brown fine sand
Substratum: Dark yellowish brown and yellowish brown fine sand
Depth class: Very deep
Drainage class: Poorly drained
Depth to seasonal high water table: 6 to 18 inches
Slope: 0 to 2 percent
Parent material: Sandy marine sediments

Pamlico
Surface layer: Dark brown muck
Subsurface layer: Black and dark reddish brown muck
Substratum: Black mucky fine sand and brown fine sand
Depth class: Very deep
Drainage class: Very poorly drained
Seasonal high water table: At the surface to 24 inches above the surface
Slope: 0 to 1 percent
Parent material: Highly decomposed organic matter

Wesconnett
Surface layer: Black fine sand
Subsoil: Very dark gray, dark reddish brown, and brown fine sand
Substratum: Light gray fine sand
Depth class: Very deep
Drainage class: Very poorly drained
Seasonal high water table: At the surface to 24 inches above the surface
Slope: 0 to 2 percent
Parent material: Sandy marine sediments

Minor soils
- Hurricane and Ridgewood soils on rises and knolls
- Mascotte soils in areas of flatwoods
- Clara, Bodiford, and Plummer soils on flats and in areas of flatwoods
- Croatan soils in depressions

Use and Management

Major use: Woodland

Woodland
Management concerns: Leon—equipment limitations, seedling mortality, plant competition; Pamlico and Wesconnett—not suited

Cropland
Management concerns: Leon—wetness, droughtiness, fast intake; Pamlico and Wesconnett—not suited

Pasture and hayland
Management concerns: Leon—wetness, droughtiness, fast intake; Pamlico and Wesconnett—not suited

Urban development
Management concerns: Leon—wetness, poor filter, seepage, too sandy, cutbanks cave, corrosivity; Pamlico and Wesconnett—not suited

5. Chaires-Meadowbrook-Clara

Very deep, poorly drained soils that formed in sandy and loamy marine sediments on the lower Coastal Plain

Setting

Location: Throughout the county
Landscape: Lowlands
Landform: Chaires—flatwoods; Meadowbrook and Clara—flats and depressions
Slope: 0 to 2 percent

Composition

Percent of the survey area: 9.5
Chaires soils—33 percent
Meadowbrook soils—11 percent
Clara soils—10 percent
Minor soils—46 percent

Soil Characteristics

Chaires
Surface layer: Very dark gray fine sand
Subsurface layer: Light brownish gray fine sand
Upper part of the subsoil: Black and dark reddish brown fine sand
Next part of the subsoil: Dark yellowish brown fine sand
Lower part of the subsoil: Light gray and light olive gray sandy clay loam
Depth class: Very deep
Drainage class: Poorly drained
Depth to seasonal high water table: 6 to 18 inches
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments

Meadowbrook
Surface layer: Dark grayish brown sand
Subsurface layer: Very pale brown and light gray fine sand
Subsoil: Light brownish gray sandy clay loam
Depth class: Very deep
Drainage class: Poorly drained
Seasonal high water table: At the surface to a depth of 12 inches
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments

Clara
Surface layer: Very dark grayish brown mucky fine sand
Subsurface layer: Grayish brown fine sand
Subsoil: Yellowish brown fine sand
Substratum: Light gray fine sand
Depth class: Very deep
Drainage class: Poorly drained

Seasonal high water table: At the surface to a depth of 12 inches
Slope: 0 to 2 percent
Parent material: Sandy marine sediments

Minor soils

- Lutterloh and Moriah soils on rises and knolls
- Leon, Mandarin, and Melvina soils in areas of flatwoods
- Clara, Bodiford, Meadowbrook, and Tooles soils on flats and in areas of flatwoods
- Maurepas, Tooles, and Yellowjacket soils in depressions and on flood plains

Use and Management

Major use: Woodland

Woodland
Management concerns: Equipment limitations, seedling mortality, plant competition

Cropland
Management concerns: Wetness, droughtiness, fast intake

Pasture and hayland
Management concerns: Wetness, droughtiness, fast intake

Urban development
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, corrosivity

6. Sapelo-Surrency-Plummer

Very deep, poorly drained and very poorly drained soils that formed in sandy and loamy marine sediments on the lower Coastal Plain

Setting

Location: Northern part of the county
Landscape: Lowlands
Landform: Flats and depressions
Slope: 0 to 2 percent

Composition

Percent of the survey area: 10.3
Sapelo soils—31 percent
Surrency soils—10 percent
Plummer soils—8 percent
Minor soils—51 percent

Soil Characteristics

Sapelo
Surface layer: Very dark gray fine sand
Subsurface layer: Gray and light gray fine sand
Subsoil: Black and dark reddish brown fine sand
Second subsurface layer: Light gray fine sand
Second Subsoil: Light brownish gray sandy clay loam and light olive gray fine sandy loam
Depth class: Very deep
Drainage class: Poorly drained
Depth to seasonal high water table: At the surface to a depth of 18 inches
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments

Surrency
Surface layer: Black mucky fine sand
Subsurface layer: Light gray fine sand
Subsoil: Gray sandy clay loam
Depth class: Very deep
Drainage class: Very poorly drained
Seasonal high water table: At the surface to 12 inches above the surface
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments

Plummer
Surface layer: Black fine sand
Subsurface layer: Grayish brown, gray, and light gray fine sand
Subsoil: Gray fine sandy loam
Depth class: Very deep
Drainage class: Poorly drained
Depth to seasonal high water table: At the surface to a depth of 12 inches
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments

Minor soils

- Albany soils on rises and knolls
- Leon and Sapelo soils in areas of flatwoods
- Croatan, Dorovan, and Pamlico soils in depressions and on flood plains
- Starke soils in depressions

Use and Management

Major use: Woodland

Woodland
Management concerns: Sapelo and Plummer—equipment limitations, seedling mortality, plant competition; Surrency—not suited

Cropland
Management concerns: Sapelo and Plummer—wetness, droughtiness, fast intake; Surrency—not suited

Pasture and hayland
Management concerns: Sapelo and Plummer—wetness, droughtiness, fast intake; Surrency and Starke—not suited

Urban development
Management concerns: Sapelo and Plummer—wetness, poor filter, seepage, too sandy, cutbanks cave, corrosivity; Surrency and Starke—not suited

7. Wekiva-Tooles-Chaires and Similar Soils

Shallow to very deep, poorly drained soils that formed in sandy and loamy marine sediments over limestone on the lower Coastal Plain

Setting

Location: Inland along the Gulf Coast
Landscape: Lowlands
Landform: Wekiva—flats; Tooles—flats and depressions; Chaires—flatwoods
Slope: 0 to 2 percent

Composition

Percent of the survey area: 23.1
Wekiva soils—21 percent
Tooles soils—19 percent
Chaires soils—14 percent
Minor soils—46 percent

Soil Characteristics

Wekiva
Surface layer: Black fine sand
Subsurface layer: Yellowish brown fine sand
Subsoil: Yellowish brown fine sandy loam
Bedrock: Limestone
Depth class: Shallow and moderately deep
Drainage class: Poorly drained
Seasonal high water table: At the surface to 12 inches above surface
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments

Tooles
Surface layer: Very dark gray fine sand
Subsurface layer: Brown and yellowish brown fine sand
Subsoil layer: Light gray sandy clay loam
Bedrock: Limestone
Depth class: Deep
Drainage class: Poorly drained
Seasonal high water table: At the surface to 12 inches above surface
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments

Chaires
Surface layer: Very dark gray fine sand
Subsurface layer: Light brownish gray fine sand
Subsoil: Black, dark reddish brown, and yellowish brown fine sand
Second subsurface layer: Dark yellowish brown fine sand
Second subsoil: Light gray and light olive gray sandy clay loam
Depth class: Very deep
Drainage class: Poorly drained
Depth to seasonal high water table: 6 to 18 inches
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments

Minor soils
- Bushnell, Lutterloh, Matmon, Moriah, and Seaboard soils on rises and knolls
- Chaires and Melvina soils in areas of flatwoods
- Bodiford, Bushnell, and Nutall soils on flats and in depressions

Use and Management

Major use: Woodland

Woodland
Management concerns: Equipment limitations, seedling mortality, plant competition

Cropland
Management concerns: Wetness, droughtiness, fast intake

Pasture and hayland
Management concerns: Wetness, droughtiness, fast intake

Urban development
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, corrosivity

Soils in Depressions, on Flood Plains, and in Tidal Marshes

8. Dorovan-Pamlico-Sapelo

Very deep, very poorly drained soils that formed in highly decomposed organic material and sandy marine sediments on the lower Coastal Plain

Setting

Location: Northern and eastern parts of the county
Landscape: Lowlands
Landform: Flats and depressions
Slope: 0 to 2 percent

Composition

Percent of the survey area: 13.0
Dorovan soils—38 percent
Pamlico soils—26 percent
Sapelo soils—15 percent
Minor soils—21 percent

Soil Characteristics

Dorovan
Surface layer: Very dark brown muck
Subsurface layer: Black muck
Substratum: Black mucky fine sand
Depth class: Very deep
Drainage class: Very poorly drained
Seasonal high water table: At the surface to 24 inches above the surface
Slope: 0 to 1 percent
Parent material: Highly decomposed organic matter

Pamlico
Surface layer: Dark brown muck
Subsurface layer: Black and dark reddish brown muck
Substratum: Black mucky fine sand and brown fine sand
Depth class: Very deep
Drainage class: Very poorly drained
Seasonal high water table: At the surface to 24 inches above the surface
Slope: 0 to 1 percent
Parent material: Highly decomposed organic matter

Sapelo
Surface layer: Very dark gray fine sand
Subsurface layer: Gray and light gray fine sand
Subsoil: Black and dark reddish brown fine sand
Second subsurface layer: Light gray fine sand
Second subsoil layer: Light brownish gray sandy clay loam and light olive gray fine sandy loam
Depth class: Very deep
Drainage class: Very poorly drained
Seasonal high water table: At the surface to a depth of 18 inches
Slope: 0 to 2 percent
Parent material: Sandy and loamy marine sediments

Minor soils
- Ridgewood soils on rises and knolls
- Leon soils on flats and in depressions

Use and Management

Major uses: Not suited to woodland, cropland, pasture, hayland, or urban development

9. Bayvi

Very deep, very poorly drained soils that formed in sandy marine sediments on the lower Coastal Plain

Setting

Location: Southern and western parts of the county bordering the Gulf of Mexico
Landscape: Lowlands (fig. 3)
Landform: Salt marshes
Slope: 0 to 1 percent

Composition

Percent of the survey area: 4.4
Bayvi soils—81 percent
Minor soils—19 percent

Soil Characteristics

Bayvi
Surface layer: Black muck
Subsurface layer: Black mucky loamy sand and very dark grayish brown sand
Substratum: Grayish brown and gray sand
Depth class: Very deep
Drainage class: Very poorly drained
Seasonal high water table: At the surface to a depth of 6 inches
Slope: 0 to 1 percent
Parent material: Sandy marine sediments

Minor soils
- Chaires and Leon soils in areas of flatwoods

Use and Management

Major uses: Not suited to woodland, cropland, pasture, hayland, or urban development

Broad Land Use Considerations

The soils in the Taylor County vary in their suitability for major land uses. About 87 percent of the acreage is used for the production of pine trees. Much of the acreage in general soil map units 4, 5, and 6 is used for woodland. The seasonal high water table is the main limitation. Because of wetness, the equipment limitations are moderate or severe on these soils. The wetness can be overcome by harvesting only during the drier periods or by using special equipment.

The soils in units 7, 8, and 9 are frequently flooded, ponded, or both, mainly in winter and summer. Flooding, ponding, and wetness are the major limitations affecting these units for most uses.

Only a small acreage in the county is used for pasture. Units 4, 5, and 6 are best suited to grasses.

Figure 3.—An area of water in the foreground; Bayvi muck, frequently flooded, in the middle; and Leon fine sand, rarely flooded in the background. These areas provide recreational opportunities. Photo courtesy of Will Beers, photographer.

Soils in units 1, 2, and 3 are generally unsuited to grasses because of droughtiness.

Little of the county is developed for urban uses. Generally, the moderately well drained and excessively drained soils are well suited to building site development. The Albany, Kershaw, Ortega, Otela, and Ridgewood soils in units 1, 2, and 3 are examples. In most of the other units, the seasonal high water table, the hazard of ponding, and the slope are the main management concerns. The soils on flood plains and in depressions, such as those in units 7, 8, and 9, are unsuitable as sites for buildings because of flooding and ponding.

The seasonal high water table is a major limitation throughout the county, and alternative waste disposal systems (mounded septic tank absorption fields) are used.

The suitability of the soils for recreational development ranges from poorly suited to well suited, depending on the intensity of the expected use. Units 7, 8, and 9 are very poorly suited to many of these uses because of wetness, flooding, and ponding. All of the soils are suited to some recreational uses, such as paths and trails for hiking or horseback riding. Small areas that are suitable for intensive recreational uses generally are available in the units that otherwise have severe limitations.

The suitability for wildlife habitat generally is good throughout the county. All of the units have soils that are generally well suited to habitat for openland wildlife, woodland wildlife, or both. Areas in units 7, 8, and 9 and scattered areas in units 2, 3, 4, 5, and 6 are suited to wetland habitat.

Detailed Soil Map Units

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

A map unit delineation on a map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils or miscellaneous areas. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils and miscellaneous areas are natural phenomena, and they have the characteristic variability of all natural phenomena. 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 other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some "included" areas that belong to other taxonomic classes.

Most included soils have properties 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, or similar, inclusions. They may or may not be mentioned in the map unit description. Other included soils and miscellaneous areas, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, inclusions. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The included areas of contrasting soils or miscellaneous areas are mentioned in the map unit descriptions. A few included areas may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit 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, 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, slope, depth to rock, stoniness, salinity, 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, Chaires fine sand, limestone substratum, is a phase of the Chaires series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Tooles-Tennille-Wekiva complex, depressional, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas 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 or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Dorovan and Pamlico soils, depressional, is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits is an example.

Table 4 gives the acreage and proportionate extent of soils in 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 or miscellaneous areas.

3—Clara and Osier fine sands

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flats
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 3 to more than 400 acres

Composition

Clara and similar soils: 45 percent
Osier and similar soils: 30 percent
Dissimilar soils: 25 percent

Typical Profile

Clara

Surface layer:
0 to 6 inches—very dark grayish brown fine sand

Subsurface layer:
6 to 19 inches—grayish brown fine sand

Subsoil:
19 to 32 inches—yellowish brown fine sand

Substratum:
32 to 80 inches—light gray fine sand

Osier

Surface layer:
0 to 5 inches—very dark grayish brown fine sand

Substratum:
5 to 18 inches—brown fine sand
18 to 25 inches—pale brown fine sand
25 to 50 inches—light brownish gray fine sand
50 to 80 inches—light gray fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid throughout
Slope class: Nearly level
Available water capacity: Clara—moderate; Osier—low
Shrink-swell potential: Low
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
- Goldhead, Meadowbrook, Plummer, and Pottsburg soils on flats
- Boulogne and Sapelo soils in areas of flatwoods
- Albany, Lutterloh, Ocilla, and Ridgewood soils on rises and knolls

Similar soils:
- Clara-like soils that have limestone bedrock below a depth of 60 inches and Clara-like soils that do not have a gray to light gray subsurface layer; in positions similar to those of the Clara soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: High
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
- Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
- Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
- Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
- Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
- Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and reduce the hazard of erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on these soils.

Pasture and hayland

Suitability: Well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Poor
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Clara—IVw; Osier—Vw
Woodland ordination symbol: 11W for slash pine
Ecological community: North Florida Flatwoods

5—Chaires fine sand

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 3 to more than 300 acres

Composition

Chaires and similar soils: 81 percent
Dissimilar soils: 19 percent

Typical Profile

Surface layer:
0 to 6 inches—very dark gray fine sand

Subsurface layer:
6 to 20 inches—light brownish gray fine sand

Subsoil:
20 to 26 inches—black fine sand
26 to 30 inches—dark reddish brown fine sand

Second subsurface layer:
30 to 52 inches—dark yellowish brown fine sand

Second subsoil:
52 to 80 inches—light gray and light olive gray sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderately slow or slow in the subsoil
Available water capacity: Moderate
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy and loamy marine sediments
Bedrock: Bedrock is within a depth of 60 inches in about 13 percent of the map unit and within a depth of 61 to 80 inches in about 5 percent. Where present, it is at a depth of about 30 to 78 inches. The best estimate for overall average depth to bedrock (where present) is 56 inches.

Minor Components

Dissimilar soils:
• Chaires, Meadowbrook, Osier, and Tooles soils in depressions
• Chaires, Meadowbrook, Pottsburg, Tooles, Osier, and Wekiva soils on flats
• Steinhatchee soils in areas of flatwoods
• Melvina, Moriah, and Ridgewood soils on rises and knolls

Similar soils:
• Chaires-like soils that have limestone bedrock within a depth of 80 inches, have an organic-stained subsoil at a depth of more than 30 inches, have a loamy subsoil at a depth of less than 40 inches, or have limestone at a depth of more than 60 inches; in positions similar to those of the Chaires soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: High
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and reduce the hazard of erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on this soil.

Pasture and hayland

Suitability: Well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Poor
Management concerns: Wetness, percs slowly, poor filter, seepage, too sandy, cutbanks cave, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: IVw
Woodland ordination symbol: 10W for slash pine
Ecological community: North Florida Flatwoods

6—Leon fine sand

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods

Shape of areas: Rounded to long and narrow or irregular
Size of areas: 3 to more than 500 acres

Composition

Chaires and similar soils: 78 percent
Dissimilar soils: 22 percent

Typical Profile

Surface layer:
0 to 6 inches—very dark gray fine sand

Subsurface layer:
6 to 11 inches—grayish brown fine sand
11 to 25 inches—light gray fine sand

Subsoil:
25 to 30 inches—black fine sand
30 to 34 inches—dark reddish brown fine sand

Substratum:
34 to 56 inches—dark yellowish brown fine sand
56 to 80 inches—yellowish brown fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate or moderately rapid in the subsoil
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy marine sediments
Bedrock: Bedrock is within a depth of 60 inches in about 1 percent of the map unit and within a depth of 61 to 80 inches in about 3 percent. Where present, it is at a depth of about 60 to 78 inches. The best estimate for overall average depth to bedrock (where present) is 70 inches.

Minor Components

Dissimilar soils:
• Chaires, Meadowbrook, Osier, and Tooles soils and Osier-like soils that have a thick, dark surface layer; on flood plains and in depressions
• Chaires, Meadowbrook, Osier, Pottsburg, Tennille, Tooles, and Wekiva soils on flats
• Leon, Leon-like soils that have an organic-stained subsoil below a depth of 30 inches, and Steinhatchee soils; on flatwoods
• Moriah and Ridgewood soils on rises and knolls

Similar soils:
• Leon-like soils that have limestone bedrock within a depth of 80 inches, have an organic-stained subsoil below a depth of 30 inches, do or do not have limestone below a depth of 60 inches, or have a loamy subsoil at a depth of less than 40 inches; in positions similar to those of the Leon soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: High
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and reduce the hazard of erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on this soil.

Pasture and hayland

Suitability: Well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake

Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Poor
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: IVw
Woodland ordination symbol: 10W for slash pine
Ecological community: North Florida Flatwoods

8—Meadowbrook fine sand

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flats
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 3 to more than 200 acres

Composition

Meadowbrook and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 9 inches—dark grayish brown fine sand

Subsurface layer:
9 to 31 inches—very pale brown fine sand
31 to 58 inches—light gray fine sand

Subsoil:
58 to 80 inches—light brownish gray sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderately slow or moderate in the subsoil
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy marine sediments
Bedrock: Bedrock is within a depth of 60 inches in about 1 percent of the map unit and within a depth of 61 to 80 inches in about 10 percent. Where present, it is at a depth of about 55 to 76 inches. The best estimate for overall average depth to bedrock is 70 inches.

Minor Components

Dissimilar soils:
• Meadowbrook soils in depressions
• Chaires and Clara soils and Goldhead-like soils that have a loamy subsoil at a depth of less than 20 inches
• Meadowbrook-like soils that have a weak, organic-stained subsoil directly beneath the surface layer
• Tennille soils on flats
• Chaires soils and Chaires-like soils that have an organic-stained subsoil below a depth of 30 inches
• Chaires-like soils that have limestone below a depth of 60 inches
• Leon soils in areas of flatwoods

Similar soils:
• Meadowbrook-like soils that have limestone bedrock above and below a depth of 80 inches and Goldhead-like soils that have pale brown, brown, light yellowish brown, and yellowish brown subsurface layers; in positions similar to those of the Meadowbrook soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: High
Trees to plant: Slash pine and loblolly pine

Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and reduce the hazard of erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on this soil.

Pasture and hayland

Suitability: Well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Poor
Management concerns: Wetness, percs slowly, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: IVw
Woodland ordination symbol: 11W for slash pine
Ecological community: North Florida Flatwoods

9—Sapelo fine sand

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 3 to more than 400 acres

Composition

Sapelo and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 6 inches—very dark gray fine sand

Subsurface layer:
6 to 12 inches—gray fine sand
12 to 28 inches—light gray fine sand

Subsoil:
28 to 34 inches—black fine sand
34 to 45 inches—dark reddish brown fine sand

Second subsurface layer:
45 to 60 inches—light gray fine sand

Second subsoil:
60 to 73 inches—light brownish gray sandy clay loam

73 to 80 inches—light olive gray fine sandy loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderately slow or moderate in the subsoil
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy and loamy marine sediments

Minor Components

Dissimilar soils:
- Leon, Sapelo, and Surrency soils in depressions
- Clara, Osier, Meadowbrook, and Pottsburg soils on flats
- Boulogne and Leon soils in areas of flatwoods
- Albany and Ocilla soils on rises and knolls

Similar soils:
- Sapelo-like soils that have limestone bedrock within a depth of 80 inches; Mascotte soils; Mascotte-like soils that do not have a subsurface layer and a weak, organic-stained subsoil directly beneath the surface layer; and some Mascotte soils that have a loamy subsoil below a depth of 40 inches; in positions similar to those of the Sapelo soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: High
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
- Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
- Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
- Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
- Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
- Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
- Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
- The cover crops and all crop residue should be returned to the soil.
- Good tilth and nutrient management are required for maximum yields.
- Special erosion-control practices are not normally needed.
- Irrigation is not normally used for crops on this soil.

Pasture and hayland

Suitability: Well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
- A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
- A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
- The proper spacing of tile drains is important for obtaining adequate drainage.
- Tile drains can provide a means of applying subirrigation during periods of low rainfall.
- Nutrient management maximizes yields.
- Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Poor
Management concerns: Wetness, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.
- Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
- Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
- Lawns need irrigation during periods of low rainfall.
- Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: IIIw
Woodland ordination symbol: 7W for slash pine
Ecological community: North Florida Flatwoods

10—Mandarin-Hurricane complex, 0 to 3 percent slopes

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 3 to more than 150 acres

Composition

Mandarin and similar soils: 62 percent
Hurricane and similar soils: 18 percent
Dissimilar soils: 20 percent

Typical Profile

Mandarin

Surface layer:
0 to 7 inches—dark gray fine sand

Subsurface layer:
7 to 15 inches—gray fine sand
15 to 26 inches—light gray fine sand

Subsoil:
26 to 30 inches—dark reddish brown fine sand
30 to 34 inches—reddish brown fine sand
34 to 44 inches—yellowish brown fine sand

Substratum:
44 to 80 inches—light gray fine sand

Hurricane

Surface layer:
0 to 8 inches—very dark grayish brown fine sand

Subsurface layer:
8 to 22 inches—light yellowish brown fine sand
22 to 32 inches—very pale brown fine sand
32 to 48 inches—yellow fine sand
48 to 63 inches—white fine sand

Subsoil:
63 to 69 inches—brown fine sand
69 to 80 inches—black fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Mandarin—moderate in the subsoil; Hurricane—moderately rapid in the subsoil
Available water capacity: Mandarin—moderate; Hurricane—low
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Parent material: Sandy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
- Evergreen and Wesconnett soils in depressions
- Lynn Haven soils on flats
- Leon, Boulogne, Pottsburg, and Sapelo soils in areas of flatwoods
- Ortega soils on rises and knolls

Similar soils:
- Soils that are similar to the Mandarin and Hurricane soils but that have limestone bedrock within a depth of 80 inches; Mandarin-like soils that have a weak, organic-stained subsoil; Mandarin-like soils that have an organic-stained subsoil below a depth of 30 inches; Mandarin-like soils that have a dark surface layer; and Ridgewood soils; in positions similar to those of the Mandarin and Hurricane soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Moderate
Trees to plant: Slash pine and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
- Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
- Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
- Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
- Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland

Suitability: Poor

Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and reduce the hazard of erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland

Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Fair
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, and droughtiness
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Mandarin—VIs; Hurricane—IIIw
Woodland ordination symbol: Mandarin—8S for slash pine; Hurricane—11W for slash pine
Ecological community: Upland Hardwood Hammocks

12—Ortega fine sand, 0 to 5 percent slopes

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 3 to more than 1,000 acres

Composition

Ortega and similar soils: 78 percent
Dissimilar soils: 22 percent

Typical Profile

Surface layer:
0 to 5 inches—gray fine sand

Substratum:
5 to 42 inches—very pale brown fine sand
42 to 61 inches—light yellowish brown fine sand
61 to 80 inches—white fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Rapid throughout
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
• Lynn Haven soils in depressions and on flats
• Boulogne and Leon soils in areas of flatwoods
• Hurricane and Ridgewood soils on the lower rises and knolls
• Kershaw soils on the higher rises and knolls

Similar soils:
• Ortega-like soils that have an organic-stained subsoil below a depth of 60 inches; in positions similar to those of the Ortega soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Moderate
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish

seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Droughtiness and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland

Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Droughtiness and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Fair
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, and droughtiness
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: IIIs
Woodland ordination symbol: 10S for slash pine
Ecological community: Longleaf Pine-Turkey Oak Hills

13—Hurricane fine sand, 0 to 3 percent slopes

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 3 to more than 200 acres

Composition

Hurricane and similar soils: 77 percent
Dissimilar soils: 23 percent

Typical Profile

Surface layer:
0 to 8 inches—very dark grayish brown fine sand

Subsurface layer:
8 to 22 inches—light yellowish brown fine sand
22 to 32 inches—very pale brown fine sand
32 to 48 inches—yellow fine sand
48 to 63 inches—white fine sand

Subsoil:
63 to 69 inches—brown fine sand
69 to 80 inches—black fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderately rapid in the subsoil
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy marine sediments
Bedrock: Bedrock is within a depth of 60 inches in about 5 percent of the map unit and within a depth of 61 to 80 inches in about 1 percent. Where present, it is at a depth of about 35 to 65 inches. The best estimate for overall average depth to bedrock is 50 inches.

Minor Components

Dissimilar soils:
• Evergreen, Lynn Haven, and Osier soils in depressions
• Osier and Tooles soils on flats
• Boulogne, Chaires, Mandarin, and Leon soils in areas of flatwoods

• Lutterloh, Ridgewood, and Ortega soils on rises and knolls

Similar soils:
• Hurricane-like soils that have limestone bedrock within a depth of 80 inches or have an organic-stained subsoil within a depth of 50 inches and Pottsburg-like soils that have a seasonal high water table at a depth of 12 to 24 inches; in positions similar to those of the Hurricane soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Moderate
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland

Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Droughtiness and rapid leaching of plant nutrients
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Fair
Management concerns: Wetness, poor filter, seepage, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: IIIw
Woodland ordination symbol: 11W for slash pine
Ecological community: Upland Hardwood Hammocks

14—Chipley-Lynn Haven, depressional-Boulogne complex, 0 to 3 percent slopes

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Chipley—rises and knolls; Lynn Haven—depressions; Boulogne—flatwoods
Shape of areas: Rounded or irregular
Size of areas: 5 to more than 200 acres

Composition

Chipley and similar soils: 30 percent
Lynn Haven and similar soils: 25 percent
Boulogne and similar soils: 19 percent
Dissimilar soils: 26 percent

Typical Profile

Chipley

Surface layer:
0 to 9 inches—brown sand

Substratum:
9 to 48 inches—yellowish brown sand
48 to 69 inches—light yellowish brown sand
69 to 80 inches—light gray sand

Lynn Haven

Surface layer:
0 to 13 inches—very dark brown mucky fine sand

Subsurface layer:
13 to 19 inches—light brownish gray fine sand

Subsoil:
19 to 27 inches—black fine sand
27 to 31 inches—dark brown fine sand
31 to 34 inches—dark yellowish brown fine sand

Second subsurface layer:
34 to 52 inches—yellowish brown fine sand

Second subsoil:
52 to 80 inches—dark reddish brown fine sand

Boulogne

Surface layer:
0 to 5 inches—black fine sand

Subsoil:
5 to 14 inches—dark brown fine sand

Substratum:
14 to 20 inches—dark grayish brown fine sand
20 to 31 inches—grayish brown fine sand
31 to 80 inches—light gray fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Chipley—somewhat poorly drained; Lynn Haven—very poorly drained; Boulogne—poorly drained
Permeability: Chipley—rapid throughout; Lynn Haven—moderately rapid or moderate in the subsoil; Boulogne—moderately rapid in the subsoil
Available water capacity: Chipley and Boulogne—low; Lynn Haven—moderate
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Chipley—low or very low; Lynn Haven—moderate; Boulogne—low
Parent material: Sandy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
- Pamlico, Starke, and Surrency soils in depressions
- Clara and Osier soils on flats
- Goldhead-like soils that have a weak, organic-stained subsoil directly beneath the surface layer; in areas of flatwoods
- Albany, Kershaw, Ortega, and Otela soils on rises and knolls

Similar soils:
- Similar soils that have limestone bedrock within a depth of 80 inches; on rises, on knolls, in areas of flatwoods, and in depressions
- Chipley-like soils that have a thick, dark surface layer; on rises and knolls
- Lynn Haven-like soils that do not have subsurface layers; in depressions
- Pottsburg-like soils that have a thick, dark surface layer; in depressions
- Pottsburg soils in areas of flatwoods
- Hurricane soils and Pottsburg-like soils that have a seasonal high water table at a depth of 12 to 24 inches; on rises and knolls

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Chipley—moderate; Lynn Haven—not suited; and Boulogne—high
Trees to plant: Chipley—slash pine, loblolly pine, and longleaf pine; Boulogne—slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
- Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
- Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
- Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
- Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland

Suitability: Chipley—poor; Lynn Haven—unsuited; Boulogne—fair
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
- The irrigation of high-value crops on the Chipley soil

is typically feasible where irrigation water is readily available.
• Crops produced on the Boulogne soil are not normally irrigated.
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.

Pasture and hayland

Suitability: Chipley—moderately well suited; Lynn Haven—unsuited; Boulogne—well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields in areas of the Chipley soil.
• A total management system for the water table in areas of the Boulogne soil should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth in areas of the Boulogne soil.
• The proper spacing of tile drains is important for obtaining adequate drainage in areas of the Boulogne soil.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall in areas of the Boulogne soil.
• Controlled grazing helps to maintain vigorous plants and maximum yields in areas of the Boulogne soil.

Urban development

Suitability: Chipley and Boulogne—poor; Lynn Haven—unsuited
Management concerns: Chipley and Boulogne—wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity; Lynn Haven—ponding, poor filter, seepage, too sandy, and cutbanks cave
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Chipley IIIs; Lynn Haven—VIIw; Boulogne—IIIw
Woodland ordination symbol: Chipley—8W for slash pine; Lynn Haven—not assigned; Boulogne—11W for slash pine
Ecological community: Chipley—Upland Hardwood Hammocks; Lynn Haven—Shrub Bogs-Bay Swamps; Boulogne—North Florida Flatwoods

15—Ridgewood fine sand, 0 to 3 percent slopes

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 3 to more than 200 acres

Composition

Ridgewood and similar soils: 77 percent
Dissimilar soils: 23 percent

Typical Profile

Surface layer:
0 to 9 inches—grayish brown fine sand

Substratum:
9 to 48 inches—yellowish brown fine sand
48 to 69 inches—light yellowish brown fine sand
69 to 80 inches—light gray fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid throughout
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy and loamy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
• Clara soil in depressions

• Clara, Lynn Haven, Osier, Plummer, and Pottsburg soils and Pottsburg-like soils that have a subsoil; on flats
• Boulogne, Chaires, Leon, Mandarin, and Melvina soils in areas of flatwoods
• Albany, Lutterloh, Ortega, and Resota soils on rises and knolls

Similar soils:
• Hurricane soils in positions similar to those of the Ridgewood soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Moderate
Trees to plant: Slash pine and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland

Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Fair
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: IVs
Woodland ordination symbol: 10W for slash pine
Ecological community: Upland Hardwood Hammocks

16—Lutterloh-Ridgewood complex, 0 to 3 percent slopes

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 3 to more than 200 acres

Composition

Lutterloh and similar soils: 58 percent
Ridgewood and similar soils: 21 percent
Dissimilar soils: 21 percent

Typical Profile

Lutterloh

Surface layer:
0 to 8 inches—dark gray fine sand

Subsurface layer:
8 to 21 inches—yellowish brown fine sand
21 to 51 inches—very pale brown fine sand

Subsoil:
51 to 61 inches—gray sandy clay loam

61 to 80 inches—light gray sandy clay loam

Ridgewood

Surface layer:
0 to 9 inches—grayish brown fine sand

Substratum:
9 to 48 inches—yellowish brown fine sand
48 to 69 inches—light yellowish brown fine sand
69 to 80 inches—light gray fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Lutterloh—moderate to very slow in the subsoil; Ridgewood—rapid throughout
Available water capacity: Low
Shrink-swell potential: Lutterloh—moderate; Ridgewood—low
Slope class: Nearly level and gently sloping
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 10 percent of the map unit and within a depth of 61 to 80 inches in about 5 percent. Where present, it is at a depth of about 10 to 70 inches. The best estimate for overall average depth to bedrock is 37 inches.

Minor Components

Dissimilar soils:
• Meadowbrook soil in depressions
• Meadowbrook, Clara, and Tennille soils on flats
• Chaires soils that have limestone below a depth of 60 inches; in areas of flatwoods
• Moriah soils and Pottsburg-like soils that have a seasonal high water table at a depth of 12 to 24 inches; on rises and knolls

Similar soils:
• Ridgewood-like soils that have limestone bedrock within a depth of 80 inches and Lutterloh soils that have limestone below a depth of 60 inches; in positions similar to those of the Lutterloh and Ridgewood soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Moderate
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland

Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Fair
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.

• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Lutterloh—IIIw; Ridgewood—IVs
Woodland ordination symbol: 10W
Ecological community: Upland Hardwood Hammocks

17—Ousley-Leon-Clara complex, 0 to 3 percent slopes, occasionally flooded

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Ousley—rises and knolls; Leon—flatwoods; Clara—flats
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 3 to 200 acres

Composition

Ousley and similar soils: 29 percent
Leon and similar soils: 28 percent
Clara and similar soils: 27 percent
Dissimilar soils: 16 percent

Typical Profile

Ousley

Surface layer:
0 to 4 inches—very dark gray fine sand

Substratum:
4 to 45 inches—very pale brown fine sand
45 to 80 inches—light gray fine sand

Leon

Surface layer:
0 to 6 inches—very dark gray fine sand

Subsurface layer:
6 to 11 inches—grayish brown fine sand
11 to 25 inches—light gray fine sand

Subsoil:
25 to 30 inches—black fine sand
30 to 34 inches—dark reddish brown fine sand

Substratum:
34 to 56 inches—dark yellowish brown fine sand
56 to 80 inches—yellowish brown fine sand

Clara

Surface layer:
0 to 6 inches—very dark grayish brown fine sand

Subsurface layer:
6 to 19 inches—grayish brown fine sand

Subsoil:
19 to 32 inches—yellowish brown fine sand

Substratum:
32 to 80 inches—light gray fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Ousley—somewhat poorly drained; Leon and Clara—poorly drained
Permeability: Ousley—rapid throughout; Leon—moderate or moderately rapid in the subsoil; Clara—rapid throughout
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Flooding: Ousley—occassional for very brief periods; Leon and Clara—occassional for brief periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Parent material: Sandy marine sediments
Bedrock: Bedrock is within a depth of 60 inches in about 6 percent of the map unit and within a depth of 61 to 80 inches in about 6 percent. Where present, it is at a depth of about 25 to 72 inches. The best estimate for overall average depth to bedrock is 51 inches.

Minor Components

Dissimilar soils:
• Chaires soils in areas of flatwoods
• Lutterloh, Lutterloh-like soils that have a loamy subsoil at a depth of 20 to 40 inches, Moriah soils, and Seaboard soils; in positions similar to those of the Ousley, Leon, and Clara soils

Similar soils:
• Osier soils on flats
• Boulogne soils and Leon-like soils that have limestone at a depth of more than 60 inches; in areas of flatwoods
• Ridgewood soils on rises and knolls

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Ousley—moderate; Leon and Clara—high
Trees to plant: Ousley—slash pine, loblolly pine, and longleaf pine; Leon and Clara—slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland

Suitability: Ousley—moderately well suited; Leon and Clara—well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Not suited due to wetness, flooding, poor filter, seepage, cutbanks cave, droughtiness, and corrosivity

Interpretive Groups

Land capability classification: Ousley—IIIw; Leon—IVw; Clara—VIw
Woodland ordination symbol: Ousley—8W for slash pine; Leon—10W for slash pine; Clara—11W for slash pine
Ecological community: Ousley—Upland Hardwood Hammocks; and Leon and Clara—North Florida Flatwoods

19—Otela-Ortega-Lutterloh complex, 0 to 5 percent slopes

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 3 to more than 500 acres

Composition

Otela and similar soils: 49 percent
Ortega and similar soils: 24 percent
Lutterloh and similar soils: 23 percent
Dissimilar soils: 4 percent

Typical Profile

Otela

Surface layer:
0 to 7 inches—dark brown fine sand

Subsurface layer:
7 to 28 inches—brownish yellow fine sand
28 to 47 inches—very pale brown fine sand
47 to 54 inches—yellowish brown loamy fine sand

Subsoil:
54 to 63 inches—yellowish brown fine sandy loam
63 to 80 inches—gray sandy clay loam

Ortega

Surface layer:
0 to 5 inches—gray fine sand

Substratum:
5 to 42 inches—very pale brown fine sand
42 to 61 inches—light yellowish brown fine sand
61 to 80 inches—white fine sand

Lutterloh

Surface layer:
0 to 8 inches—dark grayish brown fine sand

Subsurface layer:
8 to 19 inches—yellowish brown fine sand
19 to 36 inches—very pale brown fine sand
36 to 51 inches—light gray fine sand

Subsoil:
51 to 64 inches—light brownish gray loamy fine sand

Bedrock:
64 inches—soft, weathered, fractured limestone

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Otela and Ortega—moderately well drained; Lutterloh—somewhat poorly drained
Permeability: Otela—moderately slow or slow in the subsoil; Oretga—rapid throughout; Lutterloh—moderate to very slow in the subsoil
Available water capacity: Low
Shrink-swell potential: Otela—moderate; Ortega and Lutterloh—low
Slope class: Nearly level and gently sloping
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy and loamy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
• Starke soils in depressions
• Plummer and Osier soils on flats
• Ocilla and Ridgewood soils in positions similar to those of the Otela, Ortega, and Lutterloh soils

Similar soils:
• Soils that are similar to the Otela and Ortega soils but that have limestone bedrock within a depth of 80 inches and Hurricane soils; in positions similar to those of the Otela, Ortega, and Lutterloh soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Moderate
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Droughtiness and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops at least two-thirds of the time improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland

Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Droughtiness and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Fair
Management concerns: Otela—wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, and percs slowly; Ortega and Lutterloh—wetness, poor filter, seepage, too sandy, cutbanks cave, and droughtiness
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Otela and Ortega—IIIs; Lutterloh—IIIw
Woodland ordination symbol: Otela and Ortega—10S for slash pine; Lutterloh—10W for slash pine
Ecological community: Otela and Ortega—Upland Hardwood Hammocks; Luttterloh—North Florida Flatwoods

20—Melvina-Mandarin complex, 0 to 3 percent slopes

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 600 acres

Composition

Melvina and similar soils: 40 percent
Mandarin and similar soils: 38 percent
Dissimilar soils: 22 percent

Typical Profile

Melvina

Surface layer:
0 to 6 inches—gray fine sand

Upper subsurface layer:
6 to 28 inches—white fine sand

Upper part of the subsoil:
28 to 32 inches—dark brown fine sand
32 to 39 inches—dark reddish brown and brown fine sand
39 to 51 inches—pale brown fine sand

Lower subsurface layer:
51 to 53 inches—light gray fine sand

Lower part of the subsoil:
53 to 80 inches—light gray sandy clay loam

Mandarin

Surface layer:
0 to 7 inches—dark gray fine sand

Subsurface layer:
7 to 15 inches—gray fine sand
15 to 26 inches—light gray fine sand

Subsoil:
26 to 30 inches—dark reddish brown fine sand
30 to 34 inches—reddish brown fine sand
34 to 44 inches—yellowish brown fine sand

Substratum:
44 to 80 inches—light gray fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Melvina—moderately slow to very slow in the subsoil; Mandarin—moderate in the subsoil
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Low
Parent material: Sandy and loamy marine sediments
Bedrock: Bedrock is within a depth of 60 inches in about 13 percent of the map unit and within a depth of 61 to 80 inches in about 14 percent. Where present, it is at a depth of about 25 to 79 inches. The best estimate for overall average depth to bedrock is 59 inches.

Minor Components

Dissimilar soils:
- Meadowbrook soils on flats
- Chaires, Leon, and Steinhatchee soils in areas of flatwoods
- Mandarin-like soils that have limestone bedrock within a depth of 80 inches, Lutterloh soils, Lutterloh-like soils that have a loamy subsoil at a depth of 20 to 40 inches, Moriah soils, Ortega soils, Otela soils, Kershaw-like soils that have lamellae below a depth of 50 inches, Resota soils, and Ridgewood soils; on rises and knolls

Similar soils:
- Hurricane soils, Melvina-like soils that have an organic-stained subsoil below a depth of 30 inches, Mandarin-like soils that have an organic-stained subsoil at a depth of 30 to 50 inches; in positions similar to those of the Melvina and Mandarin soils
- Pottsburg soils in areas of flatwoods

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Suitability: Poor
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition

Management considerations:

• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.

• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.

• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.

• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Poor

Commonly grown crops: Corn, grain sorghum, and tobacco

Management concerns: Wetness, droughtiness, and fast intake

Management considerations:

• Crop rotations that include close-growing cover crops at least two-thirds of the time improve tilth and help to control erosion.

• The cover crops and all crop residue should be returned to the soil.

• Good tilth and nutrient management are required for maximum yields.

• Special erosion-control practices are not normally needed.

• Irrigation is not normally used for crops on these soils.

Pasture and hayland

Suitability: Moderately well suited

Commonly grown grasses: Bahiagrass and improved bermudagrass

Management concerns: Wetness, droughtiness, and fast intake

Management considerations:

• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.

• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.

• The proper spacing of tile drains is important for obtaining adequate drainage.

• Tile drains can provide a means of applying subirrigation during periods of low rainfall.

• Nutrient management maximizes yields.

• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Poor

Management concerns: Melvina—wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, corrosivity, percs slowly, and depth to rock; Mandarin—wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity

Management considerations:

• The local Health Department can be contacted for guidance regarding sanitary facilities.

• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.

• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.

• Lawns need irrigation during periods of low rainfall.

• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Melvina—IVs; Mandarin—VIs

Woodland ordination symbol: Melvina—10W for slash pine; Mandarin—8S for slash pine

Ecological community: North Florida Flatwoods

21—Kershaw fine sand, 0 to 8 percent slopes

Setting

Landscape: Lowlands on the lower Coastal Plain

Landform: Rises and knolls

Landform position: Linear to concave

Shape of areas: Rounded to long and narrow or irregular

Size of areas: 5 to more than 200 acres

Composition

Kershaw and similar soils: 81 percent

Dissimilar soils: 19 percent

Typical Profile

Surface layer:

0 to 6 inches—dark grayish brown fine sand

Substratum:

6 to 42 inches—yellowish brown fine sand

42 to 64 inches—brownish yellow fine sand

64 to 80 inches—very pale brown fine sand

Soil Properties and Qualities

Depth class: Very deep

Drainage class: Excessively drained

Permeability: Very rapid throughout
Available water capacity: Very low
Shrink-swell potential: Low
Slope class: Nearly level to moderately sloping
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
• Ortega and Ridgewood soils on the lower rises and knolls
• Boulogne soils in areas of flatwoods

Similar soils: None

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Urban development

Woodland

Potential productivity: Low
Trees to plant: Sand pine and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland

Suitability: Not suited due to very low natural fertility, droughtiness, and rapid leaching of plant nutrients

Pasture and hayland

Suitability: Fair
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Droughtiness, fast intake, and slope
Management considerations:
• Intensive nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Good
Management concerns: Poor filter, seepage, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: VIIs
Woodland ordination symbol: 8S for sand pine
Ecological community: Longleaf Pine-Turkey Oak Hills

22—Ocilla sand

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 3 to more than 200 acres

Composition

Ocilla and similar soils: 81 percent
Dissimilar soils: 19 percent

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown sand

Subsurface layer:
6 to 23 inches—brown sand

Subsoil:
23 to 28 inches—brownish yellow fine sandy loam
28 to 47 inches—light gray sandy clay loam
47 to 68 inches—light gray fine sandy loam

Substratum:
68 to 80 inches—light gray sandy loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate or moderately slow in the subsoil
Available water capacity: Moderate
Shrink-swell potential: Low

Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy and loamy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
- Mascotte soils in areas of flatwoods
- Albany and Ridgewood soils on rises and knolls

Similar soils: None

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Moderate
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
- Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
- Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
- Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
- Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
- Crop rotations that include close-growing cover crops at least two-thirds of the time improve tilth and help to control erosion.
- The cover crops and all crop residue should be returned to the soil.
- Good tilth and nutrient management are required for maximum yields.
- Special erosion-control practices are not normally needed.
- The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland

Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
- Nutrient management maximizes yields.
- Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Fair
Management concerns: Wetness, seepage, cutbanks cave, droughtiness, and corrosivity
Management considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.
- Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
- Lawns need irrigation during periods of low rainfall.
- Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: IIIw
Woodland ordination symbol: 8W for slash pine
Ecological community: Upland Hardwoods Hammocks

23—Melvina-Moriah-Lutterloh complex

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flats and flatwoods
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 2,000 acres

Composition

Melvina and similar soils: 44 percent
Moriah and similar soils: 18 percent
Lutterloh and similar soils: 16 percent
Dissimilar soils: 22 percent

Typical Profile

Melvina

Surface layer:
0 to 6 inches—gray fine sand

Upper subsurface layer:
6 to 28 inches—white fine sand

Upper subsoil:
28 to 32 inches—dark brown fine sand
32 to 39 inches—dark reddish brown and brown fine sand
39 to 51 inches—pale brown fine sand

Lower subsurface layer:
51 to 53 inches—light gray fine sand

Lower subsoil:
53 to 80 inches—light gray sandy clay loam

Moriah

Surface layer:
0 to 5 inches—dark gray fine sand

Subsurface layer:
5 to 9 inches—light brownish gray fine sand
9 to 31 inches—white fine sand
31 to 34 inches—pinkish gray fine sand

Subsoil:
34 to 57 inches—light gray sandy clay loam

Bedrock:
57 inches—soft, weathered, fractured limestone

Lutterloh

Surface layer:
0 to 8 inches—dark grayish brown fine sand

Subsurface layer:
8 to 19 inches—yellowish brown fine sand
19 to 36 inches—very pale brown fine sand
36 to 51 inches—light gray fine sand

Subsoil:
51 to 64 inches—light brownish gray loamy fine sand

Bedrock:
64 inches—soft, weathered, fractured limestone

Soil Properties and Qualities

Depth class: Melvina and Lutterloh—very deep; Moriah—deep and very deep
Drainage class: Somewhat poorly drained
Permeability: Melvina—moderate to very slow in the subsoil; Moriah—moderate in the subsoil; Lutterloh—moderate to slow in the subsoil
Available water capacity: Very low
Shrink-swell potential: Melvina and Moriah—low; Lotterloh—moderate
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Melvina—moderately low; Moriah—low or moderately low; Lutterloh—low to moderate
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 30 percent of the map unit and within a depth of 61 to 80 inches in about 14 percent. Where present, it is at a depth of about 22 to 77 inches. The best estimate for overall average depth to bedrock is 50 inches.

Minor Components

Dissimilar soils:
• Meadowbrook soils in depressions and on flats
• Melvina soils that have limestone bedrock within a depth of 80 inches, Chaires-like soils that have an organic-stained subsoil below a depth of 30 inches, Steinhatchee soils, and Steinhatchee-like soils that have limestone within a depth of 20 inches; in areas of flatwoods
• Bushnell, Chiefland, Hurricane, Matmon, Ridgewood, and Seaboard soils; Moriah-like soils that are better drained than the Melvina, Moriah, and Lutterloh soils; and Wekiva soils; on rises and knolls

Similar soils:
• Mandarin soils; Melvina-like soils that have an organic-stained subsoil below a depth of 30 inches; Melvina-like soils that have a weak, organic-stained subsoil; and Moriah-like soils that have a shallow, loamy subsoil; in positions similar to those of the Melvina, Moriah, and Lutterloh soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Moderate
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Melvina—poor; Moriah and Lutterloh—moderately well suited
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on these soils.

Pasture and hayland

Suitability: Melvina—poor; Moriah—moderately suited; Lutterloh—well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Control grazing to prevent overgrazing.

Urban development

Suitability: Moderately suited
Management concerns: Melvina—wetness, percs slowly, poor filter, seepage, depth to rock, too sandy, cutbanks cave, droughtiness, and corrosivity; Moriah—wetness, poor filter, seepage, depth to rock, too sandy, cutbanks cave, droughtiness, and corrosivity; Lutterloh—wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Melvina—IVs; Moriah and Lutterloh—IIIw
Woodland ordination symbol: Melvina and Lutterloh—10W for slash pine; Moriah—11S for slash pine
Ecological community: North Florida Flatwoods

24—Albany sand, 0 to 5 percent slopes

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flats and flatwoods
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 80 acres

Composition

Albany and similar soils: 76 percent
Dissimilar soils: 24 percent

Typical Profile

Surface layer:
0 to 10 inches—dark grayish brown sand

Subsurface layer:
10 to 26 inches—grayish brown sand
26 to 37 inches—very pale brown sand
37 to 50 inches—light gray sand

Subsoil:
50 to 57 inches—pale brown fine sandy loam
57 to 80 inches—light gray sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate or moderately slow in the subsoil
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy and loamy marine sediments

Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
• Plummer and Lynn Haven soils on flats
• Chaires and Sapelo soils in areas of flatwoods
• Melvina and Ocilla soils on rises and knolls

Similar soils:
• Hurricane soils in positions similar to those of the Albany soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Moderate
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops at least two-thirds of the time improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland

Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Fair
Management concerns: Wetness, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: IIIw
Woodland ordination symbol: 10W for slash pine
Ecological community: Upland Hardwood Hammocks

25—Pottsburg fine sand

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 100 acres

Composition

Pottsburg and similar soils: 77 percent
Dissimilar soils: 23 percent

Typical Profile

Surface layer:
0 to 6 inches—dark gray fine sand

Subsurface layer:
6 to 15 inches—pale brown fine sand
15 to 52 inches—white fine sand

Subsoil:
52 to 80 inches—dark reddish brown fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate in the subsoil
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
• Lynn Haven soils, Leon soils, Meadowbrook soils, Meadowbrook-like soils that have limestone below a depth of 60 inches, and Osier soils; on flats
• Chaires and Boulogne soils in areas of flatwoods
• Chiefland, Hurricane, Moriah, Mandarin, and Ousley soils and Pottsburg-like soils that have limestone bedrock within a depth of 80 inches; in positions similar to those of the Pottsburg soil

Similar soils:
• Boulogne and Leon soils in positions similar to those of the Pottsburg soil

Use and Management

Dominant uses: Timber production
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Moderately high
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on this soil.

Pasture and hayland

Suitability: Well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Poor
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: IVw
Woodland ordination symbol: 10W for slash pine
Ecological community: North Florida Flatwoods

26—Resota-Hurricane complex, 0 to 5 percent slopes

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 40 to more than 60 acres

Composition

Resota and similar soils: 67 percent
Hurricane and similar soils: 20 percent
Dissimilar soils: 13 percent

Typical Profile

Resota

Surface layer:
0 to 3 inches—gray sand

Subsurface layer:
3 to 13 inches—white sand

Subsoil:
13 to 19 inches—strong brown sand
19 to 37 inches—brownish yellow sand
37 to 55 inches—very pale brown sand

Substratum:
55 to 80 inches—light gray fine sand

Hurricane

Surface layer:
0 to 8 inches—very dark grayish brown fine sand

Subsurface layer:
8 to 22 inches—light yellowish brown fine sand
22 to 32 inches—very pale brown fine sand
32 to 48 inches—yellow fine sand
48 to 63 inches—white fine sand

Subsoil:
63 to 69 inches—brown fine sand
69 to 80 inches—black fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Resota—moderately well drained; Hurricane—somewhat poorly drained
Permeability: Resota—very rapid throughout; Hurricane—moderately rapid in the subsoil
Available water capacity: Resota—very low; Hurricane—low
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Resota—very low; Hurricane—low or moderately low
Parent material: Sandy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
• Leon soils in areas of flatwoods
• Ortega-like soils that have an organic-stained subsoil below a depth of 50 inches and Ridgewood soils; in positions similar to those of the Resota and Hurricane soils

Similar soils:
• Mandarin soils in positions similar to those of the Resota and Hurricane soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Resota—low; Hurricane—high
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Resota—not suited; Hurricane—moderate
Commonly grown crops: Corn, grain sorghum, and tobacco

Management concerns: Wetness, droughtiness, and fast intake

Management considerations:

• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.

• The cover crops and all crop residue should be returned to the soil.

• Good tilth and nutrient management are required for maximum yields.

• Special erosion-control practices are not normally needed.

• Irrigation is not normally used for crops on these soils.

Pasture and hayland

Suitability: Resota—not suited; Hurricane—moderate
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:

• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.

• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.

• The proper spacing of tile drains is important for obtaining adequate drainage.

• Tile drains can provide a means of applying subirrigation during periods of low rainfall.

• Nutrient management maximizes yields.

• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Resota—moderately well suited; Hurricane—moderate
Management concerns: Resota—wetness, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity; Hurricane—wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:

• The local Health Department can be contacted for guidance regarding sanitary facilities.

• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.

• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.

• Lawns need irrigation during periods of low rainfall.

• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Resota—VIs; Hurricane—IIIw
Woodland ordination symbol: Resota—8S for slash pine; Hurricane—11W for slash pine
Ecological community: Upland Hardwood Hammocks

27—Plummer fine sand

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods and flats
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 120 acres

Composition

Plummer and similar soils: 77 percent
Dissimilar soils: 23 percent

Typical Profile

Surface layer:
0 to 7 inches—black fine sand

Subsurface layer:
7 to 14 inches—grayish brown fine sand
14 to 22 inches—gray fine sand
22 to 55 inches—light gray fine sand

Subsoil:
55 to 80 inches—gray fine sandy loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate or moderately slow in the subsoil
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Depth to bedrock: No bedrock within a depth of 80 inches
Parent material: Sandy marine sediments

Minor Components

Dissimilar soils:

• Mascotte, Plummer, Goldhead, Starke, and Surrency soils in depressions

• Goldhead-like soils that have a loamy subsoil within a depth of 20 inches; on flats

Similar soils:
• Plummer-like soils that have a weak, organic-stained subsoil directly beneath the surface layer; in positions similar to those of the Plummer soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: High
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops at least two-thirds of the time improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on this soil.

Pasture and hayland

Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Poor
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: IVw
Woodland ordination symbol: 11W for slash pine
Ecological community: North Florida Flatwoods

28—Surrency, Starke, and Croatan soils, depressional

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Depressions
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 200 acres

Composition

Surrency and similar soils: 39 percent
Starke and similar soils: 27 percent
Croatan and similar soils: 21 percent
Dissimilar soils: 13 percent

Typical Profile

Surrency

Surface layer:
0 to 16 inches—black mucky fine sand

Subsurface layer:
16 to 38 inches—light gray fine sand

Subsoil:
38 to 80 inches—gray sandy clay loam

Starke

Surface layer:
0 to 6 inches—black mucky fine sand
6 to 21 inches—black fine sand

Subsurface layer:
21 to 32 inches—dark grayish brown fine sand
32 to 51 inches—light gray fine sand

Subsoil:
51 to 56 inches—light gray fine sandy loam
56 to 80 inches—light gray sandy clay loam

Croatan

Surface layer:
0 to 25 inches—dark reddish brown muck

Subsurface layer:
25 to 31 inches—black mucky fine sand
31 to 39 inches—brown fine sand

Substratum:
39 to 80 inches—grayish brown sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Surrency and Starke—moderate or moderately slow in subsoil; Croatan—moderately rapid to slow in the organic matter and moderately rapid to moderately slow in the substratum
Available water capacity: Surrency and Starke—moderate; Croatan—high
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Surrency—moderate to very high; Starke and Croatan—very high
Parent material: Highly decomposed organic matter and sandy and loamy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
- Mascotte soils, Mascotte-like soils that have a surface layer of muck that ranges from 8 to 16 inches in thickness, Sapelo soils, and Sapelo-like soils that have a surface layer of muck that ranges from 8 to 16 inches in thickness; in depressions
- Clara, Lynn Haven, Pottsburg, and Sapelo soils all having a seasonal high water table at the surface to a depth of 6 inches; on flats

Similar soils:
- Evergreen soils, Pamlico soils, Plummer soils, Starke soils, Starke-like soils that have an organic-stained subsoil, and Surrency-like soils that have a loamy subsoil within a depth of 20 inches and that may have 8 to 16 inches of muck; in positions similar to those of the Surrency, Starke, and Croatan soils

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland

Potential productivity: Not suited due to ponding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to ponding

Interpretive Groups

Land capability classification: VIIw
Woodland ordination symbol: Not assigned
Ecological community: Shrub Bogs-Bay Swamps

29—Albany-Surrency, depressional, complex, 0 to 3 percent slopes

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Albany—rises and knolls; Surrency—depressions
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 80 acres

Composition

Albany and similar soils: 45 percent
Surrency and similar soils: 38 percent
Dissimilar soils: 17 percent

Typical Profile

Albany

Surface layer:
0 to 10 inches—dark grayish brown sand

Subsurface layer:
10 to 26 inches—grayish brown sand
26 to 37 inches—very pale brown sand
37 to 50 inches—light gray sand

Subsoil:
50 to 57 inches—pale brown fine sandy loam
57 to 80 inches—light gray sandy clay loam

Surrency

Surface layer:
0 to 16 inches—black mucky fine sand

Subsurface layer:
16 to 38 inches—light gray fine sand

Subsoil:
38 to 80 inches—gray sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Albany—somewhat poorly drained; Surrency—very poorly drained
Permeability: Moderate or moderately slow in the subsoil
Available water capacity: Albany—low; Surrency—moderately low
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Albany—moderately low; Surrency—moderate or moderately low
Parent material: Sandy and loamy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
- Plummer soils on flats
- Plummer-like soils that have a weak, organic-stained subsoil directly beneath the surface layer and Sapelo soils; in areas of flatwoods

Similar soils: None

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Albany—moderately high; Surrency—not suited
Trees to plant (Albany soil only): Slash pine, loblolly pine, longleaf pine
Management concerns: Albany—equipment limitations, seedling mortality, and plant competition
Management considerations:
- Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
- Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
- Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
- Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
- Trees in areas of the Albany soil respond well to applications of fertilizer.

Cropland

Suitability: Albany—moderate; Surrency—not suited
Commonly grown crops (Albany soil only): Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, fast intake, and ponding
Management considerations (Albany soil only):
- Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
- The cover crops and all crop residue should be returned to the soil.
- Good tilth and nutrient management are required for maximum yields.
- Special erosion-control practices are not normally needed.
- Irrigation is not normally used for crops on these soils.

Pasture and hayland

Suitability: Albany—well suited; Surrency—not suited
Commonly grown grasses (Albany soil only): Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, fast intake, and ponding
Management considerations (Albany soil only):
- A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
- A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.

• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Albany—moderately well suited; Surrency—not suited
Management concerns (Albany soil only): Wetness, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations (Albany soil only):
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Albany—IIIw; Surrency—VIIw
Woodland ordination symbol: Albany—10W for slash pine; Surrency—not assigned
Ecological community: Albany—Upland Hard Hammocks; Surrency—Shrub Bogs-Bay Swamps

30—Dorovan and Pamlico soils, depressional

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flood plains and depressions
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 10 to more than 1,500 acres

Composition

Dorovan and similar soils: 56 percent
Pamlico and similar soils: 32 percent
Dissimilar soils: 12 percent

Typical Profile

Dorovan

Surface layer:
0 to 4 inches—very dark brown muck

Subsurface layer:
4 to 72 inches—black muck

Substratum:
72 to 80 inches—black mucky fine sand

Pamlico

Surface layer:
0 to 3 inches—dark brown muck

Subsurface layer:
3 to 9 inches—black muck
9 to 22 inches—black and dark reddish brown muck

Substratum:
22 to 25 inches—black mucky fine sand
25 to 65 inches—brown fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Dorovan—moderate in the organic matter; Pamlico—moderate or moderately rapid in the organic matter
Available water capacity: Dorovan—very high; Pamlico—high
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very high
Parent material: Highly decomposed organic matter
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
• Clara soils, Evergreen soils, Pamlico-like soils underlain by limestone, and Sapelo soils; in depressions
• Leon and Sapelo soils on flats
• Leon soils in areas of flatwoods
• Wekiva soils on rises and knolls

Similar soils:
• Croatan soils in positions similar to those of the Dorovan and Pamlico soils

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland

Potential productivity: Not suited due to ponding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to ponding

Interpretive Groups

Land capability classification: VIIw
Woodland ordination symbol: Not assigned
Ecological community: Shrub Bogs-Bay Swamps

33—Wesconnett, Evergreen, and Pamlico soils, depressional

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Depressions
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 300 acres

Composition

Wesconnett and similar soils: 41 percent
Evergreen and similar soils: 25 percent
Pamlico and similar soils: 20 percent
Dissimilar soils: 14 percent

Typical Profile

Wesconnett

Surface layer:
0 to 10 inches—black fine sand

Subsoil:
10 to 21 inches—very dark gray fine sand
21 to 40 inches—dark reddish brown fine sand
40 to 62 inches—brown fine sand

Substratum:
62 to 80 inches—light gray fine sand

Evergreen

Surface layer:
0 to 9 inches—dark brown muck

Subsurface layer:
9 to 11 inches—black mucky fine sand
11 to 21 inches—dark gray fine sand

Subsoil:
21 to 25 inches—dark brown fine sand
25 to 50 inches—dark reddish brown fine sand
50 to 70 inches—strong brown fine sand
70 to 80 inches—brownish yellow fine sand

Pamlico

Surface layer:
0 to 3 inches—dark brown muck

Subsurface layer:
3 to 9 inches—black muck
9 to 22 inches—black and dark reddish brown muck

Substratum:
22 to 25 inches—black mucky fine sand
25 to 65 inches—brown fine sand

Soil Qualities and Properties

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Wesconnett—moderate or moderately rapid in the subsoil; Evergreen—moderate in the subsoil; Pamlico—moderate or moderately rapid in the organic matter
Available water capacity: Wesconnett—moderate; Evergreen and Pamlico—high
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Wesconnett—moderate or high; Evergreen and Pamlico—very high
Parent material: Highly decomposed organic matter and sandy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
- Starke and Surrency soils in depressions
- Chaires soils, Clara soils, and Goldhead-like soils that have a weak, organic-stained subsoil directly beneath the surface layer; on flats
- Pottsburg soils in areas of flatwoods

Similar soils:
- Leon soils in depressions

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland

Potential productivity: Not suited due to ponding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to ponding

Interpretive Groups

Land capability classification: VIIw
Woodland ordination symbol: Not assigned
Ecological community: Shrub Bogs-Bay Swamps

34—Clara and Bodiford soils, frequently flooded

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flood plains
Shape of areas: Long and narrow or irregular
Size of areas: 25 to more than 800 acres

Composition

Clara and similar soils: 58 percent
Bodiford and similar soils: 21 percent
Dissimilar soils: 21 percent

Typical Profile

Clara

Surface layer:
0 to 6 inches—very dark grayish brown mucky fine sand

Subsurface layer:
6 to 19 inches—grayish brown fine sand

Subsoil:
19 to 32 inches—yellowish brown fine sand

Substratum:
32 to 80 inches—light gray fine sand

Bodiford

Surface layer:
0 to 12 inches—dark reddish brown muck

Subsurface layer:
12 to 18 inches—black mucky fine sand
18 to 29 inches—brown fine sand

Subsoil:
29 to 51 inches—light brownish gray sandy clay loam

Bedrock:
51 inches—soft, weathered, fractured limestone

Soil Properties and Qualities

Depth class: Clara—very deep; Bodiford—deep
Drainage class: Very poorly drained
Permeability: Clara—rapid throughout; Bodiford—moderately slow in the subsoil
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Frequent for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Clara—moderately low to high; Bodiford—very high
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 16 percent of the map unit and within a depth of 61 to 80 inches in about 1 percent. Where present, it is at a depth of about 11 to 72 inches. The best estimate for overall average depth to bedrock is 43 inches.

Minor Components

Dissimilar soils:
- Clara-like soils that have a surface layer of well decomposed organic matter that ranges from 8 to 16 inches in thickness; Croatan soils; Bodiford-like soils that have a mucky, clayey surface layer; Meadowbrook-like soils that have a thick, dark surface layer; Nutall-like soils that do not have a surface layer of well decomposed organic matter that ranges from 8 to 16 inches in thickness or that do not have a thick, dark surface layer; Pamlico soils; Tennille soils; and Tooles soils; in positions similar to those of the Clara and Bodiford soils
- Meadowbrook soils on flats
- Boulogne and Steinhatchee soils in areas of flatwoods

Similar soils:
- Osier soils; Osier-like soils that have a thick, dark surface layer; and Bodiford-like soils that have a surface layer of well decomposed organic matter that ranges from 8 to 16 inches in thickness; in positions similar to those of the Clara and Bodiford soils

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland

Potential productivity: Not suited due to flooding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to flooding

Interpretive Groups

Land capability classification: Clara—VIw; Bodiford—VIIw
Woodland ordination symbol: Not assigned
Ecological community: Swamp Hardwoods

35—Tooles, Meadowbrook, and Wekiva soils, frequently flooded

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flood plains

Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 150 acres

Composition

Tooles and similar soils: 40 percent
Meadowbrook and similar soils: 28 percent
Wekiva and similar soils: 23 percent
Dissimilar soils: 9 percent

Typical Profile

Tooles

Surface layer:
0 to 8 inches—grayish brown fine sand

Subsurface layer:
8 to 23 inches—brownish yellow fine sand
23 to 52 inches—very pale brown fine sand

Subsoil:
52 to 59 inches—light brownish gray sandy clay loam

Bedrock:
59 inches—soft, weathered, fractured limestone

Meadowbrook

Surface layer:
0 to 9 inches—dark grayish brown fine sand

Subsurface layer:
9 to 31 inches—very pale brown fine sand
31 to 58 inches—light gray fine sand

Subsoil:
58 to 80 inches—light brownish gray sandy clay loam

Wekiva

Surface layer:
0 to 6 inches—black fine sand

Subsurface layer:
6 to 14 inches—yellowish brown fine sand

Subsoil:
14 to 21 inches—yellowish brown fine sandy loam

Bedrock:
21 inches—soft, weathered, fractured limestone

Soil Properties and Qualities

Depth class: Tooles—deep; Meadowbrook—very deep; Wekiva—shallow and moderately deep
Drainage class: Poorly drained
Permeability: Tooles—slow in the subsoil; Meadowbrook—moderate or moderately slow in the subsoil; Wekiva—moderately slow in the subsoil
Available water capacity: Low
Shrink-swell potential: Tooles—moderate; Meadowbrook and Wekiva—low
Slope class: Nearly level
Flooding: Frequent for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Tooles and Meadowbrook—moderately low or moderate; Wekiva—moderate or high
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 56 percent of the map unit and within a depth of 61 to 80 inches in about 6 percent. Where present, it is at a depth of about 15 to 65 inches. The best estimate for overall average depth to bedrock is 42 inches.

Minor Components

Dissimilar soils:
• Similar soils that have limestone bedrock within a depth of 80 inches
• Clara soils, Clara-like soils that have a surface layer of highly decomposed organic matter that ranges from 8 to 16 inches in thickness, Clara-like soils that do not have a gray to light gray subsurface layer, Meadowbrook-like soils that have a surface layer of highly decomposed organic matter that ranges from 8 to 16 inches in thickness, Nutall soils, and Tennille soils; in positions similar to those of the Tooles, Meadowbrook, and Wekiva soils

Similar soils:
• Goldhead soils, Meadowbrook-like soils that have limestone below a depth of 60 inches, Tooles-like soils that have a loamy subsoil within a depth of 20 inches, and Wekiva soils that have limestone at a depth of 30 to 40 inches; in positions similar to those of the Tooles, Meadowbrook, and Wekiva soils

Use and Management

Dominant uses: Timber production and wildlife habitat

Woodland

Potential productivity: Not suited due to seasonal surface wetness and flooding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to flooding

Interpretive Groups

Land capability classification: Tooles and Meadowbrook—VIw; Wekiva—Vw

Woodland ordination symbol: Not assigned
Ecological community: Shrub Bogs-Bay Swamps

37—Tooles and Meadowbrook soils, depressional

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Depressions
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 150 acres

Composition

Tooles and similar soils: 48 percent
Meadowbrook and similar soils: 36 percent
Dissimilar soils: 16 percent

Typical Profile

Tooles

Surface layer:
0 to 7 inches—grayish brown fine sand

Subsurface layer:
7 to 24 inches—brownish yellow fine sand
24 to 52 inches—very pale brown fine sand

Subsoil:
52 to 59 inches—light brownish gray sandy clay loam

Bedrock:
59 inches—soft, weathered, fractured limestone

Meadowbrook

Surface layer:
0 to 9 inches—dark grayish brown fine sand

Subsurface layer:
9 to 31 inches—very pale brown fine sand
31 to 58 inches—light gray fine sand

Subsoil:
58 to 80 inches—light brownish gray sandy clay loam

Soil Properties and Qualities

Depth class: Tooles—deep; Meadowbrook—very deep
Drainage class: Very poorly drained
Permeability: Tooles—slow in the subsoil; Meadowbrook—moderate or moderately slow in the subsoil
Available water capacity: Low
Shrink-swell potential: Tooles—moderate; Meadowbrook—low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Tooles—moderately low to high; Meadowbrook—moderate
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 63 percent of the map unit and within a depth of 61 to 80 inches in about 12 percent. Where present, it is at a depth of about 15 to 75 inches. The best estimate for overall average depth to bedrock is 44 inches.

Minor Components

Dissimilar soils:
• Similar soils that have limestone bedrock within a depth of 80 inches; Clara-like soils that do not have a gray and light gray subsurface layer; Clara-like soils that have a surface layer of highly decomposed organic matter that ranges from 8 to 16 inches in thickness; Nutall soils; Pamlico soils; Surrency soils; Tennille soils; Wekiva soils; Wekiva-like soils that have a thick, dark colored surface layer; and Wekiva-like soils that have a mucky clayey surface layer; in positions similar to those of the Tooles and Meadowbrook soils

Similar soils:
• Goldhead-like soils that have yellow and brown subsurface layers, Meadowbrook soils that have limestone below a depth of 60 inches, Tooles-like soils that have a loamy subsoil below a depth of 40 inches, and Tooles-like soils that have a thick, dark surface layer; in positions similar to those of the Tooles and Meadowbrook soils

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland

Potential productivity: Not suited due to ponding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to ponding

Interpretive Groups

Land capability classification: VIIw
Woodland ordination symbol: Not assigned
Ecological community: Shrub Bogs-Bay Swamps

38—Clara and Meadowbrook soils, depressional

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Depressions
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 200 acres

Composition

Clara and similar soils: 44 percent
Meadowbrook and similar soils: 32 percent
Dissimilar soils: 24 percent

Typical Profile

Clara

Surface layer:
0 to 6 inches—very dark grayish brown mucky fine sand

Subsoil:
6 to 19 inches—grayish brown fine sand

Subsurface layer:
19 to 32 inches—yellowish brown fine sand

Substratum:
32 to 80 inches—light gray fine sand

Meadowbrook

Surface layer:
0 to 9 inches—dark grayish brown fine sand

Subsurface layer:
9 to 31 inches—very pale brown fine sand
31 to 58 inches—light gray fine sand

Subsoil:
58 to 80 inches—light brownish gray sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Clara—rapid throughout; Meadowbrook—moderate or moderately slow in the subsoil
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Clara—moderately low to high; Meadowbrook—moderate
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 7 percent of the map unit and within a depth of 61 to 80 inches in about 1 percent. Where present, it is at a depth of about 21 to 70 inches. The best estimate for overall average depth to bedrock is 45 inches.

Minor Components

Dissimilar soils:
- Clara-like soils that have a surface layer of highly decomposed organic matter that ranges from 8 to 16 inches in thickness; Clara-like soils that have a thick, dark surface layer and some that have a brightly colored subsurface; Croatan soils; Dorovan soils; Pottsburg-like soils that are very poorly drained and have a thick, dark surface layer; and Starke soils; in positions similar to those of the Clara and Meadowbrook soils
- Similar soils that have limestone bedrock within a depth of 80 inches, Chaires soils, Tennille soils, and Tooles soils; on flats
- Chaires and Leon soils in areas of flatwoods

Similar soils:
- Goldhead and Osier soils in positions similar to those of the Clara and Meadowbrook soils

Use and Management

Dominant uses: Native vegetation and wildlife habitat (fig. 4)

Woodland

Potential productivity: Not suited due to ponding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to ponding

Interpretive Groups

Land capability classification: VIIw
Woodland ordination symbol: Not assigned
Ecological community: Swamp Hardwoods

40—Lutterloh fine sand, limestone substratum

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 50 acres

Figure 4.—An area of Clara and Meadowbrook soils, depressional. Cypress trees are common in the center of such depressions.

Composition

Lutterloh and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 8 inches—dark grayish brown fine sand

Subsurface layer:
8 to 19 inches—yellowish brown fine sand
19 to 36 inches—very pale brown fine sand
36 to 51 inches—light gray fine sand

Subsoil:
51 to 64 inches—light brownish gray loamy fine sand

Bedrock:
64 inches—soft, weathered, fractured limestone

Soil Properties and Qualities

Depth class: Deep
Drainage class: Somewhat poorly drained
Permeability: Moderate to slow in the subsoil
Available water capacity: Low or moderate
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 65 percent of the map unit and within a depth of 61 to 80 inches in about 23 percent. Where present, it is at a depth of about 30 to 75 inches. The best estimate for overall average depth to bedrock is 52 inches.

Minor Components

Dissimilar soils:
• Tooles soils on flats
• Chaires soils, Chaires-like soils that have limestone below a depth of 60 inches, Leon soils, and Steinhatchee-like soils that do not have a loamy subsoil; in areas of flatwoods
• Seaboard soils in positions similar to those of the Lutterloh soil

Similar soils:
• Lutterloh soils that do not have limestone below a depth of 60 inches and Lutterloh-like soils that have a loamy subsoil within a depth of 40 inches; in positions similar to those of the Lutterloh soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Moderately high
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland

Suitability: Moderate
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland

Suitability: Well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Fair
Management concerns: Wetness, poor filter, seepage, depth to rock, cutbanks cave, droughtiness, and corrosivity

Management considerations:
- The local Health Department can be contacted for guidance regarding sanitary facilities.
- Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
- Lawns need irrigation during periods of low rainfall.
- Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: IIIw
Woodland ordination symbol: 10W for slash pine
Ecological community: North Florida Flatwoods

41—Tooles-Meadowbrook complex

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flood plains and depressions
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 50 acres

Composition

Tooles and similar soils: 48 percent
Meadowbrook and similar soils: 32 percent
Dissimilar soils: 20 percent

Typical Profile

Tooles

Surface layer:
0 to 8 inches—very dark gray fine sand

Subsurface layer:
8 to 23 inches—brown fine sand

Subsoil:
23 to 35 inches—yellowish brown fine sand
35 to 46 inches—light gray sandy clay loam
46 to 55 inches—pale yellow clay loam

Bedrock:
55 inches—soft, weathered, fractured limestone

Meadowbrook

Surface layer:
0 to 9 inches—dark grayish brown sand

Subsurface layer:
9 to 31 inches—reddish yellow fine sand
31 to 58 inches—light gray fine sand

Subsoil:
58 to 80 inches—light brownish gray sandy clay loam

Soil Properties and Qualities

Depth class: Tooles—deep; Meadowbrook—very deep
Drainage class: Poorly drained
Permeability: Tooles—slow in the subsoil; Meadowbrook—moderate or moderately slow in the subsoil
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Moderately low or moderate
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 61 percent of the map unit and within a depth of 61 to 80 inches in about 2 percent. Where present, it is at a depth of about 12 to 75 inches. The best estimate for overall average depth to bedrock is 44 inches.

Minor Components

Dissimilar soils:
- Clara, Tennille, and Wekiva soils on flats
- Chaires soils, Chaires soils that have limestone below a depth of 60 inches, and Leon soils; in areas of flatwoods
- Lutterloh and Moriah soils on rises and knolls

Similar soils:
- Similar soils that have limestone bedrock within a depth of 80 inches; Goldhead soils; Meadowbrook soils that have limestone below a depth of 60 inches; and Tooles-like soils that have limestone at a depth of less than 40 inches, have a subsoil of loamy fine sand, or have limestone at a depth of more than 60 inches; in positions similar to those of the Tooles and Meadowbrook soils

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland

Potential productivity: Not suited due to wetness at the surface and ponding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to wetness at the surface and ponding

Interpretive Groups

Land capability classification: Tooles—IIIw; Meadowbrook—IVw

Woodland ordination symbol: Not assigned
Ecological community: Shrub Bogs-Bay Swamps

45—Chaires fine sand, limestone substratum

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 250 acres

Composition

Chaires and similar soils: 77 percent
Dissimilar soils: 23 percent

Typical Profile

Surface layer:
0 to 8 inches—very dark gray fine sand

Subsurface layer:
8 to 18 inches—gray fine sand

Subsoil:
18 to 24 inches—dark reddish brown fine sand
24 to 35 inches—brown fine sand
35 to 61 inches—grayish brown sandy clay loam

Bedrock:
61 inches—soft, weathered, fractured limestone

Soil Properties and Qualities

Depth class: Deep and very deep
Drainage class: Poorly drained
Permeability: Moderately slow or slow in the subsoil
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 34 percent of the map unit and within a depth of 61 to 80 inches in about 28 percent. Where present, it is at a depth of about 15 to 76 inches. The best estimate for overall average depth to bedrock is 58 inches.

Minor Components

Dissimilar soils:
• Meadowbrook soils in depressions
• Chaires, wet, soils; Clara soils; Clara-like soils that have limestone bedrock; Goldhead soils; Meadowbrook soils; Meadowbrook soils that have a limestone substratum; Leon, wet, soils; Pottsburg, wet, soils; Tooles soils; Tennille soils; and Wekiva soils; on flats
• Leon soils, Pottsburg soils, Steinhatchee soils, Steinhatchee-like soils that have limestone at a depth of 20 to 40 inches, and Steinhatchee-like soils that do not have a loamy subsoil; on flatwoods

Similar soils:
• Chaires soils and Chaires-like soils that have an organic-stained subsoil at a depth 30 to 50 inches or that have a subsoil of loamy fine sand; in positions similar to those of the Chaires soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Moderately high
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and reduce the hazard of erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.

• Irrigation is not normally used for crops on this soil.

Pasture and hayland

Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Poor
Management concerns: Wetness, percs slowly, depth to rock, too sandy, cutbanks cave, droughtiness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: IVw
Woodland ordination symbol: 10W for slash pine
Ecological community: North Florida Flatwoods

46—Pits

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flats, flatwoods, rises, and knolls
Shape of areas: Generally, square or rectangular
Size of areas: 5 to more than 20 acres

Composition

Pits: 98 percent
Dissimilar soils: 2 percent

Typical Condition

This map unit consists of excavations from which soil and other geologic material have been removed for use in road construction, foundations, septic tank absorption fields, or other purposes. The sides of the excavations have short, steep side slopes. Most pits are abandoned. Areas that have been excavated below the normal seasonal high water table usually contain water.

Soil Properties and Qualities

Depth class: Variable
Drainage class: Poorly drained and very poorly drained
Permeability: Variable
Available water capacity: Variable
Shrink-swell potential: Variable
Slope class: Variable
Hazard of flooding: Variable
Extent of rock outcrop: Variable
Parent material: Sandy and loamy marine sediments, possibility overlying limestone
Bedrock: Variable

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland

Potential productivity: Not suited due to wetness at the surface and ponding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to wetness at the surface and ponding

Interpretive Groups

Land capability classification: VIIIs
Woodland ordination symbol: Not assigned
Ecological community: Not assigned

48—Wekiva-Tennille-Tooles complex, occasionally flooded

Setting

Landscape: Gulf coast lowlands
Landform: Flats and depressions
Shape of areas: Rounded to long and narrow or irregular

Size of areas: 10 to more than 500 acres

Composition

Wekiva and similar soils: 44 percent
Tennille and similar soils: 28 percent
Tooles and similar soils: 16 percent
Dissimilar soils: 12 percent

Typical Profile

Wekiva

Surface layer:
0 to 6 inches—black fine sand

Subsurface layer:
6 to 14 inches—yellowish brown fine sand

Subsoil:
14 to 21 inches—light gray fine sandy loam

Bedrock:
21 inches—soft, weathered, fractured limestone

Tennille

Surface layer:
0 to 6 inches—black fine sand

Substratum:
6 to 14 inches—brown and dark grayish brown fine sand

Bedrock:
14 inches—soft, weathered, fractured limestone

Tooles

Surface layer:
0 to 8 inches—very dark gray fine sand

Subsurface layer:
8 to 23 inches—brown fine sand

Subsoil:
23 to 35 inches—yellowish brown fine sand
35 to 46 inches—light gray sandy clay loam
46 to 55 inches—pale yellow clay loam

Bedrock:
55 inches—soft, weathered, fractured limestone

Soil Properties and Qualities

Depth class: Wekiva—shallow and moderately deep; Tennille—very shallow and shallow; Tooles—deep
Drainage class: Poorly drained
Permeability: Wekiva—moderately slow in the subsoil; Tennille—rapid throughout; Tooles—slow in the subsoil
Available water capacity: Low
Flooding: Occasional for brief periods
Extent of rock outcrop: None
Shrink-swell potential: Wekiva and Tennille—low; Tooles—moderate
Slope class: Nearly level
Content of organic matter in the surface layer: Wekiva—moderate or high; Tennille and Tooles—moderately low or moderate
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 98 percent of the map unit and within a depth of 61 to 80 inches in about 1 percent. Where present, it is at a depth of about 6 to 75 inches. The best estimate for overall average depth to bedrock is 24 inches.

Minor Components

Dissimilar soils:
- Tennille-like soils that have a thick, dark surface layer; on flats
- Chaires soils, Chaires-like soils that have a limestone substratum, Steinhatchee soils, and Steinhatchee-like soils that do not have a loamy subsoil or that have limestone at a depth of less than 25 inches; in areas of flatwoods
- Matmon and Melvina soils on rises and knolls

Similar soils:
- Clara-like soils that have limestone below a depth of 60 inches, Meadowbrook soils, Tennille-like soils that have an organic-stained subsoil, and Wekiva-like soils that do not have a loamy subsoil; in positions similar to those of the Wekiva, Tennille, and Tooles soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Poorly suited due to wetness at the surface and flooding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to wetness at the surface and flooding

Interpretive Groups

Land capability classification: Wekiva—Vw; Tennille and Tooles—VIw
Woodland ordination symbol: Not assigned
Ecological community: Shrub Bogs-Bay Swamps

49—Seaboard-Bushnell-Matmon complex, 0 to 3 percent slopes

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 40 acres

Composition

Seaboard and similar soils: 28 percent
Bushnell and similar soils: 25 percent
Matmon and similar soils: 23 percent
Dissimilar soils: 24 percent

Typical Profile

Seaboard

Surface layer:
0 to 3 inches—dark grayish brown fine sand

Substratum:
3 to 8 inches—yellowish brown fine sand

Bedrock:
8 inches—soft, weathered, fractured limestone

Bushnell

Surface layer:
0 to 10 inches—dark grayish brown fine sand

Subsurface layer:
10 to 14 inches—yellowish brown fine sand

Subsoil:
14 to 30 inches—yellowish brown sandy clay

Bedrock:
30 inches—soft, weathered, fractured limestone

Matmon

Surface layer:
0 to 4 inches—very dark grayish brown fine sand

Subsurface layer:
4 to 11 inches—yellowish brown fine sand

Subsoil:
11 to 19 inches—yellowish brown fine sandy loam

Bedrock:
19 inches—soft, weathered, fractured limestone

Soil Properties and Qualities

Depth class: Seaboard—very shallow and shallow; Bushnell—moderately deep; Matmon—shallow
Drainage class: Seaboard—moderately well drained; Bushnell and Matmon—somewhat poorly drained
Permeability: Seaboard—rapid throughout; Bushnell—slow in the subsoil; Matmon—moderately slow in the subsoil
Available water capacity: Seaboard and Matmon—low; Bushnell—moderate
Shrink-swell potential: Seaboard and Matmon—low; Bushnell—moderate
Slope class: Nearly level and gently sloping
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Seaboard—low; Bushnell—moderately low or moderate; Matmon—moderate or high
Parent material: Sandy and loamy marine sediments overlying limestone bedrock
Bedrock: Bedrock is within a depth of 60 inches in about 86 percent of the map unit and within a depth of 61 to 80 inches in about 3 percent. Where present, it is at a depth of about 2 to 70 inches. The best estimate for overall average depth to bedrock is 26 inches.

Minor Components

Dissimilar soils:
- Chaires soils in areas of flatwoods
- Lutterloh soils, Mandarin soils, Moriah soils, Moriah-like soils that have limestone at a depth of 40 to 60 inches, Lutterloh-like soils that have a loamy subsoil at a depth of 15 to 40 inches, Otela soils, and Ridgewood soils; in positions similar to those of the Seaboard, Bushnell, and Matmon soils

Similar soils:
- Matmon-like soils that have limestone at a depth of 20 to 40 inches, Moriah-like soils that have limestone at a depth of 20 to 40 inches, Moriah-like soils that are moderately well drained, Seaboard-like soils that have limestone at a depth of less than 20 inches, Seaboard-like soils that have a gray to light gray subsurface layer over a brown and yellow subsoil, Seaboard-like soils that are somewhat poorly drained, and Tennille soils; in positions similar to those of the Seaboard, Bushnell, and Matmon soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Seabord—moderately high; Bushnell—high; Matmon—moderate
Trees to plant: Slash pine and loblolly pine

Management concerns: Equipment limitations, seedling mortality, windthrow, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Pine trees planted in areas where limestone is close to the surface do not grow to a commercially valuable size due to high pH levels.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Seaboard—not suited; Bushnell—moderate; Matmon—poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Crops produced on these soils need irrigation.

Pasture and hayland

Suitability: Seaboard—not suited; Bushnell—moderate; Matmon—moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Seaboard—moderate; Bushnell and Matmon—poor
Management concerns: Seaboard—depth to bedrock, seepage, wetness, too sandy, droughtiness, and corrosivity; Bushnell—depth to rock, wetness, percs slowly, too clayey, shrinking and swelling, low strength, and droughtiness; Matmon—depth to rock, wetness, percs slowly, too sandy, too clayey, and hard to pack
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Seaboard—VIs; Bushnell—IIIw; Matmon—IVs
Woodland ordination symbol: Seaboard—10S for slash pine; Bushnell—11W for slash pine; Matmon—9W for slash pine
Ecological community: Upland Hardwood Hammocks

51—Tooles-Nutall complex, frequently flooded

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flood plains
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 10 to more than 800 acres

Composition

Tooles and similar soils: 60 percent
Nutall and similar soils: 30 percent
Dissimilar soils: 10 percent

Typical Profile

Tooles

Surface layer:
0 to 8 inches—very dark gray fine sand

Subsurface layer:
8 to 23 inches—brown fine sand
23 to 35 inches—yellowish brown fine sand
35 to 46 inches—light gray sandy clay loam
46 to 55 inches—pale yellow clay loam

Bedrock:
55 inches—soft, weathered, fractured limestone

Nutall

Surface layer:
0 to 4 inches—black fine sand

Subsurface layer:
4 to 9 inches—mixed very dark gray and light gray fine sand
9 to 13 inches—light gray fine sand
13 to 17 inches—brown fine sand

Subsoil:
17 to 30 inches—light greenish gray sandy clay loam

Bedrock:
30 inches—soft, weathered, fractured limestone

Soil Properties and Qualities

Depth class: Tooles—deep; Nutall—moderately deep
Drainage class: Poorly drained
Permeability: Slow in the subsoil
Available water capacity: Tooles—low or moderate; Nutall—moderate or high
Shrink-swell potential: Moderate
Slope class: Nearly level
Flooding: Frequent for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Tooles—moderately low to high; Nutall—moderately low or moderate
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 36 percent of the map unit and within a depth of 61 to 80 inches in about 14 percent. Where present, it is at a depth of about 15 to 75 inches. The best estimate for overall average depth to bedrock is 45 inches.

Minor Components

Dissimilar soils:
- Goldhead, Starke, and Tennille soils in positions similar to those of the Tooles and Nutall soils
- Similar soils that have a loamy subsoil within a depth of 40 inches; on rises and knolls

Similar soils:
- Goldhead-like soils that have limestone at a depth of more than 60 inches; Goldhead-like soils that have a loamy subsoil within a depth of 20 inches; Tooles-like soils that have a thick, dark surface layer; and Nutall-like soils that have a surface layer of muck; in positions similar to those of the Tooles and Nutall soils

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland

Potential productivity: Not suited due to flooding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to flooding

Interpretive Groups

Land capability classification: Tooles—VIIw; Nutall—Vw
Woodland ordination symbol: Not assigned
Ecological community: Swamp Hardwoods

52—Clara, depressional-Clara-Meadowbrook complex, occasionally flooded

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Depressions and flats
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 120 acres

Composition

Clara, depressional, and similar soils: 30 percent
Clara and similar soils: 29 percent
Meadowbrook and similar soils: 20 percent
Dissimilar soils: 21 percent

Typical Profile

Clara, depressional

Surface layer:
0 to 2 inches—very dark gray fine sand

Subsurface layer:
2 to 18 inches—grayish brown fine sand

Subsoil:
18 to 37 inches—pale brown fine sand

Substratum:
37 to 50 inches—light gray fine sand
50 to 80 inches—very pale brown fine sand

Clara

Surface layer:
0 to 6 inches—very dark grayish brown fine sand

Subsurface layer:
6 to 19 inches—grayish brown fine sand

Subsoil:
19 to 32 inches—yellowish brown fine sand

Substratum:
32 to 80 inches—light gray fine sand

Meadowbrook

Surface layer:
0 to 9 inches—dark grayish brown fine sand

Subsurface layer:
9 to 31 inches—very pale brown fine sand
31 to 58 inches—light gray fine sand

Subsoil:
58 to 80 inches—light brownish gray sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Clara, depressional—very poorly drained; Clara and Meadowbrook—poorly drained
Permeability: Clara—rapid throughout; Meadowbrook—moderate or moderately slow in the subsoil
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Occasional for brief periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Clara and Clara, depressional—moderately low to high; Meadowbrook—moderately low or moderate
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 7 percent of the map unit and within a depth of 61 to 80 inches in about 9 percent. Where present, it is at a depth of about 17 to 75 inches. The best estimate for overall average depth to bedrock is 49 inches.

Minor Components

Dissimilar soils:
- Clara-like soils that have a surface layer of highly decomposed organic matter that ranges from 8 to 16 inches in thickness; Tennille soils; Tennille-like soils that have a thick, dark surface layer; and Tooles soils; in depressions
- Leon soils on flats
- Chaires and Leon soils in areas of flatwoods
- Lutterloh, limestone substratum, soils; Lutterloh-like soils that have a loamy subsoil at a depth of 20 to 40 inches; and Melvina soils; on rises and knolls

Similar soils:
- Similar soils that have limestone bedrock within a depth of 80 inches; in positions similar to those of the Clara, depressional, Clara, and Meadowbrook soils
- Clara-like soils that do not have a subsurface layer; in depressions and on flats
- Meadowbrook, limestone substratum, soils on flats

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Clara, depressional—not suited; Clara and Meadowbrook—high
Trees to plant: Clara and Meadowbrook—slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
- Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
- Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
- Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
- Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
- Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Clara, depressional—not suited; Clara—poor; Meadowbrook—poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
- Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
- The cover crops and all crop residue should be returned to the soil.
- Good tilth and nutrient management are required for maximum yields.
- Special erosion-control practices are not normally needed.
- Irrigation is not normally used for crops on these soils.

Pasture and hayland

Suitability: Clara, depressional—not suited; Clara and Meadowbrook—moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Clara, depressional—not suited; Clara and Meadowbrook—poor
Management concerns: Clara—flooding, wetness, poor filter, seepage, too sandy, cutbanks cave, and corrosivity; Meadowbrook—wetness, percs slowly, seepage, too sandy, cutbanks cave, flooding, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Clara, depressional—VIIw; Clara—VIw; Meadowbrook—IVw
Woodland ordination symbol: Clara, depressional—not assigned; Clara and Meadowbrook—11W for slash pine
Ecological community: Clara, depressional—Shrub Bogs-Bay Swamps; Clara and Meadowbrook—North Florida Flatwoods

53—Bayvi muck, frequently flooded

Setting

Landscape: Coastal swamps on the lower Coastal Plain
Landform: Salt marshes
Shape of areas: Long and narrow or irregular
Size of areas: 10 to more than 2,000 acres

Composition

Bayvi and similar soils: 81 percent
Dissimilar soils: 19 percent

Typical Profile

Surface layer:
0 to 5 inches—black muck

Subsurface layer:
5 to 17 inches—black mucky loamy sand
17 to 31 inches—very dark grayish brown sand

Substratum:
31 to 53 inches—grayish brown sand
53 to 80 inches—gray sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid throughout
Available water capacity: Very low
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Frequent for very long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very high
Parent material: Sandy and loamy marine sediments and, in places, the underlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 58 percent of the map unit and within a depth of 61 to 80 inches in about 6 percent. Depth to bedrock ranges from about 4 to 68 inches. The best estimate for overall average depth to bedrock is 38 inches.

Minor Components

Dissimilar soils:
• Bayvi soils that have limestone bedrock within a depth of 80 inches; Leon-like, Lynn Haven-like, and Nutall-like soils that have tidal influence; soils that have a dark, organic-stained subsoil, a loamy subsoil, or limestone at a depth of 40 to 60 inches; soils that

have a loamy subsoil over limestone at a depth of 40 to 60 inches; and Tennille-like soils, some that have a thick, dark surface layer; in positions similar to those of the Bayvi soil

Similar soils:
• Similar soils that have limestone below a depth of 60 inches; in positions similar to those of the Bayvi soil

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland

Potential productivity: Not suited due to flooding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to flooding

Interpretive Groups

Land capability classification: VIIIw
Woodland ordination symbol: Not assigned
Ecological community: Salt Marsh

54—Meadowbrook-Tooles-Clara, depressional, complex

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flats and depressions
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 60 acres

Composition

Tooles and similar soils: 27 percent
Meadowbrook and similar soils: 20 percent
Clara and similar soils: 20 percent
Wekiva and similar soils: 15 percent
Dissimilar soils: 18 percent

Typical Profile

Meadowbrook

Surface layer:
0 to 9 inches—dark grayish brown fine sand

Subsurface layer:
9 to 31 inches—very pale brown fine sand
31 to 58 inches—light gray fine sand

Subsoil:
58 to 80 inches—light brownish gray sandy clay loam

Tooles

Surface layer:
0 to 8 inches—very dark gray fine sand

Subsurface layer:
8 to 23 inches—brown fine sand

Subsoil:
23 to 35 inches—yellowish brown fine sand
35 to 46 inches—light gray sandy clay loam
46 to 55 inches—pale yellow clay loam

Bedrock:
55 inches—soft, weathered, fractured limestone

Clara

Surface layer:
0 to 6 inches—very dark grayish brown mucky fine sand

Subsurface layer:
6 to 19 inches—grayish brown fine sand

Subsoil:
19 to 32 inches—yellowish brown fine sand

Substratum:
32 to 80 inches—light gray fine sand

Soil Properties and Qualities

Depth class: Tooles—deep; Meadowbrook and Clara—very deep
Drainage class: Tooles and Meadowbrook—poorly drained; Clara—very poorly drained
Permeability: Meadowbrook—moderate or moderately slow in the subsoil; Tooles—slow in the subsoil; Clara—rapid throughout
Available water capacity: Low or moderate
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Tooles and Meadowbrook—moderately low or moderate; Clara—moderately low to high
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 37 percent of the map unit and within a depth of 61 to 80 inches in about 7 percent. Where present, it is at a depth of about 12 to 78 inches. The best estimate for overall average depth to bedrock is 44 inches.

Minor Components

Dissimilar soils:
• Meadowbrook soils in depressions

• Tennille-like soils that have limestone at a depth of 20 to 40 inches, Tennille soils, and Tooles-like soils that have limestone at a depth of 20 to 40 inches; on flats
• Boulogne, Chaires, Leon, and Steinhatchee soils in areas of flatwoods

Similar soils:
• Goldhead soils, Meadowbrook-like soils that have limestone below a depth of 60 inches, Meadowbrook-like soils that have a seasonal high water table at the surface to a depth of 6 inches, and Tooles-like soils that have an argillic horizon within a depth of 20 inches; on flats
• Osier soils and Osier-like soils that have a thick, dark surface layer; in depressions

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Tooles and Meadowbrook—high; Clara—unsuited
Trees to plant: Tooles and Meadowbrook—slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, windthrow, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Tooles—fair; Meadowbrook—poor; Clara—not suited
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and reduce the hazard of erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on these soils.

Pasture and hayland

Suitability: Tooles—fair; Meadbrook—poor; Clara—not suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Tooles—poorly; Meadowbrook—poorly; Clara—not suited
Management concerns: Tooles and Meadowbrook—wetness, percs slowly, poor filter, seepage, too sandy, cutbanks cave, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Tooles—IIIw; Meadowbrook—IVw; Clara—VIIw
Woodland ordination symbol: Tooles and Meadowbrook—11W for slash pine; Clara—not assigned
Ecological community: Tooles and Meadowbrook—

North Florida Flatwoods; Clara—Shrub Bogs-Bay Swamps

55—Arents, moderately wet, rarely flooded

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Depressions and flats
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 30 acres

Composition

Arents and similar inclusions: 95 percent
Dissimilar soils: 5 percent

Typical Profile

This map unit is made up of heterogeneous overburden material that was removed from other areas and used in land leveling or as fill material to elevate building sites above natural soils. Typically, it consists of a 10-inch-thick surface layer over 22 inches of overburden. The surface layer and overburden are a mixture of fine sand and fragments of loamy subsoil material or dark, organic-stained subsoil material from the associated Chaires, Goldhead, Hurricane, Leon, and Mandarin soils. Typically, the overburden is variable, discontinuous, and has lenses, pockets, and streaks of black, gray, and grayish brown fine sand.

Minor Components

Dissimilar soils:
• Similar soils that contain shell fragments, rocks, and organic matter

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Variable but generally rapid throughout
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy and loamy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Use and Management

Dominant uses: Urban development

Woodland

Potential productivity: Moderate
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Moderate
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Crops produced in areas of this map unit do not normally need special erosion-control practices.
• Crops produced in areas of this map unit are not normally irrigated.

Pasture and hayland

Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.

• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Not suited due to wetness, poor filter, seepage, too sandy, cutbanks cave, droughtiness, corrosivity, and flooding

Interpretive Groups

Land capability classification: VIs
Woodland ordination symbol: Not assigned
Ecological community: Not assigned

57—Sapelo fine sand

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flats and depressions
Shape of areas: Long and narrow or irregular
Size of areas: 5 to more than 140 acres

Composition

Sapelo and similar soils: 81 percent
Dissimilar soils: 19 percent

Typical Profile

Surface layer:
0 to 8 inches—black fine sand

Subsurface layer:
8 to 18 inches—light gray fine sand

Upper subsoil:
18 to 32 inches—dark reddish brown fine sand

Substratum:
32 to 46 inches—brown fine sand

Lower subsoil:
46 to 80 inches—gray sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate or moderately slow in the subsoil
Available water capacity: Moderate
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
• Croatan, Evergreen, Leon, and Pamlico soils in depressions
• Leon soils in positions similar to those of the Sapelo soil

Similar soils:
• Mascotte soils in positions similar to those of the Sapelo soil

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland

Potential productivity: Not suited due to wetness at the surface and ponding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to wetness at the surface and ponding

Interpretive Groups

Land capability classification: VIw
Woodland ordination symbol: Not assigned
Ecological community: Shrub Bogs-Bay Swamps

58—Leon mucky fine sand

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flats and depressions
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 50 acres

Composition

Leon and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 6 inches—black mucky fine sand

Subsurface layer:
6 to 10 inches—light gray fine sand

Subsoil:
10 to 14 inches—black fine sand
14 to 21 inches—dark reddish brown fine sand
21 to 42 inches—reddish brown and dark reddish brown fine sand

Substratum:
42 to 60 inches—brown fine sand
60 to 65 inches—grayish brown fine sand

Second Subsoil:
65 to 80 inches—dark reddish brown fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderately rapid or moderate in the subsoil
Available water capacity: Moderate
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: High
Parent material: Sandy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
- Evergreen and Pamlico soils in depressions
- Mascotte and Sapelo soils on flats
- Boulogne and Leon soils in areas of flatwoods

Similar soils:
- Leon-like soils that have a subsoil of loamy fine sand and Lynn Haven soils; in positions similar to those of the Leon soil

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland

Potential productivity: Not suited due to wetness at the surface and ponding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to wetness at the surface and ponding

Interpretive Groups

Land capability classification: VIw
Woodland ordination symbol: Not assigned
Ecological community: Shrub Bogs-Bay Swamps

59—Arents, sanitary landfill

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flats and flatwoods
Shape of areas: Rectangular
Size of areas: 5 to more than 30 acres

Composition

Arents and similar inclusions: 95 percent
Dissimilar soils: 5 percent

Typical Profile

This map unit is made up of heterogeneous overburden material that has been removed from other areas and used to cover garbage. It consists of a mixture of material from the associated Chaires, Goldhead, Hurricane, Leon, and Mandarin soils. Typically, the material is 2 to 3 feet thick, is variable, and has discontinuous lenses, pockets, and streaks of black, gray, and grayish brown fine sand overlying garbage. Few to common black and dark reddish brown, organic-stained, sandy fragments and gray fine sandy loam and sandy clay loam fragments are at a depth of 24 inches or more. The soil material overlies large cells of garbage and refuse. These cells range in thickness from 3 to 20 feet. In some areas, the mixture of sandy materials is used as daily cover and the garbage is in stratified layers within the sandy material.

Minor Components

Dissimilar soils:
- Soils that contain shell fragments, rocks, organic matter, or muck; in positions similar to those of the Arents

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained and moderately well drained
Permeability: Variable but generally rapid throughout
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Variable but generally nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy and loamy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland

Potential productivity: Not suited due to subsidence and variability of the soil properties

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to subsidence and variability of the soil properties

Interpretive Groups

Land capability classification: VIIs
Woodland ordination symbol: Not assigned
Ecological community: Not assigned

60—Chaires, limestone substratum-Meadowbrook, limestone substratum, complex, rarely flooded

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flats and flatwoods
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 50 to more than 80 acres

Composition

Chaires and similar soils: 60 percent
Meadowbrook and similar soils: 19 percent
Dissimilar soils: 21 percent

Typical Profile

Chaires

Surface layer:
0 to 8 inches—very dark gray fine sand

Subsurface layer:
8 to 18 inches—gray fine sand

Subsoil:
18 to 24 inches—dark reddish brown fine sand
24 to 35 inches—brown fine sand
35 to 61 inches—grayish brown sandy clay loam

Bedrock:
61 inches—soft, weathered, fractured limestone

Meadowbrook

Surface layer:
0 to 3 inches—very dark gray fine sand

Subsurface layer:
3 to 35 inches—grayish brown fine sand
35 to 58 inches—dark yellowish brown fine sand

Subsoil:
58 to 75 inches—dark gray sandy clay loam

Bedrock:
75 inches—soft, weathered, fractured limestone

Soil Properties and Qualities

Depth class: Deep and very deep
Drainage class: Poorly drained
Permeability: Moderate or moderately slow in the subsoil
Available water capacity: Low
Shrink-swell potential: Chaires—moderate; Meadowbrook—low
Slope class: Nearly level
Flooding: Rare
Extent of rock outcrop: None
Content of organic matter in the surface layer: Chaires—moderate or high; moderately low or moderate
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 33 percent of the map unit and within a depth of 61 to 80 inches in about 19 percent. Where present, it is at a depth of about 38 to 75 inches. The best estimate for overall average depth to bedrock is 47 inches.

Minor Components

Dissimilar soils:
- Chaires, Clara, Goldhead, Leon, Lynn Haven, and Meadowbrook soils in depressions
- Chaires, Clara, Goldhead, Leon, and Tooles soils on flats
- Leon soils in areas of flatwoods

Similar soils:
- Chaires, limestone substratum, soils and Meadowbrook soils; on flats

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Chaires—moderate; Meadowbrook—high
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
- Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
- Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.

• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops at least two-thirds of the time improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on these soils.

Pasture and hayland

Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Not suited due to wetness, percs slowly, poor filter, seepage, depth to rock, too sandy, cutbanks cave, droughtiness, corrosivity, and rare flooding

Interpretive Groups

Land capability classification: IVw
Woodland ordination symbol: Chaires—10W for slash pine; Meadowbrook—11W for slash pine
Ecological community: North Florida Flatwoods

61—Wekiva-Tooles, depressional-Tennille complex, rarely flooded

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flats and depressions
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 10 to more than 170 acres

Composition

Wekiva and similar soils: 43 percent
Tooles and similar soils: 25 percent
Tennille and similar soils: 12 percent
Dissimilar soils: 20 percent

Typical Profile

Wekiva

Surface layer:
0 to 6 inches—black fine sand

Subsurface layer:
6 to 14 inches—yellowish brown fine sand

Subsoil:
14 to 21 inches—yellowish brown fine sandy loam

Bedrock:
21 inches—soft, weathered, fractured limestone

Tooles

Surface layer:
0 to 8 inches—very dark gray fine sand

Subsurface layer:
8 to 23 inches—brown fine sand

Subsoil:
23 to 35 inches—yellowish brown fine sand
35 to 46 inches—light gray sandy clay loam
46 to 55 inches—pale yellow clay loam

Bedrock:
55 inches—soft, weathered, fractured limestone

Tennille

Surface layer:
0 to 6 inches—black fine sand

Substratum:
6 to 14 inches—brown and dark grayish brown fine sand

Bedrock:
14 inches—soft, weathered, fractured limestone

Soil Properties and Qualities

Depth class: Wekiva—shallow and moderately deep; Tooles—deep; Tennille—very shallow and shallow
Drainage class: Wekiva and Tennille—poorly drained; Tooles—very poorly drained
Permeability: Wekiva—moderately slow in the subsoil; Tooles—slow in the subsoil; and Tennille—rapid throughout
Available water capacity: Low
Shrink-swell potential: Wekiva—low; Tooles and Tennille—moderate
Slope class: Nearly level
Flooding: Rare
Extent of rock outcrop: None
Content of organic matter in the surface layer: Wekiva—moderate or high; Tooles and Tennille—moderately low or moderate
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 96 percent of the map unit and within a depth of 61 to 80 inches in about 3 percent. Where present, it is at a depth of about 5 to 75 inches. The best estimate for overall average depth to bedrock is 33 inches.

Minor Components

Dissimilar soils:
- Tooles and Wekiva soils in depressions
- Meadowbrook and Tooles soils on flats
- Chaires soils, Steinhatchee soils, and Steinhatchee-like soils that have an organic-stained subsoil; in areas of flatwoods

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Tennille—low; Wekiva and Tooles—not suited
Trees to plant: Tennille—slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, windthrow, and plant competition
Management considerations:
- Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
- Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
- Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
- Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
- Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Wekiva and Tennille—poor; Tooles—not suited
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
- Crop rotations that include close-growing cover crops at least two-thirds of the time improve tilth and help to control erosion.
- The cover crops and all crop residue should be returned to the soil.
- Good tilth and nutrient management are required for maximum yields.
- Special erosion-control practices are not normally needed.
- Irrigation is not normally used for crops on these soils.

Pasture and hayland

Suitability: Wekiva and Tennille—moderately well suited; Tooles—not suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
- A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
- A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
- The proper spacing of tile drains is important for obtaining adequate drainage.
- Tile drains can provide a means of applying subirrigation during periods of low rainfall.
- Nutrient management maximizes yields.
- Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Not suited due to depth to rock, wetness, flooding, and corrosivity

Interpretive Groups

Land capability classification: Wekiva—IVw; Tooles—VIIw; Tennille—Vw
Woodland ordination symbol: Wekiva—8W for slash pine; Tooles—not assigned; Tennille—8W for slash pine
Ecological community: Wekiva and Tennille—Wetland Hardwood Hammocks; Tooles—Shrub Bogs-Bay Swamps

62—Tooles-Tennille-Wekiva complex, depressional

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Depressions
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 30 acres

Composition

Tooles and similar soils: 45 percent
Tennille and similar soils: 25 percent
Wekiva and similar soils: 25 percent
Dissimilar soils: 5 percent

Typical Profile

Tooles

Surface layer:
0 to 8 inches—very dark gray fine sand

Subsurface layer:
8 to 23 inches—brown fine sand

Subsoil:
23 to 35 inches—yellowish brown fine sand
35 to 46 inches—light gray sandy clay loam
46 to 55 inches—pale yellow clay loam

Bedrock:
55 inches—soft, weathered, fractured limestone

Tennille

Surface layer:
0 to 6 inches—black fine sand

Substratum:
6 to 14 inches—brown and dark grayish brown fine sand

Bedrock:
14 inches—soft, weathered, fractured limestone

Wekiva

Surface layer:
0 to 6 inches—black fine sand

Subsurface layer:
6 to 14 inches—yellowish brown fine sand

Subsoil:
14 to 21 inches—yellowish brown fine sandy loam

Bedrock:
21 inches—soft, weathered, fractured limestone

Soil Properties and Qualities

Depth class: Tooles—deep; Tennille—very shallow and shallow; Wekiva—shallow and moderately deep
Drainage class: Very poorly drained
Permeability: Tooles—slow in the subsoil; Tennille—rapid throughout; Wekiva—moderately slow in the subsoil
Available water capacity: Low
Shrink-swell potential: Moderate
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Tooles and Tennille—moderately low or moderate; Wekiva—moderate or high
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 88 percent of the map unit and within a depth of 61 to 80 inches in about 6 percent. Where present, it is at a depth of about 15 to 75 inches. The best estimate for overall average depth to bedrock is 36 inches.

Minor Components

Dissimilar soils:
• Goldhead soils in positions similar to those of the Tooles, Tennille, and Wekiva soils

Similar soils:
• Tooles-like soils that do not have a loamy subsoil

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland

Potential productivity: Not suited due to ponding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to ponding

Interpretive Groups

Land capability classification: VIIw
Woodland ordination symbol: Not assigned
Ecological community: Shrub Bogs-Bay Swamps

63—Steinhatchee fine sand

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 20 acres

Composition

Steinhatchee and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 5 inches—dark gray fine sand

Subsurface layer:
5 to 18 inches—gray fine sand

Subsoil:
18 to 22 inches—black fine sand
22 to 25 inches—dark brown fine sand
25 to 29 inches—yellowish brown fine sand
29 to 35 inches—gray sandy clay loam

Bedrock:
35 inches—soft, weathered, fractured limestone

Soil Properties and Qualities

Depth class: Moderately deep
Drainage class: Poorly drained
Permeability: Moderately slow in the subsoil
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy and loamy marine sediments overlying limestone
Depth to bedrock (where present): 24 to 40 inches

Minor Components

Dissimilar soils:
• Meadowbrook, Tennille, and Tooles soils on flats
• Moriah soils on rises and knolls

Similar soils:
• Melvina soils in positions similar to those of the Steinhatchee soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: High
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Moderate
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on this soil.

Pasture and hayland

Suitability: Well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.

• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Poor
Management concerns: Wetness, percs slowly, seepage, depth to rock, too sandy, cutbanks cave, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: IIIw
Woodland ordination symbol: 11W for slash pine
Ecological community: Wetland Hardwood Hammocks

64—Tooles-Wekiva complex

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flats
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 30 acres

Composition

Tooles and similar soils: 63 percent
Wekiva and similar soils: 27 percent
Dissimilar soils: 10 percent

Typical Profile

Tooles

Surface layer:
0 to 8 inches—very dark gray fine sand

Subsurface layer:
8 to 23 inches—yellowish brown fine sand

Subsoil:
23 to 35 inches—yellowish brown fine sand
35 to 46 inches—light gray sandy clay loam
46 to 55 inches—pale yellow clay loam

Bedrock:
55 inches—soft, weathered, fractured limestone

Wekiva

Surface layer:
0 to 6 inches—black fine sand

Subsurface layer:
6 to 14 inches—yellowish brown fine sand

Subsoil:
14 to 21 inches—yellowish brown fine sandy loam

Bedrock:
21 inches—soft, weathered, fractured limestone

Soil Properties and Qualities

Depth class: Tooles—deep; Wekiva—shallow and moderately deep
Drainage class: Poorly drained
Permeability: Tooles—slow in the subsoil; Wekiva—moderately slow in the subsoil
Available water capacity: Low or moderate
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Tooles—moderately low or moderate; Wekiva—moderate or high
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in nearly 100 percent of the map unit at a depth of about 28 to 60 inches. The best estimate for overall average depth to bedrock is 46 inches.

Minor Components

Dissimilar soils:
• Meadowbrook soils on flats
• Moriah soils on rises and knolls

Similar soils:
• Tooles-like soils that have a loamy subsoil below a depth of 40 inches; in positions similar to those of the Tooles and Wekiva soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Tooles—high; Wekiva—not suited
Trees to plant: Tooles—slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, windthrow, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish

seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Tooles—moderate; Wekiva—poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops at least two-thirds of the time improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on these soils.

Pasture and hayland

Suitability: Tooles—well suited; Wekiva—poor
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Poor
Management concerns: Tooles—wetness, percs slowly, poor filter, seepage, depth to rock, too sandy, cutbanks cave, and corrosivity; Wekiva—depth to rock, wetness, and corrosivity
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: Tooles—IIIw; Wekiva—IVw
Woodland ordination symbol: Tooles—11W for slash pine; Wekiva—8W for slash pine
Ecological community: Upland Hardwood Hammocks

65—Yellowjacket and Maurepas mucks, frequently flooded

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flood plains
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 10 to more than 100 acres

Composition

Yellowjacket and similar soils: 45 percent
Maurepas and similar soils: 45 percent
Dissimilar soils: 10 percent

Typical Profile

Yellowjacket

Surface layer:
0 to 42 inches—black muck

Subsurface layer:
42 to 60 inches—very dark gray fine sand

Substratum:
60 to 80 inches—dark grayish brown fine sand

Maurepas

Surface layer:
0 to 25 inches—dark brown muck

Subsurface layer:
25 to 60 inches—black muck

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid throughout
Available water capacity: Yellowjacket—high; Maurepas—very high
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Frequent for long periods
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very high
Parent material: Sandy marine sediments and woody plant remains
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
• Yellowjacket-like soils that have limestone below a depth of 50 inches; in positions similar to those of the Yellowjacket and Maurepas soils

Similar soils:
• Soils that have a surface layer of organic matter that ranges from 8 to 16 inches in thickness; in positions similar to those of the Yellowjacket and Maurepas soils

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland

Potential productivity: Not suited due to wetness and flooding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to wetness and flooding

Interpretive Groups

Land capability classification: Yellowjacket—VIIw; Maurepas—VIIIw
Woodland ordination symbol: Not assigned
Ecological community: Swamp Hardwoods

67—Yellowjacket and Maurepas mucks, depressional

Setting

Landscape: Coastal swamps on the lower Coastal Plain
Landform: Depressions
Landform position: Concave
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 10 to more than 80 acres

Composition

Yellowjacket and similar soils: 45 percent
Maurepas and similar soils: 40 percent
Dissimilar soils: 15 percent

Typical Profile

Yellowjacket

Surface layer:
0 to 42 inches—black muck

Subsurface layer:
42 to 60 inches—very dark gray fine sand

Substratum:
60 to 80 inches—dark grayish brown fine sand

Maurepas

Surface layer:
0 to 25 inches—dark brown muck

Subsurface layer:
25 to 60 inches—black muck

Soil Properties and Qualities

Depth class: Deep and very deep
Drainage class: Very poorly drained
Permeability: Rapid throughout
Available water capacity: Yellowjacket—high; Maurepas—very high
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Content of organic matter in the surface layer: Very high
Parent material: Sandy marine sediments and woody plant remains
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
• Meadowbrook soils, Meadowbrook-like soils that have a surface layer of well decomposed organic matter that ranges from 8 to 16 inches in thickness, and Tooles soils; in positions similar to those of the Yellowjacket and Maurepas soils

Similar soils:
• Yellowjacket-like soils that have limestone bedrock within a depth of 80 inches and that have a

surface layer of well decomposed organic matter that ranges from 8 to 16 inches in thickness; in positions similar to those of the Yellowjacket and Maurepas soils

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland

Potential productivity: Not suited due to ponding

Cropland, hayland, pasture, and urban development

Suitability: Not suited due to ponding

Interpretive Groups

Land capability classification: Yellowjacket—VIIw; Maurepas—VIIIw
Woodland ordination symbol: Not assigned
Ecological community: Swamp Hardwoods

68—Matmon-Wekiva-Rock outcrop complex, occasionally flooded

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Rises, knolls, flats, and flood plains
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 40 acres

Composition

Matmon and similar soils: 40 percent
Wekiva and similar soils: 35 percent
Rock outcrop: 14 percent
Dissimilar soils: 11 percent

Typical Profile

Matmon

Surface layer:
0 to 4 inches—very dark grayish brown fine sand

Subsurface layer:
4 to 11 inches—yellowish brown fine sand

Subsoil:
11 to 19 inches—yellowish brown fine sandy loam

Bedrock:
19 inches—soft, weathered, fractured limestone

Wekiva

Surface layer:
0 to 6 inches—black fine sand

Subsurface layer:
6 to 14 inches—yellowish brown fine sand

Subsoil:
14 to 21 inches—yellowish brown fine sandy loam

Bedrock:
21 inches—soft, weathered, fractured limestone

Rock outcrop

0 inches—soft, weathered, fractured limestone

Soil Properties and Qualities

Depth class: Matmon—shallow; Wekiva—shallow and moderately deep; Rock outcrop—very shallow
Drainage class: Matmon—somewhat poorly drained; Wekiva—poorly drained
Permeability: Matmon and Wekiva—moderately slow in the subsoil
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Occasional for brief periods
Extent of Rock outcrop: Matmon and Wekiva—none; Rock outcrop—extensive
Content of organic matter in the surface layer: Matmon and Wekiva—moderate or high
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in nearly 100 percent of the map unit at a depth of about 7 to 23 inches. The best estimate for overall average depth to bedrock is 16 inches.

Minor Components

Dissimilar soils:
- Matmon-like soils that have limestone below a depth of 20 inches in positions similar to those of the Matmon soil
- Steinhatchee soils in areas of flatwoods
- Tennille soils on flats

Similar soils:
- Matmon-like soils that do not have a loamy subsoil; in positions similar to those of the Matmon soil

Use and Management

Dominant uses: Native vegetation and wildlife habitat

Woodland

Potential productivity: Matmon and Wekiva—low; Rock outcrop—unsuited
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, windthrow, and plant competition

Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Matmon and Wekiva—poor; Rock outcrop—not suited
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, fast intake, and depth to bedrock
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on these soils.

Pasture and hayland

Suitability: Matmon—poor; Wekiva—moderate; Rock outcrop—not suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, fast intake, and depth to bedrock
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Not suited due to flooding, depth to bedrock, wetness, and corrosivity

Interpretive Groups

Land capability classification: Matmon—IVs; Wekiva—Vw; Rock outcrop—VIIIs
Woodland ordination symbol: Matmon—9W for slash pine; Wekiva—8W for slash pine; Rock outcrop—not assigned
Ecological community: Wetland Hardwood Hammock

69—Eunola, Goldhead, and Tooles fine sands, commonly flooded

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flood plains
Shape of areas: Long and narrow
Size of areas: 5 to more than 40 acres

Composition

Eunola and similar soils: 49 percent
Goldhead and similar soils: 20 percent
Tooles and similar soils: 11 percent
Dissimilar soils: 20 percent

Typical Profile

Eunola

Surface layer:
0 to 6 inches—brown loamy fine sand

Subsurface layer:
6 to 15 inches—yellowish brown fine sandy loam

Subsoil:
15 to 40 inches—yellowish brown sandy clay loam
40 to 50 inches—gray fine sandy loam

Substratum:
50 to 80 inches—white loamy fine sand

Goldhead

Surface layer:
0 to 6 inches—very dark gray fine sand

Subsurface layer:
6 to 13 inches—grayish brown fine sand
13 to 35 inches—light yellowish brown fine sand

Subsoil:
35 to 55 inches—gray sandy clay loam

55 to 80 inches—light brownish gray fine sandy loam

Tooles

Surface layer:
0 to 8 inches—very dark gray fine sand

Subsurface layer:
8 to 23 inches—brown fine sand
23 to 35 inches—yellowish brown fine sand
35 to 46 inches—light gray sandy clay loam
46 to 55 inches—pale yellow clay loam

Bedrock:
55 inches—soft, weathered, fractured limestone

Soil Properties and Qualities

Depth class: Eunola and Goldhead—very deep; Tooles—deep
Drainage class: Eunola—moderately well drained; Goldhead and Tooles—poorly drained
Permeability: Eunola—moderate in the subsoil; Goldhead—moderate or moderately slow in the subsoil; Tooles—slow in the subsoil
Available water capacity: Eunola—moderate; Goldhead—low; Tooles—low or moderate
Shrink-swell potential: Eunola and Goldhead—low; Tooles—moderate
Slope class: Nearly level
Flooding: Eunola—occasional for very brief periods; Goldhead and Tooles—frequent for long periods
Extent of rock outcrop: Low
Content of organic matter in the surface layer: Eunola—low or moderately low; Goldhead and Tooles—moderately low or moderate
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is within a depth of 60 inches in about 23 percent of the map unit and within a depth of 61 to 80 inches in about 8 percent. Where present, it is at a depth of about 36 to 70 inches. The best estimate for overall average depth to bedrock is 50 inches.

Minor Components

Dissimilar soils:
• Moriah soils; Wekiva-like soils that are very poorly drained, that have a thick, dark surface layer, or that have limestone at a depth of 20 to 40 inches; and similar soils that are stained with sandy and loamy layers caused by flooding; on flood plains
• Hurricane soils on rises and knolls

Similar soils:
• Meadowbrook soils and Tooles-like soils that have a surface layer of muck; on flood plains

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Eunola—high; Goldhead and Tooles—not suited due to wetness and flooding
Trees to plant: Eunola—slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Eunola—moderately well suited; Goldhead and Tooles—not suited
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops at least two-thirds of the time improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on these soils.

Pasture and hayland

Suitability: Eunola—moderately well suited; Goldhead and Tooles—not suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake

Management considerations:

• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Not suited due to flooding, wetness, seepage, cutbanks cave, and corrosivity

Interpretive Groups

Land capability classification: Eunola—IIw; Goldhead—VIw; Tooles—VIw
Woodland ordination symbol: Eunola—10W for slash pine; Goldhead and Tooles—not assigned
Ecological community: Eunola—Upland Hardwood Hammocks; Goldhead and Tooles—Shrub Bogs-Bay Swamps

70—Chiefland-Chiefland, frequently flooded, complex

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flood plains
Shape of areas: Long and narrow or irregular
Size of areas: 10 to more than 100 acres

Composition

Chiefland and similar soils: 75 percent
Dissimilar soils: 25 percent

Typical Profile

Chiefland

Surface layer:
0 to 5 inches—dark gray fine sand

Subsurface layer:
5 to 17 inches—grayish brown fine sand
17 to 26 inches—pale brown fine sand

Subsoil:
26 to 35 inches—yellowish brown sandy clay loam

Bedrock:
35 inches—soft, weathered, fractured limestone

Chiefland, frequently flooded

Surface layer:
0 to 5 inches—dark gray fine sand

Subsurface layer:
5 to 17 inches—grayish brown fine sand
17 to 26 inches—pale brown fine sand

Subsoil:
26 to 35 inches—yellowish brown sandy clay loam

Bedrock:
35 inches—soft, weathered, fractured limestone

Soil Properties and Qualities

Depth class: Moderately deep
Drainage class: Moderately well drained
Permeability: Moderate in the subsoil
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Chiefland—none; Chiefland, frequently flooded—frequent for brief periods
Extent of rock outcrop: None
Parent material: Sandy and loamy marine sediments overlying limestone
Bedrock: Bedrock is present within a depth of 40 inches in about 50 percent of the map unit. Where present, it is at a depth of about 35 to 55 inches. The best estimate for overall average depth to bedrock is 37 inches.

Minor Components

Dissimilar soils:

• Moriah-like soils that have limestone below a depth of 40 inches and Ridgewood soils; on rises and knolls
• Nutall and Tooles soils on flats

Similar soils: None

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Urban development

Woodland

Potential productivity: Moderate
Trees to plant: Slash pine and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:

• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.

• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland

Suitability: Not suited due to very low natural fertility, droughtiness, and rapid leaching of plant nutrients

Pasture and hayland

Suitability: Fair
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Droughtiness and fast intake
Management considerations:
• Intensive nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Not suited
Management concerns: Chiefland—depth to rock, poor filter, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity; Chiefland, frequently flooded—flooding, depth to rock, poor filter, seepage, too sandy, cutbanks cave, droughtiness, and corrosivity

Interpretive Groups

Land capability classification: Chiefland—IIIs; Chiefland, frequently flooded—Vw
Woodland ordination symbol: 11S for slash pine
Ecological community: Upland Hardwood Hammocks

71—Leon fine sand, rarely flooded

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 5 to more than 75 acres

Composition

Leon and similar soils: 78 percent
Dissimilar soils: 22 percent

Typical Profile

Surface layer:
0 to 6 inches—very dark gray fine sand

Subsurface layer:
6 to 11 inches—grayish brown fine sand
11 to 25 inches—light gray fine sand

Subsoil:
25 to 30 inches—black fine sand
30 to 34 inches—dark reddish brown fine sand

Substratum:
34 to 56 inches—dark yellowish brown fine sand
56 to 80 inches—yellowish brown fine sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate or moderately rapid in the subsoil
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level
Flooding: Rare
Extent of rock outcrop: None
Parent material: Sandy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
• Chaires, Meadowbrook, Osier, and Tooles soils and Osier-like soils that have a thick, dark surface layer; on flood plains and in depressions
• Chaires, Meadowbrook, Osier, Pottsburg, Tennille, Tooles, and Wekiva soils on flats
• Leon soils, Leon-like soils that have an organic-stained subsoil below a depth of 30 inches, and Steinhatchee soils; in areas of flatwoods
• Moriah and Ridgewood soils on rises and knolls

Similar soils:
• Chaires-like soils that have an organic-stained subsoil below a depth of 30 inches, do or do not have limestone below a depth of 60 inches, or have a loamy subsoil at a depth of less than 40 inches; in positions similar to those of the Leon soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: Moderately high
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.

• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on this soil.

Pasture and hayland

Suitability: Moderately well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Not suited due to wetness, poor filter, seepage, too sandy, flooding, cutbanks cave, and corrosivity

Interpretive Groups

Land capability classification: IVw
Woodland ordination symbol: 8W for slash pine
Ecological community: Wetland Hardwood Hammocks

72—Chaires fine sand, rarely flooded

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 3 to 30 acres

Composition

Chaires and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 6 inches—very dark gray fine sand

Subsurface layer:
6 to 20 inches—light brownish gray fine sand

Subsoil:
20 to 26 inches—black fine sand
26 to 30 inches—dark reddish brown fine sand
30 to 52 inches—dark yellowish brown fine sand
52 to 80 inches—light gray and light olive gray sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderately slow or slow in the subsoil
Shrink-swell potential: Moderate
Slope class: Nearly level
Flooding: Rare
Extent of rock outcrop: None
Parent material: Sandy and loamy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
• Meadowbrook, Osier, and Tooles soils in depressions
• Meadowbrook, Pottsburg, Tooles, Osier, and Wekiva soils on flats
• Steinhatchee soils in areas of flatwoods
• Melvina, Moriah, and Ridgewood soils on rises and knolls

Similar soils:
• Chaires-like soils that have an organic-stained subsoil at a depth of more than 30 inches; Chaires-like soils that have a loamy subsoil at a depth of less than 40 inches; similar soils that have limestone bedrock within a depth of 80 inches; in positions similar to those of the Chaires soils

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: High
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
• Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• Irrigation is not normally used for crops on this soil.

Pasture and hayland

Suitability: Well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
• A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
• The proper spacing of tile drains is important for obtaining adequate drainage.
• Tile drains can provide a means of applying subirrigation during periods of low rainfall.
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Not suited due to wetness, percs slowly, depth to rock, too sandy, cutbanks cave, flooding, and corrosivity

Interpretive Groups

Land capability classification: IVw
Woodland ordination symbol: 10W for slash pine
Ecological community: Wetland Hardwood Hammocks

73—Chipley sand, 0 to 5 percent slopes

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 3 to more than 150 acres

Composition

Chipley and similar soils: 77 percent
Dissimilar soils: 23 percent

Typical Profile

Surface layer:
0 to 9 inches—brown sand

Subsurface layer:
9 to 48 inches—yellowish brown sand
48 to 69 inches—light yellowish brown sand
69 to 80 inches—light gray sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained

Permeability: Rapid throughout
Available water capacity: Low
Shrink-swell potential: Low
Slope class: Nearly level and gently sloping
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy and loamy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
• Wesconnett soils in depressions
• Goldhead, Lynn Haven, Osier, Plummer, and Pottsburg soils and Pottsburg-like soils that have a subsoil; on flats
• Boulogne and Leon soils in areas of flatwoods
• Ortega soils on rises and knolls

Similar soils:
• Chipley-like soils that have a thick surface layer and Hurricane soils; in positions similar to those of the Chipley soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: High
Trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
• Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
• Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
• Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
• Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.

Cropland

Suitability: Moderate
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Crop rotations that include close-growing cover crops improve tilth and help to control erosion.
• The cover crops and all crop residue should be returned to the soil.
• Good tilth and nutrient management are required for maximum yields.
• Special erosion-control practices are not normally needed.
• The irrigation of high-value crops is typically feasible where irrigation water is readily available.

Pasture and hayland

Suitability: Moderate
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
• Nutrient management maximizes yields.
• Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Moderate
Management concerns: Wetness, poor filter, seepage, too sandy, cutbanks cave, and droughtiness
Management considerations:
• The local Health Department can be contacted for guidance regarding sanitary facilities.
• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.
• Lawns need irrigation during periods of low rainfall.
• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: IIIs
Woodland ordination symbol: 11S for slash pine
Ecological community: Upland Hardwood Hammocks

74—Mascotte sand

Setting

Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods
Shape of areas: Rounded to long and narrow or irregular
Size of areas: 3 to 150 acres

Composition

Mascotte and similar soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 4 inches—black sand

Subsurface layer:
4 to 10 inches—gray sand

Subsoil:
10 to 13 inches—very dark brown sand
13 to 17 inches—dark brown sand

Second subsurface layer:
17 to 25 inches—light yellowish brown sand
25 to 30 inches—grayish brown fine sand

Second subsoil:
30 to 80 inches—gray sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderately slow in the subsoil
Shrink-swell potential: Low
Slope class: Nearly level
Hazard of flooding: None
Extent of rock outcrop: None
Parent material: Sandy and loamy marine sediments
Depth to bedrock: No bedrock within a depth of 80 inches

Minor Components

Dissimilar soils:
- Surrency soils in depressions
- Clara, Osier, and Meadowbrook soils on flats
- Albany and Ocilla soils on rises and knolls

Similar soils:
- Mascotte-like soils that do not have a subsurface layer and a weak, organic-stained subsoil directly beneath the surface layer; Mascotte-like soils that have a loamy subsoil below a depth of 40 inches; in areas of flatwoods
- Sapelo soils in positions similar to those of the Mascotte soil

Use and Management

Dominant uses: Timber production and wildlife habitat
Other uses: Crops, pasture, and urban development

Woodland

Potential productivity: High
Trees to plant: Slash pine and loblolly pine
Management concerns: Equipment limitations, seedling mortality, and plant competition
Management considerations:
- Site preparation, such as bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate.
- Chopping and bedding help to minimize debris, control competing vegetation, and facilitate planting.
- Using field machinery equipped with large tires or tracks and harvesting during dry periods help to overcome the equipment limitations and minimize soil compaction and root damage during thinning activities.
- Logging systems that leave plant debris well distributed over the site increase the content of organic matter and improve fertility.
- Trees in areas of this map unit respond well to applications of fertilizer.

Cropland

Suitability: Poor
Commonly grown crops: Corn, grain sorghum, and tobacco
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
- Crop rotations that include close-growing cover crops at least two-thirds of the time improve tilth and help to control erosion.
- The cover crops and all crop residue should be returned to the soil.
- Good tilth and nutrient management are required for maximum yields.
- Special erosion-control practices are not normally needed.
- Irrigation is not normally used for crops on this soil.

Pasture and hayland

Suitability: Well suited
Commonly grown grasses: Bahiagrass and improved bermudagrass
Management concerns: Wetness, droughtiness, and fast intake
Management considerations:
- A total management system for the water table should remove excess water rapidly and provide a means of applying subirrigation.
- A combination of tile drains and open ditches may be needed to maintain the water table at the preferred depth.
- The proper spacing of tile drains is important for obtaining adequate drainage.
- Tile drains can provide a means of applying subirrigation during periods of low rainfall.
- Nutrient management maximizes yields.
- Controlled grazing helps to maintain vigorous plants and maximum yields.

Urban development

Suitability: Poor

Management concerns: Wetness, percs slowly, poor filter, seepage, thin layer, cutbanks cave, and corrosivity

Management considerations:

• The local Health Department can be contacted for guidance regarding sanitary facilities.

• Building structures on the highest part of the landscape and using artificial drainage reduce the risk of damage from wetness.

• Using corrosion-resistant materials reduces the risk of damage to uncoated steel and concrete.

• Lawns need irrigation during periods of low rainfall.

• Digging trenches during dry periods minimizes sloughing.

Interpretive Groups

Land capability classification: IIIw
Woodland ordination symbol: 11W for slash pine
Ecological community: North Florida Flatwoods

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 to prevent 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 behavioral 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.

This section can be used to plan the use and management of soils for crops and pasture; as rangeland and woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational 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.

Woodland Management and Productivity

John K. Fish, county forester, Florida Division of Forestry, and Pete T. Kleto, forestry and soil resource consultant, helped prepare this section.

About 592,800 acres in Taylor County, or more than 87 percent of the county, is woodland (USDA, 1987). Forestry has played an important role in the economic growth of the county. After the early settlement of the county, longleaf pine dominated the better drained sites and slash pine dominated the wet flatwoods. Longleaf pine was the only tree that could withstand the fires set by settlers to clear woodland for grazing and for the production of agriculture crops. Baldcypress, pondcypress, black tupelo, sweetgum, red maple, and various bays were the main trees in areas along ponds, drainageways, and swamps and on the flood plains along rivers.

Harvesting timber, collecting pine gum resin, and cutting railroad crossties once provided many jobs to area residents. Some timber harvesting practices, however, have failed to provide for adequate regeneration of commercially important species. Also, exclusion of fire from the woods has allowed undesirable hardwoods to dominate and has further inhibited the establishment and growth of pine trees.

The soils and climate of the county are excellent for the management of southern pines. Slash pine is the dominant commercial tree and is planted throughout the county (fig. 5). Loblolly pine is planted to a small extent in the county. Natural stands of longleaf pine are scattered throughout the county in areas of Albany, Chipley, Chiefland, Eunola, Hurricane, Kershaw, Lutterloh, Mandarin, Matmon, Melvina, Ortega, Ousley, Resota, Ridgewood, and Seaboard soils.

Applying nitrogen, phosphorus, and potassium during planting encourages excellent growth response. Loblolly pine and slash pine grow best if adequate phosphorus is applied. The application of additional fertilizer at mid-rotation should be based on a soil test or tissue analysis.

Timber management in the county consists mainly of clearcutting and intensive site preparation. Pine stands are thinned for residual sawtimber and salvage purposes on a small scale in the area. Prescribed burning is very important for removing slash during site preparation, for reducing the hazard of wildfire in established stands, and for encouraging the growth of grasses and forbs, which provide food and cover for cattle and a diversity of wildlife.

Management practices that help to overcome the seasonal wetness and plant competition are used in

Figure 5.—Young slash pine in an area of Albany fine sand. Plant competition is severe in areas of this soil. When the trees reach a height of 10 to 15 feet, controlled burning can help to control the plant competition.

areas of poorly drained soils. The equipment limitations are severe during wet periods. Plant competition from heavy brush and hardwood sprouting can severely affect seedling survival and growth. Site preparation, such as chopping and bedding or double bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases the early growth rate. Bedding should not block natural drainage.

The use of herbicides is becoming more widespread in the area. They are used for chemical site preparation to promote either natural or artificial regeneration and to release established pine stands from woody competition. This method of site preparation has several advantages over traditional mechanical methods. The advantages include increased control of competing vegetation at a lower cost, reduced hazard of erosion, and decreased soil compaction. The proper use of herbicides can reduce long-term costs by controlling hardwood resprouting, thereby increasing site productivity. Using herbicides and mechanical site preparation in conjunction can also greatly improve the survival and growth rates.

A high demand for timber is expected to continue well into the next century. This solid market has helped many landowners continue growing and managing their woodland for maximum production. To make the most of an investment in timber, the landowner should base decisions about which trees to plant on an evaluation of soil productivity and the quality of products produced at final harvest. Physical soil characteristics indicate productivity. The most important characteristic that affects production capacity is the ability of the soil to provide adequate moisture. Other factors include the thickness of the surface layer, the content of organic matter in the surface layer, the natural supply of nutrients, the texture and consistency of the soil material, aeration, internal drainage, pH, and the depth to the water table.

Markets are plentiful for local wood producers. Six pulp mills are within a 60-mile radius of Taylor County. Chip-n-saw logs, poletimber, and veneer timber are aggressively marketed. Timber buyers and loggers are abundant; more than 20 companies serve the area. The market for cypress sawtimber is growing. Most cypress is sold locally for fencing and rough lumber. The residual material is sold for use as mulch.

An important function of trees is to protect the soil. A well managed stand of trees prevents soil deterioration and conserves soil and water resources. Erosion is not an important factor in most of the county; however, the ability of tree cover to increase the amount of moisture that enters the soil by reducing the impact of rain drops is an important factor affecting ground water supplies.

Management of woodland wildlife habitat is an important factor affecting recreation and the economy in the area. Current forestry practices, such as clearcutting and burning, favor food and cover for wildlife. Deer, turkey, feral hogs, and quail are the main game animals.

Individuals own thousands of acres of poorly stocked woodland throughout the county. Information that can help landowners increase productivity is available regarding individual soils and site selection (USDA, National Forestry Manual). More detailed information regarding woodland management can be obtained at the local office of the Natural Resources Conservation Service, the Florida Division of Forestry, or the Cooperative Extension Service.

Soils vary in their ability to produce trees. Depth, fertility, texture, and the available water capacity influence tree growth. Elevation, aspect, and climate determine the kinds of trees that can grow on a site. The available water capacity and depth of the root zone are major influences affecting tree growth.

Table 6 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 the ordination symbol for each soil. Soils assigned the same ordination symbol require the same general management and have about the same potential productivity.

The first part of the *ordination symbol*, a number, indicates the potential productivity of the soils for an indicator tree species (USDA, National Forestry Manual). 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 *W* indicates excess water in or on the soil and *S* indicates sandy texture. If a soil has more than one limitation, the priority is W then S.

In the table, *slight, moderate,* and *severe* indicate the degree of the major soil limitations to be considered in management.

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 and season of use are 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 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 quality* or a *site index* and as a *volume* number (Broadfoot, 1964; Schumaker, 1960; USDA, 1976; USDA 1985b; Barns, 1995). 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 *volume*, a number, is the yield likely to be produced by the most important trees. This number, expressed as cubic feet per acre per year, indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

The *site quality* applies to fully stocked, even-aged, managed pine plantations. If a plantation is more that 10 years old, site quality curves for slash pine and loblolly pine can be used to estimate plantation site quality on a 25-year basis. Site index curves that have a base age of 50 are available for sand pine and second-growth natural longleaf pine. Because longleaf pine is most commonly managed for sawtimber products, all values for longleaf pine are based on site index.

The *productivity* is the yield likely to be produced by the most important trees, expressed in cords per acre per year. Production figures are based on a stocking of 400 even-aged trees per acre at 25 years of age. If a plantation of longleaf pine at age 25 has a site quality of 70, the expected yield is 3,870 cubic feet per acre. If 1 rough cord is equal to about 92.5 cubic feet, then the expected yield is 42 cords per acre. Wood fiber production may be significantly greater where intensive forest management practices are applied than in natural stands.

The first species listed under *common trees* for a soil is the indicator species for that soil. It generally is the most common species on the soil and is the one that determines the ordination class.

Trees to plant are those that are suitable for commercial wood production.

Grazing Lands

Sid S. Brantly, range conservationist, National Resources Conservation Service, helped to prepare this section.

Grazing lands in Taylor County consist of tame pasture, which primarily supports bahiagrass or bermudagrass, and grazeable woodland, which supports native grasses, forbs, and legumes that are used for forage by livestock and wildlife. About 19,500 acres of tame pasture and 200,000 acres of grazeable woodland provide food and habitat for an estimated 6,100 head of cattle and countless wildlife (University of Florida, 1994). Many of the smaller, private tracts are fenced and provide grazing for livestock. Many of the larger wooded tracts owned by timber companies are fenced and are utilized for forage to a lesser degree.

Because forage production and availability are directly related to the tree canopy, the different age classes of trees cause a wide variation in forage production in a given tract. In some large areas, fencing provides adequate forage for a small number of cattle.

Grazeable woodland has an understory of native grasses, legumes, and forbs. The understory is an integral part of the woodland plant community. The native plants can be grazed without significantly impairing other woodland values. On such woodland, grazing is compatible with timber management if the grazing is controlled or managed so that timber and forage resources are maintained or enhanced.

Understory vegetation is grazed by livestock and by wildlife. Some woodland, if well managed, can produce enough understory vegetation to support grazing by optimum numbers of livestock or wildlife or both without damage to the trees. Prescribed burning and commercial thinning are examples of management practices.

Forage production on grazeable woodland varies according to the different kinds of grazeable woodland, the amount of shade cast by the canopy, the accumulation of fallen needles, the influence of time and intensity of grazing on the grasses and forage, and the number, size, spacing, and method of site preparation for tree plantings.

The pastureland in Taylor County provides needed components of habitat for a host of wildlife species and provides filtration and storage for some of the freshwater supply. Livestock producers care for the land in such a way that it provides forage for a majority of the cattle in the county. Bahiagrass and bermudagrass are managed on much of the pastureland in the county. Sound management plans for pastureland usually include maintaining proper stubble height, controlling weeds, applying fertilizer and lime, and applying a planned grazing system. Stubble height on bahiagrass is successfully managed at about two inches. Short grazing periods are followed by three- or four-week rests. Stubble height on bermudagrass is best managed at about four inches. Four- to six-week rest periods are allowed between grazing.

Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, and yards from wind and snow. They also protect fruit trees and gardens, and they furnish habitat for wildlife. Several rows of low- and high-growing broadleaf and coniferous trees and shrubs provide the most protection.

Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil. Field windbreaks protect cropland and crops from wind, help to keep snow on the fields, and provide food and cover for wildlife.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained for the local office of the Natural Resources Conservation Service or of the Cooperative Extension Service or from a commercial nursery.

Crops and Pasture

William B. Pugh, Jr., district conservationist, and E. Norman Porter, resource conservationist, Natural Resources Conservation Service, helped prepare this section.

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed for each soil, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading “Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

More than 20,500 acres in Taylor County is used for crops and pasture (University of Florida, 1994). The acreage used for crops and pasture has gradually been decreasing as land is used for urban development and timber production.

Erosion caused by water is not a major problem on the cropland and pastureland in the county. Information on the design of erosion-control practices for each kind of soil is available from the local office of the Natural Resources Conservation Service.

Soil blowing can be a hazard on the better drained, sandy soils and on the more poorly drained, sandy soils that have been drained. It can damage crops in a few hours if the wind is strong and the soil is dry and bare of vegetation or surface mulch. Soil blowing can be reduced by maintaining a vegetative cover or surface mulch; by planting permanent windbreaks of adapted plant species, such as pine, red cedar, and myrtle; and by planting properly spaced temporary strips of seasonal small grain or other annuals and perennials at a right angle to the prevailing damaging wind.

Soil drainage is a major management concern affecting most of the acreage used for crops and pasture in the county, including areas of the poorly drained Chaires, Leon, Mascotte, Meadowbrook, Osier, Plummer, Pottsburg, Sapelo, Steinhatchee, Tooles, and Wekiva soils. Albany, Chipley, Chiefland, Eunola, Hurricane, Lutterloh, Mandarin, Matmon, Melvina, Moriah, Ocilla, Ortega, Otela, Ousley, Resota, Ridgewood, and Seaboard soils have good natural drainage and tend to dry out quickly after rains. Irrigation is needed for crop production during periods of low rainfall.

Fertility is naturally low in most of the soils in the county. Also, most of the soils are naturally acid. The addition of lime and fertilizer should be based on the results of soil tests, on the needs of the crop, and on the expected level of yields. The Florida Cooperative Extension Service can help in determining the kinds and amounts of fertilizer and lime to apply.

Field crops grown in the county include corn, grain sorghum, and tobacco. The corn and grain sorghum are

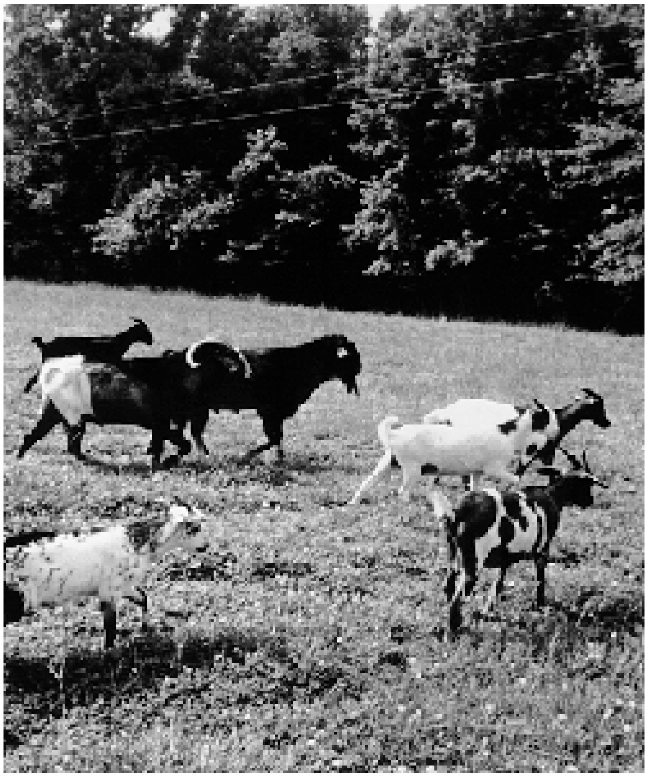

Figure 6.—A stand of perennial peanuts grazed by goats in an area of Ortega fine sand. Photo courtesy of Clay Olson, county extension director, University of Florida, Cooperative Extension Service.

used as feed for livestock and poultry. Some peanuts are also grown in the county (fig. 6).

Farm income in the county is derived primarily from cow-calf livestock operations.

The main pasture plants in the county are improved bermudagrass and bahiagrass. Excess grass is harvested as hay and is either sold or used as winter feed. Millet, sorghum, and sudangrass hybrids are grown for green chop or grazing during the summer, and rye and oats are grown during the winter.

In areas that have similar climate and topography, differences in the kinds and amounts of forage a pasture can produce are related closely to the soil type. Pasture management is based on the relationship among soils, variety of pasture plants, lime and fertilizer, and grazing systems. Yields can be increased by adding lime and fertilizer as indicated by a soil test and by including a grass-legume mixture in the cropping system.

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 7. 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 (USDA, 1961) 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.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

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 the table 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 Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classes

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 (USDA, 1961). 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 rangeland, 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.

Capability classes, the broadest groups, are designated by numerals I through VIII. They are listed in table 7. 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, *w* or *s,* to the class numeral, for example, IIw. The letter *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), and *s* shows that the soil is limited mainly because it is shallow, droughty, or stony.

In class I there are no subclasses because the soils of this class have few limitations.

The capability classification of each map unit is given in the section “Detailed Soil Map Units” and in the yields table.

Hydric Soils

G. Wade Hurt, national leader for hydric soils, Natural Resources Conservation Service, helped prepare this section.

In this section, hydric soils are defined and described and the hydric soil map units in the soil survey are indicated.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and a specific hydrology (Cowardin, 1979; Environmental Laboratory, 1987). Criteria for each of the characteristics must be met for areas to be identified as wetlands. The dominant natural vegetation on undrained hydric soils should be ecologically wetland species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. These soils are either saturated, inundated, or both long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or a nonhydric soil, however, specific information, such as information about the depth and duration of saturation, is needed. Thus, criteria that identify the estimated properties unique to hydric soils have been established (USDA, Field Indicators of Hydric Soils in the United States). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria are selected soil properties that are documented in “Soil Taxonomy,” “Keys to Soil Taxonomy,” the “National Soils Handbook,” and the “Soil Survey Manual” (USDA: 1975, 1998, 1993, and Nation Soil Survey Handbook).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators that can be used to make onsite determinations of hydric soils in Taylor County are specified in “Field Indicators of Hydric Soils in the United States.” These indicators are tested and revised through scientific methods. Updated information is available on the internet and at the State and local offices of the Natural Resources Conservation Service.

Hydric soils are generally identified by examining and describing the soil to a depth of about 20 inches. The determination of an appropriate indicator, however, may require investigation to a greater depth. Soil scientists excavate and describe the soils to a sufficient depth to understand the redoximorphic processes. After completing the soil description, soil scientists can compare the features required by each indicator and the conditions observed in the soil and thereby determine which indicators occur. The soil can be identified as a hydric soil if one or more of the approved indicators occur.

This survey can be used to locate probable areas of hydric soils. Table 5 (Comprehensive Hydric Soils List) indicates which components and inclusions of the map unit meet the definition of hydric soils and also have at least one of the hydric soil indicators. This list can help in the planning of land uses, but onsite investigation is needed to determine if hydric soils occur at a specific site.

Map units consisting of hydric soils can have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units made up of nonhydric soils can have inclusions of hydric soils in the lower positions on the landform.

Ecological Communities

John F. Vance, Jr., biologist, Natural Resources Conservation Service, helped prepare this section.

The ecological community concept is based on the knowledge that a soil type commonly supports a specific vegetative community, which in turn provides the habitat needed by specific wildlife species.

Vegetative communities form recognizable units on the landscape, most of which are apparent to the casual observer after only a little training. Even without prior botanical training, an observer can quickly learn to distinguish between pine flatwoods and pine-turkey oak sandhills, between hardwood hammocks and cypress swamps, and between mangrove swamps and salt marsh. Once a community is recognized, information can be found concerning the general characteristics of the soil on which it occurs and the types of plants and animals it supports.

Although some plants are found only within a very narrow range of conditions, many plants can survive throughout a wide range of conditions. Individual plants that have a wide tolerance level can occur in many different communities and on a variety of soils. When describing ecological communities, plant scientists study the patterns in which vegetation occurs. They study what species occur, the relative abundance of each species, the stage of plant succession, the dominance of species, the position of species on the landscape, and the soil or soils on which the patterns occur. Recognizable patterns of vegetation are usually found in a small group of soil types that have common characteristics. During many years of field observations while conducting soil surveys, the Natural Resources Conservation Service determined which vegetative communities commonly occur on which soils throughout Florida. This information is summarized in a booklet called “26 Ecological Communities of Florida” (USDA, 1985a).

In the following paragraphs, the vegetative community occurring on individual map units during the climax state of plant succession is described. The community described is based on relatively natural conditions. Human activities, such as commercial production of pine, agriculture, urbanization, and fire suppression, can alter the community on a specific site and should be considered.

Longleaf Pine-Turkey Oak Hills

The Longleaf Pine-Turkey Oak Hills ecological community is dominated by longleaf pine and by turkey oak, bluejack oak, and sand post oak. Common shrubs include Adam’s needle, coontie, coral bean, shining sumac, and yaupon. Pricklypear cactus, partridge pea, blazingstar, elephantsfoot, wiregrass, grassleaf goldaster, yellow Indiangrass, and dropseed are common. The map units that support the Longleaf Pine-Turkey Oak Hill ecological community in Taylor County are:

12 Ortega fine sand, 0 to 5 percent slopes
21 Kershaw fine sand, 0 to 8 percent slopes

North Florida Flatwoods

The North Florida Flatwoods ecological community is normally dominated by slash pine and by live oak and sand live oak on slightly higher ridges and an understory of saw palmetto, gallberry, and grasses. Scattered pond pine, water oak, laurel oak, sweetgum, wax-myrtle, and several species of blueberry are also common. Chalky bluestem, broomsedge bluestem, lopsided Indiangrass, low panicums, switchgrass, and wiregrass are the common grasses. Other common plants include grassleaf goldaster, blackberry, brackenfern, deertongue, gayfeather, milkworts, and a variety of seed producing legumes. The map units that support the North Florida Flatwoods ecological community in Taylor County are:

3 Clara and Osier fine sands
5 Chaires fine sand
6 Leon fine sand
8 Meadowbrook sand
9 Sapelo fine sand
14 Boulogne part of Chipley-Lynn Haven, depressional-Boulogne complex, 0 to 3 percent slopes
17 Leon and Clara parts of Ousley-Leon-Clara complex, 0 to 3 percent slopes

19 Lutterloh part of Otela-Ortega-Lutterloh complex, 0 to 5 percent slopes
20 Melvina-Mandarin complex, 0 to 3 percent slopes
23 Melvina-Moriah-Lutterloh complex
25 Pottsburg fine sand
27 Plummer fine sand
40 Lutterloh fine sand, limestone substratum
45 Chaires fine sand, limestone substratum
52 Clara and Meadowbrook parts of Clara, depressional-Clara-Meadowbrook complex, occasionally flooded
54 Meadowbrook and Tooles parts of Meadowbrook-Tooles-Clara, depressional, complex
60 Chaires, limestone substratum-Meadowbrook, limestone substratum, complex, rarely flooded
74 Mascotte sand

Upland Hardwood Hammocks

The Upland Hardwood Hammocks ecological community is normally dominated by black cherry, eastern hornbeam, flowering dogwood, hawthorns, laurel oak, laurelcherry, live oak, loblolly pine, longleaf pine, slash pine, pignut hickory, southern magnolia, sweetgum, and water oak and an understory of American beautyberry, arrowwood, sparkleberry, and wax-myrtle. Low panicums, wood oats, bluestem, and switchgrass are common grasses. Other common plants include aster, cat greenbrier, common greenbrier, crossvine, partridge pea, poison ivy, ragweed, Spanish moss, Virginia creeper, wild grape, yellow jessamine, dotted horsemint, and blackberry. The map units that support the Upland Hardwood Hammocks ecological community in Taylor County are:

10 Mandarin-Hurricane complex, 0 to 3 percent slopes
13 Hurricane fine sand, 0 to 3 percent slopes
14 Chipley part of Chipley-Lynn Haven, depressional-Boulogne complex, 0 to 3 percent slopes
15 Ridgewood fine sand, 0 to 3 percent slopes
16 Lutterloh-Ridgewood complex, 0 to 3 percent slopes
17 Ousley part of Ousley-Leon-Clara complex, 0 to 3 percent slopes
19 Otela and Ortega parts of Otela-Ortega-Lutterloh complex, 0 to 5 percent slopes
22 Ocilla sand
24 Albany sand, 0 to 5 percent slopes
26 Resota-Hurricane complex, 0 to 5 percent slopes
29 Albany part of Albany-Surrency, depressional, complex, 0 to 3 percent slopes
49 Seaboard-Bushnell-Matmon complex, 0 to 3 percent slopes
64 Tooles-Wekiva complex
69 Eunola part of Eunola, Goldhead, and Tooles fine sands, commonly flooded
70 Chiefland-Chiefland, frequently flooded, complex
73 Chipley fine sand, 0 to 3 percent slopes

Wetland Hardwood Hammocks

The Wetland Hardwood Hammocks ecological community is normally dominated by cabbage palm, hawthorns, laurel oak, live oak, water oak, redbay, red maple, sweetbay, and magnolia and an understory of wax-myrtle, witchhazel, and saw palmetto. Longleaf uniola and low panicums are common grasses. Other common plants include cinnamon fern, crossvine, poison ivy, royal fern, Spanish moss, Virginia creeper, wild grape, and yellow jessamine. The map units that support the Wetland Hardwood Hammocks ecological community in Taylor County are:

61 Wekiva and Tennille parts of Wekiva-Tooles, depressional-Tennille complex, rarely flooded
63 Steinhatchee fine sand
68 Matmon-Wekiva-Rock outcrop complex, occasionally flooded
71 Leon fine sand, rarely flooded
72 Chaires fine sand, rarely flooded

Salt Marsh

The Salt Marsh ecological community is dominated by grasses and grasslike plants, such as smooth cordgrass, black needlerush, gulf cordgrass, marshhay cordgrass, olney bulrush, and seashore dropseed with seablite, sea oxeye, and seapurslane as herbaceous plants and vines (fig. 7). The map unit that supports the Salt Marsh ecological community in Taylor County is:

53 Bayvi muck, frequently flooded

Swamp Hardwoods

The Swamp Hardwoods ecological community is dominated by blackgum, red maple, Ogeechee lime, cypress, and bay trees. Common shrubs include fetterbush, Virginia willow, buttonbush, and wax-myrtle. Common herbaceous plants and vines include wild grape, greenbriers, and poison ivy, with maidencane grass, cinnamon fern, and sphagnum moss. The map units that support the Swamp Hardwoods ecological community in Taylor County are:

34 Clara and Bodiford soils, frequently flooded
38 Clara and Meadowbrook soils, depressional
51 Tooles-Nutall complex, frequently flooded
65 Yellowjacket and Maurepas mucks, frequently flooded
67 Yellowjacket and Maurepas mucks, depressional

Figure 7.—An area of Bayvi muck, frequently flooded. Leon fine sand, rarely flooded is in the background. The Bayvi soil is in the Salt Marsh ecological community, and the Leon soil is in the Wetland Hardwood Hammocks ecological community. Photo courtesy of the Florida Game and Fresh Water Fish Commission.

Shrub Bogs-Bay Swamps

The Shrub Bogs-Bay Swamps ecological community is dominated by a dense mass of evergreen, shrubby vegetation. It is dominated by large gallberry, fetterbush, myrtleleaved holly, swamp cyrilla (titi), greenbriers, sweetpepperbush, and sweetbay. Scattered slash pine and pond pine are present. Cinnamon fern, maidencane grass, and club moss commonly fill open areas. Shrub bogs are predominantly dense masses of evergreen, shrubby vegetation that rarely exceeds 25 feet in height. Bay swamps are forested wetlands dominated by one or two species of evergreen trees. The bay swamp is considered to be a climax community with mature trees; the shrub bogs are in the earlier stages of plant succession. Periodic fires help to keep some areas in the shrub bog, or subclimax, stage, especially the titi types. The shrubs have many stems and thick foliage and commonly appear impenetrable. The map units that support the Shrub Bogs-Bay Swamps ecological community in Taylor County are:

14 Lynn Haven part of Chipley-Lynn Haven, depressional-Boulogne complex, 0 to 3 percent slopes
28 Surrency, Starke, and Croatan soils, depressional
29 Surrency part of Albany-Surrency, depressional, complex, 0 to 3 percent slopes
30 Dorovan and Pamlico soils, depressional
33 Wesconnett, Evergreen, and Pamlico soils, depressional
35 Tooles, Meadowbrook, and Wekiva soils, frequently flooded
37 Tooles and Meadowbrook soils, depressional
41 Tooles-Meadowbrook complex
48 Wekiva-Tennille-Tooles complex, occasionally flooded
52 Clara, depressional, part of Clara, depressional-Clara-Meadowbrook complex, occasionally flooded

54 Clara, depressional, part of Meadowbrook-Tooles-Clara, depressional, complex
57 Sapelo mucky fine sand
58 Leon mucky fine sand
61 Tooles, depressional, part of Wekiva-Tooles, depressional-Tennille Complex, rarely flooded
62 Tooles-Tennille-Wekiva complex, depressional
69 Goldhead and Tooles parts of Eunola, Goldhead, and Tooles fine sands, commonly flooded

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 meeting 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 land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forest land, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. 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 550 acres in the survey area, or about 0.8 percent of the total acreage, meets the soil requirements for prime farmland. Areas of this land are along the Aucilla River in the western part of the county, mainly in the Chaires-Meadowbrook-Clara, Sapelo-Surrency-Plummer, and Wekiva-Tooles-Chaires general soil map units.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The only soil in the survey area that is considered prime farmland is the Eunola part of map unit 69, Eunola, Goldhead, and Tooles fine sands, commonly flooded. This designation does not constitute a recommendation for a particular land use. Measures that overcome the flooding are needed. Onsite evaluation is needed to determine whether or not the hazard of flooding has been overcome by corrective measures. The extent of the 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."

Recreation

Recreation is an important land use in Taylor County. Areas used for recreation include State parks, city parks, campgrounds, golf courses, swimming pools, tennis courts, riding stables, fishing areas, boating areas, football and baseball stadiums, theaters, museums, and suburban neighborhood playgrounds.

The major recreational areas are located near the urban population. Boating, water skiing, and fishing are popular on all of the inland rivers and creeks and on the Gulf of Mexico. Large areas of woodland are used by private hunting clubs.

Recreational potential is high in Taylor County. The climate is conducive to outdoor recreational activities (fig. 8).

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 recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

In the table, the degree of soil limitation is expressed as slight, moderate, or severe. *Slight* means

Figure 8.—A golf course in an area of Leon fine sand.

that soil properties are generally favorable and that limitations, if any, 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 by soil reclamation, special design, intensive maintenance, limited use, or a combination of these measures.

The information in the table 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 hardpan 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

John F. Vance, Jr., biologist, Natural Resources Conservation Service, helped to prepare this section.

Taylor County, which is mainly rural, provides good habitat for wildlife. The main habitats are the large swamps along the Gulf of Mexico, San Pedro Bay, and the Aucilla, Econfina, and Fenholloway Rivers and their tributaries and the large tracts of pine flatwoods. More than 592,000 acres consists of large tracts of commercial woodland.

Game species include white-tailed deer, squirrels, turkey, bobwhite quail, feral hogs, and waterfowl. Nongame species include raccoon, rabbit, armadillo, opossum, skunk, bobcat, gray fox, red fox, otter, and a variety of songbirds, wading birds, woodpeckers, predatory birds, reptiles, and amphibians.

The freshwater streams and the salt-water areas along the coast provide good fishing opportunities. The main species in the freshwater streams include largemouth bass, channel catfish, bullhead catfish, bluegill, redear sunfish, spotted sunfish, warmouth, black crappie, chain pickerel, gar, bowfin, and sucker. A wide variety of species, including spotted sea trout, flounder, mullet, red drum, and blue crabs, are in the salt-water areas.

A number of endangered and threatened species inhabit the county, including the seldom seen red-cockaded woodpecker. A detailed list of these species and information regarding their range and habitat needs are available at the local office of the Natural Resources Conservation Service.

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 flooding. Soil temperature and soil moisture are also considerations. Examples of grain and seed crops are corn, wheat, soybeans, browntop millet, and grain sorghum.

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, flooding, and slope. Soil temperature and soil moisture are also considerations. Examples of grasses and legumes are bahiagrass, lovegrass, Florida beggerweed, clover, and sesbania.

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 flooding. Soil temperature and soil moisture are also considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, partridge pea, and bristlegrasses.

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, palmetto, blackcherry, sweetgum, wild grapes, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are firethorn, wild plum, American beautyberry, 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, cypress, 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, sedges, and reeds.

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. Wildlife attracted to these areas include bobwhite quail, dove, meadowlark, field sparrow, cottontail, and red fox.

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, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, bear, and feral hogs.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, egrets, shore birds, otter, 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. Ratings are given for 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 should 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 or 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 kinds 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 evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and 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, if any, are minor and easily overcome; *moderate* if soil properties or site features are somewhat restrictive 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 to overcome that special design, soil reclamation, 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 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, shrinking and swelling, 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 fills of more than 5 or 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 or to a cemented pan, the available water capacity in the upper 40 inches, and the content of salts, sodium, and sulfidic materials 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, sewage lagoons, and sanitary landfills. The limitations, if any, 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 somewhat restrictive for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if one or more soil properties or site features are unfavorable for the use and overcoming the unfavorable properties requires special design, extra maintenance, or alteration.

The table also shows the suitability of the soils for use as daily cover for landfill. A rating of *good* indicates that soil properties and site features are favorable for the use and good performance and low maintenance can be expected; *fair* indicates that soil properties and site features are moderately favorable for the use and one or more soil properties or site features make the soil less desirable than the soils rated good; and *poor* indicates that one or more soil properties or site features are unfavorable for the use and overcoming the unfavorable properties requires special design, extra maintenance, or costly alteration.

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 or to a cemented pan, and flooding affect absorption of the effluent. Large stones and bedrock or a cemented pan 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.

The table 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 or to a cemented pan, flooding, large stones, and content of organic matter.

Excessive seepage resulting from rapid permeability in 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, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor.

Sanitary landfills are areas where solid waste is disposed of by burying it in soil. There are two types of landfill—trench and area. In a trench landfill, the waste is placed in a trench. It is spread, compacted, and covered daily with a thin layer of soil excavated at the site. In an area landfill, the waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site.

Both types of landfill must be able to bear heavy vehicular traffic. Both types involve a risk of ground-water pollution. Ease of excavation and revegetation should be considered.

The ratings in the table are based on soil properties, site features, and observed performance of the soils. Permeability, depth to bedrock or to a cemented pan, a high water table, slope, and flooding affect both types of landfill. Texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium affect trench landfills. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, a limitation rated slight or moderate may not be valid. Onsite investigation is needed.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste.

Soil texture, wetness, coarse fragments, and slope affect the ease of removing and spreading the material during wet and dry periods. Loamy or silty soils that are free of large stones or excess gravel are the best cover for a landfill. Clayey soils are sticky or cloddy and are difficult to spread; sandy soils are subject to wind erosion.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. The surface layer generally has the best workability, more organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

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 to 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, a 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 a 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 have a water table at a depth of 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. They are used in many kinds of construction. Specifications for each use vary widely. In the table, 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 low in content of soluble salts, 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, stones, or soluble salts, 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, stones, or soluble salts, have slopes of more than 15 percent, or have a seasonal high 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, irrigation, 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, organic matter, or salts or sodium. 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, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. 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 the potential for frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or to a cemented pan, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, and sulfur. Availability of drainage outlets is not considered in the ratings.

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or to a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock or to a cemented pan affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind erosion or 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 or to a cemented pan affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts and sodium, 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. These results are reported in table 17.

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 to characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classification, 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 the heading “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 (ASTM, 1993) and the system adopted by the American Association of State Highway and Transportation Officials (AASTHO, 1986).

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.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. The AASHTO classification for soils tested is given in table 14.

Rock fragments 3 to 10 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.

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, 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 and septic tank absorption fields.

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.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

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 classes are *low*, a change of less than 3 percent; *moderate*, 3 to 6 percent; *high*, more than 6 percent; and *very high*, greater than 9 percent.

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 0.02 to 0.64. Other factors being equal, 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.

Wind erodibility groups are made up of soils that have similar properties affecting their resistance to wind erosion in cultivated areas. The groups indicate the susceptibility of soil to wind erosion. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.

2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.

3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.

4L. Calcareous loams, silt loams, clay loams, and silty clay loams.

4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.

5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.

6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.

7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.

8. Soils that are not subject to wind erosion because of coarse fragments on the surface or because of surface wetness.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, 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.

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 based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, 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 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.

If a soil is assigned to two hydrologic groups in the table, the first letter is for drained areas and the second is for undrained areas.

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, and water standing in swamps and marshes is considered ponding rather than flooding.

The table 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 (the chance of flooding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of flooding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of flooding is more than 50 percent in any year). *Common* is used when the occasional and frequent classes are grouped for certain purposes. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 days to 1 month, and *very long* if more than 1 month. Probable dates are expressed in months. About two-thirds to three-fourths of all flooding occurs during the stated period.

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 matter content with increasing depth; and little or no horizon development.

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 estimates are based mainly on observations of the water table at selected sites and on the evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. Indicated in the table 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 the table.

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.

Two numbers in the column showing depth to the water table indicate the normal range in depth to a saturated zone. Depth is given to the nearest half foot. The first numeral in the range indicates the highest water level. A plus sign preceding the range in depth indicates that the water table is above the surface of the soil. “More than 6.0” indicates that the water table is below a depth of 6 feet or that it is within a depth of 6 feet for less than a month.

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. *Hardness of bedrock* is designated as 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. In most of Taylor County, the upper 6 inches to 2 feet of the bedrock is soft weathered limestone overlying hard unweathered limestone.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

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 results in a severe hazard of corrosion. 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.

Physical, Chemical, and Mineralogical Analyses of Selected Soils

Mary E. Collins, professor of environmental pedology, Soil and Water Science Department, University of Florida, prepared this section.

Physical, chemical, and mineralogical properties of representative pedons sampled in Dixie, Jefferson, Lafayette, Madison, and Taylor counties are presented in tables 17, 18, 19, and 20. The soils were sampled in Dixie County in 1990; in Jefferson County in 1989 and 1990; in Lafayette County in 1989 and 1990; in Madison County in 1983, 1984, and 1985; and in Taylor County in 1988, 1989, and 1990. The soils sampled in these counties represent soils mapped in Taylor County. The analyses were conducted and coordinated by the Soil Characterization Laboratory at the University of Florida (USDA, 1961). Soils were sampled from pits of carefully selected pedons that are typical of the series. Detailed profile descriptions of the analyzed soils are given in alphabetical order in the section "Soil Series and Their Morphology." Laboratory data and profile information for other soils in Taylor County and other counties in Florida are on file at the Soil and Water Science Department, University of Florida.

Samples were air-dried, crushed, and sieved through a 2-millimeter screen. Particle-size distribution was determined using a modified pipette method with sodium hexametaphosphate as the dispersant. Hydraulic conductivity, bulk density, and water content were determined on undisturbed core samples. The content of organic carbon was determined using a modified version of the Walkley-Black wet combustion method. Extractable bases were obtained by leaching soils with ammonium acetate buffered at pH 7.0. The content of sodium and potassium in the extract was determined by flame emission, and the content of calcium and magnesium was determined by atomic absorption spectrophotometry. Extractable acidity was determined by the barium chloride-triethanolamine method at pH 8.2. Cation-exchange capacity was calculated by summation of extractable bases and extractable acidity. Base saturation is the ratio of extractable bases to cation-exchange capacity. The pH was measured with a glass electrode in water using a soil-water ratio of 1:1, in 0.01M calcium chloride solution using a soil-solution ratio of 1:2, and in 1 normal potassium chloride solution using a soil-solution ratio of 1:1.

Carbon, iron, and aluminum were extracted from probable spodic horizons using 0.1M sodium pyrophosphate. Determination of iron and aluminum was by atomic absorption spectroscopy, and determination of extracted carbon was by the Walkley-Black wet combustion method. Mineralogy of the clay fraction less than 2 microns was ascertained by X-ray diffraction. Peak heights at 18 angstrom, 14 angstrom, 7.2 angstrom, 4.83 angstrom, and 4.31 angstrom positions represent montmorillonite, interstratified expandable vermiculite or 14-angstrom intergrades, kaolinite, gibbsite, and quartz, respectively. Peaks were measured, summed, and normalized to give the percentage of soil minerals identified in the X-ray diffractograms. This percentage is not an absolute quantity but a relative distribution of clay minerals in the clay fraction. The absolute percentage would require additional knowledge of particle size, crystallinity, and crystal lattice substitution.

Physical Analyses

The soils that were sampled for laboratory analyses in Taylor County and other counties as representative soils for Taylor County are inherently sandy; however, many of these soils have an argillic horizon in the lower part of the solum. The results of these analyses are reported in table 17. The total content of sand is more than 90 percent in one or more horizons in all of the sampled soils. Ortega, Osier, Mandarin, Hurricane, Leon, and Chipley soils contain more than 93 percent sand to a depth of 2 meters or more. Albany, Chaires, Lutterloh, Meadowbrook, and Otela soils contain more than 90 percent sand to a depth of slightly more than 1 meter.

The content of clay in the sandy horizons is rarely more than 3.5 percent. Deeper argillic horizons in the Albany, Chiefland, Chaires, Lutterloh, Mascotte, Meadowbrook, Melvina, Moriah, Nutall, Ocilla, Otela, Plummer, Sapelo, and Tooles soils contain larger amounts of clay, ranging from 10.8 to 37.4 percent.

The content of silt in the analyzed soils ranges from 0.1 to 11.5 percent. The highest content of silt is in the Albany, Lynn Haven, Meadowbrook, and Otela soils. All of the sampled horizons in the Albany and Otela soils contain more than 4.5 percent silt. All of the sampled horizons in the Chipley, Hurricane, Lutterloh, Ortega, Osier, Resota, Ridgewood, and Tennille soils contain less than 4 percent silt.

Fine sand dominates the sand fraction of all the soils in Taylor County. It commonly makes up more than 50 percent of the sand fraction. The content of very fine sand is more than 20 percent in one or more horizons in the Meadowbrook, Otela, and Sapelo soils. The content of medium sand is more than 20 percent in one or more horizons in the Albany, Bayvi, Chaires, Chiefland, Chipley, Leon, Mascotte, Meadowbrook, Moriah, Ocilla, Osier, Resota, Seaboard, Tooles, and Wekiva soils. The content of coarse sand is more than 7.5 percent in one or more horizons in the Albany, Chaires, Chipley, Leon, Mascotte, and Osier soils. The content of very coarse sand generally ranges from nondetectable to about 2.3 percent. The very sandy soils, such as the Chipley and Ortega soils, rapidly become droughty during periods of low precipitation when rainfall is widely scattered. Soils that have inherently poor drainage remain saturated because ground water is close to the surface for long periods. Examples are the Chaires and Plummer soils

Hydraulic conductivity exceeds 25 centimeters per hour in all horizons in the Hurricane, Ortega, Osier, Resota, Ridgewood, and Tennille soils. Low hydraulic conductivity at a shallow depth, such as occurs in the Mascotte, Ocilla, and Sapelo soils, can affect the design and function of septic tank absorption fields. Albany, Mascotte, Melvina, Meadowbrook, Moriah, Ocilla, Otela, and Sapelo soils have one or more horizons that have hydraulic conductivity of 0.2 centimeter per hour or less. The available water for plants can be estimated from bulk density and water content data. Thick, sandy soils, such as Resota and Ridgewood soils, retain very low amounts of available water. Conversely, soils that have a higher content of organic matter or finer-textured material at shallower depths retain much larger amounts of available water. Examples are Pamlico muck and Mascotte sand.

Chemical Analyses

The analyses of chemical properties reported in table 18 indicate that the soils in Taylor County contain a wide range of extractable bases. All of the soils that were sampled contained one or more horizons that have less than 1 milliequivalent per 100 grams extractable bases. Moriah soils have the largest amount of extractable bases, ranging up to 38.72 milliequivalents per 100 grams in the Bt2 horizon. Hurricane fine sand has the smallest amount, ranging from 0.00 to 0.11 milliequivalents per 100 grams. Hurricane, Mandarin, Mascotte, Ocilla, Ortega, Osier, Plummer, and Ridgewood soils contain less than 1 milliequivalent per 100 grams extractable bases in all horizons. Only one horizon in each of the Albany, Chipley, Leon, and Lynn Haven soils has more than 1 milliequivalent per 100 grams extractable bases.

Calcium is the dominant base in all of the sampled soils. In most of the soils, the largest content of calcium is in the Bt or Btg horizon. The overlying A and E horizons generally have a much lower content of calcium.

The highest content of magnesium is 12.76 milliequivalents per 100 grams in the Bt2 horizon of Moriah fine sand. The lowest content is 0.01 milliequivalents per 100 grams or less in one or more horizons of the Albany, Chaires, Chipley, Hurricane, Leon, Lutterloh, Mandarin, Mascotte, Melvina, Ortega, Osier, Pamlico, Plummer, Resota, Ridgewood, and Sapelo soils. The content of sodium generally is much less than 0.20 milliequivalents per 100 grams. Nearly all the soils contain 0.05 milliequivalents or less of sodium to a depth of 2 meters or more. The Lynn Haven and Pamlico soils, which have a mucky surface layer, contain higher levels of sodium in the surface layer.

All of the sampled soils contain one or more horizons that have 0.02 milliequivalents per 100 grams or less extractable potassium, except the Bayvi soils, which have horizons ranging up to 1.48 milliequivalents per 100 grams. One or more horizons of the Chaires, Chipley, Hurricane, Leon, Lutterloh, Lynn Haven, Mascotte, Melvina, Nutall, Ocilla, Ortega, Osier, Plummer, and Ridgewood soils, do not have detectable amounts of potassium.

Values for cation-exchange capacity (sum of cations), which is an indicator of plant-nutrient capacity, are more than 10 milliequivalents per 100 grams in the surface layer of the Chaires, Chiefland, Leon, Lynn Haven, Nutall, Pamlico, and Tennille soils. Soils that have low cation-exchange capacity in the surface layer require only small amounts of lime or sulfur to significantly alter the base status and soil reaction. Examples are the Moriah and Ortega soils. Generally, soils that have low inherent soil fertility are associated with low values for extractable bases and low cation-exchange capacity. Fertile soils are associated with high values for extractable bases, high values for base saturation, and high cation-exchange capacity.

The content of organic carbon in the surface layer is less than 1 percent in the Melvina, Moriah, Ortega, Osier, Plummer, Resota, and Tooles soils and less than 3 percent in all sampled soils, except the Lynn Haven, Nutall, Pamlico, and Tennille soils.

Electrical conductivity is less than 0.10 millimhos per centimeter in all sampled soils, except the Bayvi, Lynn Haven, Meadowbrook, Melvina, Moriah, Resota, and Tennille soils. Values of 0.01 millimhos per centimeter or less are in at least one horizon in the Chaires, Chipley, Hurricane, Leon, Mandarin, Osier, Otela, Pamlico, Sapelo, and Tooles soils. These data indicate that the content of soluble salt in the soils in Taylor County generally is insufficient to detrimentally affect the growth of salt-sensitive plants. The only exceptions may be the wet soils along the coastal areas.

Reaction of the sampled soils in water is generally between pH 3.8 and 5.5, but ranges from 7.0 to 7.7 in the Bt or Btg horizon in the Meadowbrook, Melvina, Moriah, and Nutall soils. Reaction of the sampled soils is generally about 0.2 to 1.0 pH unit lower in calcium chloride and potassium chloride than in water. Maximum availability of nutrients for plants generally is attained when soil reaction is between pH 6.5 and 7.0; however, maintaining soil reaction above pH 6.5 in Florida is not economically feasible for most agricultural production purposes.

Pyrophosphate extractable carbon, iron, and aluminum are in all of the Bh horizons. Soil morphology was used to determine the spodic horizons. Citrate-dithionite extractable iron and aluminum is in the Bt horizon of a few soils. The content of extractable iron ranges from 0.01 to 3.33 percent and is commonly less than 0.10 percent. The content of extractable aluminum ranges from 0.03 to 0.29 percent. The content of iron and aluminum in the soils in the county is not sufficient to detrimentally affect phosphorus availability.

Mineralogical Analyses

The sand fractions of 2 to 0.05 millimeters are siliceous, and quartz is overwhelmingly dominant in all pedons. Varying amounts of heavy minerals are in most horizons. The greatest concentration is in the very fine sand fraction. No weatherable minerals are observed. Crystalline mineral components in the clay fraction of less than 0.002 millimeter are shown in table 19 for the major horizons of the sampled pedons. The clay mineralogical suite consists mostly of montmorillonite, a 14-angstrom intergrade, kaolinite, and quartz.

The montmorillonite is present only in selected horizons of the Chaires, Chipley, Leon, Lynn Haven, Mascotte, Nutall, Ortega, Plummer, Ridgewood, and Tooles soils. The 14-angstrom intergrade mineral is present in all of the soils that were analyzed. Kaolinite, generally the dominant clay mineral of the soils in Taylor County, is also present in all pedons of the sampled soils. The content of mica is insufficient for the assignment of numerical values. The Tooles soils are the only sampled soils that contain gibbsite.

The montmorillonite is generally inherited from the sediments in which the soils formed. The stability of montmorillonite is generally favored by high levels of pH in areas where the alkaline elements have not been leached by percolation of rainwater; however, montmorillonite can be present in moderate amounts regardless of drainage or chemical conditions.

The 14-angstrom intergrade, a mineral of uncertain origin, is widespread in Florida soils. It tends to be more prevalent under moderately acidic, relatively well drained conditions; however, it is present in a variety of soil environments. It is a major constituent of coatings of sand grains in Chipley soils, and the amount of coatings in these soils is sufficient to meet taxonomic criteria established for the recognition of coated Typic Quartzipsamments.

The Kaolinite is most likely inherited from the parent material, but some may have formed as a weathering product of other minerals. Kaolinite is relatively stable in the acidic environments of the soils in Taylor County.

The clay-sized quartz has primarily resulted from decrements of the silt fraction.

Clay mineralogy can have a significant impact on soil properties, particularly for soils that have a higher content of clay. Soils that contain montmorillonitic clay have a higher capacity for retaining plant nutrients than soils dominated by kaolinite, the 14-angstrom intergrade, or quartz. The clay mineralogy influences the use and management of soils in the county less frequently than the total content of clay.

Engineering Index Test Data

Table 20 shows laboratory test data for several pedons sampled at carefully selected sites in the survey area. The tests were conducted to help evaluate the soils for engineering purposes. The classifications are based on data obtained by mechanical analyses and by tests that determine liquid limits and plastic limits. The pedons are representative of the series described in the section “Soil Series and Their Morphology.” The soil samples were tested by the Soils Laboratory, Florida Department of Transportation, Bureau of Materials and Research, Gainesville, Florida.

The testing methods generally are those of the American Association of State Highway and Transportation Officials (AASHTO) or the American Society for Testing and Materials (ASTM).

The tests and methods are AASHTO classification—M 145 (AASHTO), D 3282 (ASTM); Unified classification—D 2487 (ASTM); Mechanical analysis—T 88 (AASHTO), D 422 (ASTM), D 2217 (ASTM); Liquid limit—T 89 (AASHTO), D 4318 (ASTM); Plasticity index—T 90 (AASHTO), D 4318 (ASTM); and Moisture density—T 99 (AASHTO), D 698 (ASTM).

The mechanical analyses were made by combined sieve and hydrometer methods (USDA, 1992). In these methods, the various grain-sized fractions are calculated on the basis of all the material in the soil sample, including the material that is coarser than 2 millimeters in diameter. The mechanical analyses used in this method should not be used in naming textural classes of soils.

Liquid limit and plasticity index indicate the effect of water on the strength and consistence of the soil material. As the moisture content of a clayey soil is increased from a dry state, the material changes from a semisolid to a plastic state. If the moisture content is further increased, the material changes from a plastic to a liquid state. The plastic limit is the moisture content at which the soil material changes from a semisolid to a plastic state, and the liquid limit is the moisture content at which the soil material changes from a plastic to a liquid state. The plasticity index is the numerical difference between the liquid limit and the plastic limit. It indicates the range of moisture content within which a soil material is plastic. The data on liquid limit and plasticity index in the table are based on laboratory tests of soil samples.

Compaction (or moisture density) data are important in earthwork. If soil material is compacted at a successively higher moisture content, assuming that the compaction effort remains constant, the density of the compacted material increases until the optimum moisture content is reached. After that, density decreases with increase in moisture content. The highest dry density obtained in the compaction test is termed maximum dry density. As a rule, maximum strength of earthwork is obtained if the soil is compacted to the maximum dry density.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (USDA, 1975; USDA, 1998). 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 21 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve 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 Spodosol.

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 Aquod (*Aqu*, meaning Aquic, plus *od*, from Spodosol).

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; type of saturation; 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 Alaquods (*Al*, meaning low iron content, plus *aquod*, the suborder of the Spodosols that has an Aquic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Alaquods.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle size, mineral content, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is sandy, siliceous, thermic Typic Alaquods.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each 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” (USDA, 1993). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (USDA, 1975) and in “Keys to Soil Taxonomy” (USDA, 1998). Unless otherwise indicated, 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.”

Albany Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate or moderately slow in the argillic or spodic horizon
Parent material: Sandy and loamy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Commonly associated soils: Chaires, Chipley, Eunola,

Hurricane, Leon, Lynn Haven, Mascotte, Ocilla, Ortega, Otela, Ousley, Plummer, Ridgewood, Sapelo, Starke, and Surrency soils

Taxonomic class: Loamy, siliceous, subactive, thermic Grossarenic Paleudults

Typical Pedon

Albany sand, 0 to 5 percent slopes, in Madison County, Florida; USGS Madison topographic quadrangle; about 2.4 miles north of Madison, 2.4 miles north of U.S. Highway 90, about 0.3 mile east of Florida Highway 53, NW1/4SW1/4 sec. 10, T. 1 N., R. 9 E.

A—0 to 10 inches; dark grayish brown (10YR 4/2) sand; weak fine granular structure; very friable; common fine and medium roots; very strongly acid; gradual wavy boundary.

E1—10 to 26 inches; grayish brown (10YR 5/2) sand; weak fine granular structure; very friable; common fine and medium roots; few fine prominent strong brown (7.5YR 5/8) iron accumulations; very strongly acid; gradual wavy boundary.

E2—26 to 37 inches; very pale brown (10YR 7/3) sand; few faint very pale brown (10YR 8/2) splotches and stripped areas in the matrix; few dark gray (10YR 4/1) pockets; weak fine granular structure; very friable; few fine and medium roots; few fine prominent strong brown (7.5YR 5/8) iron masses and pore linings; very strongly acid; gradual wavy boundary.

Eg—37 to 50 inches; light gray (10YR 7/2) sand; weak fine granular structure; very friable; common fine distinct yellowish brown (10YR 5/6) iron masses and pore linings; very strongly acid; abrupt wavy boundary.

Bt—50 to 57 inches; pale brown (10YR 6/3) fine sandy loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; common fine faint light brownish gray (10YR 6/2) iron depletions; common fine prominent yellowish brown (10YR 5/8) iron masses; very strongly acid; clear wavy boundary.

Btg1—57 to 69 inches; light gray (10YR 7/1) sandy clay loam; moderate medium subangular blocky structure; firm; about 3 percent plinthite; sand grains coated and bridged with clay; common medium prominent strong brown (7.5YR 5/8) iron masses; extremely acid; gradual wavy boundary.

Btg2—69 to 80 inches; light gray (10YR 7/2) sandy clay loam; moderate medium subangular blocky structure; firm; sand grains coated and bridged with clay; common fine prominent red (2.5YR 4/6) and common medium prominent strong brown (7.5YR 5/8) iron masses; extremely acid.

Range in Characteristics

Thickness of the solum: 70 to 96 inches

Reaction: Extremely acid to slightly acid in the Ap or A horizon, except where lime has been added, and extremely acid to moderately acid in the E and B horizons

A horizon:

Color—hue of 10YR to 5Y, value of 2 to 6, and chroma of 1 or 2; or neutral in hue and value of 2 to 6

E, Eg, and E´g horizons (where present):

Color—hue of 10YR to 5Y, value of 5 to 8, and chroma of 1 to 8

Redoximorphic features—few to many iron masses and pore linings in shades of yellow, olive, brown, and red at a depth of less than 30 inches

Texture—sand or fine sand

BE horizon (where present):

Color—hue of 10YR or 2.5Y, value of 4 to 8, and chroma of 3 to 8

Redoximorphic features—few to many iron masses and pore linings in shades of yellow, brown, and red

Texture—loamy sand or loamy fine sand

Bt horizon:

Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 6 to 8

Redoximorphic features—few to many iron depletions in shades of white or gray and iron masses in shades of yellow, brown, or red. In some pedons the horizon does not have a dominant matrix color and is multicolored in shades of yellow, brown, and gray.

Texture—sandy loam, fine sandy loam, or sandy clay loam; in some pedons up to 3 percent plinthite and up to 5 percent gravel-sized ironstone fragments

Btg horizon:

Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 2 or less

Redoximorphic features—few to many iron depletions in shades of white or gray and iron masses in shades of yellow, brown, or red

Texture—sandy loam, fine sandy loam, or sandy clay loam

Bayvi Series

Depth class: Very deep

Drainage class: Very poorly drained

Permeability: Rapid throughout

Parent material: Sandy marine sediments
Landscape: Coastal swamps on the lower Coastal Plain
Landform: Salt marshes
Commonly associated soils: Chaires, Chipley, Clara, Leon, Meadowbrook, Nutall, Osier, Tooles, and Wekiva soils
Taxonomic class: Sandy, siliceous, thermic Cumulic Endoaquolls

Typical Pedon

Bayvi muck in Jefferson County, Florida; USGS Cobb Rocks topographic quadrangle; about 33 miles south of Monticello, 1,000 feet east and 900 feet north of the southwest corner of sec. 19, T. 4 S., R. 3 E.

Oa—0 to 5 inches; black (10YR 2/1) muck; about 30 percent fiber unrubbed, less than 5 percent rubbed; massive; sticky; many fine and medium roots; neutral when wet; gradual wavy boundary.
A1—5 to 17 inches; black (10YR 2/1) mucky loamy sand; massive; friable; slightly sticky; many fine and medium roots; neutral when wet; clear wavy boundary.
A2—17 to 31 inches; very dark grayish brown (10YR 3/2) sand; single grained; loose; many fine and medium roots; slightly acid when wet; gradual wavy boundary.
C1—31 to 53 inches; grayish brown (10YR 5/2) sand; few or common clean sand grains; single grained; loose; common fine and medium roots; slightly acid when wet; gradual wavy boundary.
C2—53 to 64 inches; gray (10YR 5/1) sand; few or common clean sand grains; single grained; loose; few fine roots; slightly acid when wet; gradual wavy boundary.
C3—64 to 80 inches; gray (10YR 6/1) sand; single grained; loose; slightly acid when wet.

Range in Characteristics

Thickness of the solum: 24 to 54 inches
Depth to bedrock: More than 60 inches
Reaction: Slightly acid to moderately alkaline in the natural wet state and extremely acid or very strongly acid when dry
Sulfur content: Low within a depth of 28 inches
Salinity: Very slightly saline to strongly saline

Oa horizon:
Color—hue of 10YR and value and chroma of 1 or 2
Texture—muck

A horizon:
Color—hue of 10YR or 2.5Y, value of 2 to 4, and chroma of 1 or 2; or neutral in hue and value of 2 to 4
Texture—sand or mucky sand

C horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2
Texture—sand or loamy sand

Bodiford Series

Depth class: Deep
Drainage class: Very poorly drained
Permeability: Moderately slow in the argillic horizon
Parent material: Sandy and loamy marine sediments overlying limestone
Landscape: Lowlands on the lower Coastal Plain
Landform: Flood plains
Commonly associated soils: Chaires, Meadowbrook, Tooles, and Wekiva soils
Taxonomic class: Loamy, siliceous, superactive, thermic Arenic Endoaqualfs

Typical Pedon

Bodiford muck in an area of Clara and Bodiford soils, frequently flooded, in Taylor County; USGS Crooked Point topographic quadrangle; about 33 miles south of Perry, 500 feet west and 1,000 feet north of the southeast corner of sec. 34, T. 8 S., R. 8 E.

Oa—0 to 12 inches; dark reddish brown (5YR 2/2) muck; 30 percent fiber unrubbed, 10 percent rubbed; weak fine granular structure; very friable; many fine, medium, and coarse roots; slightly acid; clear wavy boundary.
A—12 to 18 inches; black (10YR 2/1) mucky fine sand; moderate medium granular structure; very friable; many fine, medium, and coarse roots; slightly acid; clear wavy boundary.
E—18 to 29 inches; brown (10YR 5/3) fine sand; single grained; loose; few medium and coarse roots; neutral; clear wavy boundary.
Btg—29 to 51 inches; light brownish gray (10YR 6/2) sandy clay loam; weak coarse subangular blocky structure; friable; sand grains bridged and coated with clay; slightly alkaline; abrupt irregular boundary.
Cr—51 inches; light brownish gray (10YR 6/2), soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Depth to bedrock: 40 to 60 inches

Reaction: Moderately acid to neutral in the Oa horizon, slightly acid to slightly alkaline in the A and E horizons, and neutral to moderately alkaline in the Btg horizon

Oa horizon:

Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 4 or less; or neutral in hue and value of 4 or less

Texture—organic matter is composed mostly of decayed leaves, twigs, roots, and other sapric vegetative material. The content of fiber ranges from about 5 to 15 percent rubbed and from 20 to 35 percent unrubbed.

A horizon:

Color—hue of 10YR to 5YR, value of 2 or 3, and chroma of 2 or less; or neutral in hue and value of 2 or 3

Texture—fine sand, loamy fine sand, or their mucky analogs

E horizon:

Color—hue of 10YR, value of 4 to 7, and chroma of 1 to 4

Redoximorphic features—none to common iron masses and pore linings in shades of brown, yellow, or red

Texture—fine sand or loamy fine sand

Btg horizon:

Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2; or neutral in hue and value of 4 to 7

Redoximorphic features—none to common iron or clay depletions in shades of gray and iron masses in shades of yellow, brown, and red

Texture—fine sandy loam or sandy clay loam

Cr layer:

Color—hue of 10YR, value 6 to 8, and chroma of 1 to 4

Bedrock—soft, weathered, fractured limestone that can be dug with difficulty with a spade. It has very firm to extremely firm rupture resistance and low to high excavation difficulty. It typically contains soft carbonate accumulations that contain few to many hard fragments of limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with material that ranges in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances. Thickness ranges from 6 inches to 2 feet.

R layer (typically present):

Bedrock—hard, unweathered limestone that has slightly rigid to very rigid rupture resistance and very high to extremely high excavation difficulty. In some pedons it has solution holes.

Boulogne Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderately rapid in the spodic horizon
Parent material: Sandy and loamy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods
Commonly associated soils: Albany, Bayvi, Chaires, Chipley, Clara, Dorovan, Evergreen, Goldhead, Hurricane, Leon, Lutterloh, Lynn Haven, Mandarin, Mascotte, Maurepas, Meadowbrook, Melvina, Moriah, Nutall, Ortega, Osier, Pamlico, Pottsburg, Resota, Ridgewood, Sapelo, Starke, Steinhatchee, Tooles, Wesconnett, and Yellowjacket soils
Taxonomic class: Sandy, siliceous, thermic Typic Alaquods

Typical Pedon

Boulogne fine sand in an area of Chipley-Lynn Haven, depressional-Boulogne complex, 0 to 3 percent slopes, in Taylor County; USGS Perry topographic quadrangle; about 2 miles east of Perry, 600 feet north and 1,200 feet west of the southeast corner of sec. 29, T. 5 S., R. 8 E.

A—0 to 5 inches; black (10YR 2/1) fine sand; weak fine granular structure; very friable; many fine and medium roots; extremely acid; abrupt wavy boundary.

Bh—5 to 14 inches; dark brown (7.5YR 3/2) fine sand; massive; very friable; common fine and medium roots; sand grains coated with organic matter; very strongly acid; clear wavy boundary.

C1—14 to 20 inches; dark grayish brown (10YR 4/2) fine sand; single grained; loose; few fine roots; very strongly acid; gradual wavy boundary.

C2—20 to 31 inches; grayish brown (10YR 5/2) fine sand; single grained; loose; few fine roots; very strongly acid; gradual wavy boundary.

C3—31 to 42 inches; light gray (10YR 7/2) fine sand; single grained; loose; strongly acid; gradual wavy boundary.

C4—42 to 80 inches; light gray (10YR 7/1) fine sand; single grained; loose; moderately acid.

Range in Characteristics

Thickness of the solum: 80 inches or more

Depth to bedrock: More than 60 inches
Reaction: Extremely acid to moderately acid, except where lime has been added
Texture: Fine sand throughout

A or Ap horizon:
Color—hue of 10YR, value of 2 to 4, and chroma of 1 or 2

Incipient E horizon (where present; maximum thickness of 2 inches):
Color—hue of 10YR, value of 4 to 7, and chroma of 1 or 2

Bh horizon:
Color—hue of 7.5YR, value of 3, and chroma of 2 or 3

E/Bh horizon (where present):
Color—hue of 7.5YR, value of 4 or 5, and chroma of 2
Number of Bh fragments—few or common

E horizon (where present):
Color—hue of 10YR, value of 4 to 7, and chroma of 1 or 2

B´h horizon (where present):
Color—hue of 5YR or 7.5YR, value of 2 or 3, and chroma of 1 to 3

C horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2; or neutral in hue and value of 1 or 2

Bushnell Series

Depth class: Moderately deep
Drainage class: Somewhat poorly drained
Permeability: Slow in the argillic horizon
Parent material: Sandy and clayey marine sediments overlying limestone
Landscape: Lowlands on the lower Coastal Plain
Landform: Knolls and rises
Commonly associated soils: Chaires, Lutterloh, Matmon, Meadowbrook, Melvina, Moriah, Ortega, Ousley, Plummer, Pottsburg, Resota, Seaboard, Surrency, Tennille, Tooles, Wekiva, Wesconnett, and Yellowjacket soils
Taxonomic class: Fine, mixed, superactive, thermic Albaquic Hapludalfs

Typical Pedon

Bushnell fine sand in an area of Seaboard-Bushnell-Matmon complex, 0 to 3 percent slopes, in Taylor County; USGS Jana topographic quadrangle; about 37 miles south-southeast of Perry, 1,300 feet east and 2,000 feet south of the northwest corner of sec. 32, T. 8 S., R. 10 E.

A—0 to 10 inches; dark grayish brown (10YR 4/2) fine sand; weak fine granular structure; very friable; many fine, medium, and coarse roots; very strongly acid; clear wavy boundary.

E—10 to 14 inches; yellowish brown (10YR 5/4) fine sand; common medium faint dark grayish brown (10YR 4/2) pockets and streaks; single grained; loose; common fine and medium roots; very strongly acid; abrupt wavy boundary.

Bt—14 to 30 inches; yellowish brown (10YR 5/6) sandy clay; moderate medium subangular blocky structure; friable; sand grains coated and bridged with clay; 1 to 2 percent chert gravel; few fine and medium roots; common fine distinct gray (10YR 5/1) iron depletions; very strongly acid; abrupt wavy boundary.

Cr—30 inches; pale brown (10YR 6/3), soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Thickness of the solum: 20 to 40 inches
Depth to bedrock: 20 to 40 inches
Depth to Bt horizon: Less than 20 inches
Rock fragments: Gravel- to boulder-sized fragments of limestone or chert at the surface or in the solum in many areas
Reaction: Very strongly acid to neutral in the A and E horizons, except where lime has been added, and very strongly acid to moderately alkaline in the Bt horizon

A or Ap horizon:
Color—hue of 10YR, value of 3 or 4, and chroma of 1 or 2
Thickness—where value is 3 and the A or Ap horizon directly overlies the Bt horizon, 6 inches or less with an abrupt boundary

E horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 3 or 4
Texture—fine sand or loamy fine sand

Bt horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 3 to 6
Redoximorphic features—few to many iron depletions in shades of gray within the upper 10 inches of the horizon
Texture—dominantly sandy clay or clay but may be sandy clay loam in the upper 10 inches and

have an average content of clay in the upper 20 inches of the argillic horizon ranging from 35 to 60 percent

Btg horizon (where present):

Color—hue of 10YR, value of 5 or 6, and chroma of 1 or 2

Redoximorphic features—few or common iron depletions in shades of gray and iron masses in shades of yellow, brown, and red

Texture—sandy clay or clay

Cr layer:

Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4

Bedrock—soft, weathered, fractured limestone that can be dug with difficulty with a spade. It has very firm to extremely firm rupture resistance and low to high excavation difficulty. It typically contains soft carbonate accumulations that contain few to many hard fragments of limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with material that ranges in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances. Thickness ranges from 6 inches to 2 feet.

R layer (typically present):

Bedrock—hard, unweathered limestone that has slightly rigid to very rigid rupture resistance and very high to extremely high excavation difficulty. In some pedons it has solution holes.

Chaires Series

Depth class: Deep and very deep
Drainage class: Poorly drained
Permeability: Moderate in the spodic horizon and moderately slow or slow in the argillic horizon
Parent material: Sandy and loamy marine sediments in places overlying limestone (fig. 9)
Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods
Commonly associated soils: Albany, Bayvi, Bodiford, Chiefland, Evergreen, Goldhead, Leon, Lutterloh, Matmon, Maurepas, Meadowbrook, Melvina, Moriah, Nutall, Osier, Resota, Ridgewood, Seaboard, Starke, Steinhatchee, Tennille, Tooles, and Wekiva soils
Taxonomic class: Sandy, siliceous, thermic Alfic Alaquods

Typical Pedon

Chaires fine sand in Taylor County; USGS Salem topographic quadrangle; about 17 miles southeast of Perry, 1,600 feet north and 800 feet east of the southwest corner of sec. 9, T. 7 S., R. 9 E.

Ap—0 to 6 inches; very dark gray (10YR 3/1) fine sand; weak fine granular structure; very friable; extremely acid; clear wavy boundary.

E—6 to 20 inches; light brownish gray (10YR 6/2) fine sand; single grained; loose; extremely acid; clear wavy boundary.

Bh1—20 to 26 inches; black (10YR 2/1) fine sand; weak fine subangular blocky structure; friable; sand grains coated with organic matter; extremely acid; clear wavy boundary.

Bh2—26 to 30 inches; dark reddish brown (5YR 3/3) fine sand; weak fine subangular blocky structure; friable; sand grains coated with organic matter; many fine and medium and common very fine roots; extremely acid; gradual wavy boundary.

Bw—30 to 52 inches; dark yellowish brown (10YR 4/4) fine sand; single grained; loose; many fine and medium roots; extremely acid; gradual wavy boundary.

Btg—52 to 80 inches; light gray (5Y 6/1) and light olive gray (5Y 6/2) sandy clay loam; weak coarse subangular blocky structure; friable; sand grains coated and bridged with clay; many fine and medium roots; moderately acid.

Range in Characteristics

Thickness of the solum: 50 to 80 inches or more
Depth to bedrock: 50 to more than 80 inches
Reaction: Extremely acid to strongly acid in the A, E, and Bh horizons, except where lime has been added, and very strongly acid to neutral in the Btg horizon

A or Ap horizon:

Color—hue of 10YR or 7.5YR, value of 2 to 4, and chroma of 2 or less

Thickness—less than 10 inches where value is less than 3.5

E horizon:

Color—hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 2 or less; or neutral in hue and value of 5 to 8

Redoximorphic features—none to common iron masses and pore linings in shades of red, yellow, and brown or vertical streaks of black, very dark gray, or gray

Bh horizon:

Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 to 3

Texture—sand, fine sand, or loamy fine sand

Bw horizon (where present):
Color—hue of 10YR or 7.5YR, value of 4, and chroma of 3 or 4
Texture—sand, fine sand, or loamy fine sand

E´ horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 2 to 4

Bh´ horizon (where present):
Color—same range as the Bh horizon
Texture—same range as the Bh horizon

Btg horizon:
Color—hue of 10YR to 5GY, value of 4 to 7, and chroma of 1 or 2
Redoximorphic features—common or many iron depletions in shades of gray and none to common iron accumulations in shades of red, brown, or yellow
Texture—sandy loam, fine sandy loam, or sandy clay loam; in some pedons sandy clay in the lower part

Cr layer (where present):
Bedrock—soft, weathered, fractured limestone that can be dug with difficulty with a spade. It has very firm to extremely firm rupture resistance and low to high excavation difficulty. It typically contains soft carbonate accumulations that contain few to many hard fragments of limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with material that ranges in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances. Thickness ranges from 6 inches to 2 feet.

R layer (typically present):
Bedrock—hard, unweathered limestone that has slightly rigid to very rigid rupture resistance and very high to extremely high excavation difficulty. In some pedons it has solution holes.

Chiefland Series

Depth class: Moderately deep
Drainage class: Moderately well drained
Permeability: Moderate in the argillic horizon
Parent material: Sandy and loamy marine sediments overlying limestone (fig. 10)
Landscape: Lowlands on the lower Coastal Plain
Landform: Ridges and knolls
Commonly associated soils: Boulogne, Chaires, Lutterloh, Melvina, Moriah, Ortega, and Otela soils
Taxonomic class: Loamy, siliceous, active, thermic Arenic Hapludalfs

Typical Pedon

Chiefland fine sand in an area of Otela, limestone substratum-Chiefland-Kureb complex, 0 to 5 percent slopes, in Dixie County, Florida; USGS Hatchbend topographic quadrangle; about 8 miles east of Cross City, 1,950 feet south and 610 feet east of the northwest corner of sec. 35, T. 9 S., R. 13 E.

Ap—0 to 5 inches; dark gray (10YR 4/1) fine sand; salt-and-pepper appearance from the mixture of white sand grains and black organic matter; weak fine granular structure; very friable; many fine and medium roots; neutral; clear smooth boundary.
E1—5 to 17 inches; grayish brown (10YR 5/2) fine sand; common fine and medium faint light brownish gray (10YR 6/2) splotches of uncoated sand grains; single grained; loose; common fine and medium and few coarse roots; neutral; gradual wavy boundary.
E2—17 to 26 inches; pale brown (10YR 6/3) fine sand; single grained; loose; few fine and very fine roots; few fine distinct yellowish brown (10YR 5/6) iron masses and pore linings; few medium distinct light brownish gray (10YR 6/2) iron depletions; neutral; abrupt irregular boundary.
Bt—26 to 35 inches; yellowish brown (10YR 5/8) sandy clay loam; weak medium subangular blocky structure; friable; few very fine and fine roots; sand grains coated and bridged with clay; about 3 percent limestone pebbles; common medium distinct brownish gray (10YR 6/2) iron depletions; neutral; abrupt irregular boundary.
2Cr—35 inches; pale brown (10YR 6/3), soft limestone bedrock.

Range in Characteristics

Solum thickness over soft limestone: 24 to 60 inches; solution holes in which the solum extends to a depth of more than 60 inches in about 30 percent of the pedons
Rock fragments: 1 to 3 percent limestone boulders on the surface in many pedons
Reaction: Strongly acid to neutral in the A horizon, except where lime has been added, and moderately acid to moderately alkaline in the Bt horizon

A or Ap horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 1 to 3

E horizon:
Color—hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 2 to 8

Redoximorphic features—none to common in shades of brown, yellow, or gray
Texture—sand or fine sand

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8
Redoximorphic features—few to many iron accumulations in shades of gray, brown, or yellow
Texture—sandy loam, fine sandy loam, or sandy clay loam
Rock fragments—3 to 10 percent limestone fragments
Thickness—4 inches to 4 feet
Base saturation—45 to 90 percent

Cr or 2Cr layer:
Color—hue of 10YR or 2.5Y, value of 6 to 8, and chroma of 1 to 4
Bedrock—soft, weathered, fractured limestone that can be dug with difficulty with a spade. It has very firm to extremely firm rupture resistance and low to high excavation difficulty. It typically contains soft carbonate accumulations that contain few to many hard fragments of limestone or chert. It is highly irregular and interspersed with solution holes that range from 4 to 12 inches in diameter and that are filled with sandy loam to sandy clay textured soil material. The depth to limestone is variable within short lateral distances.

2R layer (typically present):
Bedrock—hard, unweathered limestone that has slightly rigid to very rigid rupture resistance and very high to extremely high excavation difficulty. Some areas have solution holes, which are filled with material from the Bt horizon or the Cr layer or both.

Chipley Series

Depth class: Very deep
Drainage class: Moderately well drained and somewhat poorly drained
Permeability: Rapid throughout
Parent material: Sandy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Commonly associated soils: Albany, Bayvi, Boulogne, Evergreen, Hurricane, Kershaw, Leon, Lynn Haven, Mascotte, Ortega, Osier, Ousley, Plummer, Resota, Ridgewood, Sapelo, and Wesconnett soils
Taxonomic class: Thermic, coated Aquic Quartzipsamments

Typical Pedon

Chipley sand in Taylor County; USGS Salem SW topographic quadrangle; about 23 miles southwest of Perry, 2.0 miles west of the Dixie County line and 1.8 miles north of U.S. Highway 19, about 3,000 feet south and 1,200 feet west of the northeast corner of sec. 3, T. 7 S., R. 9 E.

Ap—0 to 9 inches; brown (10YR 5/3) sand; single grained; loose; many fine to coarse roots; strongly acid; clear wavy boundary.
C1—9 to 25 inches; yellowish brown (10YR 5/4) sand; single grained; loose; common fine to coarse roots; very strongly acid; gradual wavy boundary.
C2—25 to 48 inches; yellowish brown (10YR 5/4) sand; single grained; loose; common fine and medium roots throughout; common fine and medium distinct yellowish brown (10YR 5/8) iron masses and pore linings; very strongly acid; gradual wavy boundary.
C3—48 to 69 inches; light yellowish brown (10YR 6/4) sand; single grained; loose; common fine prominent strong brown (7.5YR 5/8) iron masses and pore linings; common medium and coarse distinct light gray (10YR 7/2) stripped areas in the matrix; very strongly acid; gradual wavy boundary.
C4—69 to 80 inches; light gray (10YR 7/2) sand; single grained; loose; common medium and coarse distinct yellowish brown (10YR 5/6) iron masses and pore linings; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 80 inches
Reaction: Extremely acid to moderately acid in the A horizon, except where lime has been added, and very strongly acid to slightly acid in the C horizon

A or Ap horizon:
Color—hue of 10YR, value of 2 to 5, and chroma of 1 or 2
Thickness—less than 10 inches where value is 3.5 or less

C horizon:
Color—hue of 10YR to 5Y, value of 4 to 8, and chroma of 1 to 8
Redoximorphic features—few or common iron accumulations in shades of red, brown, or yellow at a depth of 16 to 40 inches; some pedons having a few streaks of gray to light gray uncoated sand grains along root channels in the upper part of the horizon

Clara Series

Depth class: Very deep
Drainage class: Poorly drained or very poorly drained
Permeability: Rapid throughout
Parent material: Sandy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Flood plains and depressions
Commonly associated soils: Bodiford, Croatan, Goldhead, Evergreen, Leon, Lynn Haven, Meadowbrook, Osier, Pottsburg, Starke, and Tooles soils
Taxonomic class: Siliceous, thermic Spodic Psammaquents

Typical Pedon

Clara mucky fine sand in an area of Clara and Bodiford soils, frequently flooded, in Taylor County; USGS Warrior Swamp topographic quadrangle; about 10 miles south of Perry, 800 feet east and 200 feet north of the southwest corner of sec. 1, T. 6 S., R. 7 E.

A—0 to 6 inches; very dark grayish brown (10YR 3/2) mucky fine sand; moderate medium granular structure; very friable; common medium roots; moderately acid; clear wavy boundary.
E—6 to 19 inches; grayish brown (10YR 5/2) fine sand; single grained; loose; few fine and medium roots; moderately acid; gradual wavy boundary.
Bw—19 to 32 inches; yellowish brown (10YR 5/4) fine sand; single grained; loose; few fine and medium roots; slightly acid; gradual wavy boundary.
C—32 to 80 inches; light gray (10YR 7/2) fine sand; single grained; loose; slightly acid.

Range in Characteristics

Thickness of the solum: 20 to 60 inches; some pedons having a layer of muck that is up to 3 inches thick at the surface
Reaction: Extremely acid to moderately acid throughout, except where lime has been added

A horizon:
Color—hue of 10YR, value of 2 to 4, and chroma of 2 or less rubbed

E horizon:
Color—hue of 10YR; value of 6 or 7 and chroma of 1 to 3 or value of 5 and chroma of 1 or 2; few or common vertical streaks in shades of red, brown, or gray. The vertical streaks are not present in all pedons where chroma is 1.

Bw horizon:
Color—hue of 10YR; value of 4 or 5 and chroma of 3 to 6 or value of 6 or 7 and chroma of 6. In some pedons where chroma is less than 6 in the upper part of the Bw horizon, this upper part has value 1 unit darker than in the overlying E horizon and has either small splotches, streaks, or discontinuous lenses or organically stained material having value of less than 4.
Redoximorphic features—few or common iron accumulations in shades of brown and yellow

C horizon:
Color—hue of 10YR; value of 5 and chroma of 2 or less or value of 6 or 7 and chroma of 3 or less
Redoximorphic features—few or common iron masses and pore linings in shades of brown or yellow

Croatan Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Slow to moderately rapid in the organic matter and moderately rapid to moderately slow in the substratum
Parent material: Highly decomposed organic matter underlain by sandy marine and fluvial sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Depressions
Commonly associated soils: Clara, Dorovan, Pamlico, Starke, Surrency, and Tooles soils
Taxonomic class: Loamy, siliceous, dysic, thermic Terric Medisaprists

Typical Pedon

Croatan muck in an area of Surrency, Starke, and Croatan soils, depressional, in Taylor County; USGS Fenholloway topographic quadrangle; about 5 miles east-southeast of Perry, 1,100 feet south and 500 feet west of the northeast corner of sec. 33, T. 4 S., R. 8 E.

Oa—0 to 25 inches; dark reddish brown (5YR 2/2) muck; less than 5 percent fiber rubbed; moderate fine granular structure in the upper part and massive in the lower part; few fine, medium, and coarse roots; extremely acid; gradual wavy boundary.
2Ag—25 to 31 inches; black (10YR 2/1) mucky fine sand; massive; very strongly acid; gradual wavy boundary.
2Cg1—31 to 39 inches; brown (7.5YR 5/2) fine sand; single grained; loose; very strongly acid; clear wavy boundary.
2Cg2—39 to 80 inches; grayish brown (10YR 5/2) sandy clay loam; massive; very strongly acid.

Range in Characteristics

Thickness of the organic matter: Commonly 16 to 35 inches; ranges to 51 inches
Reaction: Extremely acid in the organic matter to slightly acid in the underlying material
Fiber content: 3 to 30 percent unrubbed and less than 10 percent rubbed. Logs, stumps, and fragments of wood make up 0 to 10 percent of the organic layers. Charcoal particles and pockets of ash are present in some pedons.

Oa horizon:
Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 2 or less
Consistency—very friable or friable, moist; slightly sticky or sticky (non-colloidal), wet

2Ag horizon:
Color—hue of 5YR to 5Y, value of 2 to 7, and chroma of 1 to 3
Texture—mucky fine sandy loam or fine sandy loam

2Cg horizon:
Color—hue of 5YR to 5GY or 5G, value 2 to 7, and chroma of 1; or hue of 5G or 5GY, value of 3 or less, and chroma of 1
Texture—variable, ranging from fine sand to clay

Dorovan Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Moderate in the organic matter
Parent material: Highly decomposed organic matter
Landscape: Lowlands on the lower Coastal Plain
Landform: Depressions
Commonly associated soils: Boulogne, Chipley, Croatan, Evergreen, Leon, Lynn Haven, Maurepas, Pamlico, Ridgewood, Sapelo, Wesconnett, and Yellowjacket soils
Taxonomic class: Dysic, thermic Typic Medisaprists

Typical Pedon

Dorovan muck in an area of Dorovan and Pamlico soils, depressional, in Taylor County; USGS Greenville SE topographic quadrangle; about 14 miles north of Perry, 1,200 feet north and 600 feet west of the southeast corner of sec. 32, T. 2 S., R. 8 E.

Oa1—0 to 4 inches; very dark brown (10YR 2/2) muck; 10 percent fiber rubbed; weak fine granular structure; very friable; very strongly acid; gradual wavy boundary.
Oa2—4 to 72 inches; black (10YR 2/1) muck; 5 percent fiber rubbed; massive; very strongly acid; gradual wavy boundary.
2Cg—72 to 80 inches; black (10YR 2/1) mucky fine sand; single grained; loose; very strongly acid.

Range in Characteristics

Thickness of organic matter: 51 to more than 80 inches
Reaction: Extremely acid or very strongly acid in the organic layers and strongly acid or very strongly acid in the 2Cg horizon

Oe horizon (where present):
Color—hue of 7.5YR or 10YR, value of 2 to 4, and chroma of 1 to 3; or neutral in hue and value of 2 to 4
Texture—40 to 90 percent fiber unrubbed and 20 to 60 percent rubbed

Oa horizon:
Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 to 3; or neutral in hue and value of 2 or 3
Fiber content—10 to 40 percent fiber unrubbed, less than $^1/_6$ of the volume when rubbed; a few logs and large fragments of wood typically in the lower part of the organic layers

2Cg horizon (where present):
Color—hue of 10YR to 5Y, value of 2 to 5, and chroma of 2 or less
Texture—fine sand to clay or their mucky analogs

Eunola Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate in the argillic horizon
Parent material: Loamy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Flood plains
Commonly associated soils: Albany, Goldhead, Mascotte, Meadowbrook, Moriah, Ocilla, Plummer, Sapelo, Surrency, and Tooles soils
Taxonomic class: Fine-loamy, siliceous, semiactive, thermic Aquic Hapludults

Typical Pedon

Eunola loamy fine sand in an area of Eunola, Goldhead, and Tooles fine sands, commonly flooded, in Taylor County; USGS Nutall Rise topographic quadrangle; about 27 miles northwest of Perry, 2,050 feet east and 1,600 feet north of the southwest corner of sec. 2, T. 3 S., R. 4 E.

A—0 to 6 inches; brown (10YR 5/3) loamy fine sand; weak fine granular structure; very friable; many fine and common medium and coarse roots; strongly acid; clear smooth boundary.

BE—6 to 15 inches; yellowish brown (10YR 5/6) fine sandy loam; weak fine subangular blocky structure; very friable; many fine, common medium, and few coarse roots; sand grains bridged and coated with clay; strongly acid; clear smooth boundary.

Bt1—15 to 22 inches; yellowish brown (10YR 5/8) sandy clay loam; weak fine subangular blocky structure; friable; common fine and few medium roots; sand grains bridged and coated with clay; strongly acid; gradual wavy boundary.

Bt2—22 to 30 inches; yellowish brown (10YR 5/8) sandy clay loam; weak fine subangular blocky structure; friable; few fine roots; sand grains bridged and coated with clay; few fine distinct strong brown (7.5YR 5/6) iron masses; strongly acid; clear smooth boundary.

Bt3—30 to 40 inches; yellowish brown (10YR 5/4) sandy clay loam; weak fine subangular blocky structure; friable; sand grains bridged and coated with clay; few fine roots; many medium distinct gray (10YR 5/1) iron depletions; strongly acid; gradual wavy boundary.

BC—40 to 50 inches; gray (10YR 5/1) fine sandy loam; weak coarse subangular blocky structure; friable; few fine roots; sand grains bridged and coated with clay; many fine distinct yellow (10YR 7/6) iron masses and light gray (10YR 6/1) iron depletions; strongly acid; clear wavy boundary.

C—50 to 80 inches; white (10YR 8/1) loamy fine sand; massive; very friable; strongly acid.

Range in Characteristics

Thickness of the solum: 40 to more than 60 inches

Reaction: Very strongly acid to slightly acid in the A horizon and the upper part of the B horizon, except where lime has been added, and very strongly acid to moderately acid in the lower part of the B horizon and in the C horizon

A or Ap horizon:

Color—hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 or 3; or neutral in hue and value of 3 to 6

Texture—loamy fine sand or fine sandy loam

E horizon (where present):

Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 to 4

Redoximorphic features—none to common iron masses and pore linings in shades of yellow or brown

Texture—loamy fine sand or fine sandy loam

BE horizon:

Color—hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 4 to 8

Texture—loamy fine sand or fine sandy loam

Bt horizon:

Color—hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 4 to 8; no dominant matrix hue in the lower part of the horizon in some pedons

Redoximorphic features—few to many in shades of red, yellow, and brown

Texture—sandy clay loam, sandy clay, or clay.

Btg horizon (where present):

Color—multicolored in shades of gray, red, and brown; or dominantly gray with brown or red redoximorphic features

Texture—sandy clay loam, sandy clay, or clay loam

BC horizon:

Color—multicolored in shades of gray, red, and brown; or dominantly gray with brown or red redoximorphic features

Texture—fine sandy loam, sandy loam, sandy clay loam, sandy clay, or clay loam

C horizon:

Color—hue of 5YR to 5Y, value of 4 to 8, and chroma of 1 to 8—gray colors common; multicolored in shades of gray, red, and brown in some pedons

Texture—variable

Evergreen Series

Depth class: Very deep

Drainage class: Very poorly drained

Permeability: Moderately slow in the spodic horizon

Parent material: Thin layers of decomposed organic matter underlain by sandy marine sediments

Landscape: Lowlands on the lower Coastal Plain

Landform: Depressions

Commonly associated soils: Boulogne, Chaires, Chipley, Clara, Dorovan, Hurricane, Leon, Lynn Haven, Mandarin, Pamlico, Pottsburg, Resota, Ridgewood, Sapelo, and Wesconnett soils

Taxonomic class: Sandy, siliceous, thermic Histic Alaquods

Typical Pedon

Evergreen muck in an area of Wesconnett, Evergreen, and Pamlico soils, depressional, in Taylor County; USGS Fenholloway topographic quadrangle; about 7 miles east of Perry, 2,500 feet south and 2,800 feet west of the northeast corner of sec. 35, T. 4 S., R. 8 E.

Oa—0 to 9 inches; dark brown (7.5YR 3/2) muck; 33 percent fiber unrubbed, 5 percent rubbed; massive; very friable; common coarse to fine roots; very strongly acid; gradual wavy boundary.
A—9 to 11 inches; black (10YR 2/1) mucky fine sand; weak medium granular structure; friable; common fine, medium, and coarse roots; very strongly acid; gradual wavy boundary.
E—11 to 21 inches; dark gray (10YR 4/1) fine sand; single grained; loose; few fine, medium, and coarse roots; very strongly acid; clear wavy boundary.
Bh1—21 to 25 inches; dark brown (7.5YR 3/2) fine sand; moderate medium subangular blocky structure; friable; sand grains coated with organic matter; common medium and fine roots; very strongly acid; clear wavy boundary.
Bh2—25 to 50 inches; dark reddish brown (5YR 3/2) fine sand; weak medium subangular blocky structure; friable; sand grains coated with organic matter; very strongly acid; gradual wavy boundary.
Bw1—50 to 70 inches; strong brown (7.5YR 5/8) fine sand; single grained; loose; very strongly acid; gradual wavy boundary.
Bw2—70 to 80 inches; brownish yellow (10YR 6/8) fine sand; single grained; loose; strongly acid.

Range in Characteristics

Thickness of the solum: More than 80 inches
Reaction: Extremely acid to strongly acid throughout

Oa horizon:
Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 or 2; or neutral in hue and value of 2 or 3
Texture—10 to 33 percent fiber unrubbed and less than 10 percent rubbed
Thickness—8 to 14 inches

A horizon:
Color—hue of 10YR, value of 2 or 3, and chroma of 1 or 2; or neutral in hue and value of 2 or 3

E horizon:
Color—hue of 10YR, value of 4 to 7, and chroma of 1 or 2
Texture—sand or fine sand

Bh horizon:
Color—hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 to 3; none to many small, black or dark reddish brown fragments in some part of the horizon
Texture—fine sand or loamy fine sand

Bw horizon:
Color—hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 3 to 8
Texture—fine sand or loamy fine sand

Goldhead Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate or moderately slow in the argillic horizon
Parent material: Sandy and loamy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Flood plains
Commonly associated soils: Chaires, Clara, Eunola, Leon, Meadowbrook, Nutall, Osier, Plummer, Ridgewood, Sapelo, Seaboard, Steinhatchee, and Tooles soils
Taxonomic class: Loamy, siliceous, active, thermic Arenic Endoaqualfs

Typical Pedon

Goldhead fine sand in an area of Eunola, Goldhead, and Tooles fine sands, commonly flooded, in Taylor County; USGS Lamont topographic quadrangle; about 24 miles northwest of Perry, 2,700 feet north and 900 feet west of the southeast corner of sec. 21, T. 2 S., R. 5 E.

A—0 to 6 inches; very dark gray (10YR 3/1) fine sand; weak fine granular structure; very friable; many fine and medium and few coarse roots; strongly acid; clear wavy boundary.
Eg1—6 to 13 inches; grayish brown (10YR 5/2) fine sand; single grained; loose; common fine and few medium roots; slightly acid; gradual wavy boundary.
Eg2—13 to 35 inches; light yellowish brown (2.5Y 6/2) fine sand; single grained; loose; few fine roots; slightly acid; clear wavy boundary.
Btg1—35 to 55 inches; gray (10YR 5/1) sandy clay loam; weak coarse subangular blocky structure; friable; sand grains bridged and coated with clay; few fine roots; neutral; gradual wavy boundary.
Btg2—55 to 80 inches; light brownish gray (10YR 6/2) fine sandy loam; massive; very friable; sand grains coated and bridged with clay; mildly alkaline.

Range in Characteristics

Thickness of the solum: 35 to more than 60 inches
Reaction: Very strongly acid to slightly alkaline in the A and E horizons, except where lime has been added, and very strongly acid to moderately alkaline in the B and C horizons

A or Ap horizon:
Color—hue of 10YR, value of 2 to 4, and chroma of 1 or 2; or neutral in hue and value of 2 or 3

Eg horizon:

Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2; or neutral in hue and value of 5 to 7

Redoximorphic features—none to common iron masses and pore linings in shades of red, yellow, or brown

Rock fragments—0 to 5 percent ironstone nodules, quartz gravel, or weathered phosphatic limestone

Btg horizon:

Color—hue of 10YR to 5Y or 5GY, value of 4 to 7, and chroma of 1 or 2; or neutral in hue and value of 4 to 7

Redoximorphic features—none to common iron depletions in shades of gray and iron accumulations in shades of yellow, brown, and red

Rock fragments—0 to 25 percent ironstone nodules, quartz gravel, or weathered phosphatic limestone

Texture—loamy fine sand, fine sandy loam, sandy clay loam, or their gravelly analogs

Cg horizon (where present):

Color—hue of 10YR to 5Y or 5GY, value of 5 to 7, and chroma of 1; or neutral in hue and value of 4 to 8

Redoximorphic features—none to common iron accumulations in shades of yellow or brown

Texture—fine sand or loamy fine sand

Hurricane Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderately rapid in the spodic horizon
Parent material: Sandy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Commonly associated soils: Albany, Boulogne, Chipley, Evergreen, Leon, Lynn Haven, Mandarin, Melvina, Nutall, Ortega, Osier, Otela, Ousley, Pamlico, Plummer, Pottsburg, Resota, Ridgewood, Sapelo, Seaboard, and Wesconnett soils
Taxonomic class: Sandy, siliceous, thermic Oxyaquic Alorthods

Typical Pedon

Hurricane fine sand, 0 to 3 percent slopes, in Taylor County; USGS Steinhatchee topographic quadrangle; about 37 miles south-southeast of Perry, 3,700 feet east and 100 feet north of the southwest corner of sec. 1, T. 9 S., R. 9 E.

Ap—0 to 8 inches; very dark grayish brown (10YR 3/2) fine sand; single grained; loose; extremely acid; clear wavy boundary.

E1—8 to 22 inches; light yellowish brown (10YR 6/4) fine sand; single grained; loose; extremely acid; gradual wavy boundary.

E2—22 to 32 inches; very pale brown (10YR 7/4) fine sand; single grained; loose; few fine distinct brownish yellow (10YR 6/6 and 6/8) iron masses and pore linings; extremely acid; gradual wavy boundary.

E3—32 to 48 inches; yellow (10YR 7/6) fine sand; single grained; loose; common fine and medium distinct very pale brown (10YR 7/3) and common fine and medium faint brownish yellow (10YR 6/6) iron masses and pore linings; very strongly acid; clear wavy boundary.

E4—48 to 63 inches; white (10YR 8/1) fine sand; single grained; loose; common fine and medium distinct brownish yellow (10YR 6/6) and light yellowish brown (10YR 6/4) iron masses and pore linings; very strongly acid; clear wavy boundary.

Bh1—63 to 69 inches; brown (7.5YR 4/2) fine sand; many coarse faint brown (7.5YR 5/2) splotches; common medium and coarse faint very dark grayish brown (10YR 3/2) Bh bodies; single grained; loose; about 60 percent of the sand grains coated with organic matter; very strongly acid; gradual wavy boundary.

Bh2—69 to 80 inches; black (5YR 2/1) fine sand; massive; very friable; sand grains coated with organic matter; extremely acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Reaction: Extremely acid to moderately acid throughout, except where lime has been added

A or Ap horizon:

Color—hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 to 3; or neutral in hue and value of 4 or 5

E horizon:

Color—hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 1 to 8—chroma of 1 or 2 common in the lower part; in some pedons low-chroma mottles as splotches that are not indicative of wetness below a depth of 20 inches

Redoximorphic features—few or common iron masses and pore linings in shades of red, yellow, and brown at a depth of 18 to 42 inches

Bh horizon:

Color—hue of 5YR to 10YR, value of 2 to 5, and chroma of 4 or less

Texture—fine sand or loamy fine sand

Kershaw Series

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Very rapid throughout
Parent material: Thick, sandy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Commonly associated soils: Chipley, Ortega, Otela, Ousley, Resota, Ridgewood, and Wesconnett soils
Taxonomic class: Thermic, uncoated Typic Quartzipsamments

Typical Pedon

Kershaw fine sand, 0 to 8 percent slopes, in Taylor County; USGS Salem SW topographic quadrangle; about 27 miles south of Perry, 1,200 feet north and 400 feet west of the southeast corner of sec. 2, T. 8 S., R. 8 E.

A—0 to 6 inches; dark grayish brown (10YR 4/2) fine sand; many fine and medium and few coarse roots; very strongly acid; abrupt wavy boundary.

C1—6 to 42 inches; yellowish brown (10YR 5/6) fine sand; single grained; loose; many very fine, fine, medium, and coarse roots; very strongly acid; clear wavy boundary.

C2—42 to 64 inches; brownish yellow (10YR 6/6) fine sand; single grained; loose; few very fine and fine roots; extremely acid; clear wavy boundary.

C3—64 to 80 inches; very pale brown (10YR 7/4) fine sand; few splotches of gray (10YR 7/1) uncoated sand grains; single grained; loose; few medium distinct yellowish brown (10YR 5/8) iron masses and pore linings; extremely acid.

Range in Characteristics

Reaction: Moderately acid to very strongly acid throughout, except where lime has been added
Texture: Sand or fine sand to a depth of 80 inches or more; less than 5 percent silt plus clay in the 10- to 40-inch control section

A horizon:

Color—hue of 10YR, value of 3 to 5, and chroma of 1 or 2; colors similar to those of the C horizon in eroded areas

C horizon:

Color—hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 3 to 8; in many pedons few or common, fine to coarse splotches or pockets of white or light gray uncoated sand grains that are not indicative of wetness; in some pedons common or many iron accumulations below a depth of 72 inches

Leon Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate or moderately rapid in the spodic horizon
Parent material: Sandy marine sediments (fig. 11)
Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods
Commonly associated soils: Albany, Bayvi, Boulogne, Chaires, Chipley, Clara, Dorovan, Evergreen, Goldhead, Hurricane, Lutterloh, Lynn Haven, Mandarin, Mascotte, Maurepas, Meadowbrook, Melvina, Moriah, Nutall, Ortega, Osier, Pamlico, Pottsburg, Resota, Ridgewood, Sapelo, Starke, Steinhatchee, Tennille, Tooles, Wesconnett, and Yellowjacket soils
Taxonomic class: Sandy, siliceous, thermic Aeric Alaquods

Typical Pedon

Leon fine sand in Taylor County; USGS Salem topographic quadrangle; about 23 miles south-southeast of Perry, 1,300 feet north and 500 feet west of the southeast corner of sec. 9, T. 7 S., R. 9 E.

Ap—0 to 6 inches; very dark gray (10YR 3/1) fine sand; single grained; loose; extremely acid; clear wavy boundary.

E1—6 to 11 inches; grayish brown (10YR 5/2) fine sand; single grained; loose; extremely acid; gradual wavy boundary.

E2—11 to 25 inches; light gray (10YR 7/2) fine sand; single grained; loose; very strongly acid; clear wavy boundary.

Bh1—25 to 30 inches; black (10YR 2/1) fine sand; massive; friable; sand grains coated with organic matter; extremely acid; clear wavy boundary.

Bh2—30 to 34 inches; dark reddish brown (5YR 3/3) fine sand; massive; friable; sand grains coated with organic matter; extremely acid; clear wavy boundary.

C1—34 to 56 inches; dark yellowish brown (10YR 4/4) fine sand; single grained; loose; extremely acid; gradual wavy boundary.

C2—56 to 80 inches; yellowish brown (10YR 5/4) fine sand; single grained; loose; very strongly acid.

Range in Characteristics

Reaction: Extremely acid to slightly acid, except where lime has been added
Texture: Fine sand or mucky fine sand in the surface layer and fine sand in all other horizons, except in the Bh horizon, which ranges to loamy fine sand

A or Ap horizon:
Color—hue of 10YR, value of 2 to 4, and chroma of 1 or 2; or neutral in hue and value of 2 to 4. When dry, this horizon has a salt-and-pepper appearance due to mixing of black organic matter and white sand grains.
Thickness—less than 8 inches where value is 3.5 or less

E horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 8, and chroma of 1 to 4; or neutral in hue and value of 5 to 8
Redoximorphic features—few or common iron masses and pore linings in shades of red, brown, or yellow and none to common vertical black or very gray streaks

EB horizon (where present):
Color—hue of 10YR, value of 2 to 4, and chroma of 1

Bh horizon:
Color—hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 to 3; or neutral in hue and value of 2 or 3; none to common vertical or horizontal streaks or pockets of gray or light gray fine sand

E´ horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 1 to 3

Bh´ horizon (where present):
Color—similar to the Bh horizon
Texture—similar to the Bh horizon

C horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 1 to 6

Lutterloh Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate to slow in the argillic horizon
Parent material: Sandy and loamy marine sediments overlying limestone (fig. 12)
Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Commonly associated soils: Boulogne, Chaires, Chiefland, Mandarin, Matmon, Meadowbrook, Melvina, Moriah, Ocilla, Osier, Otela, Ousley, Pottsburg, Ridgewood, Seaboard, Tennille, and Tooles soils
Taxonomic class: Loamy, siliceous, semiactive, thermic Grossarenic Paleudalfs

Typical Pedon

Lutterloh fine sand in an area of Melvina-Moriah-Lutterloh complex in Taylor County; USGS Clara topographic quadrangle; about 35 miles south-southeast of Perry, 2,300 feet north and 1,000 feet west of the southeast corner of sec. 20, T. 8 S., R. 10 E.

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) fine sand; weak fine granular structure; very friable; many very fine and fine and common coarse roots; neutral; clear wavy boundary.
E1—8 to 19 inches; yellowish brown (10YR 5/6) fine sand; single grained; loose; common fine, medium, and coarse roots; neutral; gradual wavy boundary.
E2—19 to 36 inches; very pale brown (10YR 7/4) fine sand; single grained; loose; common fine and medium roots; common fine distinct brownish yellow (10YR 6/8) iron masses and pore linings; neutral; clear smooth boundary.
E3—36 to 51 inches; light gray (10YR 7/2) fine sand; single grained; loose; common fine and medium roots; slightly alkaline; clear wavy boundary.
Btg—51 to 64 inches; light brownish gray (2.5Y 6/2) loamy fine sand; weak coarse subangular blocky structure; friable; sand grains coated and bridged with clay; common fine and medium roots; few medium distinct brownish yellow (10YR 6/6) iron masses and pore linings; slightly alkaline; abrupt wavy boundary.
Cr—64 inches; soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Thickness of the solum: More than 60 inches
Depth to bedrock: More than 60 inches
Rock fragments: Up to 3 percent gravel- to boulder-sized fragments of limestone or chert in the solum and on the surface in some pedons
Reaction: Extremely acid to moderately acid in the A and E horizons, except where lime has been added, and very strongly acid to slightly alkaline in the Btg horizon

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 1 or 2

E horizon:
Color—hue of 10YR to 5Y, value of 5 to 8, and chroma of 1 to 6. The color is dominantly that of the uncoated sand grains.
Texture—fine sand or loamy fine sand

Btg horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 2
Redoximorphic features—none to common iron or clay depletions in shades of gray and iron masses in shades of yellow, brown, and red
Texture—dominantly very fine sandy loam or fine sandy loam, but ranges from loamy fine sand to sandy clay. The average content of clay in the upper 20 inches of the argillic horizon ranges from 10 to 35 percent.

2Btg horizon (where present):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 2
Redoximorphic features—none to common iron or clay depletions in shades of gray and iron masses in shades of yellow, brown, and red
Texture—sandy clay loam or sandy loam

Cr layer:
Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4
Bedrock—soft, weathered, fractured limestone that can be dug with difficulty with a spade. It has very firm to extremely firm rupture resistance and low to high excavation difficulty. It typically contains soft carbonate accumulations that contain few to many hard fragments of limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with material that ranges in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances. Thickness ranges from 6 inches to 2 feet.

R layer (typically present):
Bedrock—hard, unweathered limestone that has slightly rigid to very rigid rupture resistance and very high to extremely high excavation difficulty. In some pedons it has solution holes.

Lynn Haven Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Moderately rapid or moderate in the spodic horizon
Parent material: Sandy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Depressions
Commonly associated soils: Albany, Boulogne, Chipley, Clara, Dorovan, Evergreen, Hurricane, Leon, Mandarin, Mascotte, Ortega, Osier, Pamlico, Pottsburg, Resota, Ridgewood, Sapelo, and Wesconnett soils
Taxonomic class: Sandy, siliceous, thermic Typic Alaquods

Typical Pedon

Lynn Haven mucky fine sand in an area of Wesconnett and Lynn Haven soils, depressional, in Lafayette County, Florida; USGS Day, SE topographic quadrangle; about 10 miles east of Mayo, 2,000 feet north and 200 feet east of a trail road; 2,300 feet north and 3,200 feet east of the southwest corner of sec. 27, T. 5 S., R. 10 E.

A—0 to 13 inches; very dark brown (10YR 2/2) mucky fine sand; moderate fine granular structure; very friable; many fine, medium, and coarse roots; extremely acid; gradual wavy boundary.
Eg—13 to 19 inches; light brownish gray (10YR 6/2) fine sand; single grained; loose; few fine roots; very strongly acid; clear wavy boundary.
Bh1—19 to 27 inches; black (5YR 2/1) fine sand; massive; friable; few fine, medium, and coarse roots; sand grains coated with organic matter; strongly acid; gradual wavy boundary.
Bh2—27 to 31 inches; dark brown (10YR 3/3) fine sand; massive; friable; few fine and medium roots; sand grains coated with organic matter; extremely acid; gradual wavy boundary.
BE—31 to 34 inches; dark yellowish brown (10YR 4/4) fine sand; single grained; loose; few fine and medium roots; strongly acid; clear wavy boundary.
E´—34 to 52 inches; yellowish brown (10YR 5/4) fine sand; single grained; loose; few fine and medium roots; few medium distinct dark yellowish brown (10YR 3/6) iron accumulations; strongly acid; gradual wavy boundary.
B´h—52 to 80 inches; dark reddish brown (5YR 3/2) fine sand; massive; friable; sand grains coated with organic matter; very strongly acid.

Range in Characteristics

Reaction: Extremely acid to strongly acid throughout, except where lime has been added
Other features: Some pedons have a bisequum consisting of an E´ horizon and a B´h horizon.

Oa horizon (where present):
Color—hue of 10YR or 7.5YR, value of 2 or 3, and

chroma of 1 to 3; or neutral in hue and value of 2 or 3
Texture—10 to 33 percent fiber unrubbed and less than 10 percent rubbed

A horizon:
Color—hue of 10YR, value of 2 or 3, and chroma of 1 or 2; or neutral in hue and value of 2 or 3
Texture—fine sand or mucky fine sand

E and E´ horizons:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2; or neutral in hue and value of 2 or 3
Redoximorphic features—none to common iron masses and pore linings in shades of brown, yellow, or red

EB or BE horizon (where present):
Color—hue of 10YR, value of 2 to 4, and chroma of 1; many uncoated sand grains

Bh and B´h horizons:
Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 to 4; vertical or horizontal tongues of grayish sand in some pedons
Texture—fine sand or loamy fine sand

C/B horizon (where present):
Color—hue of 5YR to 10YR, value of 3 to 5, and chroma of 3 or 4
Redoximorphic features—none to common iron masses and pore linings in shades of brown, yellow, or red and none to many splotches and stripped areas in the matrix in shades of gray

C horizon (where present):
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 1 to 3
Redoximorphic features—none to common iron masses and pore linings in shades of brown, yellow, or red

Mandarin Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate in the spodic horizon
Parent material: Sandy marine sediments
Landscape: Lowlands along the gulf coast
Landform: Rises and knolls
Commonly associated soils: Boulogne, Evergreen, Hurricane, Leon, Lutterloh, Lynn Haven, Mascotte, Meadowbrook, Melvina, Moriah, Ortega, Osier, Ousley, Pamlico, Pottsburg, Ortega, Resota, Ridgewood, Sapelo, Tennille, Tooles, Wesconnett, and Yellowjacket soils
Taxonomic class: Sandy, siliceous, thermic Oxyaquic Alorthods

Typical Pedon

Mandarin fine sand in an area of Melvina-Mandarin complex, 0 to 3 percent slopes, in Taylor County; USGS Warrior Swamp topographic quadrangle; about 12 miles south of Perry, 200 feet south and 1,600 feet west of the northeast corner of sec. 11, T. 6 S., R. 7 E.

A—0 to 7 inches; dark gray (10YR 4/1) fine sand; weak fine granular structure; very friable; few fine and coarse roots; very strongly acid; gradual wavy boundary.
E1—7 to 15 inches; gray (10YR 5/1) fine sand; single grained; loose; many fine, medium, and coarse roots; very strongly acid; gradual smooth boundary.
E2—15 to 26 inches; light gray (10YR 7/1) fine sand; single grained; loose; many medium and coarse roots; very strongly acid; abrupt irregular boundary.
Bh1—26 to 30 inches; dark reddish brown (5YR 3/2) fine sand; massive; friable; sand grains coated with organic matter; few fine, medium, and coarse roots; very strongly acid; gradual smooth boundary.
Bh2—30 to 34 inches; reddish brown (5YR 4/4) fine sand; massive; friable; sand grains coated with organic matter; few fine, medium, and coarse roots; very strongly acid; gradual smooth boundary.
BC—34 to 44 inches; yellowish brown (10YR 5/4) fine sand; weak fine granular structure; very friable; few fine and medium roots; very strongly acid; gradual smooth boundary.
C—44 to 80 inches; light gray (10YR 7/2) fine sand; single grained; loose; strongly acid.

Range in Characteristics

Reaction: Extremely acid to moderately acid in the A, E, and Bh horizons, except where lime has been added, and extremely acid to neutral in the BE, BC, E´, and B´h horizons

A horizon:
Color—hue of 10YR, value of 2 to 6, and chroma of 1; or neutral in hue and value of 3 to 5

E horizon:
Color—hue of 10YR, value of 5 to 8, and chroma of 1 to 8

Bh horizon:
Color—hue of 2.5YR to 10YR, value of 2 to 4, and chroma of 1 to 4
Texture—fine sand or loamy fine sand

BE or BC horizon (where present):
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2 to 4

E´ horizon (where present):
Color—hue of 10YR, value of 5 to 8, and chroma of 1 to 8

B´h horizon (where present):
Color—same range as the Bh horizon

C horizon (where present):
Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 3

Mascotte Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate in the spodic horizon and moderately slow in the argillic horizon
Parent material: Sandy and loamy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods
Commonly associated soils: Albany, Boulogne, Chipley, Eunola, Leon, Lynn Haven, Ocilla, Osier, Otela, Ousley, Plummer, Ridgewood, Sapelo, Starke, and Surrency soils
Taxonomic class: Sandy, siliceous, thermic Ultic Alaquods

Typical Pedon

Mascotte sand in Jefferson County, Florida; USGS Cody topographic quadrangle; about 13 miles south of Monticello, SW$^1/_4$NE$^1/_4$ sec. 25, R. 4 E., T. 1 S.

A—0 to 4 inches; black (10YR 2/1) sand; weak fine granular structure; very friable; common fine and medium roots; extremely acid; clear smooth boundary.
E—4 to 10 inches; gray (10YR 5/1) sand; single grained; loose; common fine and few medium roots; extremely acid; clear wavy boundary.
Bh1—10 to 13 inches; very dark brown (10YR 2/2) sand; massive; friable; sand grains coated with organic matter; extremely acid; clear wavy boundary.
Bh2—13 to 17 inches; dark brown (7.5YR 3/4) sand; massive; friable; sand grains coated with organic matter; extremely acid; clear wavy boundary.
E´1—17 to 25 inches; light yellowish brown (10YR 6/4) sand; single grained; loose; common fine roots; extremely acid; clear wavy boundary.
E´2—25 to 30 inches; grayish brown (10YR 5/2) fine sand; single grained; loose; few fine roots; few medium distinct dark yellowish brown (10YR 4/4) and few medium prominent yellowish brown (10YR 5/8) iron masses and pore linings; very strongly acid; clear wavy boundary.
Btg1—30 to 35 inches; gray (10YR 6/1) sandy clay loam; weak medium subangular blocky structure; friable; sand grains bridged and coated with clay; few fine roots; common medium prominent yellowish brown (10YR 5/8) iron masses; very strongly acid; gradual wavy boundary.
Btg2—35 to 80 inches; gray (10YR 5/1) sandy clay loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; few fine roots in upper part; common medium prominent yellowish brown (10YR 5/8) iron masses; very strongly acid.

Range in Characteristics

Depth to Bh horizon: 10 to 29 inches
Depth to Btg horizon: 24 to 40 inches
Reaction: Extremely acid to strongly acid throughout, except where lime has been added and in the C horizon, which is extremely acid to moderately acid (where present)

A horizon:
Color—hue of 10YR, value of 2 to 4, and chroma of 1

E horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 or 2; or neutral in hue and value of 6 or 7

EB horizon (where present):
Color—hue of 10YR, value of 2 to 4, and chroma of 1 or 2; hue of 2.5Y, value of 3 or 4, and chroma of 2; or neutral in hue and value of 2; few to many uncoated sand grains and small pockets or streaks in shades of gray

Bh horizon:
Color—hue of 2.5YR to 10YR, value of 1 to 4, and chroma of 1 to 4; or neutral in hue and value of 2
Texture—fine sand or loamy fine sand

BE horizon (where present):
Color—hue of 7.5YR or 10YR and value of 3 or 4
Weakly cemented bodies of Bh material—none to few
Texture—fine sand or loamy fine sand

E´ horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 2 to 4
Redoximorphic features—none to common iron accumulations in shades of brown and mottles in shades of gray

Btg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and

chroma of 1 or 2; or neutral in hue and value of 4 to 7

Redoximorphic features—none to common iron depletions in shades of gray and iron masses and pore linings in shades of yellow, brown, and red

Texture—fine sandy loam or sandy clay loam having an average content of clay of 18 to 23 percent but ranging from about 14 to 35 percent

C horizon (where present):

Color—hue of 10YR, value of 5 to 7, and chroma of 1 or 2

Matmon Series

Depth class: Shallow
Drainage class: Somewhat poorly drained
Permeability: Moderately slow in the argillic horizon
Parent material: Sandy and loamy marine sediments overlying limestone
Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Commonly associated soils: Boulogne, Chaires, Lutterloh, Meadowbrook, Melvina, Moriah, Ortega, Ousley, Pottsburg, Resota, Ridgewood, Seaboard, Surrency, Tennille, Tooles, Wekiva, Wesconnett, and Yellowjacket soils
Taxonomic class: Loamy, siliceous, active, thermic, shallow Aquic Hapludalfs

Typical Pedon

Matmon fine sand in an area of Matmon-Wekiva-Rock outcrop complex, occasionally flooded, in Taylor County; USGS Clara topographic quadrangle; about 34 miles south-southeast of Perry, 1,600 feet west and 1,200 feet north of the southeast corner of sec. 17, T. 8 S., R. 10 E.

Ap—0 to 4 inches; very dark grayish brown (10YR 3/2) fine sand; weak medium granular structure; very friable; few fine and medium roots; strongly acid; clear wavy boundary.

E—4 to 11 inches; yellowish brown (10YR 5/6) fine sand; single grained; loose; common fine roots; moderately acid; clear wavy boundary.

Bt—11 to 19 inches; yellowish brown (10YR 5/6) fine sandy loam; weak coarse subangular blocky structure; friable; sand grains coated and bridged with clay; common fine roots; neutral; abrupt irregular boundary.

Cr—19 inches; very pale brown (10YR 8/2), soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Solum thickness and depth to bedrock: 10 to 20 inches
Reaction: Strongly acid to slightly alkaline in the A and E horizons, except where lime has been added, and slightly acid to slightly alkaline in the Bt horizon
Rock fragments: Gravel- to boulder-sized fragments of limestone at the surface or in the solum in many areas

A or Ap horizon:

Color—hue of 10YR, value of 2 to 4, and chroma of 1 or 2

E horizon:

Color—hue of 10YR, value of 4 to 6, and chroma of 3 to 6

Texture—fine sand or loamy fine sand

Bt horizon:

Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 6

Redoximorphic features—none to common clay depletions in shades of gray and few to many iron masses and pore linings in shades of brown or yellow

Texture—dominantly fine sandy loam and sandy clay loam, but includes sandy clay in the lower part. The average content of clay in the horizon ranges from 12 to 35 percent. In many pedons the Bt horizon extends into solution holes in the limestone below a depth of 20 inches.

Cr layer:

Color—hue of 10YR, value 6 to 8, and chroma of 1 to 4

Bedrock—soft, weathered, fractured limestone that can be dug with difficulty with a spade. It has very firm to extremely firm rupture resistance and low to high excavation difficulty. It typically contains soft carbonate accumulations that contain few to many hard fragments of limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with material that ranges in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances. Thickness ranges from 6 inches to 2 feet.

R layer (typically present):

Bedrock—hard, unweathered limestone that has slightly rigid to very rigid rupture resistance and very high to extremely high excavation difficulty. In some pedons it has solution holes.

Maurepas Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Rapid throughout
Parent material: Highly decomposed organic matter
Landscape: Coastal swamps on the lower Coastal Plain
Landform: Depressions and flood plains
Commonly associated soils: Bodiford, Chaires, Clara, Eunola, Dorovan, Leon, Meadowbrook, Ridgewood, Tennille, Tooles, Wekiva, and Yellowjacket soils
Taxonomic class: Euic, thermic Typic Medisaprists

Typical Pedon

Maurepas muck in an area of Yellowjacket and Maurepas mucks, depressional, in Taylor County; USGS Lamont topographic quadrangle; about 22 miles northwest of Perry, 700 feet east and 1,000 feet north of the southwest corner of sec. 24, T. 2 S., R. 5 E.

Oa1—0 to 25 inches; dark brown (7.5YR 3/2) muck; about 33 percent fiber unrubbed, 10 percent rubbed; massive; very friable; many fine, medium, and coarse roots; slightly acid; gradual wavy boundary.
Oa2—25 to 60 inches; black (10YR 2/1) muck; about 25 percent fiber unrubbed, less than 5 percent rubbed; massive; very friable; common fine and many medium and coarse roots; neutral.

Range in Characteristics

Thickness of the organic matter: 51 to more than 80 inches
Reaction: Moderately acid to moderately alkaline throughout, except in drained and protected pedons, where the surface tier ranges from extremely acid to strongly acid
Salinity: None to slight in more than half of the subsurface and bottom tiers

Oa horizon (surface tier):
Color—hue of 5YR to 10YR, value of 3 or less, and chroma of 2 or less
Fiber content—2 to about 40 percent rubbed

Oa horizon (subsurface tier at a depth of 12 to 36 inches):
Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 4 or less
Fiber content—60 percent undisturbed and less than 10 percent rubbed

Oa horizon (bottom tier):
Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 4 or less
Fiber content—typically, less than 10 percent rubbed. Some pedons have thin layers that contain more fibers.
Mineral matter—15 and 45 percent
Type of fibers—dominantly woody, but some pedons have as much as 45 percent herbaceous fiber in the 0- to 51-inch control section. Also, logs (dominantly cypress) and wood fragments in varying states of decomposition are commonly throughout the organic matter.
Other features: The organic layers are typically underlain by very fluid gray clay.

The Maurepas soils (euic, hyperthermic, Typic Medisaprists) in Taylor County are taxadjuncts to the series because the soil temperature regime in the county is thermic and the series is hyperthermic. This difference does not significantly affect the use and management of the soils.

Meadowbrook Series

Depth class: Very deep
Drainage class: Poorly drained or very poorly drained
Permeability: Moderate or moderately slow in the argillic horizon
Parent material: Sandy and loamy marine sediments in places overlying limestone
Landscape: Lowlands on the lower Coastal Plain
Landform: Flats, flood plains, and depressions
Commonly associated soils: Bayvi, Bodiford, Chaires, Clara, Eunola, Goldhead, Leon, Lutterloh, Mandarin, Matmon, Maurepas, Melvina, Osier, Otela, Ousley, Plummer, Pottsburg, Sapelo, Seaboard, Tennille, Tooles, and Wekiva soils
Taxonomic class: Loamy, siliceous, subactive, thermic Grossarenic Endoaqualfs

Typical Pedon

Meadowbrook fine sand in an area of Clara and Meadowbrook soils, depressional, in Taylor County; USGS Steinhatchee topographic quadrangle; about 28 miles south-southeast of Perry, 700 feet east and 50 feet north of the southwest corner of sec. 5, T. 8 S., R. 9 E.

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) fine sand; weak fine granular structure; very friable; many fine and few medium and coarse roots; strongly acid; gradual wavy boundary.
E1—9 to 18 inches; very pale brown (10YR 7/3) fine sand; single grained; loose; few fine, medium, and coarse roots; neutral; gradual wavy boundary.
E2—18 to 31 inches; very pale brown (10YR 7/3) fine

Figure 9.—Typical profile of Chaires fine sand. The shovel is 42 inches long.

Figure 10.—Typical profile of Chiefland fine sand. The shovel is 42 inches long.

Figure 11.—Typical profile of Leon fine sand. The shovel is 42 inches long.

Figure 12.—Typical profile of Lutterloh fine sand. The shovel is 42 inches long.

Figure 13.—Typical profile of Pamlico muck. The shovel is 42 inches long.

Figure 14.—Typical profile of Plummer fine sand. The shovel is 42 inches long.

Figure 15.—Typical profile of Sapelo fine sand. The shovel is 42 inches long.

Figure 16.—Typical profile of Tooles fine sand. The shovel is 42 inches long.

sand; single grained; loose; few fine and medium roots; common distinct brownish yellow (10YR 6/6) pore linings; neutral; gradual wavy boundary.

E3—31 to 58 inches; light gray (10YR 7/1) fine sand; single grained; loose; few fine and medium roots; neutral; abrupt wavy boundary.

Btg—58 to 80 inches; light brownish gray (2.5Y 6/2) sandy clay loam; moderate medium subangular blocky structure; friable; sand grains coated and bridged with clay; common medium distinct yellowish brown (10YR 5/8) iron masses; neutral.

Range in Characteristics

Thickness of the solum: 50 to more than 80 inches
Depth to bedrock: More than 60 inches
Reaction: Extremely acid to neutral in the A horizon, except where lime has been added; extremely acid to moderately alkaline in the Bw and E horizons; and very strongly acid to moderately alkaline in the Btg horizon

A or Ap horizon:

Color—hue of 10YR, value of 2 to 5, and chroma of 1 or 2

Thickness—less than 8 inches where value is 3 or less

Texture—fine sand, sand, or their mucky analogs

Bw horizon:

Color—hue of 10YR, value of 4 to 7, and chroma of 3 to 8

E horizon:

Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 to 3

Redoximorphic features—few to many pore linings in shades of yellow and brown

Btg horizon:

Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 2 or less; or neutral in hue and value of 4 to 7

Redoximorphic features—few to many iron depletions in shades of gray and iron masses in shades of red, yellow, and brown

Texture—fine sandy loam or sandy clay loam and, in some pedons, loamy fine sand in the upper part

Cr layer (where present):

Color—hue of 10YR, value 6 to 8, and chroma of 1 to 4

Bedrock—soft, weathered, fractured limestone that can be dug with difficulty with a spade. It has very firm to extremely firm rupture resistance and low to high excavation difficulty. It typically contains soft carbonate accumulations that contain few to many hard fragments of limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with material that ranges in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances. Thickness ranges from 6 inches to 2 feet.

R layer (where present):

Bedrock—hard, unweathered limestone that has slightly rigid to very rigid rupture resistance and very high to extremely high excavation difficulty. In some pedons it has solution holes.

Melvina Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderately rapid in the spodic horizon and moderate to very slow in the argillic horizon
Parent material: Sandy and loamy marine sediments overlying limestone
Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Commonly associated soils: Chaires, Chiefland, Clara, Eunola, Goldhead, Leon, Lutterloh, Mandarin, Matmon, Maurepas, Meadowbrook, Osier, Otela, Ousley, Plummer, Pottsburg, Sapelo, Seaboard, Steinhatchee, Tennille, Tooles, and Wekiva soils
Taxonomic class: Sandy, siliceous, thermic Oxyaquic Alorthods

Typical Pedon

Melvina fine sand in an area of Melvina-Moriah-Lutterloh complex in Taylor County; USGS Okeenokee Slough topographic quadrangle; about 15 miles south-southwest of Perry, 2,200 feet east and 1,700 feet south of the northwest corner of sec. 11, T. 6 S., R. 7 E.

Ap—0 to 6 inches; gray (10YR 5/1) fine sand; single grained; loose; few fine, medium, and coarse roots; very strongly acid; gradual wavy boundary.

E—6 to 28 inches; white (10YR 8/1) fine sand; single grained; loose; few fine, medium, and coarse roots; slightly acid; clear wavy boundary.

Bh1—28 to 32 inches; dark brown (7.5YR 3/2) fine sand; massive; very friable; sand grains coated with organic matter; few fine and medium roots; moderately acid; gradual wavy boundary.

Bh2—32 to 39 inches; dark reddish brown (5YR 3/3) and brown (10YR 4/3) fine sand; massive; friable; sand grains coated with organic matter; few fine roots; slightly acid; gradual wavy boundary.

EB—39 to 51 inches; pale brown (10YR 6/3) fine sand; single grained; loose; few fine roots; neutral; abrupt clear boundary.

Eg—51 to 53 inches; light gray (10YR 7/1) fine sand; single grained; loose; few fine roots; neutral; abrupt wavy boundary.

Btg1—53 to 67 inches; light gray (10YR 7/1) sandy clay loam; moderate medium subangular blocky structure; friable; sand grains coated and bridged with clay; few fine roots; few limestone columns that are 4 to 9 inches in diameter; few fine and medium distinct light olive brown (2.5Y 5/4) pore linings along root channels; neutral; gradual wavy boundary.

Btg2—67 to 80 inches; light gray (5Y 7/1) sandy clay loam; weak medium subangular blocky structure; sticky and plastic; sand grains coated and bridged with clay; few fine roots; few limestone columns that are 6 to 18 inches in diameter; many coarse light yellowish brown (10YR 6/4) iron masses; slightly alkaline.

Range in Characteristics

Thickness of the solum: 60 to more than 80 inches
Depth to bedrock: 60 to more than 80 inches
Depth to Bh horizon: 12 to less than 30 inches
Reaction: Extremely acid to slightly acid in the A and E horizons, except where lime has been added; very strongly acid to neutral in the Bh horizon; very strongly acid to moderately alkaline in the BE, EB, and Eg horizons; and moderately acid to moderately alkaline in the Btg horizon

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 1 or 2

E horizon:
Color—hue of 10YR, value of 5 to 8, and chroma of 1 or 2

Bh horizon:
Color—hue of 5YR to 10YR, value of 3 or 4, and chroma of 2 to 4

EB or BE horizon (where present):
Color—hue of 10YR; value of 4 and chroma of 6 or value of 5 or 6 and chroma of 3 to 8

Eg horizon:
Color—hue of 10YR, value of 6 to 8, and chroma of 1 or 2

Btg horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 2 or less
Redoximorphic features—none to common iron depletions in shades of gray and iron masses in shades of yellow, brown, and red
Texture—fine sandy loam or sandy clay loam

Cr layer (where present):
Color—hue of 10YR, value 6 to 8, and chroma of 1 to 4
Bedrock—soft, weathered, fractured limestone that can be dug with difficulty with a spade. It has very firm to extremely firm rupture resistance and low to high excavation difficulty. It typically contains soft carbonate accumulations that contain few to many hard fragments of limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with material that ranges in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances. Thickness ranges from 6 inches to 2 feet.

R layer (where present):
Bedrock—hard, unweathered limestone that has slightly rigid to very rigid rupture resistance and very high to extremely high excavation difficulty. In some pedons it has solution holes.

Moriah Series

Depth class: Deep and very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate in the argillic horizon
Parent material: Sandy to clayey marine sediments overlying limestone
Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Commonly associated soils: Chaires, Chiefland, Eunola, Leon, Lutterloh, Lynn Haven, Mandarin, Melvina, Nutall, Ousley, Ridgewood, Seaboard, and Tooles soils
Taxonomic class: Loamy, siliceous, superactive, thermic Aquic Arenic Hapludalfs

Typical Pedon

Moriah fine sand in an area of Melvina-Moriah-Lutterloh complex in Taylor County; USGS Warrior Swamp topographic quadrangle; about 15.5 miles south-southwest of Perry, 1,200 feet west and 1,300 feet south of the northeast corner of sec. 10, T. 6 S., R. 7 E.

Ap—0 to 5 inches; dark gray (10YR 4/1) fine sand; weak medium granular structure; very friable; few medium and coarse roots; very strongly acid; gradual wavy boundary.

E1—5 to 9 inches; light brownish gray (10YR 6/2) fine sand; single grained; loose; few medium and coarse roots; very strongly acid; clear wavy boundary.

E2—9 to 31 inches; white (10YR 8/1) fine sand; single grained; loose; very strongly acid; gradual wavy boundary.

E3—31 to 34 inches; pinkish gray (7.5YR 6/2) fine sand; single grained; loose; few fine and medium roots; strongly acid; abrupt wavy boundary.

Btg1—34 to 52 inches; light gray (2.5Y 7/2) sandy clay loam; strong coarse subangular blocky structure; friable; sand grains coated and bridged with clay; few fine, medium, and coarse roots; neutral; gradual wavy boundary.

Btg2—52 to 57 inches; light gray (5Y 7/1) sandy clay loam; massive; slightly sticky; sand grains coated and bridged with clay; neutral; abrupt wavy boundary.

Cr—57 inches; light gray (5Y 7/2), soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Thickness of the solum: 40 to 72 inches

Depth to bedrock: 40 to 72 inches

Rock fragments: In many pedons up to 5 percent gravel- to boulder-sized fragments of limestone or chert in the solum

Reaction: Extremely acid or very strongly acid in the A and E horizons, except where lime has been added, and moderately alkaline in the Bt horizon where present

A or Ap horizon:

Color—hue of 10YR, value of 3 to 6, and chroma of 1 or 2

E horizon:

Color—hue of 7.5YR or 10YR, value of 5 to 8, and chroma of 1 to 8; common white streaks or pockets of clean sand grains

Redoximorphic features—few to many iron accumulations in shades of yellow or brown

Bt horizon (where present):

Color—hue of 10YR, value of 5 to 7, and chroma of 1 to 6

Redoximorphic features—none to many iron depletions in shades of gray and iron masses in shades of brown, yellow, or red

Texture—fine sandy loam or sandy clay loam

Btg horizon:

Color—hue of 10YR, value of 5 to 7, and chroma of 1 or 2

Redoximorphic features—iron depletions in shades of gray and iron masses in shades of brown, yellow, or red

Texture—fine sandy loam to clay

Cr layer:

Color—hue of 10YR, value 6 to 8, and chroma of 1 to 4

Bedrock—soft, weathered, fractured limestone that can be dug with difficulty with a spade. It has very firm to extremely firm rupture resistance and low to high excavation difficulty. It typically contains soft carbonate accumulations that contain few to many hard fragments of limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with material that ranges in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances. Thickness ranges from 6 inches to 2 feet.

R layer (typically present):

Bedrock—hard, unweathered limestone that has slightly rigid to very rigid rupture resistance and very high to extremely high excavation difficulty. In some pedons it has solution holes.

Nutall Series

Depth class: Moderately deep

Drainage class: Poorly drained

Permeability: Slow in the argillic horizon

Parent material: Sandy and loamy marine sediments overlying limestone

Landscape: Lowlands on the lower Coastal Plain

Landform: Flats and depressions

Commonly associated soils: Bayvi, Chaires, Goldhead, Hurricane, Leon, Moriah, Surrency, and Tooles soils

Taxonomic class: Fine-loamy, siliceous, superactive, thermic Mollic Albaqualfs

Typical Pedon

Nutall fine sand in an area of Nutall-Tooles complex in Jefferson County, Florida; USGS St. Marks, NE topographic quadrangle; about 24 miles south-southwest of Monticello, 1.25 miles east of State Road 59 and 2.5 miles north of U.S. Highway 98, SW$^1/_4$NE $^1/_4$NW$^1/_4$ sec. 15, T. 3 S., R. 3 E.

Ap—0 to 4 inches; black (5Y 2/1) fine sand; weak fine granular structure; very friable; many fine, medium, and coarse roots; strongly acid; clear wavy boundary.

A/E—4 to 9 inches; mixed very dark gray (10YR 3/1) and light gray (10YR 6/1) fine sand; single grained; loose; many medium and coarse roots; slightly acid; clear smooth boundary.

E1—9 to 13 inches; light gray (10YR 7/1) fine sand; single grained; loose; common medium roots; common medium distinct brown (10YR 5/3) iron masses and pore linings; neutral; clear wavy boundary.

E2—13 to 17 inches; brown (10YR 5/3) fine sand; single grained; loose; few medium roots; many medium distinct light gray (10YR 6/1) splotches and stripped areas in the matrix; neutral; abrupt irregular boundary.

Btg—17 to 30 inches; light greenish gray (5GY 7/1) sandy clay loam; moderate medium subangular blocky structure; friable; sand grains coated and bridged with clay; many fine prominent yellowish red (5YR 5/8) iron masses; slightly alkaline; abrupt irregular boundary.

Cr—30 inches; light gray (10YR 7/2), soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Solum thickness and depth to bedrock: 21 to 40 inches

Reaction: Very strongly acid or strongly acid in the A and A/E horizons, except where lime has been added; strongly acid to neutral in the E horizon; and neutral to moderately alkaline in the Btg horizon

A or Ap horizon:

Color—hue of 10YR to 5Y, value of 2 or 3, and chroma of 1 or 2

A/E horizon:

Color—mixed pattern

E horizon:

Color—hue of 10YR, value of 5 to 7, and chroma of 1 or 2 in the upper part; hue of 10YR, value of 5 or 6, and chroma of 2 or 3 in the lower part; chroma of 2 or less in more than 60 percent of the mass between a depth of 4 and 30 inches

Redoximorphic features—few or common iron masses and pore linings in shades of red, yellow, and brown in most pedons and splotches and stripped areas in the matrix in shades of gray

Texture—sand or fine sand

Btg horizon:

Color—hue of 10YR to 5GY, value of 4 to 7, and chroma of 1 or 2; or neutral in hue and value of 4 to 7

Redoximorphic features—common or many iron depletions in shades of gray and iron masses in shades of yellow and brown

Texture—fine sandy loam, sandy loam, or sandy clay loam. In some pedons the lower part of the horizon has a thin layer of sandy clay for which the weighted average content of clay does not exceed 35 percent.

Cr layer:

Color—hue of 10YR, value 6 to 8, and chroma of 1 to 4

Bedrock—soft, weathered, fractured limestone that can be dug with difficulty with a spade. It has very firm to extremely firm rupture resistance and low to high excavation difficulty. It typically contains soft carbonate accumulations that contain few to many hard fragments of limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with material that ranges in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances. Thickness ranges from 6 inches to 2 feet.

R layer (typically present):

Bedrock—hard, unweathered limestone that has slightly rigid to very rigid rupture resistance and very high to extremely high excavation difficulty. In some pedons it has solution holes.

Ocilla Series

Depth class: Very deep

Drainage class: Somewhat poorly drained

Permeability: Moderate slow or moderate in the argillic horizon

Parent material: Sandy and loamy marine sediments

Landscape: Lowlands on the lower Coastal Plain

Landform: Rises and knolls

Commonly associated soils: Albany, Boulogne, Eunola, Lutterloh, Matmon, Nutall, Ortega, Osier, Ousley, Pamlico, Ridgewood, Sapelo, Seaboard, Starke, Steinhatchee, and Tooles soils

Taxonomic class: Loamy, siliceous, semiactive, thermic Aquic Arenic Paleudults

Typical Pedon

Ocilla sand in Taylor County; USGS Boyd topographic quadrangle; about 6 miles northeast of Perry, 2,500 feet east and 800 feet north of the southwest corner of sec. 7, T. 4 S., R. 8 E.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) sand; weak medium granular structure; very friable; few fine, medium, and coarse roots; strongly acid; gradual wavy boundary.

E—6 to 23 inches; brown (10YR 5/3) sand; few medium distinct dark grayish brown (10YR 4/2) and light gray (10YR 7/2) splotches; single grained; loose; few fine, medium, and coarse roots; less than 5 percent ironstone concretions, by volume; strongly acid; gradual wavy boundary.

Bt—23 to 28 inches; brownish yellow (10YR 6/6) fine sandy loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; few fine, medium, and coarse roots; few medium distinct reddish yellow (7.5YR 6/6) iron masses and pore linings; very strongly acid; gradual wavy boundary.

Btg1—28 to 47 inches; light gray (10YR 7/1) sandy clay loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; few fine and medium roots; common coarse prominent reddish yellow (7.5YR 6/6) iron masses; very strongly acid; gradual wavy boundary.

Btg2—47 to 68 inches; light gray (10YR 7/1) fine sandy loam; weak coarse subangular blocky structure; friable; few fine and medium roots; common coarse prominent reddish yellow (7.5YR 6/6) iron masses; very strongly acid; gradual smooth boundary.

Cg—68 to 80 inches; light gray (10YR 7/1) sandy loam; weak coarse granular structure; very friable; common coarse prominent reddish yellow (7.5YR 6/6) iron masses; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 to more than 80 inches
Reaction: Strongly acid or very strongly acid, except where lime has been added

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 or 2; or neutral in hue and value of 3 to 5.
Thickness—less than 7 inches where value is 3.5 or less
Ironstone pebbles—less than 5 percent, by volume

E horizon:
Color—hue of 10YR to 5Y, value of 4 to 8, and chroma of 1 to 4
Redoximorphic features—none to many iron masses and pore linings in shades of brown or olive below a depth of 12 inches
Ironstone pebbles—less than 5 percent
Texture—sand, fine sand, loamy fine sand, or loamy sand

BE horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 3 to 8
Redoximorphic features—few to many iron masses and pore linings in shades of yellow, brown, or red
Ironstone pebbles—less than 5 percent
Texture—loamy fine sand or loamy sand

Bt horizon:
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 3 to 8; or multicolored in shades of gray, yellow, brown, and red
Redoximorphic features—few to many iron depletions in shades of gray and iron masses in shades of yellow, brown, and red
Texture—dominantly sandy clay loam, but includes sandy loam, fine sandy loam, and sandy clay and has pockets of sandy loam or fine sandy loam in some pedons. The weighted average content of clay in the upper 20 inches of the argillic horizon ranges from 15 to 35 percent.
Plinthite—0 to about 3 percent, by volume

Btg horizon:
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 1 or 2
Redoximorphic features—few to many iron masses in shades of yellow, brown, and red
Texture—dominantly sandy clay loam, but includes sandy loam, fine sandy loam, and sandy clay and has pockets of sandy loam or fine sandy loam in some subhorizons
Plinthite—0 to about 3 percent, by volume

BCg horizon (where present):
Color—similar to the Btg horizon
Texture—similar to the Btg horizon

Cg horizon (where present):
Color—same as the Btg horizon
Texture—sandy loam, sandy clay loam, sandy clay, or clay

Ortega Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Rapid throughout
Parent material: Sandy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Commonly associated soils: Albany, Boulogne,

Chipley, Clara, Hurricane, Kershaw, Leon, Lynn Haven, Mandarin, Matmon, Osier, Ousley, Pottsburg, Resota, Ridgewood, Sapelo, and Wesconnett soils

Taxonomic class: Thermic, uncoated Typic Quartzipsamments

Typical Pedon

Ortega fine sand, 0 to 5 percent slopes, in Taylor County; USGS Jena topographic quadrangle; about 38 miles south-southeast of Perry, 2,000 feet east and 2,200 feet south of the northwest corner of sec. 7, T. 9 S., R. 10 E.

Ap—0 to 5 inches; gray (10YR 5/1) fine sand; single grained; loose; many fine to coarse roots; very strongly acid; clear wavy boundary.

C1—5 to 20 inches; very pale brown (10YR 7/4) fine sand; single grained; loose; many fine to coarse roots; very strongly acid; gradual wavy boundary.

C2—20 to 42 inches; very pale brown (10YR 7/3) fine sand; single grained; loose; common medium and coarse roots; very strongly acid; gradual wavy boundary.

C3—42 to 61 inches; light yellowish brown (10YR 6/4) fine sand; single grained; loose; common fine and medium faint brownish yellow (10YR 6/6) iron masses and pore linings; very strongly acid; clear wavy boundary.

C4—61 to 80 inches; white (10YR 8/1) fine sand; single grained; loose; common fine and medium prominent yellowish red (5YR 5/8) iron masses and pore linings; very strongly acid.

Range in Characteristics

Reaction: Extremely acid to slightly acid throughout, except where lime has been added

A or Ap horizon:

Color—hue of 10YR, value of 3 to 6, and chroma of 1 or 2

Upper part of the C horizon:

Color—hue of 10YR, value of 5 to 7, and chroma of 3 to 8; in some pedons few or common, fine to coarse splotches or pockets of white or light gray uncoated sand grains that are not indicative of wetness

Redoximorphic features—iron masses and pore linings in shades of reddish yellow, yellowish red, or strong brown beginning at a depth of 42 inches

Lower part of the C horizon:

Color—hue of 10YR, value of 5 to 7, and chroma of 6 to 8; hue of 10YR, value 7 or 8, and chroma of 1 or 2; hue of 2.5Y, value of 7, and chroma of 4; or, below a depth of about 60 inches in some pedons, hue of 10YR, value of 6 to 8, and chroma of 1 or 2 with or without redoximorphic features

Redoximorphic features—few to many iron masses and pore linings in shades of brown, yellow, or red

Black heavy-mineral particles—few or common

Osier Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid throughout
Parent material: Sandy marine sediments
Landscape: Lower Coastal Plains
Landform: Flats and flatwoods
Commonly associated soils: Bayvi, Chaires, Chipley, Clara, Goldhead, Hurricane, Leon, Lutterloh, Lynn Haven, Mandarin, Mascotte, Meadowbrook, Melvina, Ocilla, Ortega, Otela, Ousley, Pottsburg, Ridgewood, Sapelo, Starke, Tooles, Wesconnett, and Yellowjacket soils
Slope: 0 to 2 percent
Taxonomic class: Siliceous, thermic Typic Psammaquents

Typical Pedon

Osier fine sand in an area of Clara and Osier fine sands in Taylor County; USGS Salem topographic quadrangle; about 30 miles south-southeast of Perry, 2,400 feet north and 200 feet west of the southeast corner of sec. 9, T. 7 S., R. 9 E.

Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) fine sand; single grained; loose; many fine to coarse roots; very strongly acid; clear wavy boundary.

C1—5 to 18 inches; brown (10YR 4/3) fine sand; single grained; loose; many fine, medium, and coarse roots; very strongly acid; gradual wavy boundary.

C2—18 to 25 inches; pale brown (10YR 6/3) fine sand; single grained; loose; many fine and medium roots; common fine and medium distinct yellowish brown (10YR 5/6) iron masses and pore linings; very strongly acid; gradual wavy boundary.

C3—25 to 50 inches; light brownish gray (10YR 6/2) fine sand; common fine and medium distinct brownish yellow (10YR 6/6) and prominent yellowish red (5YR 5/8) iron masses and pore linings; very strongly acid; gradual wavy boundary.

C4—50 to 80 inches; light gray (10YR 7/2) fine sand; single grained; loose; strongly acid.

Range in Characteristics

Reaction: Extremely acid to moderately acid, except where lime has been added
Silt plus clay content in the 10- to 40-inch zone: 5 to 15 percent

A or Ap horizon:
Color—hue of 10YR or 2.5 Y, value of 2 to 5, and chroma of 1 or 2.
Thickness—less than 10 inches where value is 2 or 3
Texture—fine sandy loam, loamy fine sand, loamy sand, fine sand, or sand

C horizon:
Color—hue of 7.5YR to 5Y or 5GY, value of 3 to 8, and chroma of 1 or 2
Redoximorphic features—none to common iron masses and pore linings in shades of brown and yellow
Texture in the upper part—loamy fine sand, loamy sand, fine sand, or sand
Texture in the lower part—fine sand, sand, or coarse sand. Most pedons have thin strata of material that ranges from sand to sandy loam.

Ab horizon (where present):
Color—hue of 10YR to 5Y, value of 2 or 3, and chroma of 1 or 2
Texture—fine sand, loamy fine sand, or loamy sand

Otela Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderately slow or slow in the argillic horizon
Parent material: Sandy and loamy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Commonly associated soils: Albany, Chiefland, Hurricane, Kershaw, Lutterloh, Mascotte, Meadowbrook, Ocilla, Ortega, Osier, Ousley, Pamlico, Ridgewood, Sapelo, Starke, Surrency, Wekiva, and Yellowjacket soils
Taxonomic class: Loamy, siliceous, semiactive, thermic Grossarenic Paleudalfs

Typical Pedon

Otela fine sand in an area of Otela-Ortega-Lutterloh complex, 0 to 5 percent slopes, in Taylor County; USGS Boyd topographic quadrangle; about 3 miles northeast of Perry, 1,300 feet east and 700 feet north of the southwest corner of sec. 7, T. 4 S., R. 8 E.

Ap—0 to 7 inches; dark brown (10YR 3/2) fine sand; weak medium granular structure; very friable; few fine, medium, and coarse roots; moderately acid; abrupt wavy boundary.
E1—7 to 28 inches; brownish yellow (10YR 6/6) fine sand; few coarse pockets of dark grayish brown (10YR 4/2) splotches; single grained; loose; few fine, medium, and coarse roots; very strongly acid; gradual wavy boundary.
E2—28 to 47 inches; very pale brown (10YR 7/4) fine sand; common coarse distinct light gray (10YR 7/1) pockets of clean sand grains; single grained; loose; less than 5 percent ironstone concretions, by volume; few fine, medium, and coarse roots; few fine prominent yellow (10YR 7/8) iron masses and pore linings; strongly acid; abrupt wavy boundary.
EB—47 to 54 inches; yellowish brown (10YR 5/6) loamy fine sand; moderate medium subangular blocky structure; friable; less than 5 percent ironstone concretions, by volume; strongly acid; gradual smooth boundary.
Bt—54 to 63 inches; yellowish brown (10YR 5/6) fine sandy loam; moderate medium subangular blocky structure; friable; less than 5 percent ironstone concretions; common coarse distinct gray (10YR 6/1) iron depletions; strongly acid; gradual smooth boundary.
Btg—63 to 80 inches; gray (N 6/0) sandy clay loam; massive; slightly sticky; sand grains coated and bridged with clay; common coarse prominent strong brown (7.5YR 5/6) iron masses; strongly acid.

Range in Characteristics

Solum thickness and depth to bedrock: 60 to more than 80 inches
Reaction: Very strongly acid to neutral in the A and E horizons, except where lime has been added; extremely acid to slightly alkaline in the upper Bt horizons; and extremely acid to moderately alkaline in the lower Bt horizons

A or Ap horizon:
Color—hue of 10YR, value of 3 to 6, and chroma of 1 to 3

E horizon:
Color—hue of 10YR; value of 5 to 7 and chroma of 2 to 8 or value of 8 and chroma of 1 to 3
Redoximorphic features—none to common iron masses and pore linings in shades of red, brown, or yellow and none to many pockets or splotches of white uncoated sand grains that

are not indicative of wetness but rather are the color of the sand grains

Lamella—thin, having a texture of loamy fine sand or fine sandy loam

Gravel-sized ironstone nodules (where present)—less than about 5 percent, by volume, in the lower part

EB horizon (where present):

Color and other properties are similar to those of the E horizon.

Bt horizon:

Color—hue of 10YR, value of 5 to 8, and chroma of 3 to 8

Texture—sandy loam, fine sandy loam, or sandy clay loam. The weighted average content of clay is 15 to 35 percent in the upper 20 inches.

Gravel-sized ironstone nodules (where present)—less than about 5 percent, by volume

Btg horizon:

Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2; or neutral in hue and value of 5 to 7

Redoximorphic features—none to common iron depletions in shades of gray and iron masses and pore linings in shades of yellow, red, or brown

Texture—sandy loam, fine sandy loam, sandy clay loam, or sandy clay

2Btg horizon (if present):

Color—hue of 10YR, value of 5 to 7, and chroma of 1 or 2

Redoximorphic features—none to common iron depletions in shades of gray and iron masses and pore linings in shades of yellow, red, or brown

Texture—sandy clay or clay

Gravel- or cobble-sized nodules of ironstone (where present)—about 5 percent, by volume

BC horizon (where present below a depth of 60 inches):

Color—hue of 10YR; value of 5 or 6 and chroma of 6 or value of 8 and chroma of 3 to 6

Redoximorphic features—none to common iron depletions in shades of gray and iron masses in shades of yellow, red, or brown

Texture—fine sand or loamy fine sand

2Cg horizon (where present):

Color—hue of 10YR; value of 5 or 6 and chroma of 6 or value of 8 and chroma of 3 to 6

Texture—sandy clay or clay

Gravel- or cobble-sized nodules of ironstone (where present)—about 5 percent, by volume

Ousley Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid throughout
Parent material: Sandy and loamy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Commonly associated soils: Albany, Chipley, Hurricane, Kershaw, Lutterloh, Mandarin, Mascotte, Matmon, Meadowbrook, Moriah, Ocilla, Osier, Otela, Ridgewood, Sapelo, Seaboard, Starke, Tennille, Wekiva, and Wesconnett soils
Taxonomic class: Thermic, uncoated Aquic Quartzipsamments

Typical Pedon

Ousley fine sand in an area of Ousley-Leon-Clara complex, 0 to 3 percent slopes, occasionally flooded, in Taylor County; USGS Warrior Swamp topographic quadrangle; about 14.5 miles south of Perry, 500 feet south and 1,500 feet east of the northwest corner of sec. 23, T. 6 S., R. 7 E.

Ap—0 to 4 inches; very dark gray (10YR 3/1) fine sand; weak fine granular structure; very friable; few fine and medium roots; few fine distinct brown (10YR 5/3) iron masses; strongly acid; abrupt wavy boundary.

C1—4 to 45 inches; very pale brown (10YR 7/3) fine sand; single grained; loose; common fine roots; common medium distinct grayish brown (2.5Y 5/2) stripped areas in the matrix; strongly acid; clear wavy boundary.

C2—45 to 80 inches; light gray (10YR 7/2) fine sand; single grained; loose; common medium faint very pale brown (10YR 7/3) iron masses; strongly acid.

Range in Characteristics

Thickness of the solum: 80 inches or more
Reaction: Very strongly acid to moderately acid, except where lime has been added
Silt plus clay content: 2 to 5 percent

A or Ap horizon:

Color—hue of 10YR or 2.5Y, value of 2 to 7, and chroma of 1 or 2

Texture—sand, fine sand, or loamy fine sand

Thickness—less than 10 inches where texture is loamy fine sand; less than 8 inches where value is 2 or 3

Upper part of the C horizon:

Color to a depth of 40 inches—hue of 10YR to 5Y, value of 4 to 8, and chroma of 3 to 6

Redoximorphic features—none to common iron masses and pore linings in shades of red, brown, or yellow and none to common splotches and stripped areas in the matrix with chroma of 2 or less
Texture—sand, fine sand, or coarse sand

Lower part of the C horizon:
Color below a depth of 40 inches—hue of 10YR to 5Y, value of 4 to 8, and chroma of 1 to 4
Redoximorphic features—few or common iron masses and pore linings in shades of red, brown, or yellow
Texture—fine sand, sand, or coarse sand

Pamlico Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Moderate or moderately rapid in the organic matter
Parent material: Highly decomposed organic matter underlain by sandy marine sediments (fig. 13)
Landscape: Lowlands on the lower Coastal Plain
Landform: Depressions
Commonly associated soils: Croatan, Dorovan, Evergreen, Hurricane, Leon, Lynn Haven, Mandarin, Ridgewood, Sapelo, Starke, Surrency, and Yellowjacket soils
Taxonomic class: Sandy or sandy-skeletal, siliceous, dysic, thermic Terric Medisaprists

Typical Pedon

Pamlico muck in an area of Dorovan and Pamlico mucks, depressional, in Taylor County; USGS Perry topographic quadrangle; about 5 miles east of Perry, 1,100 feet north and 700 feet east of the southwest corner of sec. 27, T. 4 S., R. 8 E.

Oe—0 to 3 inches; dark brown (7.5YR 3/2) muck; 75 percent fiber unrubbed, less than 15 percent rubbed; massive; very friable; common fine and medium roots; very strongly acid; gradual smooth boundary.
Oa1—3 to 9 inches; black (7.5YR 2.5/1) muck; 10 percent fiber unrubbed, less than 5 percent rubbed; massive; friable; few fine to coarse roots; very strongly acid; gradual smooth boundary.
Oa2—9 to 22 inches; alternating bands of black (7.5YR 2.5/1) and dark reddish brown (5YR 3/3) muck; less than 5 percent fiber rubbed; massive; friable; few fine, medium, and coarse roots; extremely acid; abrupt wavy boundary.
Cg1—22 to 25 inches; black (10YR 2/1) mucky fine sand; massive; friable; few fine and medium roots; extremely acid; gradual wavy boundary.
Cg2—25 to 65 inches; brown (10YR 5/3) fine sand; single grained; loose; extremely acid; gradual wavy boundary.

Range in Characteristics

Thickness of the organic matter: 16 to 51 inches
Reaction: Extremely acid (pH less than 4.5 in 0.01 M calcium chloride) in the organic layers and extremely acid to strongly acid in the underlying mineral layers

Oe or Oi horizon:
Color—hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 2 or less; or neutral in hue and value of 2 or 3

Oa horizon:
Color—hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 2 or less; or neutral in hue and value of 2 or 3
Fiber content—10 to 33 percent unrubbed and less than 10 percent rubbed

2Cg horizon:
Color—hue of 10YR, value of 2 to 6, and chroma of 2 or less; or neutral in hue and value of 2 to 6
Texture—the upper 12 inches of the Cg horizon or of the part of the Cg horizon that is within a depth of 51 inches, whichever is thicker, is sandy by weighted average—typically sand, fine sand, loamy sand, or loamy fine sand; in some pedons, it has thin subhorizons that are loamy—typically sandy loam, fine sandy loam, sandy clay loam, or their mucky analogs. Below a depth of 51 inches, the texture is variable, typically ranging from sand to sandy clay loam.

Plummer Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate or moderately slow in the argillic horizon
Parent material: Sandy and loamy marine sediments (fig. 14)
Landscape: Lowlands on the lower Coastal Plain
Landform: Flats
Commonly associated soils: Albany, Clara, Croatan, Eunola, Goldhead, Mascotte, Matmon, Meadowbrook, Ocilla, Ridgewood, Sapelo, Starke, Steinhatchee, Surrency, Tennille, and Wekiva soils
Taxonomic class: Loamy, siliceous, subactive, thermic Grossarenic Paleaquults

Typical Pedon

Plummer fine sand, 0 to 2 percent slopes, in Lafayette County, Florida; USGS Mayo SE topographic quadrangle; about 4 miles southeast of Mayo, 1,200 feet north and 600 feet west of the southeast corner of sec. 28, T. 5 S., R. 12 E.

A—0 to 7 inches; black (10YR 2/1) fine sand; weak fine granular structure; very friable; few fine and very fine roots; very strongly acid; clear wavy boundary.

Eg1—7 to 14 inches; grayish brown (10YR 5/2) fine sand; single grained; loose; very strongly acid; gradual wavy boundary.

Eg2—14 to 22 inches; gray (10YR 6/1) fine sand; single grained; loose; very dark grayish brown (10YR 3/2) root stains; few charcoal fragments; strongly acid; gradual wavy boundary.

Eg3—22 to 55 inches; light gray (10YR 7/1) fine sand; single grained; loose; common medium distinct yellowish brown (10YR 5/6 and 5/8) iron masses and pore linings; strongly acid; abrupt wavy boundary.

Btg—55 to 80 inches; gray (10YR 6/1) fine sandy loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; many medium prominent yellowish brown (10YR 5/6 and 5/8) iron masses; strongly acid.

Range in Characteristics

Thickness of the solum: 72 to more than 100 inches
Reaction: Extremely acid to strongly acid, except where lime has been added

O horizon (where present):
Thickness—less than 8 inches
Color—hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 2 or less; or neutral in hue and value of 2 or 3
Fiber content—10 to 33 percent unrubbed and less than 10 percent rubbed

A horizon:
Color—hue of 10YR to 5Y, value of 2 to 4, and chroma of 1 or 2; or neutral in hue and value of 2 to 4
Thickness—less than 8 inches where value is 2 or 3

Eg horizon:
Color—hue of 10YR to 5Y, value of 5 to 8, and chroma of 1 or 2; or neutral in hue and value of 5 to 8
Redoximorphic features—few or common iron masses and pore linings in shades of brown and yellow in some pedons
Texture—fine sand or loamy fine sand

BEg horizon (where present):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2; or neutral in hue and value of 5 to 7
Redoximorphic features—none to common iron masses and pore linings in shades of brown and yellow
Texture—loamy sand or loamy fine sand

Btg horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2; or neutral in hue and value of 5 to 7
Redoximorphic features—few to many iron depletions in shades of gray and iron masses in shades of yellow, brown, and red
Texture—sandy loam, fine sandy loam, or sandy clay loam and, in some pedons, pockets of loamy sand and sandy clay having a content of clay ranging from 13 to 35 percent

Pottsburg Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate in the spodic horizon
Parent material: Loamy and sandy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods
Commonly associated soils: Boulogne, Dorovan, Evergreen, Hurricane, Leon, Lutterloh, Lynn Haven, Mandarin, Matmon, Meadowbrook, Melvina, Ortega, Osier, Ridgewood, Sapelo, Seaboard, Starke, Steinhatchee, and Wesconnett soils
Taxonomic class: Sandy, siliceous, thermic Grossarenic Alaquods

Typical Pedon

Pottsburg fine sand in Taylor County; USGS Greenville SE topographic quadrangle; about 9 miles north of Perry, 2,200 feet north and 600 feet east of the southwest corner of sec. 20, T. 3 S., R. 8 E.

Ap—0 to 6 inches; dark gray (10YR 4/1) fine sand; weak fine granular structure; loose; very strongly acid; clear wavy boundary.

E1—6 to 15 inches; pale brown (10YR 6/3) fine sand; single grained; loose; strongly acid; gradual wavy boundary.

E2—15 to 52 inches; white (2.5Y 8/2) fine sand; single grained; loose; moderately acid; clear wavy boundary.

Bh—52 to 80 inches; dark reddish brown (5YR 2/2) fine sand; massive; friable; sand grains coated with organic matter; moderately acid.

Range in Characteristics

Reaction: Extremely acid to slightly acid in the A and E horizons, except where lime has been added, and extremely acid to moderately acid in the Bh horizon

A or Ap horizon:
Color—hue of 10YR, value of 2 to 5, and chroma of 1 or 2; or neutral in hue and value of 2 to 5

Upper part of the E horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 1 to 3

Lower part of the E horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 1 or 2
Redoximorphic features—none to common iron masses and pore linings in shades of brown and yellow

EB, BE, or B/E horizon (where present):
Texture—sand, fine sand, loamy sand, or loamy fine sand; none to many discontinuous lenses or spodic bodies that are thinly to moderately coated with colloidal organic matter

Bh horizon:
Color—hue of 5YR, value of 2 or 3, and chroma of 1 to 4; hue of 7.5YR, value of 3, and chroma of 2; hue of 10YR, value 2 or 3, and chroma of 1 or 2; or neutral in hue and value of 2
Texture—sand, fine sand, loamy sand, or loamy fine sand

Resota Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Very rapid throughout
Parent material: Sandy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Commonly associated soils: Albany, Boulogne, Chipley, Evergreen, Hurricane, Leon, Lynn Haven, Mandarin, Melvina, Nutall, Ortega, Osier, Otela, Ousley, Pamlico, Plummer, Pottsburg, Ridgewood, Sapelo, Seaboard, and Wesconnett soils
Taxonomic class: Thermic, uncoated Spodic Quartzipsamments

Typical Pedon

Resota sand, 0 to 5 percent slopes, in Dixie County, Florida; USGS Shired Island topographic quadrangle; about 15 miles south of Cross City, 150 feet south and 1,800 feet west of the northeast corner of sec. 22, T. 12 S., R. 11 E.

A—0 to 3 inches; gray (10YR 5/1) sand; single grained; weak fine granular structure; very friable; many fine and very fine and many medium roots; very strongly acid; clear smooth boundary.

E—3 to 13 inches; white (10YR 8/1) sand; few fine and medium distinct dark gray (10YR 4/1) and prominent very dark gray (10YR 3/1) streaks and splotches; single grained; loose; common fine and very fine and many medium roots; strongly acid; abrupt irregular boundary.

Bw1—13 to 19 inches; strong brown (7.5YR 5/8) sand; common medium prominent dark brown (7.5YR 3/4) organically coated pockets and lenses around root channels and vertical intrusions of material from the E horizon; single grained; loose; common fine and very fine and many medium roots; very strongly acid; clear wavy boundary.

Bw2—19 to 37 inches; brownish yellow (10YR 6/6) sand; few fine prominent very dark gray (10YR 3/1) depletions surrounding roots; single grained; loose; common fine and medium roots; very strongly acid; gradual wavy boundary.

Bw3—37 to 55 inches; very pale brown (10YR 7/4) sand; common fine faint very pale brown (10YR 7/3) splotches; single grained; loose; few fine and very fine roots; common fine distinct brownish yellow (10YR 6/6) iron masses and pore linings; strongly acid; gradual wavy boundary.

C—55 to 80 inches; light gray (10YR 7/2) fine sand; single grained; loose; few fine and very fine roots; many medium and coarse prominent brownish yellow (10YR 6/6) iron masses and pore linings; strongly acid.

Range in Characteristics

Thickness of the solum: 40 or more inches
Texture: Sand or fine sand throughout
Reaction: Extremely acid to slightly acid throughout, except where lime has been added

A horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 1 or 2

E horizon:
Color—hue of 10YR, value of 6 to 8, and chroma of 1 or 2; or neutral in hue and value of 6 or 8

Bw horizon:
Color—hue of 10YR or 7.5YR, value of 5 to 7, and chroma of 4 to 8; in some pedons discontinuous Bh bodies at the base of the E horizon and surrounding tongues of E material

Redoximorphic features—few or common iron masses and pore linings in shades of yellow and red in lower part

C horizon:

Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 4; few or common splotches in shades of gray

Redoximorphic features—few or common iron masses and pore linings in shades of yellow, brown, or red

Ridgewood Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Rapid throughout
Parent material: Sandy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Commonly associated soils: Albany, Boulogne, Chaires, Dorovan, Evergreen, Goldhead, Hurricane, Kershaw, Leon, Lutterloh, Lynn Haven, Mandarin, Mascotte, Maurepas, Melvina, Moriah, Ocilla, Ortega, Osier, Otela, Ousley, Plummer, Pottsburg, Sapelo, Seaboard, and Wesconnett soils
Taxonomic class: Thermic, uncoated Aquic Quartzipsamments

Typical Pedon

Ridgewood fine sand, 0 to 3 percent slopes, in Taylor County; USGS Steinhatchee topographic quadrangle; about 34 miles south of Perry, 3,000 feet south and 1,200 feet west of the northeast corner of sec. 3, T. 7 S., R. 9 E.

Ap—0 to 9 inches; grayish brown (10YR 5/2) fine sand; single grained; loose; many fine, medium, and coarse roots; strongly acid; clear wavy boundary.

C1—9 to 25 inches; yellowish brown (10YR 5/4) fine sand; single grained; loose; common fine, medium, and coarse roots; very strongly acid; gradual wavy boundary.

C2—25 to 48 inches; yellowish brown (10YR 5/4) fine sand; single grained; loose; common fine and medium roots; common fine and medium distinct yellowish brown (10YR 5/8) iron masses and pore linings; very strongly acid; gradual wavy boundary.

C3—48 to 69 inches; light yellowish brown (10YR 6/4) fine sand; common medium and coarse light gray (10YR 7/2) splotches; single grained; loose; common fine prominent strong brown (7.5YR 5/8) iron masses and pore linings; very strongly acid; gradual wavy boundary.

C4—69 to 80 inches; light gray (10YR 7/2) fine sand; single grained; loose; common medium and coarse district yellowish brown (10YR 5/6) iron masses and pore linings; very strongly acid.

Range in Characteristics

Reaction: Very strongly acid to neutral, except where lime has been added
Texture: Sand or fine sand

A or Ap horizon:

Color—hue of 10YR, value of 2 to 5, and chroma of 1 or 2; or neutral in hue and value of 2 to 5

C horizon:

Color—hue of 10YR to 5Y; value of 5 to 8 and chroma of 2 to 8 or value of 4 and chroma of 3. Chroma of 2 generally begins above a depth of 42 inches, is due to uncoated sand grains, and is not indicative of wetness.

Redoximorphic features—common or many iron masses and pore linings in shades of red, yellow, and brown within a depth of 24 to 42 inches

Sapelo Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Parent material: Sandy and loamy marine sediments (fig. 15)
Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods
Commonly associated soils: Albany, Boulogne, Chipley, Dorovan, Eunola, Evergreen, Goldhead, Hurricane, Leon, Lynn Haven, Mandarin, Matmon, Meadowbrook, Ocilla, Ortega, Osier, Otela, Ousley, Pamlico, Plummer, Pottsburg, Ridgewood, Starke, and Surrency soils
Taxonomic class: Sandy, siliceous, thermic Ultic Alaquods

Typical Pedon

Sapelo fine sand in an area of Sapelo-Chaires, depressional complex, in Lafayette County, Florida; USGS Mayo topographic quadrangle; about 4.5 miles southeast of Mayo, 2,000 feet north of County Road 355A and 100 feet east of a trail road; about 2,700 feet north and 700 feet east of the southwest corner of sec. 31, T. 5 S., R. 12 E.

A—0 to 6 inches; very dark gray (10YR 3/1) fine sand; weak fine granular structure; very friable; many fine roots; extremely acid; clear wavy boundary.

E1—6 to 12 inches; gray (10YR 5/1) fine sand; common distinct very dark gray (10YR 3/1) streaks; single grained; loose; common fine and common medium roots; extremely acid; clear wavy boundary.
E2—12 to 28 inches; light gray (10YR 7/1) fine sand; common medium distinct very dark gray (10YR 3/1) streaks; single grained; loose; common medium roots; strongly acid; abrupt wavy boundary.
Bh1—28 to 34 inches; black (5YR 2/1) fine sand; massive; friable; sand grains coated with organic matter; few clear sand grains; very strongly acid; clear wavy boundary.
Bh2—34 to 45 inches; dark reddish brown (5YR 3/4) fine sand; massive; friable; sand grains coated with organic matter; common medium distinct very dark grayish brown (10YR 3/2) streaks along root channels; few fine roots; strongly acid; gradual wavy boundary.
E´—45 to 60 inches; light gray (10YR 7/2) fine sand; common medium distinct dark yellowish brown (10YR 4/4) root stains; single grained; loose; few fine roots; strongly acid; gradual wavy boundary.
Btg1—60 to 73 inches; light brownish gray (2.5Y 6/2) sandy clay loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; many coarse prominent strong brown (7.5YR 5/6 and 5/8) and common medium prominent red (2.5YR 4/6 and 4/8) iron masses; strongly acid; gradual wavy boundary.
Btg2—73 to 80 inches; light olive gray (5Y 6/2) fine sandy loam; weak medium subangular blocky structure; slightly sticky; sand grains coated and bridged with clay; common medium distinct yellowish brown (10YR 5/6) iron masses; strongly acid.

Range in Characteristics

Thickness of the solum: 70 to 90 inches
Reaction: Extremely acid to strongly acid, except where lime has been added

A horizon:
Color—hue of 10YR, value of 2 to 4, and chroma of 1; or neutral in hue and value of 2 to 4

E horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 1 or 2; or neutral in hue and value of 5 to 8; none to common vertical streaks of dark gray
Texture—sand or fine sand

Bh horizon:
Color—hue of 2.5YR to 10YR, value of 2 to 4, and chroma of 2 to 4; none to common bodies in shades of brown
Texture—sand, fine sand, or loamy fine sand

BE horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 3 to 6
Pockets of Bh material—none to common
Texture—sand or fine sand

E´ horizon:
Color—hue of 10YR to 5Y, value of 5 to 8, and chroma of 1 to 4
Pockets of Bh material—none to common
Redoximorphic features—none to common iron masses and pore linings in shades of red, brown, and yellow
Texture—sand or fine sand

Btg horizon:
Color—hue of 10YR to 5Y, value of 5 to 8, and chroma of 1 or 2; or multicolored without a dominant color
Redoximorphic features—few to many iron depletions in shades of gray and iron masses in shades of red, brown, and yellow
Texture—sandy loam, fine sandy loam, loam, clay loam, or sandy clay loam and, in some pedons, lenses and pockets of sand and clay

Seaboard Series

Depth class: Very shallow and shallow
Drainage class: Moderately well drained
Permeability: Rapid throughout
Parent material: Sandy marine or eolian sediments overlying limestone bedrock
Landscape: Lowlands on the lower Coastal Plain
Landform: Rises and knolls
Commonly associated soils: Chaires, Goldhead, Hurricane, Lutterloh, Mascotte, Meadowbrook, Melvina, Moriah, Ocilla, Ortega, Ousley, Pamlico, Ridgewood, Surrency, Tennille, and Tooles soils
Taxonomic class: Thermic, uncoated Lithic Quartzipsamments

Typical Pedon

Seaboard fine sand in an area of Seaboard-Bushnell-Matmon complex, 0 to 3 percent slopes, in Taylor County; USGS Clara topographic quadrangle; about 37 miles south-southeast of Perry, 1,600 feet east and 1,300 feet south of the northwest corner of sec. 32, T. 8 S., R. 10 E.

A—0 to 3 inches; dark grayish brown (10YR 4/2) fine sand; single grained; loose; many fine and medium roots; strongly acid; abrupt wavy boundary.
C—3 to 8 inches; yellowish brown (10YR 5/6) fine sand;

single grained; loose; common fine and medium roots; moderately acid; abrupt irregular boundary.

Cr—8 inches; soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Thickness of the solum: 3 to less than 20 inches
Depth to bedrock: 3 to less than 20 inches
Rock fragments: In many pedons, up to 5 percent gravel- to boulder-sized fragments of limestone or chert at the surface or in the soil
Reaction: Strongly acid or moderately acid in the A horizon, except where lime has been added, and moderately acid to neutral in the C horizon

A horizon:
Color—hue of 10YR, value of 4 to 7, and chroma of 1 to 3

C horizon:
Color—hue of 10YR, value of 5 to 8, and chroma of 2 to 6
Pockets—few or common fine to coarse pockets in shades of white or light gray in most pedons
Redoximorphic features—none to common iron masses and pore linings in shades of brown or yellow
Texture—sand or fine sand

Cr layer:
Bedrock—soft, weathered, fractured limestone that can be dug with difficulty with a spade. It has very firm to extremely firm rupture resistance and low to high excavation difficulty. It typically contains soft carbonate accumulations that contain few to many hard fragments of limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with material that ranges in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances. Thickness ranges from 6 inches to 2 feet.

R layer (typically present):
Bedrock—hard, unweathered limestone that has slightly rigid to very rigid rupture resistance and very high to extremely high excavation difficulty. In some pedons it has solution holes.

Starke Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Moderate or moderately slow in the argillic horizon
Parent material: Sandy and loamy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Depressions
Commonly associated soils: Albany, Chaires, Clara, Croatan, Leon, Lutterloh, Mascotte, Ocilla, Osier, Ousley, Pamlico, Plummer, Pottsburg, Sapelo, Surrency, Tennille, Tooles, Wekiva, and Wesconnett soils
Taxonomic class: Loamy, siliceous, semiactive, thermic Grossarenic Paleaquults

Typical Pedon

Starke mucky fine sand in an area of Surrency, Starke, and Croatan soils, depressional, in Taylor County; USGS Boyd topographic quadrangle; about 9 miles north of Perry, 2,200 feet north and 1,800 feet east of the southwest corner of sec. 22, T. 3 S., R. 7 E.

A1—0 to 6 inches; black (10YR 2/1) mucky fine sand; weak medium granular structure; very friable; very strongly acid; gradual wavy boundary.

A2—6 to 21 inches; black (10YR 2/1) fine sand; weak fine granular structure; very friable; very strongly acid; clear wavy boundary.

E1—21 to 32 inches; dark grayish brown (10YR 4/2) fine sand; single grained; loose; very strongly acid; gradual wavy boundary.

E2—32 to 51 inches; light gray (10YR 7/2) fine sand; single grained; loose; very strongly acid; clear wavy boundary.

Btg1—51 to 56 inches; light gray (10YR 7/1) fine sandy loam; weak coarse subangular blocky structure; friable; sand grains coated and bridged with clay; common distinct dark yellowish brown (10YR 4/6) iron masses; very strongly acid; gradual wavy boundary.

Btg2—56 to 80 inches; light gray (10YR 7/1) sandy clay loam; massive; friable; sand grains coated and bridged with clay; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Reaction: Extremely acid to moderately acid

Oa horizon (where present):
Thickness—less than 8 inches
Color—hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 2 or less; or neutral in hue and value of 2 or 3
Fiber content—10 to 33 percent unrubbed and less than 10 percent rubbed

A horizon:
Color—hue of 10YR or 2.5Y, value of 2 or 3, and chroma of 1 or 2; or neutral in hue and value of 2 or 3

E horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 to 3; or neutral in hue and value of 4 to 7
Redoximorphic features—none to common iron masses and pore linings in shades of yellow or brown
Texture—sand, fine sand, loamy sand, or loamy fine sand

Btg horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2; or neutral in hue and value of 4 to 7
Redoximorphic features—few to many iron depletions in shades of gray and iron masses in shades of yellow, brown, and red
Texture—sandy loam, fine sandy loam, or sandy clay loam

Cg horizon (where present):
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2; or neutral in hue and value of 4 to 7
Texture—sand to sandy clay

Steinhatchee Series

Depth class: Moderately deep
Drainage class: Poorly drained
Permeability: Moderately rapid in the spodic horizon and moderately slow in the argillic horizon
Parent material: Sandy and loamy marine sediments overlying limestone bedrock
Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods
Commonly associated soils: Chaires, Goldhead, Leon, Meadowbrook, Ocilla, Plummer, Pottsburg, Tennille, Tooles, Wesconnett, and Yellowjacket soils
Taxonomic class: Sandy, siliceous, thermic Alfic Alaquods

Typical Pedon

Steinhatchee fine sand in an area of Steinhatchee-Tennille complex in Dixie County, Florida; USGS Cross City West topographic quadrangle; about 7 miles west-southwest of Cross City, 2,200 feet south and 750 feet west of the northeast corner of sec. 20, T. 10 S., R. 11 E.

Ap—0 to 5 inches; fine sand, dark gray (10YR 4/1) rubbed, salt-and-pepper appearance unrubbed; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; clear wavy boundary.

E—5 to 18 inches; gray (10YR 5/1) fine sand; common medium distinct very dark gray (10YR 3/1) and dark grayish brown (10YR 4/2) streaks; single grained; loose; many fine and medium roots; very strongly acid; abrupt wavy boundary.

Bh1—18 to 22 inches; black (10YR 2/1) fine sand; common medium and coarse faint dark brown (7.5YR 3/2) bodies; massive; friable; sand grains are coated with colloidal organic matter; few fine and medium roots; very strongly acid; clear wavy boundary.

Bh2—22 to 25 inches; dark brown (7.5YR 3/2 and 3/4) fine sand in a mixed pattern; massive; very friable; few fine and very fine roots; very strongly acid; clear wavy boundary.

Bw—25 to 29 inches; yellowish brown (10YR 5/4) fine sand; common fine and medium distinct dark grayish brown (10YR 4/2) and very dark grayish brown (10YR 3/2) bodies and streaks; single grained; loose; few fine and very fine roots; very strongly acid; abrupt wavy boundary.

Btg—29 to 35 inches; gray (10YR 6/1) sandy clay loam; weak fine subangular blocky structure; sticky and plastic; sand grains bridged and coated with clay; few very fine roots; many fine and medium prominent yellowish brown (10YR 5/6) and few fine and medium prominent red (2.5YR 4/8) iron masses and pore linings; slightly acid; abrupt irregular boundary.

Cr—35 inches; light gray (10YR 7/2) limestone bedrock that can be dug with light power machinery.

Range in Characteristics

Solum thickness and depth to bedrock: 24 to 40 inches
Reaction: Very strongly acid to moderately acid in the A, E, Bh, and Bw horizons, except where lime has been added, and moderately acid to neutral in the Btg horizon

A or Ap horizon:
Color—hue of 10YR, value of 2 to 4, and chroma of 1 or 2; or neutral in hue and value of 2 to 4

E horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features—none to many iron accumulations in shades of red, brown, and yellow and few or common splotches and stripped areas in the matrix in shades of gray

Bh horizon:
Color—hue of 10YR to 5YR, value of 2 or 3, and chroma of 1 to 4; or neutral in hue and value of 2 or 3

Intrusions—in many pedons material that has colors and textures similar to those of the E horizon

Bw horizon:

Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 or 4

Redoximorphic features—few to many iron masses and pore linings in shades of red, brown, or yellow

Btg horizon:

Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2; or neutral in hue and value of 4 to 6

Redoximorphic features—few to many iron depletions in shades of gray and iron accumulations in shades of yellow, brown, and red

Texture—sandy loam, fine sandy loam, or sandy clay loam with 50 percent or more fine or coarser sand

Rock fragments: In some pedons 1 to 3 percent gravel- or cobble-sized fragments of limestone in the lower part of the horizon

Cr layer:

Color—hue of 10YR, value 6 to 8, and chroma of 1 to 4

Bedrock—soft, weathered, fractured limestone that can be dug with difficulty with a spade. It has very firm to extremely firm rupture resistance and low to high excavation difficulty. It typically contains soft carbonate accumulations that contain few to many hard fragments of limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with material that ranges in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances. Thickness ranges from 6 inches to 2 feet.

R layer (typically present):

Bedrock—hard, unweathered limestone that has slightly rigid to very rigid rupture resistance and very high to extremely high excavation difficulty. In some pedons it has solution holes.

Surrency Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Moderately rapid to moderately slow in the argillic horizon
Parent material: Sandy and loamy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Depressions
Commonly associated soils: Albany, Croatan, Eunola, Mandarin, Mascotte, Ocilla, Otela, Pamlico, Plummer, Sapelo, Seaboard, Starke, and Yellowjacket soils
Taxonomic class: Loamy, siliceous, semiactive, thermic Arenic Umbric Paleaquults

Typical Pedon

Surrency mucky fine sand in an area of Surrency, Starke, and Croatan soils, depressional, in Taylor County; USGS Fenholloway topographic quadrangle; about 9.5 miles east-southeast of Perry, 1,000 feet south and 2,500 feet east of the northwest corner of sec. 6, T. 5 S., R. 9 E.

A—0 to 16 inches; black (10YR 2/1) mucky fine sand; weak fine granular structure; very friable; very strongly acid; clear wavy boundary.

E—16 to 38 inches; light gray (10YR 7/1) fine sand; single grained; loose; very strongly acid; gradual wavy boundary.

Btg—38 to 80 inches; gray (10YR 5/1) sandy clay loam; weak coarse subangular blocky structure; friable; sand grains coated and bridged with clay; common fine distinct yellowish brown (10YR 5/6) iron masses; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 to more than 80 inches
Reaction: Extremely acid to strongly acid

A horizon:

Color—hue of 10YR to 5Y, value of 2 or 3, and chroma of 1 or 2; or neutral in hue and value of 2 or 3

E horizon:

Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2

Redoximorphic features—none to common iron masses and pore linings in shades of yellow and brown

Texture—sand, fine sand, loamy sand, or loamy fine sand

Btg horizon:

Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2

Redoximorphic features—few to many iron depletions in shades of gray and iron masses in shades of yellow, brown, and red

Texture—sandy loam, fine sandy loam, or sandy clay loam

Tennille Series

Depth class: Very shallow and shallow
Drainage class: Poorly drained
Permeability: Rapid throughout
Parent material: Sandy marine sediments overlying limestone
Landscape: Lowlands on the lower Coastal Plain
Landform: Flats, flatwoods, and flood plains
Commonly associated soils: Chaires, Lutterloh, Mandarin, Maurepas, Meadowbrook, Moriah, Ousley, Plummer, Seaboard, Steinhatchee, Tooles, and Wekiva soils
Taxonomic class: Siliceous, thermic Lithic Psammaquents

Typical Pedon

Tennille fine sand in an area of Tooles-Tennille-Nutall complex, frequently flooded, in Dixie County, Florida; USGS Shired Island topographic quadrangle; about 15 miles south of Cross City, 2,200 feet west and 1,800 feet south of the northeast corner of sec. 24, T. 12 S., R. 11 E.

Ap—0 to 6 inches; black (10YR 2/1) fine sand; weak fine granular structure; very friable; many fine and medium roots; slightly acid; clear smooth boundary.
C—6 to 14 inches; mixed brown (10YR 5/3) and dark grayish brown (10YR 4/2) fine sand; single grained; loose; common very fine and fine roots; common fine faint pale brown (10YR 6/3) iron masses and pore linings; neutral; abrupt irregular boundary.
2R—14 to 80 inches; soft, weathered, fractured limestone bedrock that can be dug with light excavation equipment.

Range in Characteristics

Thickness of the solum: 6 to 20 inches
Depth to bedrock: 6 to 20 inches. Small solution holes that are 20 to 60 inches deep and 1 to 2 feet in diameter or pinnacles of rock outcrop are present in many pedons.
Reaction: Slightly acid to neutral throughout, except where lime has been added

A or Ap horizon:
Color—hue of 10YR, value of 2 to 4, and chroma of 1 or 2; or neutral in hue and value of 2 to 4
Rock fragments: Up to 4 percent gravel- to cobble-sized fragments of limestone

C horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 1 to 6. Chroma of 3 or more with stripped areas in the matrix is indicative of wetness.
Redoximorphic features—none to many iron masses and pore linings in shades of yellow, red, and brown
Texture—fine sand or loamy fine sand. Thin lenses of sandy loam are above the limestone in solution holes.
Rock fragments—up to 5 percent stone- to cobble-sized fragments of limestone

Cr layer:
Color—hue of 10YR, value 6 to 8, and chroma of 1 to 4
Bedrock—soft, weathered, fractured limestone that can be dug with difficulty with a spade. It has very firm to extremely firm rupture resistance and low to high excavation difficulty. It typically contains soft carbonate accumulations that contain few to many hard fragments of limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with material that ranges in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances. Thickness ranges from 6 inches to 2 feet.

R layer (typically present):
Bedrock—hard, unweathered limestone that has slightly rigid to very rigid rupture resistance and very high to extremely high excavation difficulty. In some pedons it has solution holes.

Tooles Series

Depth class: Deep
Drainage class: Poorly drained or very poorly drained
Permeability: Slow in the argillic horizon
Parent material: Sandy and loamy marine sediments overlying limestone (fig. 16)
Landscape: Lowlands on the lower Coastal Plain
Landform: Flatwoods, flats, flood plains, and depressions
Commonly associated soils: Bayvi, Bodiford, Chaires, Clara, Croatan, Eunola, Goldhead, Leon, Lutterloh, Mandarin, Matmon, Maurepas, Meadowbrook, Melvina, Moriah, Nutall, Ocilla, Osier, Seaboard, Starke, Steinhatchee, Tennille, and Wekiva soils
Taxonomic class: Loamy, siliceous, superactive, thermic Arenic Albaqualfs

Typical Pedon

Tooles fine sand in an area of Tooles-Meadowbrook complex in Dixie County, Florida; USGS Mallory Swamp topographic quadrangle; about 8 miles north of

Cross City, 2,300 feet north and 1,000 feet west of the southeast corner of sec. 27, T. 8 S., R. 11 E.

Ap—0 to 8 inches; very dark gray (10YR 3/1) fine sand; weak fine granular structure; very friable; many fine and medium roots; strongly acid; clear wavy boundary.

E—8 to 23 inches; brown (10YR 5/3) fine sand; single grained; loose; common fine and medium roots; moderately acid; diffuse wavy boundary.

Bw—23 to 35 inches; yellowish brown (10YR 5/6) fine sand; single grained; loose; common fine and medium roots; many medium distinct brownish yellow (10YR 6/6) iron masses and pore linings; strongly acid; abrupt wavy boundary.

Btg1—35 to 46 inches; light gray (5Y 7/1) sandy clay loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; many medium prominent yellowish brown (10YR 5/6) iron masses and pore linings; slightly acid; abrupt wavy boundary.

Btg2—46 to 55 inches; pale yellow (2.5Y 8/2) clay loam; slightly plastic; few fine roots; many medium prominent yellowish brown (10YR 5/6) iron masses and pore linings; moderately alkaline; diffuse wavy boundary.

2Cr—55 inches; pale yellow (2.5Y 8/2), soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade.

Range in Characteristics

Thickness of the solum: 41 to 60 inches
Depth to bedrock: 41 to 60 inches
Reaction: Extremely acid to neutral in the A horizon, except where lime has been added; strongly acid to neutral in the E and Bw horizons; and neutral to moderately alkaline in the Btg horizon

Oa horizon (where present):
Color—hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 2 or less; or neutral in hue and value of 2 or 3
Fiber content—10 to 33 percent unrubbed and less than 10 percent rubbed

A or Ap horizon:
Color—hue of 10YR to 5Y, value of 2 or 3, and chroma of 1 or 2

E horizon (where present):
Color—hue of 10YR, value of 4 to 7, and chroma of 1 or 2
Redoximorphic features—none to common iron masses and pore linings in shades of yellow, brown, and red

Bw horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 3 to 8

Btg horizon:
Color—hue of 10YR or 5GY, value of 4 to 7, and chroma of 1 or 2; or neutral in hue and value of 4 to 7
Redoximorphic features—few to many iron depletions in shades of gray and iron masses and pore linings in shades of yellow, brown, and red
Texture—sandy clay loam or clay loam

2Cr layer (where present):
Color—hue of 10YR or 2.5Y, value 6 to 8, and chroma of 1 to 4
Bedrock—soft, weathered, fractured limestone that can be dug with difficulty with a spade. It has very firm to extremely firm rupture resistance and low to high excavation difficulty. It typically contains soft carbonate accumulations that contain few to many hard fragments of limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with material that ranges in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances. Thickness ranges from 6 inches to 2 feet.

R layer:
Bedrock—hard, unweathered limestone that has slightly rigid to very rigid rupture resistance and very high to extremely high excavation difficulty. In some pedons it has solution holes.

Wekiva Series

Depth class: Shallow and moderately deep
Drainage class: Very poorly drained or poorly drained
Permeability: Moderately slow in the argillic horizon
Parent material: Sandy and loamy marine sediments overlying limestone
Landscape: Lowlands on the lower Coastal Plain
Landform: Rises, knolls, flats, flatwoods, flood plains, and depressions
Commonly associated soils: Bayvi, Chaires, Mandarin, Meadowbrook, Melvina, Moriah, Otela, Ousley, Plummer, Steinhatchee, Tennille, and Tooles soils
Taxonomic class: Loamy, siliceous, active, thermic, shallow Aeric Endoaqualfs

Typical Pedon

Wekiva fine sand in an area of Wekiva-Shired-Tooles complex, occasionally flooded, in Dixie County, Florida; USGS Cross City West topographic quadrangle; about 5 miles west-northwest of Cross City, 1,900 feet south and 1,200 feet west of the northeast corner of sec. 27, T. 9 S., R. 11 E.

A—0 to 6 inches; black (10YR 2/1) fine sand; weak fine granular structure; very friable; many fine and medium roots; moderately acid; clear wavy boundary.

EB—6 to 14 inches; yellowish brown (10YR 5/4) fine sand; common sand- and gravel-sized fragments of ironstone; single grained; loose; few fine and medium roots; moderately acid; abrupt wavy boundary.

Bt—14 to 21 inches; yellowish brown (10YR 5/4 and 5/6, mixed) fine sandy loam; weak fine subangular blocky structure; very friable; sand grains coated and bridged with clay; common fine and medium roots; slightly acid; abrupt irregular boundary.

Cr—21 inches; very pale brown (10YR 7/2), soft, weathered, fractured limestone bedrock that can be dug with difficulty with a spade; many fossilized shell fragments.

Range in Characteristics

Solum thickness and depth to bedrock: Generally 10 to 20 inches but ranges to as much as 30 inches in the deepest part of the cycle. Solution holes in many pedons extend as deep as 60 inches.

Rock fragments: None or few gravel- to boulder-sized fragments in the solum or on the surface in many areas

Reaction: Moderately acid to neutral throughout the solum, except where lime has been added

A horizon:

Color—hue of 10YR, value of 2 to 4, and chroma of 1 or 2; or neutral in hue and value of 2 to 4

E horizon (where present):

Color—hue of 10YR, value of 5 or 6, and chroma of 1 or 2

EB horizon:

Color—hue of 10YR, value of 4 to 6, and chroma of 2 to 6

Redoximorphic features—none to common iron depletions in shades of gray and iron masses and pore linings in shades of brown or yellow

Bt horizon:

Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 8

Redoximorphic features—none to common iron depletions in shades of gray and iron accumulations in shades of brown or yellow

Texture—fine sandy loam or sandy clay loam

Btg horizon (where present):

Color—hue of 10YR, value of 5 or 6, and chroma of 1 or 2; or neutral in hue and value of 5 or 6

Redoximorphic features—none to common iron depletions in shades of gray and iron masses and pore linings in shades of yellow or brown

Texture—fine sandy loam or sandy clay loam

Cr layer:

Color—hue of 10YR or 2.5Y, value 6 to 8, and chroma of 1 to 4

Bedrock—soft, weathered, fractured limestone that can be dug with difficulty with a spade. It has very firm to extremely firm rupture resistance and low to high excavation difficulty. It typically contains soft carbonate accumulations that contain few to many hard fragments of limestone or chert. It is highly irregular and complex. It is interspersed with solution holes that are filled with material that ranges in texture from sandy loam to sandy clay. The holes range from 4 to 12 inches in diameter. The depth to limestone varies widely within short distances. Thickness ranges from 6 inches to 2 feet.

R layer (typically present):

Bedrock—hard, unweathered limestone that has slightly rigid to very rigid rupture resistance and very high to extremely high excavation difficulty. In some pedons it has solution holes.

Wesconnett Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Moderate or moderately rapid in the spodic horizon
Parent material: Sandy marine sediments
Landscape: Lowlands on the lower Coastal Plain
Landform: Depressions
Commonly associated soils: Boulogne, Chipley, Dorovan, Evergreen, Hurricane, Leon, Lynn Haven, Mandarin, Matmon, Ortega, Osier, Ousley, Pamlico, Pottsburg, Ridgewood, and Steinhatchee soils
Slope: 0 to 2 percent
Taxonomic class: Sandy, siliceous, thermic Typic Alaquods

Typical Pedon

Wesconnett fine sand in an area of Wesconnett, Evergreen, and Pamlico soils, depressional, in Taylor County; USGS Fenholloway topographic quadrangle;

about 14.5 miles east of Perry, 2,500 feet west and 2,600 feet south of the northeast corner of sec. 35, T. 4 S., R. 9 E.

A—0 to 10 inches; black (10YR 2/1) fine sand; weak medium granular structure; very friable; many fine to coarse roots; very strongly acid; gradual wavy boundary.

Bh1—10 to 21 inches; very dark gray (5YR 3/1) fine sand; massive; friable; sand grains coated with organic matter; few fine and medium roots; very strongly acid; diffuse smooth boundary.

Bh2—21 to 40 inches; dark reddish brown (5YR 3/2) fine sand; massive; friable; sand grains coated with organic matter; few fine roots; strongly acid; clear wavy boundary.

BE—40 to 62 inches; brown (10YR 5/3) fine sand; single grained; loose; strongly acid; gradual wavy boundary.

C—62 to 80 inches; light gray (10YR 7/2) fine sand; single grained; loose; strongly acid.

Range in Characteristics

Thickness of the solum: 30 to 80 inches
Reaction: Extremely acid to slightly acid throughout
Texture: Sand or fine sand throughout the mineral horizons

Oa horizon (where present):
Color—hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 2 or less; or neutral in hue and value of 2 or 3
Fiber content—10 to 33 percent unrubbed and less than 10 percent rubbed

A horizon:
Color—hue of 10YR, value of 2 or 3, and chroma of 1 or 2; or neutral in hue and value of 2 to 4

Bh horizon:
Color—hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 to 3

E horizon (where present):
Color—hue of 10YR, value of 4 to 7, and chroma of 3 or 4

BE horizon:
Color—hue of 10YR, value of 4 to 7, and chroma of 3 or 4

Eg horizon (where present):
Color—hue of 10YR, value of 4 to 7, and chroma of 1 or 2

C horizon:
Color—hue of 10YR, value of 4 to 7, and chroma of 1 or 2

Yellowjacket Series

Depth class: Deep and very deep
Drainage class: Very poorly drained
Permeability: Rapid throughout
Parent material: Highly decomposed organic matter over sandy marine sediments
Landscape: Coastal swamps on the lower Coastal Plain
Landform: Flood plains and depressions
Commonly associated soils: Bodiford, Clara, Eunola, Leon, Matmon, Maurepas, Osier, Otela, Pamlico, and Surrency soils
Taxonomic class: Sandy or sandy-skeletal, siliceous, euic, thermic Terric Medisaprists

Typical Pedon

Yellowjacket muck in an area of Yellowjacket and Maurepas mucks, frequently flooded, in Taylor County; USGS Keaton Beach topographic quadrangle; about 31 miles south of Perry, 1,100 feet south and 2,350 feet west of the northeast corner of sec. 28, T. 8 S., R. 8 E.

Oa1—0 to 6 inches; black (7.5YR 2/1) muck; about 40 percent fiber unrubbed, less than 10 percent rubbed; weak fine granular structure; very friable; many fine, medium, and coarse roots; slightly acid; gradual wavy boundary.

Oa2—6 to 42 inches; black (10YR 2/1) muck; about 25 percent fiber unrubbed, less than 5 percent rubbed; massive; very friable; common fine and many medium and coarse roots; neutral; gradual wavy boundary.

AC—42 to 60 inches; very dark gray (10YR 3/1) fine sand; massive; very friable; few medium and coarse roots; moderately alkaline; gradual wavy boundary.

Cg—60 to 80 inches; dark grayish brown (10YR 4/2) fine sand; single grained; loose; moderately alkaline.

Range in Characteristics

Fiber content: 20 to 75 percent unrubbed and 5 to 15 percent rubbed; large fragments of wood in some organic layers
Depth to bedrock: 40 to more than 80 inches
Reaction: Moderately acid to moderately alkaline in the Oa horizon and neutral to moderately alkaline in the AC and Cg horizons

Oa horizon:
Color—hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 2 or less; or neutral in hue and value of 2 or 3

Fiber content—10 to 33 percent unrubbed and less than 10 percent rubbed

AC horizon:

Color—hue of 10YR to 5YR, value of 2 or 3, and chroma of 1 to 3; or neutral in hue and value of 2 or 3

Texture—sand, fine sand, loamy sand, loamy fine sand, or their mucky analogs

Cg horizon:

Color—hue of 10YR, value of 4 to 7, and chroma of 1 or 2; or neutral in hue and value of 4 to 7

Texture—sand, fine sand, loamy sand, or loamy fine sand and, in some pedons, thin strata of sandy loam or sandy clay loam

Cr layer (where present):

Bedrock—weathered, soft limestone or accumulations of secondary calcium carbonate with hard limestone fragments that can be dug with difficulty with a spade

R layer (where present):

Bedrock—unweathered, hard limestone beginning at depth of 40 inches in some pedons. It can be chipped but not dug with a spade. Some pedons have solution holes that range from 6 to 18 inches in diameter and from 18 to 45 inches in depth. They are filled with sapric material in the upper part and with sand, soft masses and accumulations of secondary calcium carbonates, or limestone fragments in the lower part.

Formation of the Soils

In this section, the factors of soil formation are described and related to the soils in Taylor County. The processes of horizon differentiation are also explained, and the geomorphology of the county is described.

Factors of Soil Formation

The kind of soil that forms in an area depends on five major factors. These factors are the physical and mineral composition of the parent material; the climate under which the soil material has accumulated and has existed since accumulation; the organisms, or plant and animal life on and in the soil; the relief, or lay of the land; and the length of time that these factors have acted on the soil material (Jenny, 1941; Jenny, 1980). All of these factors affect the formation of each soil, but the relative importance of each factor differs from place to place. In some areas one factor may dominate the formation of a soil and determine most of the soil properties. For example, if the parent material consists of pure quartz sand, which is highly resistant to weathering, the soil generally has weakly expressed horizons. Even in quartz sand, however, a distinct profile can be formed under certain types of vegetation if the relief is low and flat and the water table is high.

The interrelationship among these five factors is complex, and the effects of any one factor cannot be isolated and completely evaluated. Each factor is described separately, and the probable effects of each are indicated.

Parent Material

The parent materials of the soils in Taylor County consist mostly of deposits of marine origin. These deposits are mostly quartz sand and contain varying amounts of clay and shell fragments. Limestone and dolostone form near-surface bedrock in most of the county. Clay is more abundant in the soils that formed in the sediment on marine terraces and in lagoons. It is virtually absent on shoreline ridges where most deposits are eolian sand. The parent material was transported by ocean currents. The ocean covered the area a number of times during the Pleistocene age.

The parent materials in the county differ somewhat in mineral and chemical composition and in physical structure. The main physical differences, such as those between sand, silt, and clay, can be observed in the field. Other differences, such as mineral and chemical composition, are important to soil formation and affect the physical and chemical characteristics of the soils. Many differences among the soils in the county reflect original differences in the parent material as it was laid down.

Some organic soils are located throughout the county. They formed in partly decayed wetland vegetation.

Climate

Climate, particularly temperature and rainfall, is the main factor that determines the rate and nature of the physical, chemical, and biological processes that affect the weathering of soil material. Rainfall, changes in temperature, wind, and sun advance the breakdown of rocks and minerals, the release of chemicals, and other processes that affect the development of the soils. The amount of water that percolates through a soil depends on rainfall, relative humidity, permeability of the soil, and physiographic position of the soil. Temperature influences the kinds of organisms in a soil, the growth of the organisms, and the speed of physical and chemical reactions in the soil.

Taylor County has a warm, humid climate characterized by long, hot summers and short, mild winters. The soils generally have a low content of bases because most of the rainfall percolates downward through the soil. Because the rainfall generally is well distributed, most of the soils retain moisture throughout the year. Climate throughout the county is uniform; therefore, it has had about the same affect on soil development in all parts of the county. The soils in the county are mostly highly weathered, leached, strongly acid, and low in natural fertility and content of organic matter.

Plants and Animals

Plants, animals, and other organisms have a significant role in soil formation. Plant and animal life can increase the content of organic matter and nitrogen, increase or decrease the content of plant nutrients, and change the structure and porosity of the soils.

Plants recycle plant nutrients, accumulate organic matter, and provide food and cover for animal life. They stabilize the surface layer so that soil-forming processes can continue. They also stabilize the environment for soil-forming processes by protecting the soil from extremes in temperature.

The soils in Taylor County formed under a succession of plants. This succession is still evident in the smooth cordgrass and black rush in the marshlands, the big cordgrass and giant cutgrass in the brackish-water areas, the hardwood trees and cypress in the very poorly drained areas, and the pine trees in the moderately well drained and poorly drained areas.

Animals rearrange soil material by roughening the surface, forming and filling channels, and shaping peds and voids. The soil is mixed by the channeling of ants, wasps, worms, and spiders and by the burrowing of crustacea, such as crabs and crawfish, and turtles and other reptiles. Bacteria, fungi, and other microorganisms hasten decomposition of organic matter and increase the rate of release of minerals for additional plant growth. People affect the soil-forming process by tilling the soil for agriculture, removing natural vegetation, establishing other plants, and reducing or increasing the fertility of the soil.

The net gains and losses caused by plants and animals in the soil-forming process are important in the county. Fiddler crab and other crustacea continuously burrow and rework the upper horizons of Bayvi soils. Plant residue provides most of the organic matter for the formation of the umbric epipedon in Surrency and Starke soils. Plants recycle the calcium in Wekiva soils and provide the stability necessary for the formation of the ochric epipedon.

Relief

Relief, or lay of the land, affects soil formation by influencing microclimate and water relationships. Soil temperature is influenced by altitude and by the orientation of the slope toward or away from the sun. Relief affects drainage, runoff, erosion, soil fertility, and vegetation.

Even though the terrain in Taylor County is mostly nearly level, relief has a significant effect on the soils. Most of the soils are sandy because the parent material of most of the soils consists of sandy marine deposits. Because sandy soils have low available water capacity and easily become droughty, most of the water available to plants comes from the water table. As a result, the depth to the water table is extremely important in the determination of the type of vegetation that grows in a particular area.

The depth to the water table also affects internal drainage. On the sand ridges, where the water table is deep and the soils are highly leached, soluble plant nutrients, colloidal clays, and organic matter are carried rapidly downward to the sandy soil.

In areas of the flatwoods, the water table is commonly at or near the surface and rarely drops below a depth of 5 feet. Organic matter is translocated down a short distance and forms a humus-rich spodic horizon, or Bh horizon. This horizon is referred to locally as a hardpan.

In low areas or depressions where the water table is generally above the surface, muck accumulates under marsh or swamp vegetation. As these plants die, the residue accumulates in the water where oxygen is excluded. The residue slowly, and only partly, decays. The amount of muck that accumulates depends mainly on the depth and duration of standing water. In some wet areas, accumulations of organic matter have formed a thick, black topsoil on the mineral soil instead of a muck surface layer.

Time

Time is an important factor affecting soil formation. The physical and chemical changes brought about by climate, plants and animals, and relief are slow. The length of time needed to convert raw, geologic material into soil varies according to the nature of the geologic material and the interaction of the other factors. Some basic minerals from which soils are formed weather fairly rapidly, while other minerals are chemically inert and show little change over long periods. The formation of horizons caused by translocation of fine particles in the soil varies under different conditions, but the processes always take a relatively long time.

In Taylor County the dominant geologic materials are inert. The sand is almost pure quartz and is highly resistant to weathering. The finer textured silt and clay are the products of earlier weathering.

Relatively little geologic time has elapsed since the parent material in the county was laid down or emerged from the sea. The loamy and clayey horizons formed in place through processes of clay translocation.

Processes of Horizon Differentiation

Soil morphology refers to the processes that involve the formation of soil horizons or soil horizon differentiation. The processes involved in the differentiation of horizons in Taylor County are accumulation of organic matter, leaching of carbonates, reduction and transfer of iron, and accumulation of silicate clay minerals. In the formation of most of the soils, more than one of these processes is involved.

Some organic matter has accumulated in the upper part of most of the soils in the county, forming an A horizon. The content of organic matter is low in some of the soils and fairly high in others.

Carbonates and salts have been leached in most of the soils. Because the leaching permitted the subsequent translocation of silicate clay material in some soils, the effects of leaching have been indirect. Most of the soils in the county are leached to varying degrees.

The process of chemical reduction, or gleying, is evident in many of the soils in the county but not in the excessively drained soils. Gleying is caused by wetness. A gray matrix color in the B horizon in many soils and grayish mottles in other soils indicate the reduction of iron. In some horizons reddish brown mottles and concretions indicate the segregation of iron and a fluctuating water table.

The translocation of silicate clay, colloidal organic matter, and iron oxides has contributed to horizon development in many of the soils in the county. The movement of clay, organic matter, or iron is evident in many of the soils. Examples include a leached E horizon that is light in color, a Bt or Bh horizon in which sand grains are bridged and coated with clay or colloidal organic matter, and patchy clay films on faces of peds and in root channels. In Taylor County, other processes of soil formation are less important in the formation of horizons than the translocation of silicate clay.

Geomorphology

Frank R. Rupert, geologist, Florida Department of Natural Resources, Florida Geological Survey, Bureau of Geology, prepared this section.

Taylor County is situated in Florida's Big Bend area, lying wholly within a broad geomorphic subdivision named the Gulf Coastal Lowlands (Healy, 1975). The Gulf Coastal Lowlands (fig. 17) are characterized as a low, flat, commonly swampy, seaward-sloping plain. Surface slope ranges from 1 to 5 feet per mile seaward. The maximum land surface elevation in Taylor County is about 101 feet above mean sea level (MSL) in the northern part of the county along the border with Madison County. Limestone and dolostone, covered by a veneer of unconsolidated sand, form the near-surface bedrock in most of the county. The Gulf Coastal Lowlands extend from the modern shoreline inland to the line where the elevation is about 100 feet above MSL. Similar terrain has been named the Limestone Shelf and Hammocks in neighboring Dixie County and the Woodville Karst Plain in adjacent Jefferson County (Puri, 1967; Yon, 1966).

The irregular, highly karstic Oligocene and Eocene carbonates underlying Taylor County are masked by a blanket of undifferentiated Pleistocene sand (figs. 18 and 19). Near the coast, the undifferentiated sands are thin or absent. West of Perry, in the San Pedro Bay region, these sands may be as much as nearly 80 feet thick and contain enough clay to function as local aquitards to the underlying Floridan aquifer system. The top of the underlying carbonate bedrock rises gently from about sea level at the coast to about 60 feet above MSL in the northeastern corner of the county (Alison, n.d.). Most of county is commercial woodland or agricultural land. Near the coast, the karst plain merges seaward into the coastal marshes and continues offshore as a broad, sand-covered, continental shelf. Small artesian springs flow from the near-surface limestone. During periods of heavy rainfall, parts of the karst plain may flood, forming a shallow swamp. Drainage from the coastal hammocks is sluggish and flows through a number of small creeks and sloughs that empty into the coastal swamps.

Most of the area of the Gulf Coastal Lowlands is ancient marine-terrace terrain. Pleistocene seas alternately flooded and retreated from this region, depositing a step-like series of marine terraces that generally parallel the modern coastline. Three elevation zones are described for the marine terraces in Taylor County. They are the Silver Bluff Terrace (less than 10 feet above MSL), the Pamlico Terrace (8 to 25 feet above MSL), and the Wicomico Terrace (70 to 100 feet above MSL) (Healy, 1975). Imposed on these terrace surfaces are numerous relict Pleistocene marine features, such as bars, dunes, and beach ridge systems. The relict features can be observed far inland from the modern coastline. They are composed principally of white, quartz sand.

The Gulf shoreline in Taylor County is classified as a low-wave-energy, drowned karst coast. It is characterized by very low wave activity, a general lack of sand beaches, and an irregular outline. Series of small islets, or keys, comprised of limestone pinnacles are common along the southern part of the coastline. Extensive coastal salt marshes, interspersed with a few small sand beaches and numerous near-shore oyster bars, are at the interface between the land and sea along the length of the coast.

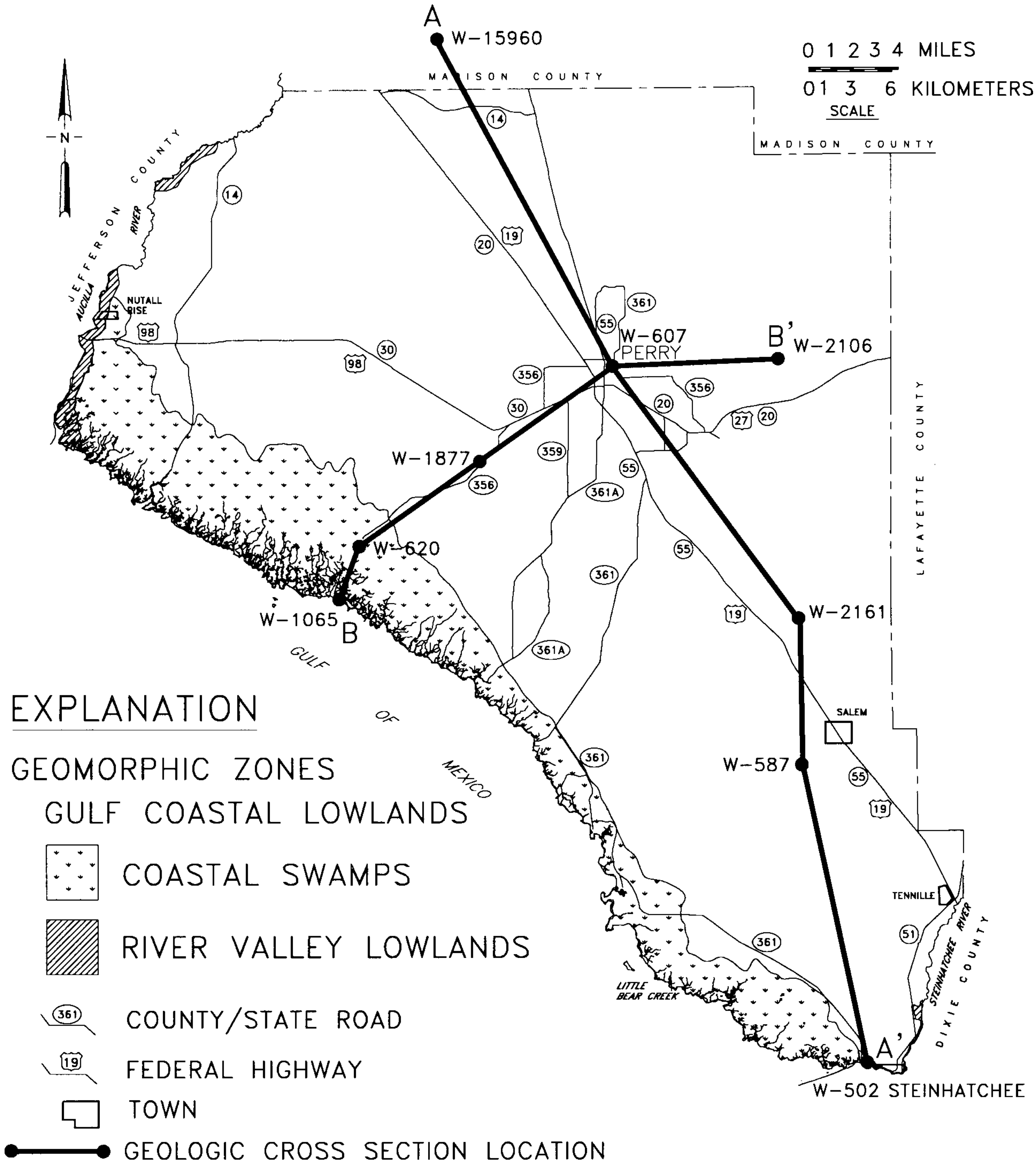

Figure 17.—Locator map for cross sections and geomorphic features in Taylor County.

Coastal Swamps

A zone of low, flat, frequently flooded hammocks and pine flatwoods, rimmed on the seaward edge by salt marshes, is along the low-energy Gulf coastline of Taylor County. This region is named the Coastal Swamps Zone (White, 1970). It typically extends from the shore inland to the contour line at about 10 feet above MSL. This line ranges from about 1 to 4 miles inland (fig. 17). Due to a lack of sand input and the low wave-energy conditions along the Big Bend coastline, sand beaches are poorly developed or absent.

Numerous small surface streams, most of which arise in the swampy hammocks and bays in the western part of the county, flow generally southwestward and empty into the Gulf of Mexico. Most of these streams are sluggish, tannic-water streams that flow in narrow channels and drain the interior swamps. Some are fed by small springs that seep freshwater from the carbonate rocks of the underlying Floridan aquifer system. Extensive salt marshes border the interface between the land and sea along most of the coast. These marshes consist of Juncus and Spartina grasses rooted in shallow, organic-rich silts and sands lying on limestone. They are dissected by small, seaward flowing tidal streams and creeks, which can also be fed by freshwater seeping out of the shallow limestone of the Floridan aquifer system.

River Valley Lowlands

The Aucilla and Steinhatchee Rivers are the largest surface streams in the county. They form parts of the boundary between Taylor County and adjacent counties.

The Aucilla River forms the boundary between Taylor County and Jefferson County, which is to the northwest. The river flows southwest from Georgia to the Gulf of Mexico in a dissolutional valley of variable width, carved in the underlying Oligocene carbonates. The topographic lowlands immediately adjacent to the river, generally characterized by thin Holocene sands and clayey sands lying on limestone, comprise the Aucilla River Valley Lowlands (Yon, 1966). Elevation of the river valley floor ranges from about 35 feet above MSL in the northwestern part of Taylor County to sea level where the river enters the coastal swamps. Along most of its course, the valley is less than 1 mile wide. In places, rapids flow over exposed, silicified limestone. The Aucilla River is captured by subterranean drainage 4-1/2 miles north of U.S. Highway 98. About 2 miles of the underground course of the river is defined by closely spaced sinks. The river emerges 2-1/2 miles above the highway, flowing about 1-1/2 miles as a surface stream before flowing underground once again into a sink. The river reemerges in the western part of the county at the

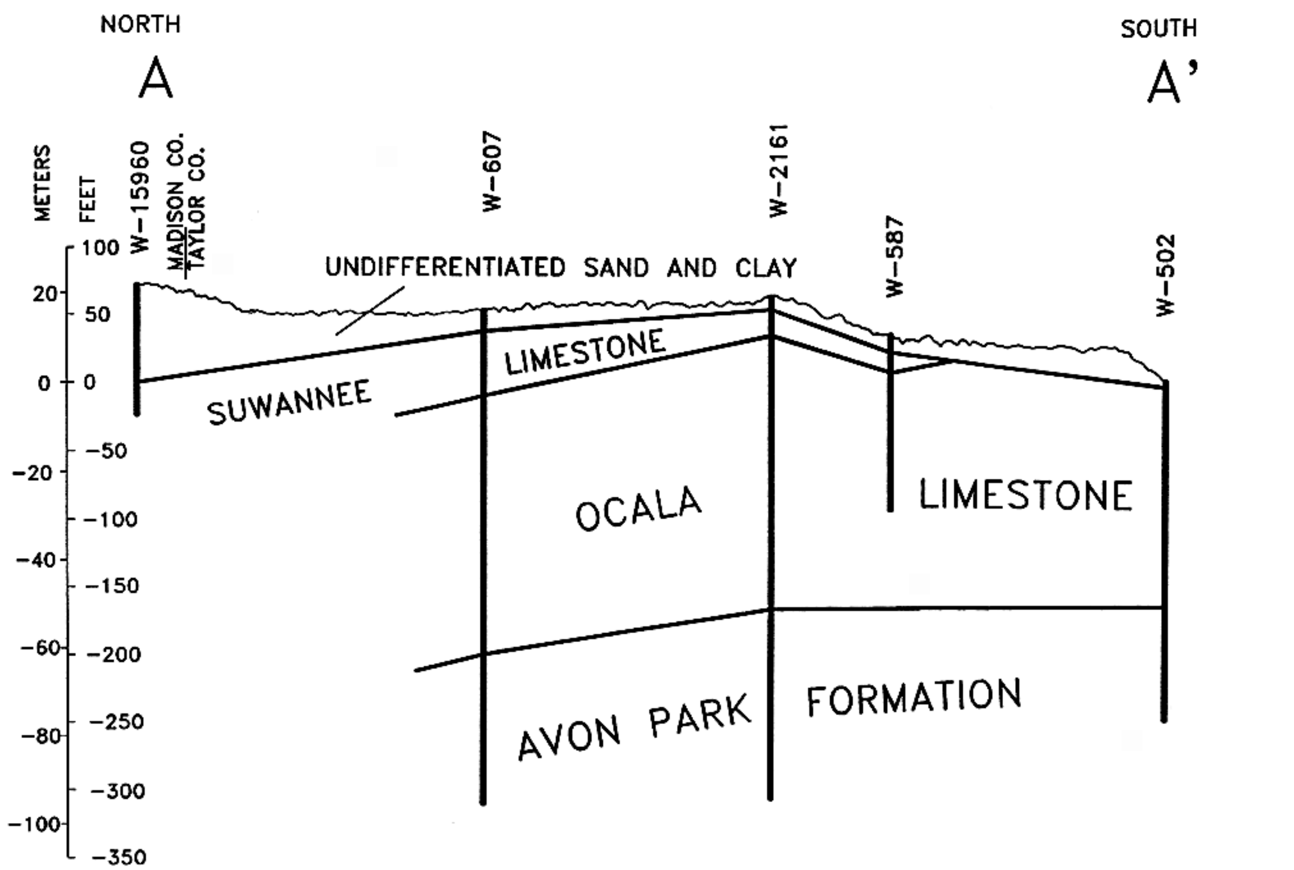

Figure 18.—Cross section of geologic materials at sites A to A´. The vertical exaggeration is approximately 570 times true scale.

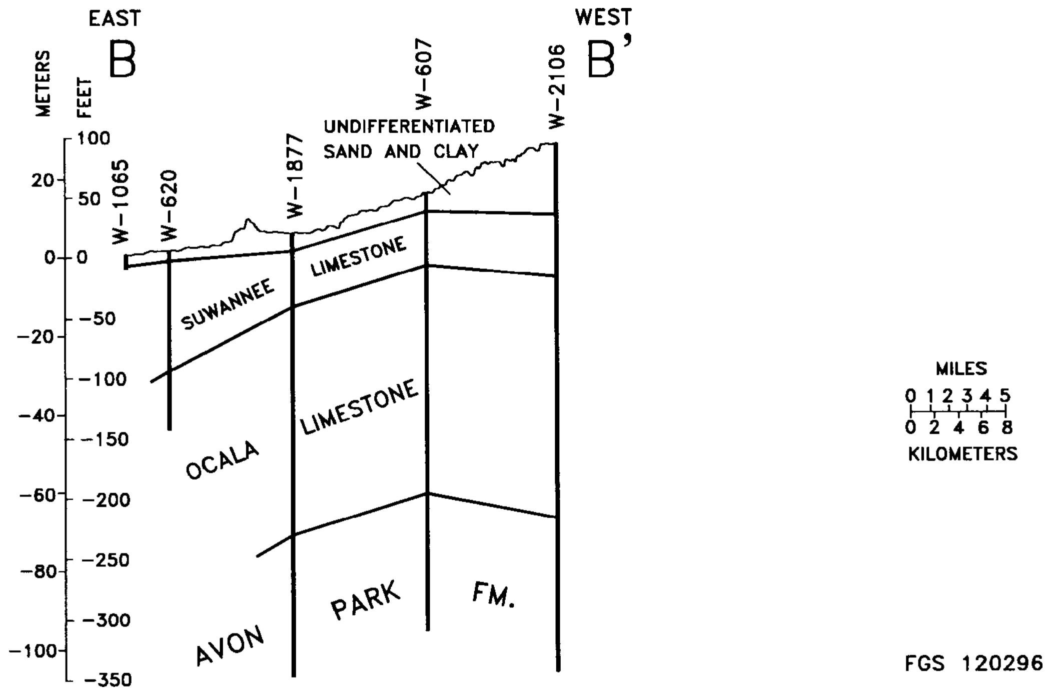

Figure 19.—Cross section of geologic materials at sites B to B′. The vertical exaggeration is approximately 570 times true scale.

community of Nutall Rise for the final course to the Gulf. The river broadens as it merges into the coastal swamps near the coast.

The Steinhatchee River arises in the swampy hammocks of adjacent Lafayette County and flows southwest in a narrow, incised valley generally lying 10 feet or less above MSL. It forms the southern boundary between Taylor and Dixie Counties. It flows in a narrow channel that is cut in Eocene carbonates, which commonly crop out along the lower part of the river. The river flows underground for about 1 mile near the community of Tennille and emerges about 0.3 mile west of U.S. Highway 19 (Puri, 1967). The underground part of the river is mirrored at the surface by a topographic valley that contains only intermittent flow. The Steinhatchee River is a sluggish, generally tannic stream that widens as it enters the salt marshes near the coast. The lowlands adjacent to the river are typically very narrow. They widen significantly in only one small area northeast of the town of Steinhatchee. Pleistocene and Holocene siliciclastic materials form a sediment veneer over the carbonates in the river bed and along the banks.

Stratigraphy

The oldest rock commonly penetrated by water wells in Taylor County is marine limestone of the Eocene Avon Park Formation. Undifferentiated Pleistocene and Holocene surficial sands, clayey sands, and alluvium are the youngest sediments present. Figures 18 and 19 illustrate the shallow stratigraphy of the county. The Avon Park Formation and the younger overlying carbonates are important freshwater aquifers, and the following description of the geology of Taylor County is confined to these Eocene and younger sediments.

Eocene Series

The Avon Park Formation is a lithologically variable Middle Eocene carbonate unit underlying all of Taylor County (Miller, 1986). It is typically yellowish-gray, grayish-orange, or dark yellowish brown dolostone, commonly interbedded with grayish-white or yellowish-gray limestones and dolomitic limestones. According to in-house well logs of the Florida Geological Survey, the unit may contain varying amounts of peat, lignite, and plant remains. Mollusks, echinoids, and foraminifera, where preserved, are the principal fossils present.

The depth to the top of the Avon Park Formation ranges from about 300 feet below land surface in the northwestern part of the county to about 90 feet below land surface in the southern part. Surface exposures of the formation do not occur in the county but do occur to the south in Levy County, over the crest of a positive subsurface structural feature named the Ocala

Platform. Data from deep oil test wells indicate that the Avon Park Formation ranges from about 800 to 1,400 feet in thickness under Taylor County.

Marine limestones of the Ocala Limestone unconformably overlie the Avon Park Formation under all of Taylor County (Puri, 1957; Scott, 1991). The Ocala Limestone is divided into an upper unit and a lower unit based on lithology. The lithology of the Ocala Limestone grades upward from alternating hard and soft, white, tan, or gray, fossiliferous limestone and dolomitic limestone in the lower unit into white, very light gray, or light yellowish-orange, abundantly fossiliferous, chalky limestones in the upper unit. Foraminifera, mollusks, bryozoans, and echinoids are the most abundant fossils in the unit.

The thickness of the Ocala Limestone sediments under Taylor County ranges from 80 to 220 feet. The Ocala Limestone generally thins against the structurally high Avon Park Formation toward the crest of the Ocala Platform in the southern and eastern parts of the county. The depth to the irregular and highly karstic top of the Ocala Limestone is generally 10 to 100 feet. The overlying Suwannee Limestone pinches out against the Ocala Limestone along a contact approximately extending northeast to southwest from near the town of Salem to Little Bear Creek on the gulf coast (fig. 17). North of this contact line, the Suwannee Limestone is the uppermost carbonate unit; to the south, the Suwannee limestone is absent and the Ocala Limestone forms the upper carbonate. The Ocala Limestone commonly crops out in the hammocks and coastal marshes in the southernmost part of the county. Offshore of the modern coastline, a thin blanket of quartz sand covers the Ocala Limestone. Exposures in the form of limestone boulders and pinnacles are common. Dolomitized exposures of the unit occur in the vicinity of the town of Steinhatchee, along the Steinhatchee River in the southernmost part of the county.

The highly permeable and cavernous nature of the Ocala Limestone makes it an important freshwater bearing unit of the Floridan aquifer system. Many drinking water wells in the southern part of Taylor County withdraw water from this limestone.

Oligocene Series

The Suwannee Limestone is an Oligocene-age marine limestone and dolostone underlying the northern two-thirds of Taylor County (Puri, 1957). It is typically a white, yellowish-gray, or grayish-brown, skeletal to micritic limestone, altered in some areas to variably recrystallized dolostone. Mollusks, foraminifera, echinoids, bryozoans, and ostracods, in various degrees of preservation, comprise the dominant fossil assemblage in the unit. The top of the Suwannee Limestone typically ranges in depth from as much as 50 feet below land surface in northwestern part of the county to the surface in some exposures in the west-central part of the county and along the Gulf coastline. The unit climbs and thins to the southeast. It decreases in thickness from about 50 feet in the northeastern part of the county to zero at its pinchout against the Ocala Limestone in the southern part of the county.

The Suwannee Limestone locally comprises the uppermost unit of the Floridan aquifer system. Shallow domestic and agricultural wells draw water from this unit.

Pleistocene-Holocene Series

Undifferentiated Pleistocene marine quartz sands and clayey sands form a thin veneer over all of Taylor County. They are generally less than about 50 feet thick throughout the county and thin to less than 20 feet near the coast. They directly overlie the karstic carbonates of the Suwannee and Ocala Limestones. Many of the larger and higher sand bodies in Taylor County are relict dunes, bars, and barrier islands associated with various Pleistocene high stands of the sea level.

Discontinuous deposits of sparsely-phosphatic, clayey sands, likely reworked Hawthorn Group sediments, comprise portions of the undifferentiated sediments in the northern part of Taylor County. These deposits are common in karst depressions and may, in part, represent Plio-Pleistocene paleosinkhole fill.

Ground Water

Ground water is water that fills the pore spaces in subsurface rocks and sediments. In Taylor and adjoining counties, it is derived principally from precipitation. The bulk of the water consumed in Taylor County is withdrawn from ground water aquifers. Two aquifer systems are under Taylor County, the surficial aquifer system and the Floridan aquifer system.

Surficial Aquifer System

The surficial aquifer system is the uppermost freshwater aquifer in Taylor County. This nonartesian aquifer is in the county only within the Pleistocene undifferentiated sands and clays in the San Pedro Bay region in the northeastern part of county. In this area, a clay unit of variable thickness semiconfines the underlying Floridan aquifer system and separates it from the surficial aquifer system. In some areas, the Floridan and surficial aquifer systems are in hydrologic contact. In general, however, the two systems contain chemically different water. The surficial aquifer system, where present, is unconfined, and the upper surface of the system is the water table. The water table generally fluctuates with precipitation and conforms to the topography of the land surface. Recharge to the surficial aquifer system is largely through rainfall percolating downward through the unconsolidated surficial sediments. To a lesser extent, it is by upward seepage from the underlying Floridan aquifer system. Water naturally discharges from the surficial aquifer by evaporation and downward seepage into the Floridan aquifer system. The surficial aquifer system is not used as a source of consumable water in Taylor County.

Florida Aquifer System

In Taylor County, the Floridan aquifer system is comprised of hundreds of feet of Eocene marine limestones, including the Avon Park Formation, the Ocala Limestone, and the Suwannee Limestone. The system is the principle source of drinking water in the county. It is an unconfined, nonartesian aquifer in most of the county, where porous, quartz sand directly overlies the limestone. In the San Pedro Bay area, clay units may serve to locally confine the aquifer. The depth to the top of the Floridan aquifer system generally corresponds to the depth to limestone and varies from less than five feet in the coastal marshes and river valley lowlands to more than 80 feet under the larger relict Pleistocene sand bodies. The potentiometric gradient is southwestward.

Recharge to the Floridan aquifer system in Taylor County is obtained from lateral inflow from the north and, to a lesser extent, from local rainfall percolating downward through the permeable surficial sands. The highest recharge by percolation occurs in a narrow, northwest-to-southeast trending swath of dune sands overlying karstic carbonates in the southwestern part of the county (Stewart, 1980).

Water leaves the Floridan aquifer system through natural down-gradient movement and subsequent discharge through numerous springs and seeps. These springs generally are in the river valley lowlands and along the coastal marshes, where the potentiometric surface of the Floridan aquifer system is at or above land surface.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

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.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction in which a slope faces.

Association, soil. A group of soils or miscellaneous areas 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:

Very low	0 to 0.05
Low	0.05 to 0.1
Moderate	0.1 to 0.15
High	0.15 to 0.20
Very high	more than 0.20

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density and is commonly expressed in square feet.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Bedding planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

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.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Bottom land. The normal flood plain of a stream, subject to flooding.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of 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.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

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.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

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 depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

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.

Coarse textured soil. Sand or loamy sand.

Climax plant community. 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.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas 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 or miscellaneous areas are somewhat similar in all areas.

Compressible (in tables). Excessive decrease in volume of soft soil under load.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

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. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

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.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

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.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

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 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, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Depth to rock (in tables). Bedrock is too near the surface for the specified use.

Depressions. Landforms that are typically the sunken, lower parts of the earth's surface, have concave relief, and do not have natural outlets for surface drainage.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Dolostone (dolomitic limestone). A calcium carbonate material containing manganese.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

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.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

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.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of 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 human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Evapotranspiration. The combined loss of water from a given area, and during a specific period of time, by evaporation from the soil surface and transpiration from plants.

Excess fines (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

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*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flats. Nearly level landforms that are smooth, do not have any significant curvature or slope, and have little change in elevation. They occur as transitional areas. Typically, they are about 6 inches lower in elevation than the flatwoods and commonly extend down to depressions that have linear to slightly concave relief.

Flatwoods (colloquial). Broad, linear-relief landforms that have slightly convex relief along flats, depressions, and flood plains and have concave relief along rises and knolls.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

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.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

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 as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that is 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 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. Water filling all the unblocked pores of the 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.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hardpan. A hardened or cemented soil horizon, usually a spodic horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

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. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil 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, a plowed surface horizon, most of which was originally part of a B horizon.

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 A horizon. The B horizon is in part a layer of transition from the overlying A 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) 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 soil material. 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.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it 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 potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

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.

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:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

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.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Landform. Any recognizable physical feature on the earth's surface produced by natural causes and having a characteristic shape and range in composition.

Landscape. A collection of related natural landforms, usually the land surface that can be comprehended in a single view.

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.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

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, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

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. 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 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Muck. Dark, 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 with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

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. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

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 affects the specified use.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Extremely slow	0.0 to 0.01 inch
Very slow	0.01 to 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, such as slope, stoniness, and flooding.

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.

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 or very 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.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

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.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Range condition. The present composition of the plant community on a range site in relation to the potential climax 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 climax 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 degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly 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

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

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 generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Rises. Landforms that have a broad summit and gently sloping sides rising above, lower wetter land.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

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.

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.

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.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

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. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

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 (in tables). 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.

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.

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. In this survey, classes for simple slopes are as follows:

Nearly level	0 to 2 percent
Gently sloping	2 to 5 percent
Moderately sloping	5 to 8 percent
Strongly sloping	8 to 12 percent
Moderately steep	12 to 20 percent
Steep	20 to 45 percent
Very steep	45 percent and higher

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

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.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

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, in millimeters, of separates recognized in the United States are as follows:

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 material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Spodic horizon. A mineral soil horizon that is characterized by the illuvial accumulation of amorphous materials composed of aluminum and organic carbon with or without iron. The spodic horizon has a certain minimum thickness and a minimum quantity of extractable carbon plus iron plus aluminum in relation to its content of clay.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion 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 erosion 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.

Substratum. The part of the soil below the solum.

Subsurface layer. Technically, the E horizon. Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying 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 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, considered collectively. 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. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

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. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

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 that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

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.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Unstable fill (in tables). Risk of caving or sloughing on banks of fill material.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

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.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1961-90 at Perry, Florida)

Month	Temperature: Average daily maximum	Temperature: Average daily minimum	Temperature: Average daily	Temperature: 2 years in 10 will have-- Maximum temperature higher than--	Temperature: 2 years in 10 will have-- Minimum temperature lower than--	Temperature: Average number of growing degree days*	Precipitation: Average	Precipitation: 2 years in 10 will have-- Less than--	Precipitation: 2 years in 10 will have-- More than--	Precipitation: Average number of days with 0.10 inch or more
	°F	°F	°F	°F	°F	Units	In	In	In	
January-----	66.0	41.0	53.5	81	16	426	4.13	2.09	5.91	6
February----	68.8	42.5	55.7	83	21	438	4.43	2.37	6.24	6
March-------	75.7	48.9	62.3	87	27	689	4.67	2.12	6.85	5
April-------	81.8	54.0	67.9	92	35	833	3.50	0.90	5.57	3
May---------	87.6	61.6	74.6	96	45	1,071	3.88	1.60	5.81	5
June--------	91.4	68.1	79.7	99	56	1,190	6.25	3.72	8.51	8
July--------	92.2	70.7	81.4	99	53	1,281	8.48	4.75	11.79	11
August------	92.0	70.5	81.2	98	64	1,274	8.49	4.45	12.03	11
September---	89.9	67.4	78.7	97	51	1,154	5.50	2.99	7.71	7
October-----	83.4	56.9	70.1	93	33	933	2.27	0.57	3.76	3
November----	75.9	48.8	62.3	87	24	663	2.74	1.50	3.82	4
December----	69.0	42.9	56.0	83	17	498	3.73	1.85	5.37	5
Yearly:										
Average----	81.1	56.1	68.6	---	---	---	---	---	---	---
Extreme----	104	7	---	101	14	---	---	---	---	---
Total------	---	---	---	---	---	10,450	58.06	48.20	66.91	74

* 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 1961-90 at Jacksonville, Florida)

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--	Feb. 27	Mar. 14	Mar. 29
2 years in 10 later than--	Feb. 13	Mar. 8	Mar. 24
5 years in 10 later than--	Jan. 28	Feb. 24	Mar. 13
First freezing temperature in fall:			
1 year in 10 earlier than--	Nov. 19	Nov. 4	Oct. 23
2 years in 10 earlier than--	Nov. 28	Nov. 13	Oct. 30
5 years in 10 earlier than--	Dec. 16	Dec. 29	Nov. 13

Table 3.--Growing Season

(Recorded in the period 1961-90 at Jacksonville, Florida)

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	284	247	223
8 years in 10	298	258	230
5 years in 10	325	279	244
2 years in 10	361	299	258
1 year in 10	>365	310	266

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
3	Clara and Osier fine sands	6,846	1.0
5	Chaires fine sand	28,900	4.3
6	Leon fine sand	68,980	10.2
8	Meadowbrook fine sand	1,603	0.2
9	Sapelo fine sand	22,080	3.3
10	Mandarin-Hurricane complex, 0 to 3 percent slopes	2,948	0.4
12	Ortega fine sand, 0 to 5 percent slopes	38,290	5.6
13	Hurricane fine sand, 0 to 3 percent slopes	12,321	1.8
14	Chipley-Lynn Haven, depressional-Boulogne complex, 0 to 3 percent slopes	6,460	1.0
15	Ridgewood fine sand, 0 to 3 percent slopes	24,940	3.7
16	Lutterloh-Ridgewood complex, 0 to 3 percent slopes	2,369	0.3
17	Ousley-Leon-Clara complex, 0 to 3 percent slopes, occasionally flooded	2,749	0.4
19	Otela-Ortega-Lutterloh complex, 0 to 5 percent slopes	5,638	0.8
20	Melvina-Mandarin complex, 0 to 3 percent slopes	4,878	0.7
21	Kershaw fine sand, 0 to 8 percent slopes	10,810	1.6
22	Ocilla sand	1,125	0.2
23	Melvina-Moriah-Lutterloh complex	24,950	3.7
24	Albany sand, 0 to 5 percent slopes	5,430	0.8
25	Pottsburg fine sand	3,676	0.5
26	Resota-Hurricane complex, 0 to 5 percent slopes	1,399	0.2
27	Plummer fine sand	5,716	0.8
28	Surrency, Starke, and Croatan soils, depressional	16,970	2.5
29	Albany-Surrency, depressional, complex, 0 to 3 percent slopes	1,801	0.3
30	Dorovan and Pamlico soils, depressional	58,890	8.7
33	Wesconnett, Evergreen, and Pamlico soils, depressional	33,610	5.0
34	Clara and Bodiford soils, frequently flooded	22,860	3.4
35	Tooles, Meadowbrook, and Wekiva soils, frequently flooded	11,220	1.7
37	Tooles and Meadowbrook soils, depressional	11,840	1.7
38	Clara and Meadowbrook soils, depressional	22,070	3.3
40	Lutterloh fine sand, limestone substratum	440	*
41	Tooles-Meadowbrook complex	11,230	1.7
45	Chaires fine sand, limestone substratum	23,250	3.4
46	Pits	1,201	0.2
48	Wekiva-Tennille-Tooles complex, occasionally flooded	51,330	7.6
49	Seaboard-Bushnell-Matmon complex, 0 to 3 percent slopes	3,795	0.6
51	Tooles-Nutall complex, frequently flooded	3,267	0.5
52	Clara, depressional-Clara-Meadowbrook complex, occasionally flooded	12,280	1.8
53	Bayvi muck, frequently flooded	25,040	3.7
54	Meadowbrook-Tooles-Clara, depressional, complex	6,050	0.9
55	Arents, moderately wet, rarely flooded	234	*
57	Sapelo mucky fine sand	13,540	2.0
58	Leon mucky fine sand	6,984	1.0
59	Arents, sanitary landfill	116	*
60	Chaires, limestone substratum-Meadowbrook, limestone substratum, complex, rarely flooded	3,124	0.5
61	Wekiva-Tooles, depressional-Tennille complex, rarely flooded	18,260	2.7
62	Tooles-Tennille-Wekiva complex, depressional	3,108	0.5
63	Steinhatchee fine sand	1,418	0.2
64	Tooles-Wekiva complex	3,745	0.6
65	Yellowjacket and Maurepas mucks, frequently flooded	8,172	1.2
67	Yellowjacket and Maurepas mucks, depressional	4,558	0.7
68	Matmon-Wekiva-Rock outcrop complex, occasionally flooded	3,544	0.5
69	Eunola, Goldhead, and Tooles fine sands, commonly flooded	1,130	0.2
70	Chiefland-Chiefland, frequently flooded, complex	380	*
71	Leon fine sand, rarely flooded	3,736	0.6
72	Chaires fine sand, rarely flooded	1,784	0.3
73	Chipley sand, 0 to 5 percent slopes	1,712	0.3
74	Mascotte sand	545	*
	Water	2,358	0.3
	Total	677,700	100.0

* Less than 0.1 percent.

Table 5.--Comprehensive Hydric Soils List

(All map units are displayed regardless of hydric status. The "hydric soils criteria" indicate the conditions that determine the classification of the map unit component as "hydric" or "nonhydric." These criteria are defined in "Hydric Soils of the United States" (USDA, 1995). See the endnote regarding these columns. Small areas of included soils or miscellaneous areas that are significant to use and management but are too small to show on the soil maps at the original scale may be designated on the soil maps with a spot symbol.)

Map symbol and map unit name	Components(C) and inclusions(I)	Hydric	Local landform	Hydric soils criteria: Hydric criteria code*	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria	Acres
3: Clara and Osier fine sands								6,846
	45% Clara (C)	No						
	30% Osier (C)	No						
	03% Boulogne (I)	No						
	03% Leon (I)	No						
	03% Meadowbrook (I)	Yes	Flat	2B1	Yes	No	No	
	03% Plummer (I)	No						
	10% Pottsburg (I)	No						
	03% Sapelo (I)	No						
5: Chaires fine sand								28,639
	81% Chaires (C)	No						
	09% Leon (I)	No						
	02% Meadowbrook (I)	Yes	Flat	2B1	Yes	No	No	
	02% Moriah (I)	No						
	02% Pottsburg (I)	No						
	02% Steinhatchee (I)	No						
	02% Tooles (I)	Yes	Flat	2B1	Yes	No	No	
6: Leon fine sand								68,680
	78% Leon (C)	No						
	10% Chaires (I)	No						
	04% Pamlico (I)	Yes	Depression	3	Yes	No	Yes	
	04% Pottsburg (I)	No						
	04% Ridgewood (I)	No						
8: Meadowbrook fine sand								1,603
	80% Meadowbrook (C)	No						
	06% Chaires (I)	No						
	02% Clara (I)	No						
	10% Goldhead (I)	No						
	02% Meadowbrook (I)	Yes	Depression	2B1,3	Yes	No	Yes	
9: Sapelo fine sand								21,818
	80% Sapelo (C)	No						
	03% Albany (I)	No						
	03% Boulogne (I)	No						
	08% Leon (I)	No						
	03% Meadowbrook (I)	No						
	03% Sapelo (I)	Yes	Depression	2B1,3	Yes	No	Yes	

See footnote at end of table.

Table 5.--Comprehensive Hydric Soils List--Continued

Map symbol and map unit name	Components(C) and inclusions(I)	Hydric	Local landform	Hydric soils criteria: Hydric criteria code*	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria	Acres
10: Mandarin-Hurricane complex, 0 to 3 percent slopes---------								2,948
	62% Mandarin (C)	No						
	18% Hurricane (C)	No						
	02% Boulogne (I)	No						
	02% Leon (I)	No						
	02% Lynn Haven (I)	Yes	Flat	2B1	Yes	No	No	
	02% Ridgewood (I)	No						
	02% Sapelo (I)	No						
12: Ortega fine sand, 0 to 5 percent slopes-------								38,020
	78% Ortega (C)	No						
	04% Boulogne (I)	No						
	05% Kershaw (I)	No						
	01% Lynn Haven (I)	Yes	Flat	2B1	Yes	No	No	
	12% Ridgewood (I)	No						
13: Hurricane fine sand, 0 to 3 percent slopes--								12,079
	77% Hurricane (C)	No						
	13% Leon (I)	No						
	02% Lutterloh (I)	No						
	02% Mandarin (I)	No						
	02% Pottsburg (I)	No						
14: Chipley-Lynn Haven, depressional-Boulogne complex, 0 to 3 percent slopes----------------								6,460
	30% Chipley (C)	No						
	25% Lynn Haven (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	19% Boulogne (C)	No						
	04% Clara (I)	No						
	02% Clara (I)	Yes	Flat	2B1	Yes	No	No	
	06% Ortega (I)	No						
	08% Osier (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	03% Otela (I)	No						
	03% Plummer (I)	Yes	Flat	2B1	Yes	No	No	
15: Ridgewood fine sand, 0 to 3 percent slopes--								24,671
	77% Ridgewood (C)	No						
	07% Albany (I)	No						
	04% Hurricane (I)	No						
	03% Lutterloh (I)	No						
	04% Leon (I)	No						
	03% Melvina (I)	No						
	02% Ortega (I)	No						

See footnote at end of table.

Table 5.--Comprehensive Hydric Soils List--Continued

Map symbol and map unit name	Components(C) and inclusions(I)	Hydric	Local landform	Hydric soils criteria: Hydric criteria code*	Hydric soils criteria: Meets saturation criteria	Hydric soils criteria: Meets flooding criteria	Hydric soils criteria: Meets ponding criteria	Acres
16: Lutterloh-Ridgewood complex, 0 to 3 percent slopes----------------								2,369
	58% Lutterloh (C)	No						
	21% Ridgewood (C)	No						
	04% Meadowbrook (I)	No						
	04% Meadowbrook (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	04% Moriah (I)	No						
	04% Oretga (I)	No						
	05% Tennille (I)	Yes	Flat	2B1	Yes	No	No	
17: Ousley-Leon-Clara complex, 0 to 3 percent slopes, occasionally flooded---------------								2,749
	29% Ousley (C)	No						
	28% Leon (C)	No						
	27% Clara (C)	No						
	03% Albany (I)	No						
	03% Chaires (I)	No						
	06% Lutterloh (I)	No						
	03% Moriah (I)	No						
	01% Seaboard (I)	No						
19: Otela-Ortega-Lutterloh complex, 0 to 5 percent slopes----------------								5,638
	49% Otela (C)	No						
	24% Oretga (C)	No						
	23% Lutterloh (C)	No						
	01% Hurricane (I)	No						
	01% Ocilla (I)	No						
	01% Plummer (I)	No						
	01% Starke (I)	Yes	Depression	2B1,3	Yes	No	Yes	
20: Melvina-Mandarin complex, 0 to 3 percent slopes----------------								4,878
	40% Melvina (C)	No						
	38% Mandarin (C)	No						
	05% Chaires (I)	No						
	06% Hurricane (I)	No						
	04% Leon (I)	No						
	04% Lutterloh (I)	No						
	03% Ridgewood (I)	No						
21: Kershaw fine sand, 0 to 8 percent slopes----								10,655
	81% Kershaw (C)	No						
	11% Boulogne (I)	No						
	05% Ortega (I)	No						
	03% Ridgewood (I)	No						

See footnote at end of table.

Table 5.--Comprehensive Hydric Soils List--Continued

Map symbol and map unit name	Components(C) and inclusions(I)	Hydric	Local landform	Hydric criteria code*	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria	Acres
22: Ocilla fine sand								1,125
	81% Ocilla (C)	No						
	11% Albany (I)	No						
	08% Ridgewood (I)	No						
23: Melvina-Moriah-Lutterloh complex								24,764
	44% Melvina (C)	No						
	18% Moriah (C)	No						
	16% Lutterloh (C)	No						
	12% Bushnell (I)	No						
	02% Chaires (I)	No						
	04% Meadowbrook (I)	No						
	02% Ridgewood (I)	No						
	02% Wekiva (I)	Yes	Flat	2B1	Yes	No	No	
24: Albany fine sand, 0 to 5 percent slopes								5,430
	76% Albany (C)	No						
	09% Chaires (I)	No						
	02% Lynn Haven (I)	Yes	Flat	2B1	Yes	No	No	
	02% Melvina (I)	No						
	04% Ocilla (I)	No						
	07% Plummer (I)	No						
25: Pottsburg fine sand								3,676
	77% Pottsburg (C)	No						
	12% Boulogne (I)	No						
	05% Leon (I)	No						
	02% Mandarin (I)	No						
	02% Meadowbrook (I)	No						
	01% Osier (I)	Yes	Flat	2B1	Yes	No	No	
	01% Moriah (I)	No						
26: Resota-Hurricane complex, 0 to 5 percent slopes								1,399
	67% Resota (C)	No						
	20% Hurricane (C)	No						
	02% Leon (I)	No						
	03% Mandarin (I)	No						
	03% Ortega (I)	No						
	05% Ridgewood (I)	No						
27: Plummer fine sand								5,716
	47% Plummer (C)	No						
	30% Plummer (C)	Yes	Flat	2B1	Yes	No	No	
	07% Plummer (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	02% Mascotte (I)	No						
	04% Tooles (I)	Yes	Flat	2B1	Yes	No	No	
	06% Sapelo (I)	No						
	04% Surrency (I)	Yes	Depression	2B1,3	Yes	No	Yes	

See footnote at end of table.

Table 5.--Comprehensive Hydric Soils List--Continued

Map symbol and map unit name	Components(C) and inclusions(I)	Hydric	Local landform	Hydric soils criteria: Hydric criteria code*	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria	Acres
28: Surrency, Starke, and Croatan soils, depressional								16,727
	39% Surrency (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	27% Starke (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	21% Croatan (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	06% Lynn Haven (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	03% Mascotte (I)	Yes	Flat	2B1	Yes	No	No	
	02% Plummer (I)	Yes	Flat	2B1	Yes	No	No	
	02% Pottsburg (I)	Yes	Flat	2B1	Yes	No	No	
29: Albany-Surrency, depressional, complex, 0 to 3 percent slopes								1,801
	45% Albany (C)	No						
	38% Surrency (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	08% Plummer (I)	No						
	06% Plummer (I)	Yes	Flat	2B1	Yes	No	No	
	03% Sapelo (I)	No						
30: Dorovan and Pamlico soils, depressional								58,589
	56% Dorovan (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	32% Pamlico (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	02% Clara (I)	Yes	Flat	2B1	Yes	No	No	
	04% Evergreen (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	02% Lynn Haven (I)	Yes	Flat	2B1	Yes	No	No	
	04% Sapelo (I)	Yes	Flat	2B1	Yes	No	No	
33: Wesconnett, Evergreen, and Pamlico soils, depressional								33,341
	41% Wesconnett (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	25% Evergreen (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	20% Pamlico (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	02% Chaires (I)	Yes	Flat	2B1	Yes	No	No	
	01% Clara (I)	Yes	Flat	2B1	Yes	No	No	
	01% Pottsburg (I)	Yes	Flat	2B1	Yes	No	No	
	09% Pottsburg (I)	No						
	01% Surrency (I)	Yes	Depression	2B1,3	Yes	No	Yes	
34: Clara and Bodiford soils, frequently flooded								22,619
	58% Clara (C)	Yes	Flood plain	2B1,4	Yes	Yes	No	
	21% Bodiford (C)	Yes	Flood plain	2B1,4	Yes	Yes	No	
	04% Evergreen (I)	Yes	Flood plain	2B1,4	Yes	Yes	No	
	02% Leon (I)	No						
	04% Meadowbrook (I)	No						
	05% Nutall (I)	Yes	Flat	2B1	Yes	No	No	
	06% Tooles (I)	Yes	Flat	2B1	Yes	No	No	

See footnote at end of table.

Table 5.--Comprehensive Hydric Soils List--Continued

Map symbol and map unit name	Components(C) and inclusions(I)	Hydric	Local landform	Hydric soils criteria: Hydric criteria code*	Hydric soils criteria: Meets saturation criteria	Hydric soils criteria: Meets flooding criteria	Hydric soils criteria: Meets ponding criteria	Acres
35: Tooles, Meadowbrook, and Wekiva Soils, frequently flooded-----								10,969
	40% Tooles (C)	Yes	Flood plain	2B1,4	Yes	Yes	No	
	28% Meadowbrook (C)	Yes	Flood plain	2B1,4	Yes	Yes	No	
	23% Wekiva (C)	Yes	Flood plain	2B1,4	Yes	Yes	No	
	03% Clara (I)	Yes	Flood plain	2B1,4	Yes	Yes	No	
	01% Nutall (I)	Yes	Flood plain	2B1,4	Yes	Yes	No	
	05% Tennille (I)	Yes	Flood plain	2B1,4	Yes	Yes	No	
37: Tooles and Meadowbrook soils, depressional----								11,590
	48% Tooles (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	36% Meadowbrook (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	03% Pamlico (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	03% Surrency (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	03% Tennille (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	07% Wekiva (I)	No						
38: Clara and Meadowbrook soils, depressional----								21,808
	44% Clara (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	32% Meadowbrook (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	06% Chaires (I)	No						
	03% Croatan (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	05% Leon (I)	No						
	07% Starke (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	03% Tooles (I)	Yes	Flat	2B1	Yes	No	No	
40: Lutterloh fine sand, limestone substratum---								440
	80% Lutterloh (C)	No						
	10% Chaires (I)	No						
	01% Leon (I)	No						
	04% Seaboard (I)	No						
	04% Tooles (I)	No						
	01% Tooles (I)	Yes	Flat	2B1	Yes	No	No	
41: Tooles-Meadowbrook complex----------------								10,912
	48% Tooles (C)	Yes	Flat	2B1	Yes	No	No	
	32% Meadowbrook (C)	Yes	Flat	2B1	Yes	No	No	
	03% Chaires (I)	No						
	07% Clara (I)	Yes	Flat	2B1	Yes	No	No	
	04% Clara (I)	No						
	01% Moriah (I)	No						
	03% Tennille (I)	Yes	Flat	2B1	Yes	No	No	
	02% Wekiva (I)	Yes	Flat	2B1	Yes	No	No	

See footnote at end of table.

Table 5.--Comprehensive Hydric Soils List--Continued

Map symbol and map unit name	Components(C) and inclusions(I)	Hydric	Local landform	Hydric soils criteria: Hydric criteria code*	Hydric soils criteria: Meets saturation criteria	Hydric soils criteria: Meets flooding criteria	Hydric soils criteria: Meets ponding criteria	Acres
45: Chaires fine sand, limestone substratum								22,891
	77% Chaires (C)	No						
	02% Leon (I)	No						
	03% Meadowbrook (I)	No						
	06% Steinhatchee (I)	No						
	05% Tooles (I)	No						
	03% Tooles (I)	Yes	Flat	2B1	Yes	No	No	
	04% Wekiva (I)	Yes	Flat	2B1	Yes	No	No	
46: Pits								1,201
	75% Pits (C)	No						
	12% Pits (I)	Yes	Flat	2B1	Yes	No	No	
	11% Pits (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	02% Leon (I)	No						
48: Wekiva-Tennille-Tooles complex, occasionally flooded								51,151
	44% Wekiva (C)	Yes	Flat	2B1	Yes	No	No	
	28% Tennille (C)	Yes	Flat	2B1	Yes	No	No	
	16% Tooles (C)	Yes	Flat	2B1	Yes	No	No	
	03% Clara (I)	No						
	02% Matmon (I)	No						
	02% Melvina (I)	No						
	02% Steinhatchee (I)	No						
	03% Wekiva (I)	Yes	Flat	2B1	Yes	No	No	
49: Seaboard-Bushnell-Matmon complex, 0 to 3 percent slopes								3,795
	28% Seaboard (C)	No						
	25% Bushnell (C)	No						
	23% Matmon (C)	No						
	02% Chaires (I)	No						
	03% Lutterloh (I)	No						
	10% Moriah (I)	No						
	02% Otela (I)	No						
	07% Wekiva (I)	No						
51: Tooles-Nutall complex, frequently flooded								
	60% Tooles (C)	Yes	Flood plain	2B1,4	Yes	Yes	No	1,895
	30% Nutall (C)	Yes	Flood plain	2B1,4	Yes	Yes	No	1,372
	03% Goldhead (I)	Yes	Flat	2B1	Yes	No	No	
	03% Starke (I)	Yes	Flood plain	2B1,4	Yes	Yes	No	
	04% Tennille (I)	Yes	Flat	2B1	Yes	No	No	

See footnote at end of table.

Table 5.--Comprehensive Hydric Soils List--Continued

Map symbol and map unit name	Components(C) and inclusions(I)	Hydric	Local landform	Hydric soils criteria: Hydric criteria code*	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria	Acres
52: Clara, depressional-Clara-Meadowbrook complex, occasionally flooded								12,007
	30% Clara (C)	Yes	Depression	2B1	Yes	No	Yes	
	29% Clara (C)	No						
	12% Meadowbrook (C)	No						
	08% Meadowbrook (C)	Yes	Flat	2B1	Yes	No	No	
	03% Hurricane (I)	No						
	02% Leon (I)	No						
	02% Lutterloh (I)	No						
	05% Pottsburg (I)	No						
	03% Pottsburg (I)	Yes	Flat	2B1	Yes	No	No	
	06% Tooles (I)	Yes	Flat	2B1	Yes	No	No	
53: Bayvi muck, frequently flooded								24,749
	81% Bayvi (C)	Yes	Salt marsh	2B1,4	Yes	Yes	No	
	10% Leon (I)	Yes	Salt marsh	2B1,4	Yes	Yes	No	
	05% Nutall (I)	Yes	Salt marsh	2B1,4	Yes	Yes	No	
	04% Tennille (I)	Yes	Salt marsh	2B1,4	Yes	Yes	No	
54: Meadowbrook-Tooles-Clara, depressional, complex								6,050
	32% Meadowbrook (C)	No						
	30% Tooles (C)	No						
	20% Clara (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	02% Chaires (I)	No						
	06% Goldhead (I)	No						
	02% Meadowbrook (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	02% Tennille (I)	Yes	Flat	2B1	Yes	No	No	
	06% Wekiva (I)	Yes	Flat	2B1	Yes	No	No	
55: Arents, moderately wet, rarely flooded								234
	95% Arents (C)	No						
	04% Leon (I)	No						
	01% Chaires (I)	No						
57: Sapelo fine sand								13,283
	81% Sapelo (C)	Yes	Flat	2B1	Yes	No	No	
	01% Evergreen (I)	Yes	Flat	2B1	Yes	No	No	
	03% Leon (I)	Yes	Flat	2B1	Yes	No	No	
	06% Leon (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	04% Mascotte (I)	Yes	Flat	2B1	Yes	No	No	
	05% Pamlico (I)	Yes	Depression	2B1,3	Yes	No	Yes	
58: Leon mucky fine sand								6,984
	90% Leon (C)	Yes	Flat	2B1	Yes	No	No	
	01% Boulogne (I)	No						
	01% Evergreen (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	01% Lynn Haven (I)	Yes	Flat	2B1	Yes	No	No	
	03% Pamlico (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	04% Sapelo (I)	Yes	Flat	2B1	Yes	No	No	

See footnote at end of table.

Table 5.--Comprehensive Hydric Soils List--Continued

Map symbol and map unit name	Components(C) and inclusions(I)	Hydric	Local landform	Hydric criteria code*	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria	Acres
59: Arents, sanitary landfill								116
	95% Arents (C)	No						
	05% Arents (I)	No						
60: Chaires, limestone substratum-Meadowbrook limestone substratum, complex, rarely flooded								3,124
	60% Chaires (C)	No						
	19% Meadowbrook (C)	No						
	02% Chaires (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	03% Clara (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	11% Leon (I)	No						
	05% Meadowbrook (I)	Yes	Depression	2B1,3	Yes	No	Yes	
61: Wekiva-Tooles, depressional-Tennille, complex, rarely flooded								17,921
	43% Wekiva (C)	No						
	25% Tooles (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	12% Tennille (C)	No						
	02% Chaires (I)	No						
	02% Meadowbrook (I)	No						
	09% Steinhatchee (I)	No						
	05% Tooles (I)	Yes	Flood plain	2B1,4	Yes	Yes	No	
	02% Wekiva (I)	Yes	Depression	2B1,3	Yes	No	Yes	
62: Tooles-Tennille-Wekiva complex, depressional								3,108
	45% Tooles (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	25% Tennille (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	25% Wekiva (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	05% Goldhead (I)	Yes	Flat	2B1	Yes	No	No	
63: Steinhatchee fine sand								1,418
	80% Steinhatchee (C)	No						
	10% Chaires (I)	No						
	05% Tooles (I)	No						
	05% Wekiva (I)	No						
64: Tooles-Wekiva complex								3,745
	63% Tooles (C)	No						
	27% Wekiva (C)	No						
	05% Meadowbrook (I)	No						
	05% Mariah (I)	No						

See footnote at end of table.

Table 5.--Comprehensive Hydric Soils List--Continued

Map symbol and map unit name	Components(C) and inclusions(I)	Hydric	Local landform	Hydric soils criteria: Hydric criteria code*	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria	Acres
65: Yellowjacket and Maurepas mucks, frequently flooded-----								8172
	45% Yellowjacket (C)	Yes	Flood plain	2B1,4	Yes	Yes	No	
	45% Maurepas (C)	Yes	Flood plain	2B1,4	Yes	Yes	No	
	05% Pamlico (I)	Yes	Flood plain	2B1,4	Yes	Yes	No	
	05% Tooles (I)	Yes	Flat	2B1	Yes	No	No	
67: Yellowjacket and Maurepas mucks, depressional-----------								4,558
	45% Yellowjacket (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	40% Maurepas (C)	Yes	Depression	2B1,3	Yes	No	Yes	
	05% Chaires (I)	Yes	Flat	2B1	Yes	No	No	
	05% Pamlico (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	05% Meadowbrook (I)	Yes	Flat	2B1	Yes	No	No	
68: Matmon-Wekiva-Rock outcrop complex, occasionally flooded---								3,544
	40% Matmon (C)	No						
	35% Wekiva (C)	No						
	14% Rock outcrop (C)	No						
	06% Steinhatchee (I)	No						
	05% Tennille (I)	Yes	Flat	2B1	Yes	No	No	
69: Eunola, Goldhead, and Tooles fine sands, commonly flooded-------								1,130
	49% Eunola (C)	No						
	20% Goldhead (C)	Yes	Flood plain	2B1,4	Yes	Yes	No	
	11% Tooles (C)	Yes	Flood plain	2B1,4	Yes	Yes	No	
	08% Alluvial soils (I)	Yes	Flood plain	2B1,4	Yes	Yes	No	
	01% Hurricane (I)	No						
	03% Moriah (I)	No						
	03% Nutall (I)	Yes	Flood plain	2B1,4	Yes	Yes	No	
	05% Wekiva (I)	Yes	Flood plain	2B1,4	Yes	Yes	No	
70: Chiefland-Chiefland, frequently flooded, complex---------------								380
	40% Chiefland (C)	No						
	35% Chiefland (C)	No						
	05% Bushnell (I)	No						
	05% Matmon (I)	No						
	05% Moriah (I)	No						
	05% Ridgewood (I)	No						
	05% Seaboard (I)	No						

See footnote at end of table.

Table 5.--Comprehensive Hydric Soils List--Continued

Map symbol and map unit name	Components(C) and inclusions(I)	Hydric	Local landform	Hydric soils criteria: Hydric criteria code*	Meets saturation criteria	Meets flooding criteria	Meets ponding criteria	Acres
71: Leon fine sand, rarely flooded								3,736
	78% Leon (C)	No						
	06% Chaires (I)	No						
	04% Osier (I)	Yes	Flat	2B1	Yes	No	No	
	04% Pottsburg (I)	No						
	04% Tooles (I)	Yes	Flat	2B1	Yes	No	No	
	04% Wekiva (I)	Yes	Flat	2B1	Yes	No	No	
72: Chaires fine sand, rarely flooded								1,784
	80% Chaires (C)	No						
	02% Chaires (I)	Yes	Flat	2B1	Yes	No	No	
	02% Chaires (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	02% Meadowbrook (I)	Yes	Flat	2B1	Yes	No	No	
	02% Meadowbrook (I)	Yes	Depression	2B1,3	Yes	No	Yes	
	04% Tooles (I)	Yes	Flat	2B1	Yes	No	No	
	04% Steinhatchee (I)	No						
	04% Wekiva (I)	No						
73: Chipley fine sand, 0 to 5 percent slopes								1,712
	77% Chipley (C)	No						
	10% Albany (I)	No						
	02% Boulogne (I)	No						
	05% Hurricane (I)	No						
	03% Lynn Haven (I)	No						
	03% Pottsburg (I)	No						
74: Mascotte sand								545
	80% Mascotte (C)	No						
	03% Ocilla (I)	No						
	02% Osier (I)	Yes	Flat	2B1	Yes	No	No	
	06% Plummer (I)	No						
	06% Sapelo (I)	No						
	03% Surrency (I)	Yes	Depression	2B1,3	Yes	No	Yes	

* Criteria codes and definitions for hydric soils:

1. All Histosols, except Folists, or
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Aquisalids, Pachic subgroups, or Cumulic subgroups that are:
   a. Somewhat poorly drained with a water table equal to 0.0 feet from the surface during the growing season, or
   b. Poorly drained or very poorly drained and have either:
      (1) water table equal to 0.0 feet during the growing season if textures are coarse sand, sand, or fine sand in all layers within 20 inches, or for other soils
      (2) water table at less than or equal to 0.5 foot from the surface during the growing season if permeability is equal to or greater than 6.0 inches per hour in all layers within 20 inches, or
      (3) water table at less than or equal to 1.0 foot from the surface during the growing season if permeability is less than 6.0 inches per hour in any layer within 20 inches, or
3. Soils that are frequently ponded for long duration or very long duration during the growing season, or
4. Soils that are frequently flooded for long duration or very long duration during the growing season.

Table 6.--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	Ordi-nation symbol	Management concerns: Equip-ment limita-tion	Seedling mortal-ity	Wind-throw hazard	Plant competi-tion	Potential productivity: Common trees	Site index	Volume[1]	Site quality[2]	Produc-tiv-ity[3]	Trees to plant
3:											
Osier	11W	Severe	Severe	Slight	Severe	Slash pine	---	---	55	1.0	Slash pine[4],
						Loblolly pine	---	---	53	0.9	loblolly pine[4].
						Longleaf pine	69	77			
Clara	11W	Severe	Severe	Slight	Severe	Slash pine	---	---	55	1.0	Slash pine[4],
						Loblolly pine	---	---	53	0.9	loblolly pine[4].
						Longleaf pine	69	77			
						Water oak	---	---			
						Cabbage palm	---	---			
5 Chaires	10W	Moderate	Moderate	Slight	Moderate	Slash pine	---	---	63	1.3	Slash pine,
						Loblolly pine	---	---	61	1.2	loblolly pine.
						Longleaf pine	70	79			
						Water oak	---	---			
						Laurel oak	---	---			
6 Leon	10W	Moderate	Moderate	Slight	Moderate	Slash pine	---	---	62	1.3	Slash pine,
						Loblolly pine	---	---	60	1.2	loblolly pine.
						Longleaf pine	65	67			
8 Meadowbrook	11W	Severe	Severe	Slight	Severe	Slash pine	---	---	58	1.1	Slash pine[4],
						Loblolly pine	---	---	57	1.0	loblolly pine[4].
						Longleaf pine	88	11			
						Live oak	---	---			
						Water oak	---	---			
9 Sapelo	7W	Moderate	Moderate	Slight	Moderate	Slash pine	---	---	63	1.3	Slash pine,
						Loblolly pine	---	---	61	1.2	loblolly pine.
						Longleaf pine	65	67			
10:											
Mandarin	8S	Moderate	Severe	Slight	Moderate	Slash pine	---	---	50	0.8	Slash pine,
						Loblolly pine	---	---	47	0.7	loblolly pine,
						Longleaf pine	60	56			longleaf pine.
						Live oak	---	---			
Hurricane	11W	Moderate	Moderate	Slight	Moderate	Slash pine	---	---	58	1.1	Slash pine,
						Loblolly pine	---	---	56	1.0	loblolly pine,
						Longleaf pine	75	88			longleaf pine.
						Blackjack oak	---	---			
						Post oak	---	---			
						Turkey oak	---	---			
12 Ortega	10S	Moderate	Moderate	Slight	Moderate	Slash pine	---	---	58	1.1	Slash pine,
						Loblolly pine	---	---	55	1.0	loblolly pine,
						Longleaf pine	70	79			longleaf pine.
						Blackjack oak	---	---			
						Post oak	---	---			
						Turkey oak	---	---			

See footnotes at end of table.

Table 6.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordi-nation symbol	Equip-ment limita-tion	Seedling mortal-ity	Wind-throw hazard	Plant competi-tion	Common trees	Site index	Volume[1]	Site quality[2]	Produc-tiv-ity[3]	Trees to plant
13-------------- Hurricane	11W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	58	1.1	Slash pine,
						Loblolly pine-------	---	---	56	1.0	loblolly pine,
						Longleaf pine-------	75	88			longleaf pine.
						Blackjack oak-------	---	---			
						Post oak------------	---	---			
						Turkey oak----------	---	---			
14:											
Chipley--------	8W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	65	1.4	Slash pine,
						Loblolly pine-------	---	---	62	1.3	loblolly pine,
						Longleaf pine-------	80	101			longleaf pine.
						Pond pine-----------	---	---			
						Blackgum------------	---	---			
Lynn Haven.											
Boulogne-------	11W	Severe	Severe	Slight	Severe	Slash pine----------	---	---	58	1.1	Slash pine.
						Loblolly pine-------	---	---	56	1.0	
						Longleaf pine-------	70	79			
15-------------- Ridgewood	10W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	65	1.4	Slash pine,
						Loblolly pine-------	---	---	62	1.3	loblolly pine.
						Longleaf pine-------	74	86			
						Laurel oak----------	---	---			
						Live oak------------	---	---			
						Water oak-----------	---	---			
						Turkey oak----------	---	---			
16:											
Lutterloh------	10W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	67	1.5	Slash pine,
						Loblolly pine-------	---	---	70	1.6	loblolly pine,
						Longleaf pine-------	65	67			longleaf pine.
						Laurel oak----------	---	---			
						Water oak-----------	---	---			
						Southern redcedar---	---	---			
						Southern magnolia---	---	---			
						Sweetgum------------	---	---			
						Cabbage palm--------	---	---			
Ridgewood------	10W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	65	1.4	Slash pine,
						Loblolly pine-------	---	---	62	1.3	loblolly pine,
						Longleaf pine-------	74	86			longleaf pine.
						Laurel oak----------	---	---			
						Live oak------------	---	---			
						Water oak-----------	---	---			
						Turkey oak----------	---	---			
17:											
Ousley---------	8W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	65	1.4	Slash pine,
						Loblolly pine-------	---	---	62	1.3	loblolly pine,
						Longleaf pine-------	74	86			longleaf pine.
						Sweetgum------------	---	---			
						Blackgum------------	---	---			
						Red maple-----------	---	---			
						Water oak-----------	---	---			
						Laurel oak----------	---	---			
						Cabbage palm--------	---	---			

See footnotes at end of table.

Table 6.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Management concerns: Windthrow hazard	Management concerns: Plant competition	Potential productivity: Common trees	Site index	Volume[1]	Site quality[2]	Productivity[3]	Trees to plant
17:											
Leon	10W	Moderate	Moderate	Slight	Moderate	Slash pine	---	---	62	1.3	Slash pine, loblolly pine.
						Loblolly pine	---	---	60	1.2	
						Longleaf pine	70	79			
						Sweet gum	---	---			
						Red maple	---	---			
						Water oak	---	---			
						Laurel oak	---	---			
						Cabbage palm	---	---			
						Black gum	---	---			
Clara	11W	Severe	Severe	Slight	Severe	Slash pine	---	---	55	1.0	Slash pine[4], loblolly pine[4].
						Loblolly pine	---	---	53	0.9	
						Longleaf pine	69	77			
19:											
Otela	10S	Moderate	Severe	Slight	Moderate	Slash pine	---	---	60	1.2	Slash pine, loblolly pine, longleaf pine.
						Loblolly pine	---	---	61	1.2	
						Longleaf pine	80	---			
						Live oak	---	---			
						Black cherry	---	---			
						Southern redcedar	---	---			
						Turkey oak	---	---			
Ortega	10S	Moderate	Moderate	Slight	Moderate	Slash pine	---	---	58	1.1	Slash pine, loblolly pine, longleaf pine.
						Loblolly pine	---	---	55	1.0	
						Longleaf pine	70	79			
						Blackjack oak	---	---			
						Post oak	---	---			
						Turkey oak	---	---			
Lutterloh	10W	Moderate	Moderate	Slight	Moderate	Slash pine	---	---	67	1.5	Slash pine, loblolly pine, longleaf pine.
						Loblolly pine	---	---	70	1.6	
						Longleaf pine	65	67			
						Laurel oak	---	---			
						Water oak	---	---			
						Southern redcedar	---	---			
						Southern magnolia	---	---			
						Sweetgum	---	---			
						Cabbage palm	---	---			
20:											
Melvina	10W	Moderate	Moderate	Slight	Moderate	Slash pine	---	---	55	1.0	Slash pine, loblolly pine.
						Loblolly pine	---	---	53	0.9	
						Longleaf pine	65	67			
						Laurel oak	---	---			
						Live oak	---	---			
Mandarin	8S	Moderate	Severe	Slight	Moderate	Slash pine	---	---	50	0.8	Slash pine, loblolly pine, longleaf pine.
						Loblolly pine	---	---	47	0.7	
						Longleaf pine	60	56			
						Live oak	---	---			
21 Kershaw	8S	Moderate	Severe	Slight	Slight	Sand pine	75	63			Sand pine, longleaf pine.
						Longleaf pine	55	45			
						Slash pine	---	---	40	0.3	
22 Ocilla	8W	Moderate	Moderate	Slight	Moderate	Slash pine	---	---	70	1.6	Slash pine, loblolly pine, longleaf pine.
						Loblolly pine	---	---	73	1.7	
						Longleaf pine	77	93			

See footnotes at end of table.

Table 6.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume[1]	Site quality[2]	Productivity[3]	Trees to plant
23:											
Melvina--------	10W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	55	1.0	Slash pine,
						Loblolly pine-------	---	---	53	0.9	loblolly pine,
						Longleaf pine-------	65	79			longleaf pine.
						Laurel oak----------	---	---			
						Live oak------------	---	---			
Moriah---------	11S	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	62	1.3	Slash pine,
						Loblolly pine-------	---	---	65	1.4	loblolly pine.
						Water oak-----------	---	---			
						Laurel oak----------	---	---			
						Hickory-------------	---	---			
						Sweet gum-----------	---	---			
						Southern redcedar---	---	---			
						Southern magnolia---	---	---			
Lutterloh------	10W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	67	1.5	Slash pine,
						Loblolly pine-------	---	---	70	1.6	loblolly pine,
						Longleaf pine-------	65	67			longleaf pine.
						Laurel oak----------	---	---			
						Water oak-----------	---	---			
						Southern redcedar---	---	---			
						Southern magnolia---	---	---			
						Sweetgum------------	---	---			
						Cabbage palm--------	---	---			
24------------- Albany	10W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	68	1.5	Slash pine,
						Loblolly pine-------	---	---	69	1.5	loblolly pine,
						Longleaf pine-------	80	101			longleaf pine.
25------------- Pottsburg	10W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	58	1.1	Slash pine[4],
						Loblolly pine-------	---	---	56	1.0	loblolly pine[4].
						Longleaf pine-------	65	67			
						Live oak------------	---	---			
						Water oak-----------	---	---			
26:											
Resota---------	8S	Moderate	Severe	Slight	Moderate	Slash pine----------	---	---	60	1.2	Slash pine,
						Loblolly pine-------	---	---	58	1.1	loblolly pine,
						Longleaf pine-------	65	67			longleaf pine,
						Sand pine-----------	60	42			sand pine.
						Sand live oak-------	---	---			
Hurricane------	11W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	58	1.1	Slash pine,
						Loblolly pine-------	---	---	56	1.0	loblolly pine,
						Longleaf pine-------	75	88			longleaf pine.
						Blackjack oak-------	---	---			
						Post oak------------	---	---			
						Turkey oak----------	---	---			
27------------- Plummer	11W	Severe	Severe	Slight	Moderate	Slash pine----------	---	---	58	1.1	Slash pine[4],
						Loblolly pine-------	---	---	56	1.0	loblolly pine[4].
						Longleaf pine-------	70	79			
29:											
Albany---------	10W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	68	1.5	Slash pine,
						Loblolly pine-------	---	---	69	1.5	loblolly pine,
						Longleaf pine-------	80	101			longleaf pine.
Surrency.											

See footnotes at end of table.

Table 6.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordi-nation symbol	Management concerns: Equip-ment limita-tion	Seedling mortal-ity	Wind-throw hazard	Plant competi-tion	Potential productivity: Common trees	Site index	Volume[1]	Site quality[2]	Produc-tiv-ity[3]	Trees to plant
40-------------- Lutterloh	10W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	67	1.5	Slash pine, loblolly pine, longleaf pine.
						Loblolly pine-------	---	---	70	1.6	
						Longleaf pine-------	65	71			
						Live oak------------	---	---			
						Southern magnolia---	---	---			
						Eastern redcedar----	---	---			
						Sweetgum------------	---	---			
						Water oak-----------	---	---			
						Cabbage palm--------	---	---			
						Hickory-------------	---	---			
45-------------- Chaires	10W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	63	1.3	Slash pine, loblolly pine.
						Loblolly pine-------	---	---	61	1.2	
						Longleaf pine-------	70	79			
						Water oak-----------	---	---			
						Laurel oak----------	---	---			
						Cabbage palm--------	---	---			
49:											
Seaboard-------	10S	Moderate	Moderate	Moderate	Moderate	Slash pine----------	---	---	57	1.0	Slash pine, loblolly pine.
						Loblolly pine-------	---	---	55	1.0	
						Laurel oak----------	---	---			
						Hickory-------------	---	---			
						Live oak------------	---	---			
Bushnell-------	11W	Moderate	Severe	Severe	Moderate	Slash pine----------	---	---	58	1.1	Slash pine, loblolly pine.
						Loblolly pine-------	---	---	60	1.2	
						Live oak------------	---	---			
						Laurel oak----------	---	---			
						Southern redcedar---	---	---			
						Southern magnolia---	---	---			
						Sweetgum------------	---	---			
						Cabbage palm--------	---	---			
						Water oak-----------	---	---			
Matmon---------	9W	Moderate	Moderate	Severe	Moderate	Slash pine----------	---	---	56	1.0	Slash pine, loblolly pine.
						Loblolly pine-------	---	---	58	1.1	
						Live oak------------	---	---			
						Laurel oak----------	---	---			
						Southern redcedar---	---	---			
						Magnolia------------	---	---			
						Sweetgum------------	---	---			
						Cabbage palm--------	---	---			
						Water oak-----------	---	---			
52: Clara, depressional.											
Clara----------	11W	Severe	Severe	Slight	Severe	Slash pine----------	---	---	55	1.0	Slash pine[4], loblolly pine[4].
						Loblolly pine-------	---	---	53	0.9	
						Longleaf pine------	69	78			
						Sweetgum------------	---	---			
						Red maple-----------	---	---			
						Water oak-----------	---	---			
						Laurel oak----------	---	---			
						Cabbage palm--------	---	---			
						Blackgum------------	---	---			

See footnotes at end of table.

Table 6.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Volume[1]	Site quality[2]	Productivity[3]	Trees to plant
		Management concerns				Potential productivity					
52:											
Meadowbrook----	11W	Severe	Severe	Slight	Severe	Slash pine----------	---	---	58	1.1	Slash pine[4],
						Loblolly pine-------	---	---	57	1.0	loblolly pine[4].
						Longleaf pine-------	88	119			
						Blackgum------------	---	---			
						Laurel oak----------	---	---			
						Red maple-----------	---	---			
						Sweetgum------------	---	---			
						Water oak-----------	---	---			
54:											
Tooles---------	11W	Severe	Moderate	Moderate	Severe	Slash pine----------	---	---	58	1.1	Slash pine[4],
						Loblolly pine-------	---	---	58	1.1	loblolly pine[4].
						Cabbage palm--------	---	---			
						Laurel oak----------	---	---			
						Sweetgum------------	---	---			
						Sweetbay------------	---	---			
						American elm--------	---	---			
						Live oak------------	---	---			
Meadowbrook----	11W	Severe	Severe	Slight	Severe	Slash pine----------	---	---	58	1.1	Slash pine[4],
						Loblolly pine-------	---	---	57	1.0	loblolly pine[4].
						Longleaf pine-------	88	119			
						Live oak------------	---	---			
						Water oak-----------	---	---			
Clara.											
60:											
Chaires--------	10W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	63	1.3	Slash pine,
						Loblolly pine-------	---	---	61	1.2	loblolly pine.
						Longleaf pine-------	70	79			
						Water oak-----------	---	---			
						Laurel oak----------	---	---			
Meadowbrook----	11W	Severe	Severe	Slight	Severe	Slash pine----------	---	---	58	1.1	Slash pine[4],
						Loblolly pine-------	---	---	56	1.0	loblolly pine[4].
						Longleaf pine-------	90	124			
						Live oak------------	---	---			
						Water oak-----------	---	---			
61:											
Wekiva---------	8W	Severe	Severe	Severe	Severe	Slash pine----------	---	---	58	1.1	Slash pine[4],
						Loblolly pine-------	---	---	59	1.1	loblolly pine[4].
						Laurel oak----------	---	---			
						Southern redcedar---	---	---			
						Sweetgum------------	---	---			
						Magnolia------------	---	---			
Tooles.											
Tennille-------	8W	Severe	Severe	Severe	Severe	Slash pine----------	---	---	58	1.1	Slash pine[4],
						Loblolly pine-------	---	---	56	1.0	loblolly pine[4].
						Water oak-----------	---	---			
						Southern redcedar---	---	---			
						Sweetgum------------	---	---			
						Cabbage palm--------	---	---			

See footnotes at end of table.

Table 6.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordi-nation symbol	Management concerns: Equip-ment limita-tion	Seedling mortal-ity	Wind-throw hazard	Plant competi-tion	Potential productivity: Common trees	Site index	Volume[1]	Site quality[2]	Produc-tiv-ity[3]	Trees to plant
63-------------- Steinhatchee	11W	Moderate	Moderate	Moderate	Moderate	Slash pine----------	---	---	65	1.4	Slash pine,
						Loblolly pine-------	---	---	62	1.3	loblolly pine.
						Longleaf pine-------	70	79			
						Water oak-----------	---	---			
						Sweetgum------------	---	---			
						Cabbage palm--------	---	---			
64:											
Tooles---------	11W	Severe	Moderate	Moderate	Severe	Slash pine----------	---	---	58	1.1	Slash pine[4],
						Loblolly pine-------	---	---	58	1.1	loblolly pine[4].
						Cabbage palm--------	---	---			
						Laurel oak----------	---	---			
						Sweetgum------------	---	---			
						Sweetbay------------	---	---			
						American elm--------	---	---			
						Live oak------------	---	---			
Wekiva---------	8W	Severe	Severe	Severe	Severe	Slash pine----------	---	---	58	1.1	Slash pine[4],
						Loblolly pine-------	---	---	59	1.1	loblolly pine[4].
						Laurel oak----------	---	---			
						Southern redcedar---	---	---			
						Sweetgum------------	---	---			
						Magnolia------------	---	---			
68:											
Matmon---------	9W	Moderate	Moderate	Severe	Moderate	Slash pine----------	---	---	56	1.0	Slash pine,
						Loblolly pine-------	---	---	58	0.9	loblolly pine.
						Live oak------------	---	---			
						Laurel oak----------	---	---			
						Southern redcedar---	---	---			
						Magnolia------------	---	---			
						Sweetgum------------	---	---			
						Cabbage palm--------	---	---			
						Water oak-----------	---	---			
Wekiva---------	8W	Severe	Severe	Severe	Severe	Slash pine----------	---	---	58	1.1	Slash pine[4],
						Loblolly pine-------	---	---	59	1.1	loblolly pine[4].
						Laurel oak----------	---	---			
						Southern redcedar---	---	---			
						Sweetgum------------	---	---			
						Magnolia------------	---	---			
Rock outcrop.											
69:											
Eunola---------	10W	Moderate	Slight	Slight	Moderate	Slash pine----------	---	---	62	1.3	Slash pine,
						Loblolly pine-------	---	---	65	1.4	loblolly pine.
						Sweetgum------------	---	---			
						Yellow-poplar-------	---	---			
Goldhead.											
Tooles.											

See footnotes at end of table.

Table 6.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Potential productivity: Common trees	Site index	Volume[1]	Site quality[2]	Productivity[3]	Trees to plant
70:											
Chiefland------	11S	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	56	1.0	Slash pine,
						Loblolly pine-------	---	---	57	1.0	loblolly pine[4].
						Longleaf pine-------	65	67			
						Hickory-------------	---	---			
						Live oak------------	---	---			
						Post oak------------	---	---			
						Sweetgum------------	---	---			
Chiefland, frequently flooded--------	11S	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	56	1.0	Slash pine,
						Loblolly pine-------	---	---	57	1.0	loblolly pine[4].
						Longleaf pine-------	65	67			
						Hickory-------------	---	---			
						Live oak------------	---	---			
						Post oak------------	---	---			
						Sweetgum------------	---	---			
71------------- Leon	8W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	62	1.3	Slash pine,
						Loblolly pine-------	---	---	60	1.2	loblolly pine.
						Longleaf pine-------	60	56			
						Live oak------------	---	---			
						Water oak-----------	---	---			
72------------- Chaires	10W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	63	1.3	Slash pine,
						Loblolly pine-------	---	---	61	1.2	loblolly pine.
						Longleaf pine-------	70	79			
						Water oak-----------	---	---			
						Laurel oak----------	---	---			
						Cabbage palm--------	---	---			
73------------- Chipley	11S	Moderate	Slight	Slight	Moderate	Slash pine----------	---	---	65	1.4	Slash pine,
						Loblolly pine-------	---	---	62	1.3	loblolly pine,
						Longleaf pine-------	80	101			longleaf pine.
						Post oak------------	---	---			
						Turkey oak----------	---	---			
						Blackjack oak-------	---	---			
74------------- Mascotte	11W	Moderate	Moderate	Slight	Moderate	Slash pine----------	---	---	63	1.3	Slash pine.
						Loblolly pine-------	---	---	61	1.2	
						Longleaf pine-------	70	79			

1 Volume is the average yearly growth in cubic feet per acre based on a 50-year average of the corresponding site index.

2 Site quality estimates for slash pine are on a 25-year basis.

3 Productivity is expressed as the average annual number of cords per acre based on a 25-year average of the corresponding site quality.

4 Adequate surface drainage or bedding is needed to regenerate the forest stand through the planting of trees and to obtain potential productivity.

Table 7.--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	Bahiagrass	Corn	Improved bermudagrass	Tobacco	Watermelons
		AUM*	Bu	AUM*	Lbs	Tons
3:						
Clara	IVw	5.0	---	6.0	---	---
Osier	Vw	5.0	---	---	---	---
5 Chaires	IVw	8.0	50	---	---	---
6 Leon	IVw	7.5	50	9.0	---	---
8 Meadowbrook	IVw	5.0	---	6.0	---	---
9 Sapelo	IIIw	7.5	50	---	---	---
10:						
Mandarin	VIs	6.0	---	---	---	---
Hurricane	IIIw	7.0	---	8.0	---	---
12 Ortega	IIIs	6.0	---	---	---	---
13 Hurricane	IIIw	7.0	---	8.0	---	---
14:						
Chipley	IIIs	7.5	50	8.0	2,000	5.0
Lynn Haven	VIIw	---	---	---	---	---
Boulogne	IIIw	8.5	60	8.5	---	---
15 Ridgewood	IVs	7.0	---	---	---	---
16:						
Lutterloh	IIIw	6.5	65	7.0	2,100	11.0
Ridgewood	IVs	7.0	---	---	---	---
17:						
Ousley	IIIw	7.5	50	7.5	---	---
Leon	IVw	7.5	50	9.0	---	---
Clara	VIw	---	---	---	---	---
19:						
Otela	IIIs	6.5	35	7.0	---	5.0
Ortega	IIIs	6.0	---	---	---	---
Lutterloh	IIIw	6.5	65	7.0	2,000	11.0

See footnote at end of table.

Table 7.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Bahiagrass	Corn	Improved bermudagrass	Tobacco	Watermelons
		AUM*	Bu	AUM*	Lbs	Tons
20:						
Melvina	IVs	6.5	---	---	---	---
Mandarin	VIs	6.5	---	---	---	---
21 Kershaw	VIIs	3.5	---	3.5	---	---
22 Ocilla	IIIw	7.5	75	8.5	2,600	---
23:						
Melvina	IVs	6.5	---	---	---	---
Moriah	IIIw	6.5	65	7.0	2,100	11.0
Lutterloh	IIIw	6.5	65	7.0	2,100	11.0
24 Albany	IIIw	6.5	65	7.0	2,100	---
25 Pottsburg	IVw	7.0	---	7.5	---	---
26:						
Resota	VIs	5.0	---	---	---	---
Hurricane	IIIw	7.0	---	8.0	---	---
27 Plummer	IVw	5.0	---	6.0	---	---
28 Surrency, Starke, and Croatan	VIIw	---	---	---	---	---
29:						
Albany	IIIw	6.5	65	7.0	2,000	---
Surrency	VIIw	---	---	---	---	---
30 Dorovan and Pamlico	VIIw	---	---	---	---	---
33 Wesconnett, Evergreen, and Pamlico	VIIw	---	---	---	---	---
34:						
Clara	VIw	---	---	---	---	---
Bodiford	VIIw	---	---	---	---	---
35:						
Tooles	VIw	---	---	---	---	---
Meadowbrook	VIw	---	---	---	---	---
Wekiva	Vw	---	---	---	---	---

See footnote at end of table.

Table 7.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Bahiagrass	Corn	Improved bermudagrass	Tobacco	Watermelons
		AUM*	Bu	AUM*	Lbs	Tons
37 Tooles and Meadowbrook	VIIw	---	---	---	---	---
38 Clara and Meadowbrook	VIIw	---	---	---	---	---
40 Lutterloh	IIIw	6.5	65	7.0	2,100	---
41:						
Tooles	IIIw	---	---	---	---	---
Meadowbrook	IVw	---	---	6.0	---	---
45 Chaires	IVw	8.0	---	---	---	---
46 Pits	VIIIs	---	---	---	---	---
48:						
Wekiva	Vw	---	---	---	---	---
Tennille	VIw	---	---	---	---	---
Tooles	VIw	---	---	---	---	---
49:						
Seaboard	VIs	---	---	---	---	---
Bushnell	IIIw	7.0	---	7.0	---	---
Matmon	IVs	7.0	---	7.0	---	---
51:						
Tooles	VIIw	---	---	---	---	---
Nutall	Vw	---	---	---	---	---
52:						
Clara, depressional	VIIw	---	---	---	---	---
Clara	VIw	---	---	---	---	---
Meadowbrook	IVw	5.0	---	6.0	---	---
53 Bayvi	VIIIw	---	---	---	---	---
54:						
Tooles	IIIw	---	---	---	---	---
Meadowbrook	IVw	5.0	---	6.0	---	---
Clara	VIIw	---	---	---	---	---
55 Arents	VIs	---	---	---	---	---

See footnote at end of table.

Table 7.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Bahiagrass	Corn	Improved bermudagrass	Tobacco	Watermelons
		AUM*	Bu	AUM*	Lbs	Tons
57----------------------- Sapelo	VIw	---	---	---	---	---
58----------------------- Leon	VIw	---	---	---	---	---
59----------------------- Arents	VIIs	---	---	---	---	---
60:						
Chaires------------------	IVw	8.0	---	6.0	---	---
Meadowbrook--------------	IVw	6.0	---	---	---	---
61:						
Wekiva-------------------	IVw	6.5	---	---	---	---
Tooles-------------------	VIIw	---	---	---	---	---
Tennille-----------------	Vw	6.0		---	---	---
62----------------------- Tooles, Tennille, and Wekiva	VIIw	---	---	---	---	---
63----------------------- Steinhatchee	IIIw	8.0	---	---	---	---
64:						
Tooles-------------------	IIIw	---	---	---	---	---
Wekiva-------------------	IVw	6.5	---	---	---	---
65, 67:						
Yellowjacket-------------	VIIw	---	---	---	---	---
Maurepas-----------------	VIIIw	---	---	---	---	---
68:						
Matmon-------------------	IVs	---	---	---	---	---
Wekiva-------------------	Vw	---	---	---	---	---
Rock outcrop-------------	VIIIs	---	---	---	---	---
69:						
Eunola-------------------	IIw	---	90	---	---	---
Goldhead-----------------	VIw	---	---	---	---	---
Tooles-------------------	VIw	---	---	---	---	---
70:						
Chiefland----------------	IIIs	8.0	65	10.5	2,500	12.0
Chiefland, frequently flooded------	Vw	---	---	---	---	---
71----------------------- Leon	IVw	7.5	50	9.0	---	---

See footnote at end of table.

Table 7.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Bahiagrass	Corn	Improved bermudagrass	Tobacco	Watermelons
		AUM*	Bu	AUM*	Lbs	Tons
72------------------------ Chaires	IVw	8.0	---	---	---	---
73------------------------ Chipley	IIIs	7.5	50	8.0	2,000	5.0
74------------------------ Mascotte	IIIw	8.0	50	---	---	5.0

* 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.

Table 8.--Recreational Development

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight" 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
3:					
Osier	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.
Clara	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.
5 Chaires	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
6 Leon	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
8 Meadowbrook	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.
9 Sapelo	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.
10:					
Mandarin	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: wetness, droughty.
Hurricane	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
12 Ortega	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
13 Hurricane	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
14:					
Chipley	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
Lynn Haven	Severe: ponding, too sandy.	Severe: ponding, too sandy.	Severe: too sandy, ponding.	Severe: ponding, too sandy.	Severe: ponding.
Boulogne	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
15 Ridgewood	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
16:					
Lutterloh	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
16:					
Ridgewood	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
17:					
Ousley	Severe: flooding, too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
Leon	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
Clara	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness, flooding.	Severe: wetness, too sandy.	Severe: wetness, flooding.
19:					
Otela	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: droughty.
Ortega	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
Lutterloh	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
20:					
Melvina	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
Mandarin	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: wetness, droughty.
21 Kershaw	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
22 Ocilla	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: wetness, droughty.
23:					
Melvina	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
Moriah	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: wetness, droughty.
Lutterloh	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
24 Albany	Severe: wetness, too sandy.	Severe: too sandy.	Severe: too sandy, wetness.	Severe: too sandy.	Severe: droughty.
25 Pottsburg	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
26:					
Resota	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
Hurricane	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
27 Plummer	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.
28:					
Surrency	Severe: ponding, too sandy.	Severe: ponding, too sandy.	Severe: too sandy, ponding.	Severe: ponding, too sandy.	Severe: ponding.
Starke	Severe: ponding, too sandy.	Severe: ponding, too sandy.	Severe: too sandy, ponding.	Severe: ponding, too sandy.	Severe: ponding.
Croatan	Severe: ponding, excess humus.	Severe: ponding, excess humus, too acid.	Severe: too acid, excess humus, ponding.	Severe: ponding.	Severe: excess humus, ponding, too acid.
29:					
Albany	Severe: wetness, too sandy.	Severe: too sandy.	Severe: too sandy, wetness.	Severe: too sandy.	Severe: droughty.
Surrency	Severe: ponding, too sandy.	Severe: ponding, too sandy.	Severe: too sandy, ponding.	Severe: ponding, too sandy.	Severe: ponding.
30:					
Dorovan	Severe: ponding, excess humus.	Severe: ponding, excess humus, too acid.	Severe: excess humus, ponding, too acid.	Severe: ponding, excess humus.	Severe: too acid, ponding, excess humus.
Pamlico	Severe: flooding, ponding, excess humus.	Severe: ponding, excess humus, too acid.	Severe: excess humus, ponding, too acid.	Severe: ponding, excess humus.	Severe: too acid, ponding, excess humus.
33:					
Wesconnett	Severe: ponding, too sandy.	Severe: ponding, too sandy.	Severe: too sandy, ponding.	Severe: ponding, too sandy.	Severe: ponding.
Evergreen	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding.	Severe: ponding, excess humus.	Severe: ponding, excess humus.
Pamlico	Severe: flooding, ponding, excess humus.	Severe: ponding, excess humus, too acid.	Severe: excess humus, ponding, too acid.	Severe: ponding, excess humus.	Severe: too acid, ponding, excess humus.
34:					
Clara	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness, flooding.	Severe: wetness, too sandy.	Severe: wetness, flooding.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
34:					
Bodiford	Severe: flooding, ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding, flooding.	Severe: ponding, excess humus.	Severe: ponding, flooding, excess humus.
35:					
Tooles	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness, flooding.	Severe: wetness, too sandy.	Severe: wetness, flooding.
Meadowbrook	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness, flooding.	Severe: wetness, too sandy.	Severe: wetness, droughty, flooding.
Wekiva	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy, depth to rock.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, depth to rock.
37:					
Tooles	Severe: ponding, too sandy.	Severe: ponding, too sandy.	Severe: too sandy, ponding.	Severe: ponding, too sandy.	Severe: ponding.
Meadowbrook	Severe: ponding, too sandy.	Severe: ponding, too sandy.	Severe: too sandy, ponding.	Severe: ponding, too sandy.	Severe: ponding, droughty.
38:					
Clara	Severe: ponding, too sandy.	Severe: ponding, too sandy.	Severe: too sandy, ponding.	Severe: ponding, too sandy.	Severe: ponding.
Meadowbrook	Severe: ponding, too sandy.	Severe: ponding, too sandy.	Severe: too sandy, ponding.	Severe: ponding, too sandy.	Severe: ponding, droughty.
40 Lutterloh	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
41:					
Tooles	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
Meadowbrook	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.
45 Chaires	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
46. Pits					

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
48:					
Wekiva	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy, depth to rock.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, depth to rock.
Tennille	Severe: flooding, wetness.	Severe: wetness, too sandy, depth to rock.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, depth to rock.
Tooles	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
49:					
Seaboard	Severe: too sandy, depth to rock.	Severe: too sandy, depth to rock.	Severe: too sandy, depth to rock.	Severe: too sandy.	Severe: droughty, depth to rock.
Bushnell	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: wetness, depth to rock.
Matmon	Severe: wetness, too sandy.	Severe: too sandy, depth to rock.	Severe: too sandy, wetness, depth to rock.	Severe: too sandy.	Severe: depth to rock.
51:					
Tooles	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness, flooding.	Severe: wetness, too sandy.	Severe: wetness, flooding.
Nutall	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness, flooding.	Severe: wetness, too sandy.	Severe: wetness, flooding.
52:					
Clara, depressional	Severe: ponding, too sandy.	Severe: ponding, too sandy.	Severe: too sandy, ponding.	Severe: ponding, too sandy.	Severe: ponding.
Clara	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
Meadowbrook	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.
53 Bayvi	Severe: flooding, wetness.	Severe: wetness, excess salt.	Severe: wetness, flooding.	Severe: wetness.	Severe: excess salt, wetness, droughty.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
54:					
Tooles	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
Meadowbrook	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.
Clara	Severe: ponding, too sandy.	Severe: ponding, too sandy.	Severe: too sandy, ponding.	Severe: ponding, too sandy.	Severe: ponding.
55 Arents	Severe: too sandy.	Severe: too sandy.	Moderate: slope, wetness.	Severe: too sandy.	Severe: droughty.
57 Sapelo	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
58 Leon	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
59 Arents	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
60:					
Chaires	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
Meadowbrook	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.
61:					
Wekiva	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy, depth to rock.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, depth to rock.
Tooles	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
Tennille	Severe: flooding, wetness.	Severe: wetness, too sandy, depth to rock.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, depth to rock.
62:					
Tooles	Severe: flooding, wetness. too sandy	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
Tennille	Severe: wetness, too sandy.	Severe: wetness, too sandy, depth to rock.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, depth to rock.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
62:					
Wekiva	Severe: ponding, too sandy, depth to rock.	Severe: ponding, too sandy, depth to rock.	Severe: too sandy, ponding, depth to rock.	Severe: ponding, too sandy.	Severe: ponding, depth to rock.
63 Steinhatchee	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
64:					
Tooles	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
Wekiva	Severe: wetness, too sandy.	Severe: wetness, too sandy, depth to rock.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, depth to rock.
65:					
Yellowjacket	Severe: flooding, wetness, excess humus.	Severe: wetness, excess humus.	Severe: excess humus, wetness, flooding.	Severe: wetness, excess humus.	Severe: wetness, flooding, excess humus.
Maurepas	Severe: flooding, ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding, flooding.	Severe: ponding, excess humus.	Severe: ponding, flooding, excess humus.
67:					
Yellowjacket	Severe: ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding.	Severe: ponding, excess humus.	Severe: ponding, excess humus.
Maurepas	Severe: flooding, ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding, flooding.	Severe: ponding, excess humus.	Severe: ponding, flooding, excess humus.
68:					
Matmon	Severe: flooding, wetness, too sandy.	Severe: too sandy, depth to rock.	Severe: too sandy, wetness, depth to rock.	Severe: too sandy.	Severe: depth to rock.
Wekiva	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy, depth to rock.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, depth to rock.
Rock outcrop.					
69:					
Eunola	Severe: flooding, too sandy.	Severe: too sandy.	Moderate: wetness, flooding.	Severe: too sandy.	Moderate: wetness, flooding.
Goldhead	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
69:					
Tooles	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
70:					
Chiefland	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
Chiefland, frequently flooded	Severe: flooding, too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty, flooding.
71 Leon	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
72 Chaires	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
73 Chipley	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
74 Mascotte	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.

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
3:										
Clara	Poor	Poor	Fair	Poor	Fair	Fair	Fair	Poor	Poor	Fair.
Osier	Very poor.	Poor	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair.
5 Chaires	Poor	Fair	Fair	Poor	Fair	Poor	Fair	Fair	Fair	Poor.
6 Leon	Poor	Fair	Fair	Poor	Fair	Poor	Fair	Fair	Fair	Poor.
8 Meadowbrook	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair.
9 Sapelo	Poor	Fair	Fair	Poor	Fair	Fair	Fair	Fair	Fair	Fair.
10:										
Mandarin	Very poor.	Poor	Poor	Poor	Fair	Very poor.	Very poor.	Poor	Poor	Very poor.
Hurricane	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
12 Ortega	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
13 Hurricane	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
14:										
Chipley	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Lynn Haven	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Fair	Good	Very poor.	Very poor.	Good.
Boulogne	Poor	Fair	Fair	Poor	Fair	Poor	Fair	Fair	Fair	Poor.
15 Ridgewood	Poor	Poor	Fair	Fair	Fair	Poor	Poor	Poor	Fair	Poor.
16:										
Lutterloh	Poor	Fair	Fair	Poor	Fair	Poor	Poor	Fair	Fair	Poor.
Ridgewood	Poor	Poor	Fair	Fair	Fair	Poor	Poor	Poor	Fair	Poor.
17:										
Ousley	Poor	Fair	Good	Fair	Fair	Poor	Very poor.	Fair	Fair	Very poor.
Leon	Poor	Fair	Fair	Poor	Fair	Poor	Fair	Fair	Fair	Poor.
Clara	Very poor.	Very poor.	Poor	Fair	Poor	Fair	Fair	Very poor.	Poor	Fair.

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
19:										
Otela	Poor	Fair	Good	Fair	Fair	Poor	Poor	Fair	Fair	Very poor.
Ortega	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Lutterloh	Poor	Fair	Fair	Poor	Fair	Poor	Poor	Fair	Fair	Poor.
20:										
Melvina	Fair	Fair	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor.
Mandarin	Very poor.	Poor	Poor	Poor	Fair	Very poor.	Very poor.	Poor	Poor	Very poor.
21 Kershaw	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.
22 Ocilla	Fair	Fair	Good	Fair	Good	Fair	Fair	Fair	Good	Fair.
23:										
Melvina	Fair	Fair	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor.
Moriah	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Lutterloh	Poor	Fair	Fair	Poor	Fair	Poor	Poor	Fair	Fair	Poor.
24 Albany	Fair	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Poor.
25 Pottsburg	Poor	Fair	Fair	Poor	Fair	Poor	Fair	Fair	Fair	Poor.
26:										
Resota	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Hurricane	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
27 Plummer	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair.
28:										
Surrency	Poor	Poor	Poor	Poor	Poor	Fair	Good	Poor	Poor	Fair.
Starke	Very poor.	Poor	Poor	Fair	Fair	Good	Good	Poor	Fair	Good.
Pamlico	Very poor.	Very poor.	Poor	Poor	Poor	Good	Good	Very poor.	Poor	Good.
29:										
Albany	Fair	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Poor.
Surrency	Poor	Poor	Poor	Poor	Poor	Fair	Good	Poor	Poor	Fair.

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
30:										
Dorovan-----------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good.
Pamlico-----------	Very poor.	Very poor.	Poor	Poor	Poor	Good	Good	Very poor.	Poor	Good.
33:										
Wesconnett--------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Fair	Good	Very poor.	Very poor.	Good.
Evergreen---------	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good.
Pamlico-----------	Very poor.	Very poor.	Poor	Poor	Poor	Good	Good	Very poor.	Poor	Good.
34:										
Clara-------------	Very poor.	Very poor.	Poor	Fair	Poor	Fair	Fair	Very poor.	Poor	Fair.
Bodiford----------	Very poor.	Very poor.	Fair	Fair	Fair	Good	Good	Very poor.	Fair	Good.
35:										
Tooles------------	Very poor.	Poor	Poor	Poor	Poor	Fair	Good	Very poor.	Poor	Fair.
Meadowbrook-------	Very poor.	Very poor.	Poor	Fair	Poor	Good	Fair	Very poor.	Poor	Fair.
Wekiva------------	Poor	Poor	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair.
37:										
Tooles------------	Very poor.	Very poor.	Very poor.	Fair	Fair	Good	Good	Very poor.	Fair	Good.
Meadowbrook-------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Fair	Good	Very poor.	Very poor.	Good.
38:										
Clara-------------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Fair	Fair	Very poor.	Very poor.	Fair.
Meadowbrook-------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Fair	Good	Very poor.	Very poor.	Good.
40----------------- Lutterloh	Fair	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Poor.
41:										
Tooles------------	Very poor.	Very poor.	Very poor.	Fair	Fair	Good	Good	Very poor.	Fair	Good.
Meadowbrook-------	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair.
45----------------- Chaires	Poor	Fair	Fair	Poor	Fair	Fair	Fair	Fair	Fair	Fair.
46. Pits										

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
48:										
Wekiva	Poor	Poor	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair.
Tennille	Poor	Poor	Poor	Poor	Poor	Fair	Poor	Poor	Poor	Poor.
Tooles	Very poor.	Poor	Poor	Poor	Poor	Fair	Good	Very poor.	Poor	Fair.
49:										
Seaboard	Poor	Poor	Fair	Fair	Poor	Very poor.	Very poor.	Fair	Fair	Very poor.
Bushnell	Fair	Fair	Good	Good	Good	Poor	Fair	Fair	Good	Fair.
Matmon	Poor	Poor	Fair	Poor	Poor	Fair	Poor	Poor	Poor	Poor.
51:										
Tooles	Very poor.	Poor	Poor	Poor	Poor	Fair	Good	Very poor.	Poor	Fair.
Nutall.										
52:										
Clara, depressional	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Fair	Fair	Very poor.	Very poor.	Fair.
Clara	Poor	Poor	Fair	Poor	Fair	Fair	Fair	Poor	Poor	Fair.
Meadowbrook	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair.
53 Bayvi	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Fair	Good	Very poor.	Very poor.	Fair.
54:										
Tooles	Poor	Fair	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair.
Meadowbrook	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair.
Clara	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Fair	Fair	Very poor.	Very poor.	Fair.
55 Arents	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
57 Sapelo	Poor	Fair	Fair	Poor	Fair	Good	Fair	Poor	Fair	Fair.
58 Leon	Poor	Fair	Fair	Poor	Fair	Good	Fair	Poor	Fair	Fair.
59 Arents	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Poor	Very poor.
60:										
Chaires	Poor	Fair	Fair	Poor	Fair	Poor	Fair	Fair	Fair	Poor.
Meadowbrook	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair.
61:										
Wekiva	Poor	Poor	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair.

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
61:										
Tooles	Poor	Fair	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair.
Tennille	Poor	Poor	Poor	Poor	Poor	Fair	Poor	Poor	Poor	Poor.
62:										
Tooles	Very poor.	Very poor.	Very poor.	Fair	Fair	Good	Good	Very poor.	Fair	Good.
Tennille	Very Poor	Very Poor	Very Poor	Very Poor	Very Poor	Fair	Good	Poor	Poor	Good.
Wekiva	Very poor.	Very poor.	Very poor.	Fair	Fair	Good	Good	Very poor.	Fair	Good.
63 Steinhatchee	Poor	Fair	Fair	Poor	Fair	Fair	Fair	Fair	Fair	Fair.
64:										
Tooles	Poor	Fair	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair.
Wekiva	Poor	Poor	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair.
65, 67:										
Yellowjacket	Very poor.	Very poor.	Poor	Poor	Poor	Good	Good	Very poor.	Poor	Good.
Maurepas	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Fair	Very poor.	Very poor.	Very poor.	Fair.
68:										
Matmon	Poor	Poor	Fair	Poor	Poor	Fair	Poor	Poor	Poor	Poor.
Wekiva	Poor	Poor	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair.
Rock outcrop.										
69:										
Eunola	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Goldhead	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Poor.
Tooles	Poor	Poor	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair.
70:										
Chiefland	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Chiefland, frequently flooded	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
71 Leon	Poor	Fair	Fair	Poor	Fair	Fair	Fair	Fair	Fair	Fair.
72 Chaires	Poor	Fair	Fair	Poor	Fair	Fair	Fair	Fair	Fair	Fair.

Table 9.--Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
73----------------- Chipley	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
74----------------- Mascotte	Poor	Fair	Fair	Poor	Fair	Poor	Fair	Fair	Fair	Poor.

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
3:						
Clara	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Osier	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.
5 Chaires	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
6 Leon	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
8 Meadowbrook	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.
9 Sapelo	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.
10:						
Mandarin	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
Hurricane	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
12 Ortega	Severe: cutbanks cave.	Slight	Moderate: wetness.	Slight	Slight	Severe: droughty.
13 Hurricane	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
14:						
Chipley	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
Lynn Haven	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
Boulogne	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
15 Ridgewood	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.

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
16:						
Lutterloh	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
Ridgewood	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
17:						
Ousley	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Severe: droughty.
Leon	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Clara	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.
19:						
Otela	Severe: cutbanks cave.	Slight	Moderate: wetness.	Slight	Slight	Moderate: droughty.
Ortega	Severe: cutbanks cave.	Slight	Moderate: wetness.	Slight	Slight	Severe: droughty.
Lutterloh	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
20:						
Melvina	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
Mandarin	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
21 Kershaw	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Severe: droughty.
22 Ocilla	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
23:						
Melvina	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
Moriah	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
Lutterloh	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
24 Albany	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Severe: droughty.

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
25----------------- Pottsburg	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.
26						
Resota-----------	Severe: cutbanks cave.	Slight---------	Moderate: wetness.	Slight---------	Slight---------	Severe: droughty.
Hurricane--------	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
27----------------- Plummer	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.
28:						
Surrency---------	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
Starke-----------	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
Croatan----------	Severe: excess humus, ponding, wetness.	Severe: subsides, ponding, wetness.	Severe: subsides, ponding, wetness.	Severe: subsides, ponding, wetness.	Severe: subsides, low strength, ponding.	Severe: too acid, ponding, excess humus.
29:						
Albany-----------	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Severe: droughty.
Surrency---------	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
30:						
Dorovan----------	Severe: excess humus, ponding.	Severe: subsides, ponding.	Severe: subsides, ponding.	Severe: subsides, ponding.	Severe: subsides, ponding.	Severe: ponding, excess humus.
Pamlico----------	Severe: cutbanks cave, excess humus, ponding.	Severe: flooding, ponding, low strength.	Severe: flooding, ponding.	Severe: flooding, ponding, low strength.	Severe: low strength, ponding.	Severe: too acid, ponding, excess humus.
33:						
Wesconnett-------	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
Evergreen--------	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding, excess humus.
Pamlico----------	Severe: cutbanks cave, excess humus, ponding.	Severe: flooding, ponding, low strength.	Severe: flooding, ponding.	Severe: flooding, ponding, low strength.	Severe: low strength, ponding.	Severe: too acid, ponding, excess humus.

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
34:						
Clara------------	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.
Bodiford---------	Severe: cutbanks cave, ponding.	Severe: flooding, ponding.	Severe: flooding, ponding.	Severe: flooding, ponding.	Severe: ponding, flooding.	Severe: ponding, flooding, excess humus.
35:						
Tooles-----------	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.
Meadowbrook------	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, droughty,
Wekiva-----------	Severe: depth to rock, wetness.	Severe: flooding, wetness, depth to rock.	Severe: flooding, wetness, depth to rock.	Severe: flooding, wetness, depth to rock.	Severe: depth to rock, wetness, flooding.	Severe: wetness, depth to rock.
37:						
Tooles-----------	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
Meadowbrook------	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding, droughty.
38:						
Clara------------	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
Meadowbrook------	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding, droughty.
40---------------- Lutterloh	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
41:						
Tooles-----------	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: ponding.
Meadowbrook------	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.
45---------------- Chaires	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
46. Pits						

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
48:						
Wekiva	Severe: depth to rock, wetness.	Severe: flooding, wetness, depth to rock.	Severe: flooding, wetness, depth to rock.	Severe: flooding, wetness, depth to rock.	Severe: depth to rock, wetness, flooding.	Severe: wetness, depth to rock.
Tennille	Severe: depth to rock, wetness.	Severe: flooding, wetness, depth to rock.	Severe: flooding, wetness, depth to rock.	Severe: flooding, wetness, depth to rock.	Severe: depth to rock, wetness, flooding.	Severe: wetness, depth to rock.
Tooles	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.
49:						
Seaboard	Severe: depth to rock.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: depth to rock.	Moderate: depth to rock.	Severe: droughty, depth to rock.
Bushnell	Severe: wetness.	Severe: shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, low strength.	Moderate: wetness, droughty, depth to rock.
Matmon	Severe: depth to rock, wetness.	Severe: wetness.	Severe: wetness, depth to rock.	Severe: wetness.	Moderate: depth to rock, wetness.	Severe: depth to rock.
51:						
Tooles	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.
Nutall	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.
52:						
Clara, depressional	Severe: cutbanks cave, ponding, wetness.	Severe: flooding, ponding, wetness.	Severe: flooding, ponding, wetness	Severe: flooding, ponding, wetness.	Severe: ponding, wetness, flooding	Severe: ponding, wetness.
Clara	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness.
Meadowbrook	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, droughty.
53 Bayvi	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: excess salt, wetness, droughty.
54:						
Tooles	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.

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
54:						
Meadowbrook	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.
Clara	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
55 Arents	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
57 Sapelo	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.
58 Leon	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
59 Arents	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
60:						
Chaires	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Meadowbrook	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.
61:						
Wekiva	Severe: depth to rock, wetness.	Severe: flooding, wetness, depth to rock.	Severe: flooding, wetness, depth to rock.	Severe: flooding, wetness, depth to rock.	Severe: depth to rock, wetness.	Severe: wetness, depth to rock.
Tooles	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.
Tennille	Severe: depth to rock, wetness.	Severe: flooding, wetness, depth to rock.	Severe: flooding, wetness, depth to rock.	Severe: flooding, wetness, depth to rock.	Severe: depth to rock, wetness.	Severe: wetness, depth to rock.
62:						
Tooles	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
Tennille	Severe: depth to rock, wetness.	Severe: ponding, depth to rock.	Severe: ponding, depth to rock.	Severe: ponding, depth to rock.	Severe: depth to rock, ponding.	Severe: ponding, depth to rock.
Wekiva	Severe: depth to rock, ponding.	Severe: ponding, depth to rock.	Severe: ponding, depth to rock.	Severe: ponding, depth to rock.	Severe: depth to rock, ponding.	Severe: ponding, depth to rock.

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
63: Steinhatchee	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
64:						
Tooles	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Wekiva	Severe: depth to rock, wetness.	Severe: wetness, depth to rock.	Severe: wetness, depth to rock.	Severe: wetness, depth to rock.	Severe: depth to rock, wetness.	Severe: wetness, depth to rock.
65:						
Yellowjacket	Severe: cutbanks cave, excess humus, wetness.	Severe: subsides, flooding, wetness.	Severe: subsides, flooding, wetness.	Severe: subsides, flooding, wetness.	Severe: subsides, wetness, flooding.	Severe: wetness, flooding, excess humus.
Maurepas	Severe: excess humus, ponding.	Severe: flooding, ponding, low strength.	Severe: flooding, ponding, low strength.	Severe: flooding, ponding, low strength.	Severe: ponding, flooding.	Severe: ponding, flooding, excess humus.
67:						
Yellowjacket	Severe: cutbanks cave, ponding.	Severe: subsides, ponding.	Severe: subsides, ponding.	Severe: subsides, ponding.	Severe: subsides, ponding.	Severe: ponding, excess humus.
Maurepas	Severe: excess humus, ponding.	Severe: flooding, ponding, low strength.	Severe: flooding, ponding, low strength.	Severe: flooding, ponding, low strength.	Severe: ponding, flooding.	Severe: ponding, flooding, excess humus.
68:						
Matmon	Severe: depth to rock, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness, depth to rock.	Severe: flooding, wetness.	Severe: flooding.	Severe: depth to rock.
Wekiva	Severe: depth to rock, wetness.	Severe: flooding, wetness, depth to rock.	Severe: flooding, wetness, depth to rock.	Severe: flooding, wetness, depth to rock.	Severe: depth to rock, wetness, flooding.	Severe: wetness, depth to rock.
Rock outcrop.						
69:						
Eunola	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Moderate: wetness, flooding.
Goldhead	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, droughty.
Tooles	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness.

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
70:						
Chiefland	Severe: cutbanks cave.	Slight	Moderate: depth to rock.	Slight	Slight	Severe: droughty.
Chiefland, frequently flooded	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: droughty, flooding.
71 Leon	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.
72 Chaires	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.
73 Chipley	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
74 Mascotte	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.

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	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
3:					
Clara	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Osier	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
5 Chaires	Severe: wetness, percs slowly, poor filter.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
6 Leon	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
8 Meadowbrook	Severe: wetness, percs slowly.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
9 Sapelo	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
10:					
Mandarin	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: wetness, seepage.	Poor: seepage, too sandy.
Hurricane	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.
12 Ortega	Moderate: wetness.	Severe: seepage.	Severe: seepage, wetness, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
13 Hurricane	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.
14:					
Chipley	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
14:					
Lynn Haven	Severe: ponding, poor filter.	Severe: seepage, ponding.	Severe: seepage, ponding, too sandy.	Severe: seepage, ponding.	Poor: seepage, too sandy, ponding.
Boulogne	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
15 Ridgewood	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.
16:					
Lutterloh	Severe: wetness, poor filter.	Severe: seepage.	Severe: wetness, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
Ridgewood	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.
17:					
Ousley	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy.
Leon	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Clara	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
19:					
Otela	Severe: percs slowly, poor filter.	Severe: seepage.	Severe: too sandy.	Severe: seepage.	Poor: seepage, too sandy.
Ortega	Moderate: wetness.	Severe: seepage.	Severe: seepage, wetness, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
Lutterloh	Severe: wetness, poor filter.	Severe: seepage.	Severe: wetness, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
20:					
Melvina	Severe: wetness, percs slowly, poor filter.	Severe: seepage, wetness.	Severe: depth to rock, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
20:					
Mandarin	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: wetness, seepage.	Poor: seepage, too sandy.
21 Kershaw	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
22 Ocilla	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness.	Severe: seepage, wetness.	Fair: wetness.
23:					
Melvina	Severe: wetness, percs slowly, poor filter.	Severe: seepage, wetness.	Severe: depth to rock, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.
Moriah	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: depth to rock, wetness.	Severe: seepage, wetness.	Poor: thin layer.
Lutterloh	Severe: wetness, poor filter.	Severe: seepage.	Severe: wetness, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
24 Albany	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: too sandy, wetness.
25 Pottsburg	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
26:					
Resota	Moderate: wetness.	Severe: seepage.	Severe: seepage, wetness.	Severe: seepage.	Poor: seepage, too sandy.
Hurricane	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.
27 Plummer	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: too sandy, wetness.
28:					
Surrency	Severe: ponding.	Severe: seepage, ponding.	Severe: ponding, too sandy.	Severe: seepage, ponding.	Poor: too sandy, ponding.
Starke	Severe: ponding, percs slowly.	Severe: seepage.	Severe: ponding, too sandy.	Severe: seepage, ponding.	Poor: seepage, too sandy, ponding.
Croatan	Severe: ponding, percs slowly.	Severe: seepage, excess humus, ponding.	Severe: ponding, too acid.	Severe: seepage, ponding.	Poor: ponding.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
29:					
Albany	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: too sandy, wetness.
Surrency	Severe: ponding.	Severe: seepage, ponding.	Severe: ponding, too sandy.	Severe: seepage, ponding.	Poor: too sandy, ponding.
30:					
Dorovan	Severe: subsides, ponding.	Severe: excess humus, ponding.	Severe: seepage, ponding.	Severe: ponding.	Poor: ponding, excess humus.
Pamlico	Severe: ponding, poor filter.	Severe: seepage, excess humus, ponding.	Severe: seepage, ponding, too sandy.	Severe: seepage, ponding.	Poor: seepage, too sandy, ponding.
33:					
Wesconnett	Severe: ponding, poor filter.	Severe: seepage, ponding.	Severe: seepage, ponding, too sandy.	Severe: seepage, ponding.	Poor: seepage, too sandy, ponding.
Evergreen	Severe: ponding, poor filter.	Severe: seepage, excess humus, ponding.	Severe: ponding, too sandy.	Severe: seepage, ponding.	Poor: seepage, too sandy, ponding.
Pamlico	Severe: ponding, poor filter.	Severe: seepage, excess humus, ponding.	Severe: seepage, ponding, too sandy.	Severe: seepage, ponding.	Poor: seepage, too sandy, ponding.
34:					
Clara	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
Bodiford	Severe: flooding, ponding, percs slowly.	Severe: seepage, flooding, excess humus.	Severe: flooding, depth to rock, ponding.	Severe: flooding, seepage, ponding.	Poor: seepage, too sandy, ponding.
35:					
Tooles	Severe: flooding, wetness, percs slowly.	Severe: seepage, flooding, wetness.	Severe: flooding, depth to rock, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
Meadowbrook	Severe: flooding, wetness, percs slowly.	Severe: seepage, flooding, wetness.	Severe: flooding, wetness, too sandy.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
Wekiva	Severe: flooding, depth to rock, wetness.	Severe: depth to rock, flooding, wetness.	Severe: flooding, depth to rock, wetness.	Severe: flooding, depth to rock, wetness.	Poor: depth to rock, wetness.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
37:					
Tooles	Severe: ponding, percs slowly.	Severe: seepage, ponding.	Severe: depth to rock, ponding.	Severe: seepage, ponding.	Poor: seepage, too sandy, ponding.
Meadowbrook	Severe: ponding, percs slowly.	Severe: seepage, ponding.	Severe: ponding, too sandy.	Severe: seepage, ponding.	Poor: seepage, too sandy, ponding.
38:					
Clara	Severe: ponding, poor filter.	Severe: seepage, ponding.	Severe: seepage, ponding, too sandy.	Severe: seepage, ponding.	Poor: seepage, too sandy, ponding.
Meadowbrook	Severe: ponding, percs slowly.	Severe: seepage, ponding.	Severe: ponding, too sandy.	Severe: seepage, ponding.	Poor: seepage, too sandy, ponding.
40 Lutterloh	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: depth to rock, wetness.	Severe: seepage, wetness.	Poor: too sandy.
41:					
Tooles	Severe: wetness, percs slowly.	Severe: seepage, wetness.	Severe: depth to rock, wetness.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Meadowbrook	Severe: wetness, percs slowly.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
45 Chaires	Severe: wetness, percs slowly.	Severe: wetness.	Severe: depth to rock, wetness, too sandy.	Severe: wetness.	Poor: seepage, too sandy, wetness.
46. Pits					
48:					
Wekiva	Severe: flooding, depth to rock, wetness.	Severe: depth to rock, flooding, wetness.	Severe: flooding, depth to rock, wetness.	Severe: flooding, depth to rock, wetness.	Poor: depth to rock, wetness.
Tennille	Severe: flooding, depth to rock, wetness.	Severe: seepage, depth to rock, flooding.	Severe: flooding, depth to rock, seepage.	Severe: flooding, depth to rock, wetness.	Poor: depth to rock, seepage, too sandy.
Tooles	Severe: flooding, wetness, percs slowly.	Severe: seepage, flooding, wetness.	Severe: flooding, depth to rock, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
49:					
Seaboard	Severe: depth to rock.	Severe: seepage, depth to rock.	Severe: depth to rock, seepage, wetness.	Severe: depth to rock.	Poor: depth to rock, seepage, too sandy.
Bushnell	Severe: depth to rock, wetness, percs slowly.	Severe: depth to rock, wetness.	Severe: depth to rock, wetness, too clayey.	Severe: depth to rock.	Poor: depth to rock, wetness.
Matmon	Severe: depth to rock, wetness, percs slowly.	Severe: depth to rock, wetness.	Severe: depth to rock, wetness, too clayey.	Severe: depth to rock.	Poor: depth to rock, too clayey, hard to pack.
51:					
Tooles	Severe: flooding, wetness, percs slowly.	Severe: seepage, flooding, wetness.	Severe: flooding, depth to rock, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
Nutall	Severe: flooding, depth to rock, wetness.	Severe: seepage, depth to rock, flooding.	Severe: flooding, depth to rock, wetness.	Severe: flooding, depth to rock, wetness.	Poor: depth to rock, wetness.
52:					
Clara, depressional	Severe: flooding, ponding, poor filter.	Severe: seepage, flooding, ponding.	Severe: flooding seepage, ponding.	Severe: flooding, seepage, ponding.	Poor: seepage, too sandy, ponding.
Clara	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
Meadowbrook	Severe: wetness, percs slowly.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
53 Bayvi	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, excess humus.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
54:					
Tooles	Severe: wetness, percs slowly, poor filter.	Severe: seepage, wetness.	Severe: depth to rock, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Meadowbrook	Severe: wetness, percs slowly.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Clara	Severe: ponding, poor filter.	Severe: seepage, ponding.	Severe: seepage, ponding, too sandy.	Severe: seepage, ponding.	Poor: seepage, too sandy, ponding.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
55------------------ Arents	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.
57------------------ Sapelo	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
58------------------ Leon	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
59------------------ Arents	Severe: wetness.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.
60:					
Chaires------------	Severe: wetness, percs slowly, poor filter.	Severe: seepage, wetness.	Severe: depth to rock, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Meadowbrook--------	Severe: wetness, percs slowly.	Severe: seepage, wetness.	Severe: depth to rock, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
61:					
Wekiva-------------	Severe: depth to rock, wetness.	Severe: depth to rock, wetness.	Severe: depth to rock, wetness.	Severe: depth to rock, wetness.	Poor: depth to rock, wetness.
Tooles-------------	Severe: wetness, percs slowly, poor filter.	Severe: seepage, wetness.	Severe: depth to rock, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Tennille-----------	Severe: depth to rock, wetness.	Severe: seepage, depth to rock.	Severe: depth to rock, seepage.	Severe: depth to rock, wetness.	Poor: depth to rock, seepage, too sandy.
62:					
Tooles-------------	Severe: ponding, percs slowly.	Severe: seepage, ponding.	Severe: depth to rock, ponding.	Severe: seepage, ponding.	Poor: seepage, too sandy, ponding.
Tennille-----------	Severe: depth to rock, ponding.	Severe: seepage, depth to rock, ponding.	Severe: depth to rock, ponding, seepage.	Severe: depth to rock, ponding.	Poor: depth to rock, seepage, too sandy.
Wekiva-------------	Severe: depth to rock, ponding.	Severe: depth to rock, ponding.	Severe: depth to rock, ponding.	Severe: depth to rock, ponding.	Poor: depth to rock, ponding.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
63: Steinhatchee	Severe: wetness, percs slowly.	Severe: seepage, wetness.	Severe: depth to rock, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
64:					
Tooles	Severe: wetness, percs slowly, poor filter.	Severe: seepage, wetness.	Severe: depth to rock, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Wekiva	Severe: depth to rock, wetness.	Severe: depth to rock, wetness.	Severe: depth to rock, wetness.	Severe: depth to rock, wetness.	Poor: depth to rock, wetness.
65:					
Yellowjacket	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, excess humus.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
Maurepas	Severe: flooding, ponding, poor filter.	Severe: seepage, flooding, excess humus.	Severe: flooding, seepage, ponding.	Severe: flooding, seepage, ponding.	Severe: flooding, seepage, ponding.
67:					
Yellowjacket	Severe: ponding, poor filter.	Severe: seepage, excess humus, ponding.	Severe: depth to rock, seepage, ponding.	Severe: seepage, ponding.	Poor: seepage, too sandy, ponding.
Maurepas	Severe: flooding, ponding, poor filter.	Severe: seepage, flooding, excess humus.	Severe: flooding, seepage, ponding.	Severe: flooding, seepage, ponding.	Severe: flooding, seepage, ponding.
68:					
Matmon	Severe: flooding, depth to rock, wetness.	Severe: depth to rock, flooding, wetness.	Severe: flooding, depth to rock, wetness.	Severe: flooding, depth to rock, wetness.	Poor: depth to rock, wetness.
Wekiva	Severe: flooding, depth to rock, wetness.	Severe: depth to rock, flooding, wetness.	Severe: flooding, depth to rock, wetness.	Severe: flooding, depth to rock, wetness.	Poor: depth to rock, wetness.
Rock outcrop.					
69:					
Eunola	Severe: flooding, wetness.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, wetness.	Fair: too clayey, wetness, thin layer.
Goldhead	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding.	Severe: flooding, wetness, too sandy.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.

Table 11.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
69:					
Tooles	Severe: flooding, wetness, percs slowly.	Severe: seepage, flooding, wetness.	Severe: flooding, depth to rock, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
70:					
Chiefland	Severe: depth to rock, poor filter.	Severe: seepage, depth to rock.	Severe: depth to rock, too sandy.	Severe: depth to rock, seepage.	Poor: depth to rock, seepage, too sandy.
Chiefland, frequently flooded	Severe: flooding, depth to rock, poor filter.	Severe: seepage, depth to rock, flooding.	Severe: flooding, depth to rock, too sandy.	Severe: flooding, depth to rock, seepage.	Poor: depth to rock, seepage, too sandy.
71 Leon	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
72 Chaires	Severe: wetness, percs slowly.	Severe: wetness.	Severe: depth to rock, wetness, too sandy.	Severe: wetness.	Poor: seepage, too sandy, wetness.
73 Chipley	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.
74 Mascotte	Severe: wetness, percs slowly, poor filter.	Severe: seepage, wetness.	Severe: wetness.	Severe: seepage, wetness.	Poor: wetness, thin layer.

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
3:				
Clara	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
Osier	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
5 Chaires	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
6 Leon	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
8 Meadowbrook	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
9 Sapelo	Poor: wetness.	Improbable: excess fines.	Improbable: too sandy.	Poor: too sandy, wetness.
10:				
Mandarin	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
Hurricane	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
12 Ortega	Good	Probable	Improbable: too sandy.	Poor: too sandy.
13 Hurricane	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
14:				
Chipley	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
Lynn Haven	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
Boulogne	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
15 Ridgewood	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
16:				
Lutterloh	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
16:				
Ridgewood	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
17:				
Ousley	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
Leon	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
Clara	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
19:				
Otela	Good	Probable	Improbable: too sandy.	Poor: too sandy.
Ortega	Good	Probable	Improbable: too sandy.	Poor: too sandy.
Lutterloh	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
20:				
Melvina	Fair: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy.
Mandarin	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
21 Kershaw	Good	Probable	Improbable: too sandy.	Severe: seepage.
22 Ocilla	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy.
23:				
Melvina	Fair: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy.
Moriah	Fair: depth to rock, thin layer, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy.
Lutterloh	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
24 Albany	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
25 Pottsburg	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
26:				
Resota	Good	Probable	Improbable: too sandy.	Poor: too sandy.
Hurricane	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
27-------------------- Plummer	Poor: wetness.	Probable------------	Improbable: too sandy.	Poor: too sandy, wetness.
28:				
Surrency------------	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy, wetness.
Starke--------------	Poor: wetness.	Probable------------	Improbable: too sandy.	Poor: too sandy, wetness.
Croatan-------------	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess humus, wetness, too acid.
29:				
Albany--------------	Fair: wetness.	Probable------------	Improbable: too sandy.	Poor: too sandy.
Surrency------------	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy, wetness.
30:				
Dorovan-------------	Poor: wetness.	Probable------------	Improbable: too sandy.	Poor: excess humus, wetness.
Pamlico-------------	Poor: low strength, wetness.	Probable------------	Improbable: too sandy.	Poor: excess humus, wetness.
33:				
Wesconnett----------	Poor: wetness.	Probable------------	Improbable: too sandy.	Poor: too sandy, wetness.
Evergreen-----------	Poor: wetness.	Probable------------	Improbable: too sandy.	Poor: too sandy, wetness.
Pamlico-------------	Poor: low strength, wetness.	Probable------------	Improbable: too sandy.	Poor: excess humus, wetness, too acid.
34:				
Clara---------------	Poor: wetness.	Probable------------	Improbable: too sandy.	Poor: too sandy, wetness.
Bodiford------------	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
35:				
Tooles--------------	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
35:				
Meadowbrook	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
Wekiva	Poor: depth to rock, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, wetness.
37:				
Tooles	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
Meadowbrook	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
38:				
Clara	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
Meadowbrook	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
40 Lutterloh	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
41:				
Tooles	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
Meadowbrook	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
45 Chaires	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
46. Pits				
48:				
Wekiva	Poor: depth to rock, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, wetness.
Tennille	Poor: depth to rock, wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: depth to rock, too sandy, wetness.
Tooles	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
49:				
Seaboard	Poor: depth to rock.	Improbable: thin layer.	Improbable: too sandy.	Poor: depth to rock, too sandy.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
49:				
Bushnell	Poor: depth to rock, shrink-swell, low strength.	Improbable: thin layer, excess fines.	Improbable: too sandy.	Poor: too clayey.
Matmon	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock.
51:				
Tooles	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
Nutall	Poor: depth to rock, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy, wetness.
52:				
Clara, depressional	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
Clara	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
Meadowbrook	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
53 Bayvi	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, excess salt, wetness.
54:				
Tooles	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
Meadowbrook	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
Clara	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
55 Arents	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
57 Sapelo	Poor: wetness.	Improbable: excess fines.	Improbable: too sandy.	Poor: too sandy,
58 Leon	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
59 Arents	Poor: thin layer.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
60:				
Chaires	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
Meadowbrook	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
61:				
Wekiva	Poor: depth to rock, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, wetness.
Tooles	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
Tennille	Poor: depth to rock, wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: depth to rock, too sandy, wetness.
62:				
Tooles	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
Tennille	Poor: depth to rock, wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: depth to rock, too sandy, wetness.
Wekiva	Poor: depth to rock, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, wetness.
63 Steinhatchee	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
64:				
Tooles	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
Wekiva	Poor: depth to rock, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, wetness.
65:				
Yellowjacket	Poor: wetness.	Probable	Improbable: too sandy.	Poor: excess humus, wetness.
Maurepas	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess humus, wetness.
67:				
Yellowjacket	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: excess humus, wetness.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
67:				
Maurepas	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess humus, wetness.
68:				
Matmon	Poor: depth to rock.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock.
Wekiva	Poor: depth to rock, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: depth to rock, wetness.
Rock outcrop.				
69:				
Eunola	Fair: wetness.	Probable	Improbable: too sandy.	Fair: too clayey, small stones, thin layer.
Goldhead	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
Tooles	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
70:				
Chiefland	Poor: depth to rock.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy.
Chiefland, frequently flooded	Poor: depth to rock.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy.
71 Leon	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
72 Chaires	Poor: wetness.	Improbable: thin layer.	Improbable: too sandy.	Poor: too sandy, wetness.
73 Chipley	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
74 Mascotte	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.

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	Limitations for--: Embankments, dikes, and levees	Limitations for--: Aquifer-fed excavated ponds	Features affecting--: Drainage	Features affecting--: Irrigation	Features affecting--: Terraces and diversions	Features affecting--: Grassed waterways
3:							
Clara	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty.
Osier	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy.	Wetness, droughty.
5 Chaires	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty.
6 Leon	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing	Wetness, droughty,
8 Meadowbrook	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Wetness, droughty.
9 Sapelo	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty.
10:							
Mandarin	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Too sandy, soil blowing, wetness.	Droughty.
Hurricane	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Droughty.
12 Ortega	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Deep to water	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
13 Hurricane	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Droughty.
14:							
Chipley	Severe: seepage.	Severe: seepage.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Droughty.
Lynn Haven	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: cutbanks cave.	Ponding, cutbanks cave.	Ponding, droughty, fast intake.	Ponding, too sandy.	Wetness, 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	Irrigation	Terraces and diversions	Grassed waterways
14:							
Boulogne	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty.
15 Ridgewood	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Droughty.
16:							
Lutterloh	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Droughty.
Ridgewood	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Droughty.
17:							
Ousley	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Flooding, cutbanks cave.	Wetness, droughty.	Wetness, too sandy, soil blowing.	Droughty.
Leon	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Cutbanks cave	Wetness, droughty.	Erodes easily, wetness, too sandy.	Wetness, erodes easily, droughty.
Clara	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Flooding, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty.
19:							
Otela	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
Ortega	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Deep to water	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
Lutterloh	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Droughty.
20:							
Melvina	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Droughty.
Mandarin	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Too sandy, soil blowing, wetness.	Droughty.
21 Kershaw	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Slope, droughty, fast intake.	Too sandy, soil blowing.	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	Irrigation	Terraces and diversions	Grassed waterways
22----------------Ocilla	Severe: seepage.	Severe: piping, wetness.	Severe: cutbanks cave.	Favorable	Wetness, droughty, fast intake.	Wetness, soil blowing.	Droughty.
23:							
Melvina----------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Droughty.
Moriah-----------	Severe: seepage.	Severe: piping, wetness.	Severe: cutbanks cave.	Favorable	Wetness, droughty, fast intake.	Wetness, soil blowing.	Droughty.
Lutterloh--------	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Droughty.
24----------------Albany	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Wetness, droughty.
25----------------Pottsburg	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty.
26:							
Resota-----------	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Deep to water	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
Hurricane--------	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Droughty.
27----------------Plummer	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty.
28:							
Surrency---------	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: slow refill, cutbanks cave.	Ponding, cutbanks cave.	Ponding, droughty, fast intake.	Ponding, too sandy.	Wetness, droughty, rooting depth.
Starke-----------	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: slow refill, cutbanks cave.	Ponding, cutbanks cave.	Ponding, droughty, fast intake.	Ponding, too sandy, soil blowing.	Wetness, droughty.
Croatan----------	Severe: seepage.	Severe: piping, ponding.	Severe: slow refill.	Ponding, percs slowly, subsides.	Ponding, soil blowing, percs slowly.	Ponding, soil blowing.	Wetness, percs slowly.
29:							
Albany-----------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Severe: slow refill, cutbanks cave.	Wetness, droughty.	Wetness, too sandy, soil blowing.	Wetness, 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	Irrigation	Terraces and diversions	Grassed waterways
29:							
Surrency	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: slow refill, cutbanks cave.	Ponding, cutbanks cave.	Ponding, droughty, fast intake.	Ponding, too sandy.	Wetness, droughty, rooting depth.
30:							
Dorovan	Moderate: seepage.	Severe: excess humus, ponding.	Severe: cutbanks cave.	Ponding, subsides.	Ponding, soil blowing.	Ponding, soil blowing.	Wetness.
Pamlico	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: cutbanks cave.	Ponding, subsides, cutbanks cave.	Ponding, soil blowing.	Ponding, too sandy, soil blowing.	Wetness.
33:							
Wesconnett	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: cutbanks cave.	Ponding, cutbanks cave.	Ponding, droughty, fast intake.	Ponding, too sandy.	Wetness, droughty.
Evergreen	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: cutbanks cave.	Ponding, subsides, cutbanks cave.	Ponding	Ponding, too sandy.	Wetness.
Pamlico	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: cutbanks cave.	Ponding, subsides, cutbanks cave.	Ponding, soil blowing.	Ponding, too sandy, soil blowing.	Wetness.
34:							
Clara	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Flooding, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty.
Bodiford	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: slow refill, cutbanks cave.	Ponding, flooding, subsides.	Ponding, flooding.	Ponding, too sandy.	Wetness.
35:							
Tooles	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Percs slowly, flooding, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty, percs slowly.
Meadowbrook	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Flooding, cutbanks cave.	Wetness, droughty.	Wetness, too sandy, soil blowing.	Wetness, droughty.
Wekiva	Severe: depth to rock.	Severe: piping, wetness.	Severe: slow refill, depth to rock.	Depth to rock, flooding.	Wetness, droughty, fast intake.	Depth to rock, wetness, soil blowing.	Wetness, droughty, depth to rock.
37:							
Tooles	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: slow refill, cutbanks cave.	Ponding, percs slowly.	Ponding, droughty, fast intake.	Ponding, too sandy.	Wetness, droughty, percs slowly.

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	Irrigation	Terraces and diversions	Grassed waterways
37:							
Meadowbrook	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: slow refill, cutbanks cave.	Ponding, cutbanks cave.	Ponding, droughty, fast intake.	Ponding, too sandy.	Wetness, droughty.
38:							
Clara	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: cutbanks cave.	Ponding, cutbanks cave.	Ponding, droughty, fast intake.	Ponding, too sandy.	Wetness, droughty.
Meadowbrook	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: slow refill, cutbanks cave.	Ponding, cutbanks cave.	Ponding, droughty, fast intake.	Ponding, too sandy.	Wetness, droughty.
40 Lutterloh	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Droughty.
41:							
Tooles	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Ponding, percs slowly.	Ponding, droughty, fast intake.	Ponding, too sandy.	Wetness, droughty, percs slowly.
Meadowbrook	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Wetness, droughty.
45 Chaires	Moderate: seepage, depth to rock.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty.
46. Pits							
48:							
Wekiva	Severe: depth to rock.	Severe: piping, wetness.	Severe: slow refill, depth to rock.	Depth to rock, flooding.	Wetness, droughty, fast intake.	Depth to rock, wetness, soil blowing.	Wetness, droughty, depth to rock.
Tennille	Severe: depth to rock.	Severe: seepage, piping, wetness.	Severe: depth to rock, cutbanks cave.	Depth to rock, flooding, cutbanks cave.	Wetness, droughty, fast intake.	Depth to rock, wetness, too sandy.	Wetness, droughty, depth to rock.
Tooles	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Percs slowly, flooding, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty, percs slowly.
49:							
Seaboard	Severe: depth to rock.	Severe: seepage, piping.	Severe: depth to rock, cutbanks cave.	Deep to water	Droughty, fast intake, soil blowing.	Depth to rock, too sandy, soil blowing.	Droughty, depth to rock.

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	Irrigation	Terraces and diversions	Grassed waterways
49:							
Bushnell	Moderate: depth to rock.	Severe: hard to pack.	Severe: no water.	Percs slowly, depth to rock.	Wetness, droughty.	Depth to rock, wetness, droughty.	Droughty, depth to rock, percs slowly.
Matmon	Severe: depth to rock.	Severe: piping, wetness.	Severe: slow refill, depth to rock.	Depth to rock, flooding.	Wetness, droughty, fast intake.	Depth to rock, wetness, soil blowing.	Wetness, droughty, depth to rock.
51:							
Tooles	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Percs slowly, flooding, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty, percs slowly.
Nutall	Moderate: depth to rock.	Severe: thin layer, wetness.	Severe: slow refill, depth to rock, cutbanks cave.	Percs slowly, depth to rock, flooding.	Wetness, droughty, fast intake.	Depth to rock, wetness, soil blowing.	Wetness, droughty, depth to rock.
52:							
Clara, depressional	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: cutbanks cave.	Ponding, cutbanks cave.	Ponding, droughty, fast intake.	Ponding, too sandy.	Wetness, droughty.
Clara	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Flooding, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty.
Meadowbrook	Severe: seepage.	Severe: seepage, piping, wetness.	Flooding, slow refill, cutbanks cave.	Wetness, cutbanks cave.	Wetness, droughty.	Wetness, too sandy, soil blowing.	Wetness, droughty.
53 Bayvi	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: salty water, cutbanks cave.	Flooding, cutbanks cave, excess salt.	Wetness, droughty.	Wetness, too sandy, soil blowing.	Wetness, excess salt, droughty.
54:							
Tooles	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Percs slowly, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty, percs slowly.
Meadowbrook	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Wetness, droughty.
Clara	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: cutbanks cave.	Ponding, cutbanks cave.	Ponding, droughty, fast intake.	Ponding, too sandy.	Wetness, droughty.
55 Arents	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	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	Irrigation	Terraces and diversions	Grassed waterways
57---------------- Sapelo	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, fast intake.	Wetness, too sandy, soil blowing.	Wetness.
58---------------- Leon	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, fast intake.	Wetness, too sandy, soil blowing.	Wetness.
59---------------- Arents	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Subsides, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Droughty.
60:							
Chaires----------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty.
Meadowbrook------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Wetness, droughty.
61:							
Wekiva-----------	Severe: depth to rock.	Severe: piping, wetness.	Severe: slow refill, depth to rock.	Depth to rock	Wetness, droughty, fast intake.	Depth to rock, wetness, soil blowing.	Wetness, droughty, depth to rock.
Tooles-----------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Percs slowly, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty, percs slowly.
Tennille---------	Severe: depth to rock.	Severe: seepage, piping, wetness.	Severe: depth to rock, cutbanks cave.	Depth to rock, cutbanks cave.	Wetness, droughty, fast intake.	Depth to rock, wetness, too sandy.	Wetness, droughty, depth to rock.
62:							
Tooles-----------	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: slow refill, cutbanks cave.	Ponding, percs slowly.	Ponding, droughty, fast intake.	Ponding, too sandy.	Wetness, droughty, percs slowly.
Tennille---------	Severe: depth to rock.	Severe: seepage, piping, wetness.	Severe: depth to rock, cutbanks cave.	Depth to rock, cutbanks cave.	Wetness, droughty, fast intake.	Depth to rock, ponding, too sandy.	Wetness, droughty, depth to rock.
Wekiva-----------	Severe: depth to rock.	Severe: piping, ponding.	Severe: slow refill, depth to rock.	Ponding, depth to rock.	Ponding, droughty, fast intake.	Depth to rock, ponding, soil blowing.	Wetness, droughty, depth to rock.
63---------------- Steinhatchee	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, 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	Irrigation	Terraces and diversions	Grassed waterways
64:							
Tooles-----------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Percs slowly, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty, percs slowly.
Wekiva-----------	Severe: depth to rock.	Severe: piping, wetness.	Severe: slow refill, depth to rock.	Depth to rock	Wetness, droughty, fast intake.	Depth to rock, wetness, soil blowing.	Wetness, droughty, depth to rock.
65:							
Yellowjacket-----	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Flooding, subsides, cutbanks cave.	Wetness, flooding.	Wetness, too sandy.	Wetness.
Maurepas---------	Severe: seepage.	Severe: excess humus, ponding.	Slight---------	Ponding, flooding, subsides.	Ponding, flooding.	Ponding--------	Wetness.
67:							
Yellowjacket-----	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: cutbanks cave.	Ponding, subsides, cutbanks cave.	Ponding--------	Ponding, too sandy.	Wetness.
Maurepas---------	Severe: seepage.	Severe: excess humus, ponding.	Slight---------	Ponding, flooding, subsides.	Ponding, flooding.	Ponding--------	Wetness.
68:							
Matmon-----------	Severe: depth to rock.	Severe: piping, wetness.	Severe: slow refill, depth to rock.	Depth to rock, flooding.	Wetness, droughty, fast intake.	Depth to rock, wetness, soil blowing.	Wetness, droughty, depth to rock.
Wekiva-----------	Severe: depth to rock.	Severe: piping, wetness.	Severe: slow refill, depth to rock.	Depth to rock, flooding.	Wetness, droughty, fast intake.	Depth to rock, wetness, soil blowing.	Wetness, droughty, depth to rock.
Rock outcrop.							
69:							
Eunola-----------	Severe: seepage.	Severe: piping, wetness.	Severe: cutbanks cave.	Flooding	Wetness, fast intake.	Wetness, soil blowing.	Favorable.
Goldhead---------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Flooding, cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Wetness, droughty.
Tooles-----------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Percs slowly, flooding, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty, percs slowly.
70:							
Chiefland--------	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake.	Depth to rock, too sandy, soil blowing.	Droughty, depth to rock.

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	Irrigation	Terraces and diversions	Grassed waterways
70: Chiefland, frequently flooded	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake.	Depth to rock, too sandy, soil blowing.	Droughty, depth to rock.
71 Leon	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty.
72 Chaires	Moderate: seepage, depth to rock.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty.
73 Chipley	Severe: seepage.	Severe: seepage.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Droughty.
74 Mascotte	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Favorable	Wetness, droughty, fast intake.	Wetness, soil blowing.	Wetness, droughty, rooting depth.

Table 14.--Engineering Index Properties

(Absence of an entry indicates that data were not estimated.)

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	
3:											
Clara-----------	0-6	Fine sand--------	SP, SP-SM	A-3	0	100	100	85-100	1-5	0-14	NP
	6-19	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	19-32	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	32-80	Sand, fine sand, loamy fine sand.	SP, SP-SM, SM	A-3, A-2-4	0	100	100	85-100	2-16	0-14	NP
Osier-----------	0-5	Fine sand--------	SP-SM	A-2, A-3	0	100	98-100	60-85	5-12	0-14	NP
	5-80	Coarse sand, sand, fine sand.	SP, SP-SM	A-1, A-3, A-2-4	0	100	90-100	40-90	2-10	0-14	NP
5---------------- Chaires	0-20	Fine sand--------	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	20-30	Sand, fine sand, loamy fine sand.	SP-SM, SM	A-3, A-2-4	0	100	100	85-100	5-20	0-14	NP
	30-52	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	2-12	0-14	NP
	52-80	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6	0	100	100	85-100	20-35	0-40	NP-20
6---------------- Leon	0-6	Fine sand--------	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	2-12	0-14	NP
	0-25	Fine sand--------	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	2-12	0-14	NP
	25-34	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	2-12	0-14	NP
	34-80	Sand, fine sand, loamy sand, loamy fine sand.	SM, SP-SM, SP	A-3, A-2-4	0	100	100	80-100	3-20	0-14	NP
8---------------- Meadowbrook	0-9	Fine sand--------	SP, SP-SM	A-3	0	100	95-100	70-95	2-10	0-14	NP
	9-58	Sand, fine sand	SP, SP-SM	A-3	0	100	95-100	70-95	2-10	0-14	NP
	58-80	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6	0	100	95-100	70-99	13-35	<35	NP-20
9---------------- Sapelo	0-28	Fine sand--------	SM, SP, SP-SM	A-2, A-3	0	100	100	85-100	4-20	0-14	NP
	28-45	Fine sand, sand, loamy fine sand.	SM, SP-SM	A-2, A-3	0	100	100	80-100	8-20	0-14	NP
	45-60	Fine sand, sand	SM, SP, SP-SM	A-2, A-3	0	100	100	75-100	4-20	0-14	NP
	60-80	Sandy loam, sandy clay loam, fine sandy loam.	SM, SC, SC-SM	A-2, A-4, A-6	0	100	100	80-100	20-50	<40	NP-20
10:											
Mandarin---------	0-26	Fine sand--------	SP, SP-SM	A-3	0	100	100	90-100	2-10	0-14	NP
	26-44	Fine sand, sand, loamy fine sand.	SP-SM, SM	A-3, A-2-4	0	100	100	90-100	5-15	0-14	NP
	44-80	Fine sand, sand	SP, SP-SM	A-3	0	100	100	90-100	2-7	0-14	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	
10:											
Hurricane	0-8	Fine sand	SP, SP-SM	A-3	0	100	100	78-100	2-8	0-14	NP
	8-63	Sand, fine sand	SP, SP-SM	A-3	0	100	100	78-100	2-8	0-14	NP
	63-69	Sand, fine sand, loamy fine sand.	SP-SM, SM	A-3, A-2-4	0	100	100	80-100	5-15	0-14	NP
	69-80	Sand, fine sand	SP, SP-SM, SM	A-3, A-2-4	0	100	100	90-100	4-15	0-14	NP
12 Ortega	0-5	Fine sand	SP, SP-SM	A-3	0	100	100	90-100	3-8	0-14	NP
	5-80	Fine sand, sand	SP, SP-SM	A-3	0	100	100	90-100	2-7	0-14	NP
13 Hurricane	0-8	Fine sand	SP, SP-SM	A-3	0	100	100	78-100	4-8	0-14	NP
	8-63	Sand, fine sand	SP, SP-SM	A-3	0	100	100	78-100	4-8	0-14	NP
	63-69	Sand, fine sand, loamy fine sand.	SP-SM, SM	A-3, A-2-4	0	100	100	80-100	5-15	0-14	NP
	69-80	Sand, fine sand	SP, SP-SM, SM	A-3, A-2-4	0	100	100	90-100	4-15	0-14	NP
14:											
Chipley	0-9	Fine sand	SP-SM	A-3, A-2-4	0	100	100	80-100	5-12	0-14	NP
	9-80	Sand, fine sand	SP-SM	A-3, A-2-4	0	100	100	80-100	5-12	0-14	NP
Lynn Haven	0-13	Mucky fine sand	SM, SP,	A-2-4,	0	100	100	85-100	4-15	0-14	NP
	13-19	Sand, fine sand	SP-SM, SP, SM	A-3, A-2-4	0	100	100	80-100	2-14	---	NP
	19-34	Sand, fine sand, loamy fine sand.	SP-SM, SM	A-3, A-2-4	0	100	100	80-100	5-20	---	NP
	34-52	Sand, fine sand	SP-SM, SP, SM	A-3, A-2-4	0	100	100	80-100	2-14	---	NP
	52-80	Sand, fine sand, loamy fine sand.	SP-SM, SM	A-3, A-2-4	0	100	100	80-100	5-20	---	NP
Boulogne	0-5	Fine sand	SP, SP-SM	A-3,	0	100	100	85-100	3-10	0-14	NP
	5-14	Sand, fine sand, loamy sand, loamy fine sand.	SM, SP-SM, SP	A-3, A-2-4	0	100	100	85-100	3-20	0-14	NP
	14-80	Sand, fine sand	SP, SP-SM	A-3,	0	100	100	85-100	3-10	0-14	NP
15 Ridgewood	0-9	Fine sand	SP-SM	A-3, A-2-4	0	100	100	90-100	5-12	0-14	NP
	9-80	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	100	100	90-100	2-12	0-14	NP
16 Lutterloh	0-8	Fine sand	SP, SP-SM	A-3	0-3	99-100	99-100	85-100	2-5	0-14	NP
	8-51	Sand, fine sand	SP, SP-SM	A-3	0-3	99-100	99-100	85-100	2-5	0-14	NP
	51-80	Fine sandy loam, very fine sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6, A-4, A-6	0-3	99-100	99-100	85-100	25-40	<35	NP-20
Ridgewood	0-9	Fine sand	SP-SM	A-3, A-2-4	0	100	100	90-100	5-12	0-14	NP
	9-80	Fine sand, sand	SP-SM, SP	A-3, A-2-4	0	100	100	90-100	2-12	0-14	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	
17:											
Ousley----------	0-4	Fine sand--------	SP-SM, SM	A-2, A-3	0	100	100	70-100	5-25	0-14	NP
	4-80	Sand, fine sand, coarse sand.	SP-SM, SM, SP	A-1, A-2, A-3	0	100	95-100	36-99	2-15	0-14	NP
Leon------------	0-25	Fine sand--------	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	2-12	0-14	NP
	25-34	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	2-12	0-14	NP
	34-80	Sand, fine sand, loamy fine sand.	SM, SP-SM, SP	A-3, A-2-4	0	100	100	80-100	3-20	0-14	NP
Clara-----------	0-6	Fine sand--------	SP, SP-SM	A-3	0	100	100	85-100	1-5	0-14	NP
	6-19	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	19-32	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	32-80	Sand, fine sand, loamy fine sand.	SP, SP-SM, SM	A-3, A-2-4	0	100	100	85-100	2-16	0-14	NP
19:											
Otela-----------	0-47	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	97-100	95-100	75-100	5-15	0-14	NP
	47-63	Sandy clay loam, fine sandy loam, loamy fine sand.	SC, SC-SM, SM	A-2-6, A-2-4, A-4, A-6	0	97-100	95-100	75-100	20-50	<40	NP-15
	63-80	Sandy clay loam, sandy clay, clay.	SC, CL, CH	A-6, A-7	0-5	97-100	95-100	75-100	45-95	35-65	20-39
Ortega----------	0-5	Fine sand--------	SP, SP-SM	A-3	0	100	100	90-100	3-8	0-14	NP
	5-80	Fine sand, sand	SP, SP-SM	A-3	0	100	100	90-100	2-7	0-14	NP
Lutterloh-------	0-8	Fine sand--------	SP, SP-SM	A-3	0-3	99-100	99-100	85-100	2-5	0-14	NP
	8-51	Sand, fine sand	SP, SP-SM	A-3	0-3	99-100	99-100	85-100	2-5	0-14	NP
	51-80	Fine sandy loam, very fine sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6, A-4, A-6	0-3	99-100	99-100	85-100	25-40	<35	NP-20
20:											
Melvina---------	0-6	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	100	100	70-100	5-25	0-14	NP
	6-28	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	70-100	5-25	0-14	NP
	28-39	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	70-100	5-25	0-14	NP
	39-53	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	70-100	5-25	0-14	NP
	53-67	Fine sandy loam, sandy clay loam, sandy loam.	SM, SC-SM, SC	A-2, A-4, A-6	0	100	100	70-100	30-50	<40	NP-20
	67-80	Sandy clay	SC	A-7	0	100	100	70-100	40-50	20-60	11-30
Mandarin--------	0-26	Fine sand--------	SP, SP-SM	A-3	0	100	100	90-100	2-10	0-14	NP
	26-44	Fine sand, sand, loamy fine sand.	SP-SM, SM	A-3, A-2-4	0	100	100	90-100	5-15	0-14	NP
	44-80	Fine sand, sand	SP, SP-SM	A-3	0	100	100	90-100	2-7	0-14	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	
21---------------Kershaw	0-80	Fine sand--------	SP, SP-SM, SW	A-2, A-3	0	98-100	98-100	50-80	1-7	0-14	NP
22---------------Ocilla	0-28	Sand-------------	SM, SP-SM	A-2, A-3	0	100	95-100	70-100	8-35	0-14	NP
	28-68	Sandy loam, sandy clay loam, fine sandy loam.	SM, CL, SC, ML	A-2, A-4, A-6	0	100	95-100	80-100	20-55	20-40	NP-18
	68-80	Sandy clay loam, sandy loam, fine sandy loam.	SC, CL	A-4, A-6, A-7	0	100	95-100	80-100	36-60	20-45	7-20
23:											
Melvina---------	0-6	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	100	100	70-100	5-25	0-14	NP
	6-28	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	70-100	5-25	0-14	NP
	28-39	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	70-100	5-25	0-14	NP
	39-53	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	70-100	5-25	0-14	NP
	53-67	Fine sandy loam, sandy clay loam, sandy loam.	SM, SC-SM, SC	A-2, A-4, A-6	0	100	100	70-100	30-50	<40	NP-20
	67-80	Sandy clay	SC	A-7	0	100	100	70-100	40-50	20-60	11-30
Moriah----------	0-5	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	5-34	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	34-57	Fine sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6	0	100	100	90-100	20-35	<38	NP-20
	57	Soft limestone	---	---	---	---	---	---	---	---	---
Lutterloh-------	0-51	Sand, fine sand	SP, SP-SM	A-3	0-3	99-100	99-100	85-100	2-5	0-14	NP
	51-64	Fine sandy loam, very fine sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6, A-4, A-6	0-3	99-100	99-100	85-100	25-40	<35	NP-20
24---------------Albany	0-50	Sand, fine sand	SM, SP-SM	A-2	0	100	100	75-90	10-20	0-14	NP
	50-80	Sandy clay loam, sandy loam, fine sandy loam.	SC, SM, SC-SM	A-2, A-4, A-6, A-7-6	0	97-100	95-100	70-100	20-50	<43	NP-23
25---------------Pottsburg	0-6	Fine sand--------	SP, SP-SM	A-3	0	100	100	80-100	2-10	0-14	NP
	6-52	Sand, fine sand	SP, SP-SM	A-3	0	100	100	80-100	1-8	0-14	NP
	52-80	Sand, fine sand, loamy fine sand.	SP-SM, SP, SM	A-3, A-2-4	0	100	100	80-100	4-18	0-14	NP
26:											
Resota----------	0-80	Sand-------------	SP, SM, SP-SM	A-3, A-2-4	0	100	100	85-99	1-15	0-14	NP
Hurricane-------	0-8	Fine sand--------	SP, SP-SM	A-3	0	100	100	78-100	2-8	0-14	NP
	8-63	Sand, fine sand	SP, SP-SM	A-3	0	100	100	78-100	2-8	0-14	NP
	63-69	Sand, fine sand, loamy fine sand.	SP-SM, SM	A-3, A-2-4	0	100	100	80-100	5-15	0-14	NP
	69-80	Sand, fine sand	SP, SP-SM, SM	A-3, A-2-4	0	100	100	90-100	4-15	0-14	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	
27--------------- Plummer	0-55	Fine sand--------	SM, SP-SM	A-2-4, A-3	0	100	95-100	75-90	5-25	0-14	NP
	55-80	Sandy loam, sandy clay loam, fine sandy loam.	SM, SC, SC-SM	A-2-4, A-4	0	100	97-100	76-96	20-48	<30	NP-10
28: Surrency--------	0-16	Mucky fine sand	SP-SM, SM, SC-SM	A-3, A-2-4	0	100	95-100	50-100	5-20	0-20	NP-5
	16-38	Loamy fine sand, sand, fine sand.	SP-SM, SM	A-2-4	0	100	95-100	50-100	10-26	0-14	NP
	38-80	Fine sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2	0	100	95-100	75-100	22-35	0-30	NP-10
Starke----------	0-6	Mucky fine sand	SP-SM, SP, SM	A-3, A-2	0	95-100	92-100	85-98	3-15	0-20	NP
	6-51	Sand, fine sand	SP, SP-SM, SM	A-3, A-2	0	95-100	92-100	85-98	3-15	0-20	NP
	51-80	Sandy loam, fine sandy loam, sandy clay loam.	SC-SM, SC	A-2, A-4, A-6	0	95-100	92-100	85-98	16-46	16-40	4-20
Croatan---------	0-25	Muck-------------	PT	---	0	---	---	---	---	---	---
	25-39	Sandy loam, fine sandy loam, mucky fine sandy loam.	SM, SC, SC-SM	A-2, A-4	0	100	100	60-85	30-49	25-35	NP-10
	39-80	Loam, clay loam, sandy clay loam.	CL, CL-ML, SC, SC-SM	A-4, A-6	0	100	100	75-100	36-95	18-45	4-15
29: Albany----------	0-50	Mucky fine sand	SM, SP-SM	A-2	0	100	100	75-90	10-20	0-14	NP
	50-80	Sandy clay loam, sandy loam, fine sandy loam.	SC, SM, SC-SM	A-2, A-4, A-6, A-7	0	97-100	95-100	70-100	20-50	<43	NP-23
Surrency--------	0-16	Mucky fine sand	SP-SM, SM, SC-SM	A-3, A-2-4	0	100	95-100	50-100	5-20	0-20	NP-5
	16-35	Loamy fine sand, sand, fine sand.	SP-SM, SM	A-2-4	0	100	95-100	50-100	10-26	0-14	NP
	35-80	Fine sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2	0	100	95-100	75-100	22-35	0-30	NP-10
30: Dorovan---------	0-4	Muck-------------	PT	---	0	---	---	---	---	---	---
	4-72	Muck-------------	PT	---	0	---	---	---	---	---	---
	72-80	Fine sand, loam, loamy fine sand.	SP-SM, SC-SM, SM	A-1, A-3, A-4, A-2-4	0	100	100	5-70	5-49	<20	NP-7
Pamlico---------	0-22	Muck-------------	PT	---	0	---	---	---	---	---	---
	22-65	Sand, fine sand, loamy fine sand.	SM, SP-SM	A-2, A-3	0	100	100	70-99	5-20	0-14	NP
33: Wesconnett------	0-10	Fine sand, sand	SP-SM, SM	A-3, A-2-4	0	100	100	80-100	5-15	0-14	NP
	10-40	Fine sand, sand	SP-SM	A-3, A-2-4	0	100	100	80-100	5-12	0-14	NP
	40-80	Fine sand, sand	SP-SM, SM	A-3, A-2-4	0	100	100	80-100	5-15	0-14	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	
33:											
Evergreen-------	0-9	Muck-------------	PT	---	---	---	---	---	---	---	---
	9-21	Sand, fine sand	SP, SP-SM	A-3	0	100	100	80-100	1-10	0-14	NP
	21-50	Sand, fine sand, loamy fine sand.	SP, SP-SM	A-3	0	100	100	80-100	1-10	0-14	NP
	50-80	Sand, fine sand	SP, SP-SM	A-3	0	100	100	80-100	1-10	0-14	NP
Pamlico---------	0-22	Muck-------------	PT	---	0	---	---	---	---	---	---
	22-65	Sand, fine sand, loamy fine sand.	SM, SP-SM	A-2, A-3	0	100	100	70-95	5-20	0-14	NP
34:											
Clara-----------	0-6	Mucky fine sand	SP, SP-SM	A-3	0	100	100	85-100	1-5	0-14	NP
	6-19	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	19-32	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	32-80	Sand, fine sand, loamy fine sand.	SP, SP-SM, SM	A-3, A-2-4	0	100	100	85-100	2-16	0-14	NP
Bodiford--------	0-12	Muck-------------	PT, OH	---	---	---	---	---	---	---	---
	12-18	Mucky sand, mucky fine sand, mucky loamy fine sand.	SP, SM, SP-SM	A-2	0	100	98-100	70-95	10-30	0-14	NP
	18-29	Sand, fine sand, loamy fine sand.	SP, SM, SP-SM	A-3, A-2-4	0	100	98-100	70-95	5-30	0-14	NP
	29-51	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6, A-6	0	100	98-100	70-95	20-40	25-30	11-15
	51	Soft limestone	---	---	---	---	---	---	---	---	---
35:											
Tooles----------	0-7	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	7-52	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	52-65	Sandy clay loam, clay loam.	SC, CL	A-6 A-2-6	0	100	100	85-95	20-55	20-30	5-15
	65	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Meadowbrook-----	0-9	Sand, fine sand	SP, SP-SM	A-3	0	100	95-100	70-95	2-10	0-14	NP
	9-58	Sand, fine sand	SP, SP-SM	A-3	0	100	95-100	70-95	2-10	0-14	NP
	58-80	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6	0	100	95-100	70-99	13-35	<35	NP-20
Wekiva----------	0-6	Fine sand--------	SM, SP-SM	A-3, A-2-4	0-3	98-100	98-100	98-100	6-18	0-14	NP
	6-14	Fine sand, loamy fine sand.	SM, SP-SM	A-3, A-2-4	0-3	98-100	98-100	98-100	6-18	0-14	NP
	14-21	Fine sandy loam, sandy clay loam.	SC, SC-SM, SM	A-6, A-2-4, A-4, A-2-6	0-5	98-100	98-100	85-100	20-45	<40	NP-24
	21	Soft limestone	---	---	---	---	---	---	---	---	---

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	
37:											
Tooles----------	0-7	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	7-52	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	52-65	Sandy clay loam, clay loam.	SC, CL	A-6 A-2-6	0	100	100	85-95	36-55	20-30	5-15
	65	Soft limestone	---	---	---	---	---	---	---	---	---
Meadowbrook-----	0-9	Sand-------------	SP, SP-SM	A-3	0	100	95-100	70-95	2-10	0-14	NP
	9-58	Sand, fine sand	SP, SP-SM	A-3	0	100	95-100	70-95	2-10	0-14	NP
	58-80	Sandy loam, fine sandy loam, sandy clay loam.	SM	A-2-4	0	100	95-100	70-99	13-35	<35	NP-10
38:											
Clara-----------	0-7	Mucky fine sand	SP, SP-SM	A-3	0	100	100	85-100	1-5	0-14	NP
	7-19	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	19-32	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	32-80	Sand, fine sand, loamy fine sand.	SP, SP-SM, SM	A-3, A-2-4	0	100	100	85-100	2-16	0-14	NP
Meadowbrook-----	0-9	Sand-------------	SP, SP-SM	A-3	0	100	95-100	70-95	2-10	0-14	NP
	9-58	Sand, fine sand	SP, SP-SM	A-3	0	100	95-100	70-95	2-10	0-14	NP
	58-80	Sandy loam, fine sandy loam, sandy clay loam.	SM	A-2-4	0	100	95-100	70-99	13-35	<35	NP-10
40-------------- Lutterloh	0-51	Fine sand--------	SP, SP-SM	A-3	0	100	100	85-100	2-5	0-14	NP
	51-64	Fine sandy loam, very fine sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6, A-4, A-6	0	100	100	85-100	25-40	<35	NP-20
	64	Soft limestone	---	---	---	---	---	---	---	---	---
41:											
Tooles----------	0-8	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	8-35	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	35-46	Sandy clay loam, clay loam.	SC, CL	A-6 A-2-6	0	100	100	85-95	36-55	20-30	5-15
	46	Soft limestone	---	---	---	---	---	---	---	---	---
Meadowbrook-----	0-9	Sand-------------	SP, SP-SM	A-3	0	100	95-100	70-95	2-10	0-14	NP
	9-58	Sand, fine sand	SP, SP-SM	A-3	0	100	95-100	70-95	2-10	0-14	NP
	58-80	Loamy fine sand, sandy loam, fine sandy loam.	SM, SC-SM	A-2-4	0	100	95-100	70-99	15-30	<25	NP-7

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	
45-------------- Chaires	0-8	Fine sand--------	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	8-18	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	2-12	0-14	NP
	18-35	Sand, fine sand, loamy fine sand.	SP-SM, SM	A-3, A-2-4	0	100	100	85-100	5-20	0-14	NP
	35-61	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6	0	100	100	85-100	20-35	<40	NP-20
	61	Soft limestone	---	---	---	---	---	---	---	---	---
46. Pits											
48:											
Wekiva----------	0-6	Fine sand--------	SM, SP-SM	A-3, A-2-4	0-3	98-100	98-100	98-100	6-18	0-14	NP
	6-14	Fine sand, loamy fine sand.	SM, SP-SM	A-3, A-2-4	0-3	98-100	98-100	98-100	6-18	0-14	NP
	14-21	Fine sandy loam, sandy clay loam.	SC, SC-SM, SM	A-6, A-2-4, A-4, A-2-6	0-5	98-100	98-100	85-100	20-45	<40	NP-24
	21	Soft limestone	---	---	---	---	---	---	---	---	---
Tennille--------	0-6	Fine sand--------	SM, SP-SM	A-3, A-2-4	0-3	98-100	98-100	98-100	6-18	0-14	NP
	6-14	Fine sand, loamy fine sand.	SP, SP-SM	A-3, A-2-4	0-5	98-100	98-100	98-100	6-18	0-14	NP
	14	Soft limestone	---	---	---	---	---	---	---	---	---
Tooles----------	0-8	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	8-35	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	35-46	Sandy clay loam, clay loam.	SC, CL	A-6 A-2-6	0	100	100	85-95	36-55	20-30	11-55
	46	Soft limestone	---	---	---	---	---	---	---	---	---
49:											
Seaboard--------	0-3	Fine sand--------	SP-SM, SP	A-3, A-2-4	0-2	100	95-100	85-100	2-12	0-14	NP
	3-8	Sand, fine sand	SP-SM, SP	A-3, A-2-4	0-5	100	95-100	85-100	2-12	0-14	NP
	8	Soft limestone	---	---	---	---	---	---	---	---	---
Bushnell--------	0-10	Fine sand, loamy fine sand.	SP-SM SM	A-3, A-2-4	0-3	98-100	98-100	95-100	5-20	0-14	NP
	10-14	Fine sand, loamy fine sand.	SP-SM SM	A-3 A-2-4	0-3	98-100	98-100	95-100	5-20	0-14	NP
	14-30	Sandy clay, clay	CL, CH	A-7	0-5	90-100	90-100	90-100	55-80	45-80	20-50
	30	Soft limestone									
Matmon----------	0-11	Fine sand--------	SM, SP-SM	A-3, A-2-4	0-5	99-100	99-100	98-100	5-18	0-14	NP
	11-19	Fine sandy loam, sandy clay loam.	SC, SC-SM, SM	A-2-4, A-2-6, A-4, A-6	0-5	99-100	99-100	95-100	25-50	<40	NP-24
	19	Soft limestone	---	---	---	---	---	---	---	---	---

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	
51:											
Tooles----------	0-7	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	7-52	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	52-65	Sandy clay loam, clay loam.	SC, CL	A-6 A-2-6	0	100	100	85-95	36-55	20-30	5-15
	65	Soft limestone	---	---	---	---	---	---	---	---	---
Nutall----------	0-17	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	17-30	Sandy clay loam, clay loam.	SC	A-2-6, A-6	0	100	100	85-99	30-45	25-35	11-20
	30	Soft limestone	---	---	---	---	---	---	---	---	---
52:											
Clara, depressional---	0-2	Fine sand--------	SP, SP-SM	A-3	0	100	100	85-100	1-5	0-14	NP
	2-37	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	37-50	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	50-80	Sand, fine sand, loamy fine sand.	SP, SP-SM, SM	A-3, A-2-4	0	100	100	85-100	2-16	0-14	NP
Clara-----------	0-6	Fine sand--------	SP, SP-SM	A-3	0	100	100	85-100	1-5	0-14	NP
	6-19	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	19-32	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	32-80	Sand, fine sand, loamy fine sand.	SP, SP-SM, SM	A-3, A-2-4	0	100	100	85-100	2-16	0-14	NP
Meadowbrook-----	0-9	Fine sand--------	SP, SP-SM	A-3	0	100	95-100	70-95	2-10	0-14	NP
	9-58	Sand, fine sand	SP, SP-SM	A-3	0	100	95-100	70-95	2-10	0-14	NP
	58-80	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6	0	100	95-100	70-99	13-35	<35	NP-20
53-------------- Bayvi	0-5	Muck-------------	PT	---	---	---	---	---	---	---	---
	5-17	Mucky loamy fine sand, mucky fine sand, sand.	SM, SP-SM	A-3, A-2-4	0	100	100	80-100	5-20	0-14	NP
	17-80	Loamy fine sand, fine sand, sand.	SM, SP-SM	A-3, A-2-4	0	100	100	80-100	5-20	0-14	NP
54:											
Tooles----------	0-7	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	7-52	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	52-65	Sandy clay loam, clay loam.	SC, CL	A-6 A-2-6	0	100	100	85-95	36-55	20-30	5-15
	65	Soft limestone	---	---	---	---	---	---	---	---	---
Meadowbrook-----	0-9	Fine sand--------	SP, SP-SM	A-3	0	100	95-100	70-95	2-10	0-14	NP
	9-58	Sand, fine sand	SP, SP-SM	A-3	0	100	95-100	70-95	2-10	0-14	NP
	58-80	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6	0	100	95-100	70-99	13-35	<35	NP-20

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	
54:											
Clara-----------	0-6	Mucky fine sand	SP, SP-SM	A-3	0	100	100	85-100	1-5	0-14	NP
	6-19	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	19-32	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	32-80	Sand, fine sand, loamy fine sand.	SP, SP-SM, SM	A-3, A-2-4	0	100	100	85-100	2-16	0-14	NP
55--------------- Arents	0-10	Fine sand--------	SP, SP-SM	A-3, A-2-4, A-1-b	0-15	60-90	50-80	40-70	2-12	0-14	NP
	10-22	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	80-95	2-12	0-14	NP
	22-60	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	80-95	2-12	0-14	NP
57--------------- Sapelo	0-8	Fine sand--------	SM, SP,	A-2-4	0	100	100	85-100	4-15	0-14	NP
	8-18	Fine sand--------	SM, SP, SP-SM	A-2, A-3	0	100	100	85-100	4-20	0-14	NP
	18-32	Sand, fine sand, loamy fine sand.	SM, SP-SM	A-2, A-3	0	100	100	80-100	8-20	0-14	NP
	32-46	Fine sand, sand	SM, SP, SP-SM	A-2, A-3	0	100	100	75-100	4-20	0-14	NP
	46-80	Sandy loam, sandy clay loam, fine sandy loam.	SM, SC, SC-SM	A-2, A-4, A-6	0	100	100	80-100	20-50	<40	NP-20
58--------------- Leon	0-6	Mucky fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	2-12	0-14	NP
	6-10	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	2-12	0-14	NP
	10-42	Sand, fine sand, loamy fine sand.	SM, SP-SM, SP	A-3, A-2-4	0	100	100	80-100	3-20	0-14	NP
	42-65	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	2-12	0-14	NP
	65-80	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	2-12	0-14	NP
59--------------- Arents	0-24	Fine sand--------	SP, SP-SM	A-3	0	100	100	80-90	2-10	0-14	NP
	24-60	Variable---------	---	---	---	---	---	---	---	---	---
60:											
Chaires---------	0-8	Fine sand--------	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	8-18	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	2-12	0-14	NP
	18-35	Sand, fine sand, loamy fine sand.	SP-SM, SM	A-3, A-2-4	0	100	100	85-100	5-20	0-14	NP
	35-61	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6	0	100	100	85-100	20-35	<40	NP-20
	61	Soft limestone	---	---	---	---	---	---	---	---	---
Meadowbrook-----	0-3	Fine sand--------	SP, SP-SM	A-3	0	100	95-100	95-100	2-10	0-14	NP
	3-58	Sand, fine sand	SP, SP-SM	A-3	0	100	95-100	95-100	2-10	0-14	NP
	58-75	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC-SM SC	A-2-4 A-2-6	0	95-99	90-99	85-100	15-40	0-30	5-20
	75	Soft limestone	---	---	---	---	---	---	---	---	---

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	
61:											
Wekiva----------	0-6	Fine sand--------	SM, SP-SM	A-3, A-2-4	0-3	98-100	98-100	98-100	6-18	0-14	NP
	6-14	Fine sand, loamy fine sand.	SM, SP-SM	A-3, A-2-4	0-3	98-100	98-100	98-100	6-18	0-14	NP
	14-21	Fine sandy loam, sandy clay loam.	SC, SC-SM, SM	A-6, A-2-4, A-4, A-2-6	0-5	98-100	98-100	85-100	20-45	<40	NP-24
	21	Soft limestone	---	---	---	---	---	---	---	---	---
Tooles----------	0-7	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	7-52	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	52-65	Sandy clay loam, clay loam.	SC, CL	A-6 A-2-6	0	100	100	85-95	36-55	20-30	5-15
	65	Soft limestone	---	---	---	---	---	---	---	---	---
Tennille--------	0-6	Fine sand--------	SM, SP-SM	A-3, A-2-4	0-3	98-100	98-100	98-100	6-18	0-14	NP
	6-14	Fine sand, loamy fine sand.	SP, SP-SM	A-3, A-2-4	0-5	98-100	98-100	98-100	6-18	0-14	NP
	14	Soft limestone	---	---	---	---	---	---	---	---	---
62:											
Tooles----------	0-7	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	7-52	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	52-65	Sandy clay loam, clay loam.	SC, CL	A-6	0	100	100	85-95	36-55	25-30	11-15
	65	Soft limestone	---	---	---	---	---	---	---	---	---
Tennille--------	0-6	Fine sand--------	SM, SP-SM	A-3, A-2-4	0-3	98-100	98-100	98-100	6-18	0-14	NP
	6-14	Fine sand, loamy fine sand.	SP, SP-SM	A-3, A-2-4	0-5	98-100	98-100	98-100	6-18	0-14	NP
	14	Soft limestone	---	---	---	---	---	---	---	---	---
Wekiva----------	0-6	Fine sand--------	SM, SP-SM	A-3, A-2-4	0-3	98-100	98-100	98-100	6-18	0-14	NP
	6-14	Fine sand, loamy fine sand.	SM, SP-SM	A-3, A-2-4	0-3	98-100	98-100	98-100	6-18	0-14	NP
	14-21	Fine sandy loam, sandy clay loam.	SC, SC-SM, SM	A-6, A-2-4, A-4, A-2-6	0-5	98-100	98-100	85-100	20-45	<40	NP-24
	21	Soft limestone	---	---	---	---	---	---	---	---	---
63-------------- Steinhatchee	0-5	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	100	100	70-100	5-25	0-14	NP
	5-18	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	70-100	5-25	0-14	NP
	18-29	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	70-100	5-25	0-14	NP
	29-35	Fine sandy loam, sandy clay loam, sandy loam.	SM, SC-SM, SC	A-2, A-4, A-6	0-1	99-100	98-100	60-100	30-50	<40	NP-20
	35	Soft limestone	---	---	---	---	---	---	---	---	---

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	
64:											
Tooles----------	0-8	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	8-35	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	35-55	Sandy clay loam, clay loam.	SC, CL	A-6 A-2-6	0	100	100	85-95	36-55	20-30	5-15
	55	Soft limestone	---	---	---	---	---	---	---	---	---
Wekiva----------	0-6	Fine sand--------	SM, SP-SM	A-3, A-2-4	0-3	98-100	98-100	98-100	6-18	0-14	NP
	6-14	Fine sand, loamy fine sand.	SM, SP-SM	A-3, A-2-4	0-3	98-100	98-100	98-100	6-18	0-20	NP
	14-21	Fine sandy loam, sandy clay loam.	SC, SC-SM, SM	A-6, A-2-4, A-4, A-2-6	0-5	98-100	98-100	85-100	20-45	<40	NP-24
	21	Soft limestone	---	---	---	---	---	---	---	---	---
65:											
Yellowjacket----	0-42	Muck-------------	PT	---	---	---	---	---	---	---	NP
	42-60	Mucky sand, mucky fine sand, mucky loamy fine sand.	SP, SP-SM, SM	A-3, A-2-4	0	100	100	85-100	2-16	0-20	NP
	60-80	Sand, fine sand, loamy fine sand.	SP, SP-SM, SM	A-3, A-2-4	0	100	100	85-100	2-16	0-20	NP
Maurepas--------	0-65	Muck-------------	PT	A-8	0	---	---	---	---	---	---
67:											
Yellowjacket----	0-42	Muck-------------	PT	A-8	---	---	---	---	---	---	NP
	42-60	Mucky sand, mucky fine sand, mucky loamy fine sand	SP, SP-SM, SM	A-3, A-2-4	0	100	100	95-100	2-16	0-14	NP
	60-80	Sand, fine sand, loamy fine sand.	SP, SP-SM, SM	A-3, A-2-4	0	100	100	85-100	2-16	0-14	NP
Maurepas--------	0-65	Muck-------------	PT	A-8	0	---	---	---	---	---	---
68:											
Matmon----------	0-11	Fine sand--------	SM, SP-SM	A-3, A-2-4	0-5	99-100	99-100	98-100	5-18	0-14	NP
	11-19	Fine sandy loam, sandy clay loam.	SC, SC-SM, SM	A-2-4, A-2-6, A-4, A-6	0-5	99-100	99-100	95-100	25-50	<40	NP-24
	19	Soft limestone	---	---	---	---	---	---	---	---	---
Wekiva----------	0-6	Fine sand--------	SM, SP-SM	A-3, A-2-4	0-3	98-100	98-100	98-100	6-18	0-14	NP
	6-14	Fine sand, loamy fine sand.	SM, SP-SM	A-3, A-2-4	0-3	98-100	98-100	98-100	6-18	0-14	NP
	14-21	Fine sandy loam, sandy clay loam.	SC, SC-SM, SM	A-6, A-2-4, A-4, A-2-6	0-5	98-100	98-100	85-100	20-45	<40	NP-24
	21	Soft limestone	---	---	---	---	---	---	---	---	---
Rock outcrop----	0	Soft limestone	---	---	---	---	---	---	---	---	---

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	
69:											
Eunola----------	0-6	Fine sand--------	SM, SP-SM	A-2, A-4, A-2-4	0	100	98-100	50-80	10-38	0-14	NP
	6-15	Sandy clay loam, clay loam, fine sandy loam.	SM, SC, SC-SM, CL	A-4, A-2, A-6	0	100	90-100	75-95	30-60	<36	NP-15
	15-40	Sandy clay loam, sandy clay, clay loam.	SM, SC, ML, CL	A-4, A-6, A-7	0	100	98-100	80-95	36-60	22-50	3-26
	40-50	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4	0	100	98-100	60-70	30-40	<30	NP-10
	50-80	Sand, loamy fine sand, fine sand.	SM, SP-SM	A-2, A-3	0	100	98-100	50-75	5-30	0-20	NP
Goldhead--------	0-6	Fine sand--------	SP, SP-SM	A-3	0	100	100	90-99	2-6	0-14	NP
	6-35	Sand, fine sand	SP, SP-SM	A-3	0	95-100	90-100	90-99	2-6	0-14	NP
	35-80	Fine sandy loam, gravelly sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6	0-3	75-100	65-100	60-95	15-35	20-40	NP-25
Tooles----------	0-7	Fine sand--------	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	7-52	Sand, fine sand	SP-SM, SM	A-3, A-2-4	0	100	100	85-95	5-15	0-14	NP
	52-65	Sandy clay loam, clay loam.	SC, CL	A-6 A-2-6	0	100	100	85-95	36-55	20-30	5-15
	65	Soft limestone	---	---	---	---	---	---	---	---	---
70:											
Chiefland-------	0-5	Fine sand--------	SP-SM, SM	A-2-4, A-3	0-4	96-100	96-100	80-95	5-15	0-14	NP
	5-26	Sand, fine sand	SP-SM, SM	A-2-4, A-3	0	100	100	80-95	5-15	0-14	NP
	26-35	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC	A-2-4, A-2-6	0-10	90-100	85-100	80-95	20-35	25-40	NP-15
	35	Soft limestone	---	---	---	---	---	---	---	---	---
Chiefland, frequently flooded--------	0-5	Fine sand--------	SP-SM, SM	A-2-4, A-3	0-4	96-100	96-100	80-95	5-15	0-14	NP
	5-26	Sand, fine sand	SP-SM, SM	A-2-4, A-3	0	100	100	80-95	5-15	0-14	NP
	26-35	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC	A-2-4, A-2-6	0-10	90-100	85-100	80-95	20-35	25-40	NP-15
	35	Soft limestone	---	---	---	---	---	---	---	---	---
71-------------- Leon	0-6	Fine sand--------	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	2-12	0-14	NP
	6-25	Fine sand, sand	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	2-12	0-14	NP
	25-34	Fine sand, sand, loamy fine sand.	SP, SM, SP-SM	A-3, A-2-4	0	100	100	80-100	3-20	0-14	NP
	34-80	Fine sand, sand	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	2-12	0-14	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	
72 Chaires	0-6	Fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	0-14	NP
	6-20	Sand, fine sand	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	2-12	0-14	NP
	20-52	Sand, fine sand, loamy fine sand.	SP-SM, SM	A-3, A-2-4	0	100	100	85-100	5-20	0-14	NP
	52-80	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6	0	100	100	85-100	20-35	<40	NP-20
73 Chipley	0-9	Sand	SP-SM	A-3, A-2-4	0	100	100	80-100	5-12	0-14	NP
	9-80	Sand, fine sand	SP-SM	A-3, A-2-4	0	100	100	80-100	5-12	0-14	NP
74 Mascotte	0-4	Sand, fine sand	SP-SM	A-3, A-2-4	0	100	100	85-100	5-12	0-14	NP
	4-10	Sand, fine sand	SP-SM	A-3, A-2-4	0	100	100	85-100	5-12	0-14	NP
	10-17	Sand, fine sand, loamy fine sand.	SP-SM, SM	A-3, A-2-4	0	100	100	85-100	8-15	0-14	NP
	17-30	Fine sand, sand	SP-SM	A-3, A-2-4	0	100	100	85-100	5-12	0-14	NP
	30-35	Fine sandy loam, sand, loamy fine sand.	SP-SM	A-3, A-2-4	0	100	100	85-100	5-12	0-14	NP
	35-80	Sandy clay loam, sandy loam, fine sandy loam.	SC, SC-SM, SM	A-2, A-4, A-6	0	100	100	85-100	19-45	<38	NP-15

Table 15.--Physical and Chemical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "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	Salinity	Shrink-swell potential	Erosion factors K	Erosion factors T	Wind erodibility group	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH	mmhos/cm					Pct
3:												
Clara	0-6	0-4	1.40-1.55	6.0-20	0.15-0.20	5.1-6.0	<2	Low	0.10	5	1	1-8
	6-19	1-3	1.40-1.55	6.0-20	0.05-0.10	5.1-6.0	<2	Low	0.10			
	19-32	1-6	1.40-1.65	6.0-20	0.10-0.15	5.1-6.0	<2	Low	0.10			
	32-80	1-12	1.50-1.70	6.0-20	0.05-0.15	5.1-6.0	<2	Low	0.10			
Osier	0-5	1-10	1.35-1.65	6.0-20	0.03-0.11	3.6-6.0	<2	Low	0.10	5	2	2-5
	5-80	1-5	1.40-1.70	6.0-20	0.02-0.06	3.6-6.0	<2	Low	0.05			
5 Chaires	0-20	1-3	1.10-1.65	6.0-20	0.05-0.15	3.6-6.0	<2	Low	0.10	5	1	2-6
	20-30	3-10	1.35-1.50	0.6-2.0	0.10-0.15	3.6-5.5	<2	Low	0.15			
	30-52	0-5	1.35-1.55	6.0-20	0.03-0.08	3.6-5.5	<2	Low	0.10			
	52-80	2-35	1.25-1.70	0.06-0.6	0.15-0.27	3.6-6.0	<2	Low	0.20			
6 Leon	0-25	0-5	1.15-1.65	6.0-20	0.05-0.15	3.6-6.5	0-2	Low	0	5	1	.5-4
	25-34	0-3	1.40-1.65	0.6-6.0	0.02-0.15	3.6-6.5	0-2	Low	0			
	34-80	1-8	1.25-1.76	0.2-20	0.07-0.30	3.6-6.5	0-2	Low	5			
8 Meadowbrook	0-9	0-3	1.35-1.65	6.0-20	0.05-0.12	3.6-7.3	<2	Low	0.10	5	2	1-3
	9-58	0-6	1.35-1.65	6.0-20	0.03-0.09	3.6-8.4	<2	Low	0.10			
	58-80	9-24	1.35-1.80	0.2-2.0	0.10-0.25	4.5-8.4	<2	Low	0.15			
9 Sapelo	0-28	0-5	1.25-1.65	6.0-20	0.03-0.07	3.6-5.5	<2	Low	0.10	5	1	1-3
	28-45	3-7	1.35-1.60	0.6-2.0	0.10-0.15	3.6-5.5	<2	Low	0.15			
	45-60	3-6	1.50-1.70	6.0-20	0.03-0.07	3.6-5.5	<2	Low	0.17			
	60-80	10-30	1.55-1.76	0.2-2.0	0.12-0.17	3.6-5.5	<2	Low	0.24			
10:												
Mandarin	0-26	0-3	1.35-1.45	6.0-20	0.03-0.07	3.6-6.0	<2	Low	0.10	5	2	1-3
	26-44	2-9	1.45-1.60	0.6-2.0	0.10-0.15	3.6-6.0	<2	Low	0.15			
	44-80	0-3	1.35-1.60	6.0-20	0.03-0.07	3.6-7.3	<2	Low	0.10			
Hurricane	0-8	1-4	1.35-1.60	6.0-20	0.03-0.09	3.6-6.0	<2	Low	0.10	5	2	1-3
	8-63	0-4	1.40-1.60	6.0-20	0.03-0.07	3.6-6.0	<2	Low	0.10			
	63-69	1-8	1.55-1.65	2.0-6.0	0.05-0.15	3.6-6.0	<2	Low	0.15			
	69-80	1-4	1.40-1.65	2.0-20	0.03-0.10	3.6-6.0	<2	Low	0.10			
12 Ortega	0-5	1-3	1.20-1.45	6.0-20	0.05-0.08	3.6-6.5	<2	Low	0.10	5	2	<2
	5-80	1-3	1.35-1.60	6.0-20	0.03-0.06	3.6-6.5	<2	Low	0.10			
13 Hurricane	0-8	1-4	1.35-1.60	6.0-20	0.03-0.09	3.6-6.0	<2	Low	0.10	5	2	<2
	8-63	0-4	1.40-1.60	6.0-20	0.03-0.07	3.6-6.0	<2	Low	0.10			
	63-69	2-8	1.55-1.65	2.0-20	0.05-0.15	3.6-6.0	<2	Low	0.15			
	69-80	1-4	1.40-1.65	2.0-20	0.03-0.10	3.6-6.0	<2	Low	0.10			
14:												
Chipley	0-9	1-5	1.35-1.50	6.0-20	0.05-0.10	3.6-6.0	<2	Low	0.10	5	1	2-5
	9-80	1-7	1.45-1.75	6.0-20	0.03-0.08	4.5-6.5	<2	Low	0.10			
Lynn Haven	0-13	1-4	1.30-1.60	6.0-20	0.10-0.15	3.6-5.5	<2	Low	0.10	5	1	5-15
	13-19	0-4	1.40-1.55	6.0-20	0.05-0.07	3.6-5.5	<2	Low	0.20			
	19-34	2-8	1.50-1.65	0.6-6.0	0.15-0.30	3.6-5.5	<2	Low	0.10			
	34-52	0-4	1.40-1.55	6.0-20	0.05-0.07	3.6-5.5	<2	Low	0.20			
	52-80	2-8	1.50-1.65	0.6-6.0	0.15-0.30	3.6-5.5	<2	Low	0.10			
Boulogne	0-5	1-5	1.30-1.55	6.0-20	0.10-0.15	3.6-6.0	<2	Low	0.10	5	1	1-5
	5-14	0-3	1.50-1.60	2.0-6.0	0.10-0.15	3.6-6.0	<2	Low	0.10			
	14-80	2-8	1.50-1.70	6.0-20	0.05-0.10	3.6-6.0	<2	Low	0.10	5		

Table 15.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Soil reaction	Salinity	Shrink- swell potential	Erosion factors K	Erosion factors T	Wind erodi- bility group	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH	mmhos/cm					Pct
15--------------- Ridgewood	0-9	1-3	1.35-1.55	6.0-20	0.05-0.10	4.5-7.3	<2	Low-------	0.10	5	1	<2
	9-80	0-5	1.35-1.65	6.0-20	0.03-0.08	4.5-7.3	<2	Low-------	0.10			
16:												
Lutterloh-------	0-8	1-5	1.35-1.50	6.0-20	0.05-0.10	3.6-6.0	<2	Low-------	0.10	5	1	.5-3
	8-51	0-5	1.45-1.60	6.0-20	0.02-0.05	3.6-6.0	<2	Low-------	0.10			
	51-80	10-30	1.60-1.75	0.06-2.0	0.10-0.15	3.6-7.3	<2	Low-------	0.24			
Ridgewood-------	0-9	0-3	1.35-1.55	6.0-20	0.05-0.10	4.5-7.3	<2	Low-------	0.10	5	1	<2
	9-80	0-5	1.35-1.65	6.0-20	0.03-0.08	4.5-7.3	<2	Low-------	0.10			
17:												
Ousley----------	0-4	1-3	1.35-1.45	6.0-20	0.05-0.10	4.5-6.0	<2	Low-------	0.10	5	1	<.5
	4-80	1-2	1.45-1.60	6.0-20	0.02-0.06	4.5-6.0	<2	Low-------	0.15			
Leon------------	0-25	1-5	1.30-1.45	6.0-20	0.05-0.15	3.6-6.5	0-2	Low-------	0	5	1	.5-4
	25-34	0-3	1.40-1.60	6.0-20	0.02-0.05	3.6-6.5	0-2	Low-------	0			
	34-80	2-8	1.25-1.65	0.6-6.0	0.15-0.30	3.6-6.5	0-2	Low-------	5			
Clara-----------	0-9	0-4	1.40-1.55	6.0-20	0.05-0.10	5.1-8.4	<2	Low-------	0.10	5	1	1-8
	9-29	1-3	1.40-1.55	6.0-20	0.05-0.10	5.1-8.4	<2	Low-------	0.10			
	29-46	1-6	1.40-1.65	6.0-20	0.10-0.15	5.1-8.4	<2	Low-------	0.10			
	46-80	1-12	1.50-1.70	6.0-20	0.05-0.15	5.1-8.4	<2	Low-------	0.10			
19:												
Otela-----------	0-47	0-5	1.45-1.65	6.0-20	0.05-0.16	4.5-7.3	<2	Low-------	0.10	5	1	<3
	47-63	8-35	1.55-1.75	0.2-2.0	0.06-0.20	3.6-7.8	<2	Low-------	0.20			
	63-80	30-65	1.55-1.75	0.06-0.6	0.08-0.20	3.6-8.4	<2	Moderate	0.24			
Ortega----------	0-5	0-3	1.20-1.50	6.0-20	0.05-0.08	3.6-6.5	<2	Low-------	0.10	5	2	<2
	5-80	0-3	1.35-1.60	6.0-20	0.03-0.06	3.6-6.5	<2	Low-------	0.10			
Lutterloh-------	0-8	1-5	1.35-1.50	6.0-20	0.05-0.10	3.6-6.0	<2	Low-------	0.10	5	1	.5-3
	8-51	0-5	1.45-1.66	6.0-20	0.02-0.05	3.6-6.0	<2	Low-------	0.10			
	51-80	10-30	1.60-1.75	0.06-2.0	0.10-0.15	3.6-7.3	<2	Low-------	0.24			
20:												
Melvina---------	0-6	0-3	1.35-1.47	6.0-20	0.05-0.15	3.6-6.5	<2	Low-------	0.10	5	1	1-3
	6-28	0-3	1.35-1.60	6.0-20	0.02-0.05	3.6-6.5	<2	Low-------	0.10			
	28-39	1-8	1.45-1.60	2.0-6.0	0.10-0.15	4.5-7.3	<2	Low-------	0.15			
	39-53	0-3	1.35-1.60	6.0-20	0.02-0.07	4.5-8.4	<2	Low-------	0.10			
	53-67	15-35	1.60-1.70	0.06-0.6	0.10-0.20	5.6-8.4	<2	Low-------	0.24			
	67-80	25-40	1.60-1.70	>0.06	0.10-0.31	5.6-8.4	<2	Low-------	0.24			
Mandarin--------	0-26	0-3	1.35-1.45	6.0-20	0.03-0.07	3.6-6.0	<2	Low-------	0.10	5	2	1-3
	26-44	2-9	1.45-1.60	0.6-2.0	0.10-0.15	3.6-6.0	<2	Low-------	0.15			
	44-80	0-3	1.35-1.60	6.0-20	0.03-0.07	3.6-7.3	<2	Low-------	0.10			
21--------------- Kershaw	0-80	1-5	1.35-1.60	>20	0.02-0.05	4.5-6.0	<2	Low-------	0.10	5	1	<1
22--------------- Ocilla	0-28	3-10	1.45-1.65	2.0-20	0.05-0.13	4.5-5.5	0	Low-------	0.10	5	2	1-2
	28-68	14-35	1.55-1.70	0.2-2.0	0.09-0.15	4.5-5.5	0	Low-------	0.24			
	68-80	12-40	1.55-1.85	0.2-2.0	0.09-0.12	4.5-5.5	0	Low-------	0.24			
23:												
Melvina---------	0-6	0-3	1.35-1.47	6.0-20	0.05-0.15	3.6-6.5	<2	Low-------	0.10	5	1	1-2
	6-28	0-3	1.35-1.60	6.0-20	0.02-0.05	3.6-6.5	<2	Low-------	0.10			
	28-39	1-8	1.45-1.60	2.0-6.0	0.10-0.15	4.5-7.3	<2	Low-------	0.15			
	39-53	0-3	1.35-1.60	6.0-20	0.02-0.07	4.5-8.4	<2	Low-------	0.10			
	53-67	15-35	1.60-1.70	0.2-0.6	0.10-0.31	5.6-8.4	<2	Low-------	0.24			
	67-80	15-37	1.60-1.70	0.06-0.2	0.10-0.31	5.6-8.4	<2	Low-------	0.24			

Table 15.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Soil reaction	Salinity	Shrink- swell potential	Erosion factors K	Erosion factors T	Wind erodi- bility group	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH	mmhos/cm					Pct
23:												
Moriah----------	0-5	0-5	1.35-1.50	6.0-20	0.05-0.10	3.6-5.0	<2	Low-------	0.10	4	1	.5-2
	8-34	0-3	1.45-1.57	6.0-20	0.02-0.05	3.6-5.0	<2	Low-------	0.10			
	34-57	15-35	1.50-1.70	0.06-2.0	0.10-0.26	5.6-8.4	<2	Low-------	0.20			
	57	---	---	2.0-20	---	---	---	----------	----			
Lutterloh-------	0-51	0-5	1.45-1.57	6.0-20	0.02-0.05	4.5-6.0	<2	Low-------	0.10	---	---	0-.5
	51-64	15-30	1.50-1.70	0.06-2.0	0.10-0.26	4.5-7.3	<2	Low-------	0.24			
	64	---	---	2.0-20	---	---	---	----------	----			
24--------------- Albany	0-50	1-10	1.40-1.60	6.0-20	0.02-0.12	3.6-6.5	<2	Low-------	0.10	5	1	<2
	50-80	20-40	1.50-1.80	0.2-2.0	0.10-0.16	3.6-6.0	<2	Low-------	0.24			
25--------------- Pottsburg	0-6	1-4	1.20-1.45	6.0-20	0.05-0.15	3.6-6.5	<2	Low-------	0.10	5	1	.5-3
	6-52	0-4	1.40-1.70	6.0-20	0.03-0.10	3.6-6.5	<2	Low-------	0.10			
	52-80	1-6	1.55-1.70	0.6-2.0	0.10-0.25	3.6-6.0	<2	Low-------	0.15			
26:												
Resota----------	0-80	0-3	1.30-1.60	>6.0	0.02-0.06	3.6-6.5	<2	Low-------	0.10	5	1	<2
Hurricane-------	0-8	1-4	1.40-1.60	6.0-20	0.03-0.07	3.6-6.0	<2	Low-------	0.10	5	2	1-3
	8-63	1-4	1.40-1.60	6.0-20	0.03-0.07	3.6-6.0	<2	Low-------	0.10			
	63-69	2-8	1.55-1.65	2.0-6.0	0.10-0.15	3.6-6.0	<2	Low-------	0.15			
	69-80	1-4	1.40-1.60	2.0-20	0.03-0.10	3.6-6.0	<2	Low-------	0.10			
27--------------- Plummer	0-55	1-7	1.35-1.65	6.0-20	0.03-0.08	3.6-5.5	<2	Low-------	0.10	5	1	1-3
	55-80	15-30	1.50-1.70	0.2-2.0	0.07-0.15	3.6-5.5	<2	Low-------	0.15			
28:												
Surrency--------	0-16	2-8	0.80-1.25	6.0-20	0.15-0.30	3.6-5.5	0	Low-------	0.10	5	8	20-90
	16-38	0-10	1.50-1.65	2.0-20	0.05-0.10	3.6-5.5	0	Low-------	0.10			
	38-80	10-23	1.60-1.85	0.2-2.0	0.06-0.10	3.6-5.5	0	Low-------	0.15			
Starke----------	0-6	2-10	1.15-1.45	2.0-6.0	0.15-0.25	3.6-6.0	<2	Low-------	0.05	5	2	9-20
	6-51	2-10	1.50-1.65	6.0-20	0.05-0.10	3.6-6.0	<2	Low-------	0.10			
	51-80	13-30	1.45-1.60	0.2-2.0	0.10-0.15	3.6-6.0	<2	Low-------	0.20			
Croatan---------	0-25	---	0.40-0.65	0.06-6.0	0.35-0.45	<4.5	<2	Low-------	----	2	2	20-90
	25-39	8-20	1.40-1.60	0.2-6.0	0.10-0.15	3.5-6.5	<2	Low-------	0.17			
	39-80	10-35	1.40-1.60	0.2-2.0	0.12-0.20	3.5-6.5	<2	Low-------	0.24			
29:												
Albany----------	0-50	1-10	1.40-1.55	6.0-20	0.02-0.04	3.6-6.5	<2	Low-------	0.10	5	1	1-2
	50-80	13-35	1.55-1.65	0.2-2.0	0.10-0.16	4.5-6.0	<2	Low-------	0.24			
Surrency--------	0-16	2-8	0.80-1.25	6.0-20	0.15-0.30	3.6-5.5	0	Low-------	0.10	5	8	10-20
	16-35	0-10	1.50-1.65	2.0-20	0.05-0.10	3.6-5.5	0	Low-------	0.10			
	35-80	10-23	1.60-1.85	0.2-2.0	0.06-0.10	3.6-5.5	0	Low-------	0.15			
30:												
Dorovan---------	0-4	---	0.20-0.40	0.6-2.0	0.20-0.25	3.6-4.4	<2	----------	----	3	2	20-90
	4-72	---	0.20-0.55	0.6-6.0	0.20-0.25	3.6-4.4	<2	----------	----			
	72-80	0-20	1.40-1.65	6.0-20	0.05-0.08	3.6-5.5	<2	Low-------	----			
Pamlico---------	0-22	---	0.20-0.65	0.6-2.0	0.24-0.40	3.6-5.5	<2	Low-------	----	---	2	20-90
	22-65	0-10	1.60-1.75	6.0-20	0.02-0.10	3.6-5.5	<2	Low-------	0.10			
33:												
Wesconnett------	0-10	3-8	1.30-1.55	6.0-20	0.10-0.15	3.6-6.5	<2	Low-------	0.15			
	10-40	2-7	1.35-1.50	6.0-20	0.05-0.08	3.6-6.5	<2	Low-------	0.10			
	40-80	2-8	1.40-1.65	0.6-6.0	0.10-0.15	3.6-6.5	<2	Low-------	0.15			

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	Salinity	Shrink-swell potential	Erosion factors K	Erosion factors T	Wind erodibility group	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH	mmhos/cm					Pct
33:												
Evergreen-------	0-9	---	0.20-0.40	6.0-20	0.25-0.40	3.6-5.5	<2	Low-------	----	5	8	20-90
	9-21	1-8	1.40-1.70	6.0-20	0.10-0.20	3.6-5.5	<2	Low-------	0.10			
	21-50	1-5	1.50-1.65	0.6-2.0	0.10-0.25	3.6-5.5	<2	Low-------	0.10			
	50-80	1-8	1.40-1.70	6.0-20	0.10-0.20	3.6-5.5	<2	Low-------	0.10			
Pamlico---------	0-22	---	0.20-0.65	0.6-6.0	0.24-0.40	3.6-5.5	<2	Low-------	----	---	2	20-90
	22-65	5-10	1.60-1.75	6.0-20	0.02-0.10	3.6-5.5	<2	Low-------	0.10			
34:												
Clara-----------	0-6	0-4	1.40-1.55	6.0-20	0.05-0.10	5.1-8.4	<2	Low-------	0.10	5	1	1-8
	6-19	1-3	1.40-1.55	6.0-20	0.05-0.10	5.1-8.4	<2	Low-------	0.10			
	19-32	1-6	1.40-1.65	6.0-20	0.10-0.15	5.1-8.4	<2	Low-------	0.10			
	32-80	1-12	1.50-1.70	6.0-20	0.05-0.15	5.1-8.4	<2	Low-------	0.10			
Bodiford--------	0-12	---	0.40-0.65	6.0-20	0.25-0.40	3.6-7.3	<2	Low-------	0.10	4	8	20-90
	12-18	1-12	0.80-1.30	2.0-20	0.05-0.15	6.1-7.8	<2	Low-------	0.10			
	18-29	3-12	1.20-1.50	6.0-20	0.05-0.10	6.6-7.8	<2	Low-------	0.10			
	29-51	15-35	1.40-1.70	0.2-0.6	0.10-0.20	6.6-8.4	<2	Low-------	0.24			
	51	---	---	2.0-20	---	---	---	----------	----			
35:												
Tooles----------	0-7	2-5	1.15-1.35	6.0-20	0.05-0.10	4.5-7.3	<2	Low-------	0.10	4	1	<4
	7-52	2-5	1.35-1.60	6.0-20	0.05-0.10	4.5-7.3	<2	Low-------	0.10			
	52-65	20-35	1.40-1.70	0.06-0.2	0.15-0.20	6.6-8.4	<2	Moderate	0.28			
	65	---	---	2.0-20	---	---	---	----------	----			
Meadowbrook-----	0-9	0-3	1.35-1.65	6.0-20	0.05-0.12	3.6-7.3	<2	Low-------	0.10	5	2	1-3
	9-58	0-6	1.35-1.75	6.0-20	0.03-0.09	3.6-8.4	<2	Low-------	0.10			
	58-80	11-24	1.35-1.80	0.2-2.0	0.10-0.25	4.5-8.4	<2	Low-------	0.15			
Wekiva----------	0-6	2-6	1.30-1.50	6.0-20	0.05-0.15	6.1-7.3	<2	Low-------	0.10	2	2	2-5
	6-14	1-6	1.45-1.60	6.0-20	0.05-0.10	6.1-7.3	<2	Low-------	0.10			
	14-21	12-35	1.45-1.65	0.2-0.6	0.10-0.15	6.1-7.3	<2	Low-------	0.15			
	21	---	---	2.0-20	---	---	---	----------	----			
37:												
Tooles----------	0-7	0-5	1.15-1.47	6.0-20	0.05-0.15	3.6-7.3	<2	Low-------	0.10	4	8	<4
	7-52	0-5	1.35-1.65	6.0-20	0.05-0.15	3.6-7.3	<2	Low-------	0.10			
	52-65	20-35	1.40-1.71	0.06-0.2	0.07-0.20	5.1-8.4	<2	Moderate	0.28			
	65	---	---	2.0-20	---	---	---	----------	----			
Meadowbrook-----	0-9	0-3	1.15-1.40	6.0-20	0.05-0.12	3.6-7.3	<2	Low-------	0.10	5	8	2-4
	9-58	0-6	1.35-1.75	6.0-20	0.03-0.09	3.6-8.4	<2	Low-------	0.10			
	58-80	9-32	1.35-1.65	0.2-2.0	0.10-0.25	4.5-8.4	<2	Low-------	0.20			
38:												
Clara-----------	0-6	0-4	1.15-1.30	6.0-20	0.15-0.20	3.6-7.3	<2	Low-------	0.10	5	8	9-20
	6-19	1-3	1.40-1.55	6.0-20	0.05-0.10	3.6-7.3	<2	Low-------	0.10			
	19-32	1-6	1.40-1.65	6.0-20	0.10-0.15	3.6-7.3	<2	Low-------	0.10			
	32-80	1-12	1.50-1.70	6.0-20	0.05-0.15	3.6-7.3	<2	Low-------	0.10			
Meadowbrook-----	0-9	0-3	1.15-1.40	6.0-20	0.05-0.12	3.6-7.3	<2	Low-------	0.10	5	8	2-4
	9-58	0-6	1.35-1.75	6.0-20	0.03-0.09	3.6-8.4	<2	Low-------	0.10			
	58-80	11-32	1.50-1.65	0.2-2.0	0.10-0.25	4.5-8.4	<2	Low-------	0.20			
40--------------	0-51	0-5	1.45-1.55	6.0-20	0.02-0.05	5.1-6.5	<2	Low-------	0.10	5	1	<3
Lutterloh	51-64	15-30	1.60-1.70	0.06-2.0	0.10-0.15	5.1-7.3	<2	Low-------	0.24			
	64	---	---	2.0-20	---	---	---	----------	----			

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	Salinity	Shrink-swell potential	Erosion factors K	Erosion factors T	Wind erodibility group	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH	mmhos/cm					Pct
41:												
Tooles----------	0-8	0-5	1.15-1.47	6.0-20	0.05-0.15	3.6-7.3	<2	Low-------	0.10	4	8	<4
	8-35	0-5	1.35-1.65	6.0-20	0.05-0.15	3.6-7.3	<2	Low-------	0.10			
	35-55	20-35	1.40-1.71	0.06-0.2	0.07-0.20	5.1-8.4	<2	Moderate	0.28			
	55	---	---	2.0-20	---	---	---	----------	----			
Meadowbrook-----	0-9	0-3	1.35-1.65	6.0-20	0.05-0.12	3.6-7.3	<2	Low-------	0.10	5	2	1-3
	9-58	0-6	1.35-1.75	6.0-20	0.03-0.09	3.6-8.4	<2	Low-------	0.10			
	58-80	9-24	1.50-1.80	0.2-2.0	0.10-0.25	4.5-8.4	<2	Low-------	0.15			
45--------------- Chaires	0-8	1-3	1.10-1.65	6.0-20	0.05-0.15	3.6-6.0	<2	Low-------	0.10	5	1	2-6
	8-18	0-3	1.40-1.70	6.0-20	0.05-0.10	3.6-6.0	<2	Low-------	0.10			
	18-35	2-13	1.45-1.60	0.6-2.0	0.15-0.25	3.6-6.0	<2	Low-------	0.20			
	35-61	15-35	1.60-1.70	0.06-0.6	0.10-0.27	4.5-7.3	<2	Low-------	0.24			
	61	---	---	2.0-20	---	---	---	----------	----			
46--------------- Pits	0-60	---	---	---	---	---	<2	----------	----	---	8	---
48:												
Wekiva----------	0-6	2-6	1.30-1.50	6.0-20	0.05-0.15	6.1-7.3	<2	Low-------	0.10	2	2	2-5
	6-14	1-6	1.45-1.60	6.0-20	0.05-0.10	6.1-7.3	<2	Low-------	0.10			
	14-21	12-35	1.45-1.65	0.2-0.6	0.10-0.15	6.1-7.3	<2	Low-------	0.15			
	21	---	---	2.0-20	---	---	---	----------	----			
Tennille--------	0-6	2-9	0.46-1.50	6.0-20	0.05-0.33	6.1-7.3	<2	Low-------	0.10	1	2	.5-9
	6-14	1-9	1.45-1.60	6.0-20	0.05-0.10	6.1-7.3	<2	Low-------	0.10			
	14	---	---	2.0-20	---	---	---	----------	----			
Tooles----------	0-8	2-5	1.15-1.35	6.0-20	0.05-0.10	4.5-7.3	<2	Low-------	0.10	4	1	<4
	8-35	2-5	1.35-1.60	6.0-20	0.05-0.10	4.5-7.3	<2	Low-------	0.10			
	35-55	20-35	1.40-1.70	0.06-0.2	0.15-0.20	6.6-8.4	<2	Moderate	0.28			
	55	---	---	2.0-20	---	---	---	----------	----			
49:												
Seaboard--------	0-3	0-3	1.20-1.40	6.0-20	0.05-0.14	5.1-6.0	<2	Low-------	0.10	2	1	.5-2
	3-8	0-3	1.50-1.60	6.0-20	0.03-0.08	5.6-7.3	<2	Low-------	0.10			
	8	---	---	2.0-20	---	---	---	----------	----			
Bushnell--------	0-10	2-8	1.35-1.55	2.0-20	0.10-0.15	4.5-7.3	<2	Low	0.10	2	1	1-4
	10-14	2-8	1.55-1.70	2.0-20	0.05-0.10	4.5-7.3	<2	Low	0.10			
	14-30	35-60	1.40-1.60	0.06-0.2	0.10-0.15	4.5-8.4	<2	High	0.28			
	30	---	---	2.0-20	---	---	---	----------	----			
Matmon----------	0-11	1-6	1.35-1.60	6.0-20	0.05-0.10	5.1-7.3	<2	Low-------	0.15	2	1	2-5
	11-19	12-35	1.35-1.65	0.2-0.6	0.10-0.15	6.1-7.8	<2	Low-------	0.10			
	19	---	---	2.0-20	---	---	---	----------	----			
51:												
Tooles----------	0-7	0-5	1.15-1.47	6.0-20	0.05-0.10	3.6-7.3	<2	Low-------	0.10	4	1	<4
	7-52	0-5	1.35-1.65	6.0-20	0.05-0.10	3.6-7.3	<2	Low-------	0.10			
	52-65	20-35	1.40-1.71	0.06-0.2	0.15-0.20	5.1-8.4	<2	Moderate	0.28			
	65	---	---	2.0-20	---	---	---	----------	----			
Nutall----------	0-17	1-5	1.20-1.40	6.0-20	0.05-0.10	4.5-7.3	<2	Low-------	0.10	3	2	4-8
	17-30	20-35	1.40-1.70	0.06-0.2	0.15-0.20	6.6-8.4	<2	Moderate	0.28			
	30	---	---	2.0-20	---	---	---	----------	----			

Table 15.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Soil reaction	Salinity	Shrink- swell potential	Erosion factors K	Erosion factors T	Wind erodi- bility group	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH	mmhos/cm					Pct
52:												
Clara, depressional---	0-2	0-4	1.15-1.55	6.0-20	0.15-0.20	3.6-7.3	<2	Low-------	0.10	5	8	9-20
	2-37	1-3	1.40-1.55	6.0-20	0.05-0.10	5.1-8.4	<2	Low-------	0.10			
	37-50	1-6	1.40-1.65	6.0-20	0.10-0.15	5.1-8.4	<2	Low-------	0.10			
	50-80	1-12	1.50-1.70	6.0-20	0.05-0.15	5.1-8.4	<2	Low-------	0.10			
Clara-----------	0-6	0-4	1.40-1.55	6.0-20	0.05-0.10	5.1-8.4	<2	Low-------	0.10	5	1	1-8
	6-19	1-3	1.40-1.55	6.0-20	0.05-0.10	5.1-8.4	<2	Low-------	0.10			
	19-32	1-6	1.40-1.65	6.0-20	0.10-0.15	5.1-8.4	<2	Low-------	0.10			
	32-80	1-12	1.50-1.70	6.0-20	0.05-0.15	5.1-8.4	<2	Low-------	0.10			
Meadowbrook-----	0-9	0-3	1.35-1.65	6.0-20	0.05-0.12	3.6-7.3	<2	Low-------	0.10	5	2	1-3
	9-58	0-6	1.35-1.75	6.0-20	0.03-0.09	3.6-8.4	<2	Low-------	0.10			
	58-80	9-24	1.50-1.80	0.2-2.0	0.10-0.15	4.5-8.4	<2	Low-------	0.15			
53--------------- Bayvi	0-5	---	0.20-0.40	6.0-20	0.24-0.30	5.1-8.4	>4	Low-------	----	5	2	20-90
	5-17	3-12	1.20-1.55	6.0-20	0.01-0.03	3.6-8.4	>4	Low-------	0.10			
	17-80	3-9	1.50-1.60	6.0-20	0.01-0.03	3.6-8.4	4-16	Low-------	0.10			
54:												
Tooles----------	0-7	0-5	1.15-1.47	6.0-20	0.05-0.10	3.6-7.3	<2	Low-------	0.10	4	1	<4
	7-52	0-5	1.35-1.65	6.0-20	0.05-0.15	3.5-7.3	<2	Low-------	0.10			
	52-65	20-35	1.40-1.71	0.06-0.2	0.15-0.20	5.1-8.4	<2	Moderate	0.28			
	65	---	---	2.0-20	---	---	---	----------	----			
Meadowbrook-----	0-9	0-3	1.35-1.65	6.0-20	0.05-0.12	3.6-7.3	<2	Low-------	0.10	5	2	1-3
	9-58	0-6	1.35-1.65	6.0-20	0.03-0.09	3.6-8.4	<2	Low-------	0.10			
	58-80	9-24	1.50-1.80	0.2-2.0	0.10-0.15	4.5-8.4	<2	Low-------	0.15			
Clara-----------	0-6	0-4	1.15-1.30	6.0-20	0.15-0.20	3.6-7.3	<2	Low-------	0.10	5	8	9-20
	6-19	1-3	1.40-1.55	6.0-20	0.05-0.10	3.6-7.3	<2	Low-------	0.10			
	19-22	1-6	1.40-1.65	6.0-20	0.10-0.15	3.6-7.3	<2	Low-------	0.10			
	22-80	1-12	1.50-1.70	6.0-20	0.05-0.15	3.6-7.3	<2	Low-------	0.10			
55--------------- Arents	0-10	1-10	1.35-1.55	6.0-20	0.02-0.08	6.6-8.4	<2	Low-------	0.10	5	2	<.5
	10-32	1-10	1.35-1.55	6.0-20	0.02-0.08	5.6-8.4	<2	Low-------	0.10			
	32-60	1-10	1.35-1.55	6.0-20	0.02-0.08	5.6-6.5	<2	Low-------	0.10			
57--------------- Sapelo	0-8	1-6	1.10-1.30	6.0-20	0.15-0.20	3.6-6.5	<2	Low-------	0.10	5	1	10-20
	8-18	2-5	1.40-1.65	6.0-20	0.03-0.07	3.6-5.5	<2	Low-------	0.10	5	1	1-3
	18-32	3-7	1.35-1.60	0.6-2.0	0.10-0.15	3.6-5.5	<2	Low-------	0.15			
	32-46	3-6	1.50-1.70	6.0-20	0.03-0.07	3.6-5.5	<2	Low-------	0.17			
	46-80	10-30	1.55-1.75	0.2-2.0	0.12-0.17	3.6-5.5	<2	Low-------	0.24			
58--------------- Leon	0-6	1-6	1.10-1.30	6.0-20	0.15-0.20	3.6-6.5	<2	Low-------	0.10	5	1	10-20
	6-10	<3	1.40-1.60	6.0-20	0.05-0.10	3.6-6.5	<2	Low-------	0.10			
	10-42	2-8	1.25-1.65	0.6-6.0	0.15-0.30	3.6-6.5	<2	Low-------	0.15			
	42-65	1-4	1.50-1.60	2.0-20	0.05-0.10	3.6-6.5	<2	Low-------	0.10			
	65-80	2-8	1.25-1.65	0.6-6.0	0.15-0.30	3.6-6.5	<2	Low-------	0.15			
59--------------- Arents	0-24	2-8	1.45-1.65	6.0-20	0.02-0.08	4.5-7.8	<2	Low-------	0.17	5	2	<3
	24-60	---	---	2.0-20.0	---	---	---	----------	----			
60:												
Chaires---------	0-8	1-3	1.10-1.45	6.0-20	0.05-0.15	3.6-5.5	<2	Low-------	0.10	5	1	2-6
	8-18	0-3	1.45-1.55	6.0-20	0.02-0.05	3.6-5.5	<2	Low-------	0.10			
	18-35	2-13	1.45-1.60	0.6-2.0	0.15-0.20	3.6-5.5	<2	Low-------	0.20			
	35-61	15-40	1.25-1.70	0.06-0.6	0.12-0.20	4.5-7.3	<2	Moderate	0.32			
	61	---	---	2.0-20	---	---	---	----------	----			

Table 15.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Soil reaction	Salinity	Shrink- swell potential	Erosion factors K	Erosion factors T	Wind erodi- bility group	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH	mmhos/cm					Pct
60:												
Meadowbrook-----	0-3	1-5	1.30-1.65	6.0-20	0.05-0.12	3.6-7.3	<2	Low-------	0.10	5	1	1-4
	3-58	0-5	1.45-1.65	6.0-20	0.03-0.09	3.6-8.4	<2	Low-------	0.10			
	58-75	18-35	1.35-1.80	0.2-2.0	0.10-0.25	5.6-8.4	<2	Moderate--	0.17			
	75	---	---	2.0-20	---	---	---	----------	----			
61:												
Wekiva----------	0-6	2-6	1.06-1.50	6.0-20	0.05-0.24	5.6-7.3	<2	Low-------	0.10	2	2	2-5
	6-14	1-6	1.45-1.72	6.0-20	0.05-0.10	5.6-7.3	<2	Low-------	0.10			
	14-21	12-35	1.45-1.74	0.2-0.6	0.10-0.17	6.1-7.3	<2	Low-------	0.15			
	21	---	---	2.0-20	---	---	---	----------	----			
Tooles----------	0-8	0-5	1.15-1.47	6.0-20	0.05-0.10	3.6-7.3	<2	Low-------	0.10	4	1	1-4
	8-35	0-5	1.35-1.65	6.0-20	0.05-0.10	3.6-7.3	<2	Low-------	0.10			
	35-55	20-35	1.40-1.71	0.06-0.2	0.17-0.20	5.1-8.4	<2	Moderate	0.28			
	55	---	---	2.0-20	---	---	---	----------	----			
Tennille--------	0-6	2-9	0.46-1.50	6.0-20	0.05-0.33	6.1-7.3	<2	Low-------	0.10	1	2	.5-9
	6-14	1-9	1.45-1.60	6.0-20	0.05-0.10	6.1-7.3	<2	Low-------	0.10			
	14	---	---	2.0-20	---	---	---	----------	----			
62:												
Tooles----------	0-8	0-5	1.15-1.47	6.0-20	0.05-0.15	3.6-7.3	<2	Low-------	0.10	4	8	<4
	8-35	0-5	1.35-1.65	6.0-20	0.05-0.15	3.6-7.3	<2	Low-------	0.10			
	35-55	20-35	1.40-1.71	0.06-0.2	0.15-0.20	5.1-8.4	<2	Moderate	0.28			
	55	---	---	2.0-20	---	---	---	----------	----			
Tennille--------	0-6	2-9	0.40-1.30	6.0-20	0.15-0.33	6.1-7.3	<2	Low-------	0.10	1	2	10-20
	6-14	1-9	1.45-1.60	6.0-20	0.05-0.10	6.1-7.3	<2	Low-------	0.10			
	14	---	---	2.0-20	---	---	---	----------	----			
Wekiva----------	0-6	2-6	1.06-1.50	6.0-20	0.05-0.24	5.6-7.3	<2	Low-------	0.10	2	2	2-5
	6-14	1-6	1.45-1.72	6.0-20	0.05-0.10	5.6-7.3	<2	Low-------	0.10			
	14-21	12-35	1.45-1.71	0.2-0.6	0.10-0.17	6.1-7.3	<2	Low-------	0.15			
	21	---	---	2.0-20	---	---	---	----------	----			
63--------------- Steinhatchee	0-5	0-3	1.35-1.45	6.0-20	0.05-0.15	4.5-6.0	<2	Low-------	0.10	3	1	2-5
	5-18	0-3	1.35-1.45	6.0-20	0.02-0.05	4.5-6.0	<2	Low-------	0.10			
	18-29	1-8	1.45-1.60	2.0-6.0	0.10-0.20	4.5-6.0	<2	Low-------	0.15			
	29-35	15-35	1.60-1.70	0.2-0.6	0.10-0.20	5.6-7.3	<2	Low-------	0.24			
	35	---	---	2.0-20	---	---	---	----------	----			
64:												
Tooles----------	0-7	0-5	1.15-1.47	6.0-20	0.05-0.10	3.6-7.3	<2	Low-------	0.10	4	1	<4
	7-52	0-5	1.35-1.65	6.0-20	0.05-0.10	3.6-7.3	<2	Low-------	0.10			
	52-65	20-35	1.40-1.71	0.06-0.2	0.15-0.20	5.1-8.4	<2	Moderate	0.28			
	65	---	---	2.0-20	---	---	---	----------	----			
Wekiva----------	0-6	2-6	1.06-1.50	6.0-20	0.05-0.24	5.6-7.3	<2	Low-------	0.10	2	2	2-5
	6-14	1-6	1.45-1.72	6.0-20	0.05-0.10	5.6-7.3	<2	Low-------	0.10			
	14-21	12-35	1.45-1.74	0.2-0.6	0.10-0.17	6.1-7.3	<2	Low-------	0.15			
	21	---	---	2.0-20	---	---	---	----------	----			
65:												
Yellowjacket----	0-42	---	0.15-0.70	6.0-20	0.35-0.45	5.6-8.4	<2	Low-------	----	2	8	25-65
	42-60	1-12	1.15-1.30	6.0-20	0.20-0.25	6.6-8.4	<2	Low-------	0.10			
	60-80	1-12	1.40-1.55	6.0-20	0.05-0.15	6.6-8.4	<2	Low-------	0.10			
Maurepas--------	0-65	---	0.05-0.25	6.0-20	0.20-0.50	5.6-8.4	<4	Low-------	----	3	---	---

Table 15.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Soil reaction	Salinity	Shrink- swell potential	Erosion factors K	Erosion factors T	Wind erodi- bility group	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH	mmhos/cm					Pct
67:												
Yellowjacket----	0-42	---	0.15-0.70	6.0-20	0.35-0.45	5.6-8.4	<2	Low-------	----	2	8	25-65
	42-60	1-12	1.15-1.30	6.0-20	0.20-0.25	6.6-8.4	<2	Low-------	0.10			
	60-80	1-12	1.40-1.55	6.0-20	0.05-0.15	6.6-8.4	<2	Low-------	0.10			
Maurepas--------	0-65	---	0.05-0.25	6.0-20	0.20-0.50	5.6-8.4	<4	Low-------	----	3	---	---
68:												
Matmon----------	0-11	1-6	1.35-1.60	6.0-20	0.05-0.10	5.1-7.3	<2	Low-------	0.15	2	1	2-5
	11-19	12-35	1.35-1.65	0.2-0.6	0.10-0.15	6.1-7.8	<2	Low-------	0.10			
	19	---	---	2.0-20	---	---	---	----------	----			
Wekiva----------	0-6	2-6	1.06-1.50	6.0-20	0.05-0.24	5.6-7.3	<2	Low-------	0.10	2	2	2-5
	6-14	1-6	1.45-1.72	6.0-20	0.05-0.10	5.6-7.3	<2	Low-------	0.10			
	14-21	12-35	1.45-1.74	0.2-0.6	0.10-0.17	6.1-7.3	<2	Low-------	0.15			
Rock outcrop----	0	---	---	2.0-20	---	---	---	----------	----	---	8	---
69:												
Eunola----------	0-6	3-11	1.45-1.70	2.0-6.0	0.06-0.11	4.5-5.5	<2	Low-------	0.15	5	2	.5-2
	6-15	18-35	1.35-1.65	0.6-2.0	0.12-0.17	4.5-5.5	<2	Low-------	0.28			
	15-40	18-45	1.30-1.60	0.6-2.0	0.12-0.16	4.5-5.5	<2	Low-------	0.32			
	40-50	8-25	1.35-1.65	2.0-6.0	0.10-0.16	4.5-5.5	<2	Low-------	0.24			
	50-80	2-11	1.45-1.75	6.0-20	0.02-0.06	4.5-5.5	<2	Low-------	0.20			
Goldhead--------	0-6	1-5	1.30-1.50	6.0-20	0.05-0.15	4.5-7.8	<2	Low-------	0.10	5	2	1-4
	6-35	1-5	1.35-1.50	6.0-20	0.02-0.05	4.5-7.8	<2	Low-------	0.10			
	35-80	13-34	1.45-1.65	0.2-2.0	0.10-0.20	4.5-8.4	<2	Low-------	0.24			
Tooles----------	0-7	0-5	1.15-1.47	6.0-20	0.05-0.10	3.6-7.3	<2	Low-------	0.10	4	1	1-4
	7-52	0-5	1.35-1.65	6.0-20	0.05-0.15	3.6-7.3	<2	Low-------	0.10			
	52-65	20-35	1.40-1.71	0.06-0.2	0.15-0.20	5.1-8.4	<2	Moderate	0.28			
	65	---	---	2.0-20	---	---	---	----------	----			
70:												
Chiefland-------	0-5	1-5	1.35-1.50	6.0-20	0.02-0.10	5.1-7.3	<2	Low-------	0.10	4	2	.5-4
	5-26	1-3	1.45-1.60	6.0-20	0.02-0.10	5.6-7.3	<2	Low-------	0.10			
	26-35	15-35	1.50-1.70	0.6-2.0	0.07-0.15	5.6-8.4	<2	Low-------	0.20			
	35	---	---	2.0-20	---	---	---	----------	----			
Chiefland, frequently flooded--------	0-5	1-5	1.35-1.50	6.0-20	0.02-0.10	5.1-7.3	<2	Low-------	0.10	4	2	.5-4
	5-26	1-3	1.45-1.60	6.0-20	0.02-0.10	5.6-7.3	<2	Low-------	0.10			
	26-35	15-35	1.50-1.70	0.6-2.0	0.07-0.15	5.6-8.4	<2	Low-------	0.20			
	35	---	---	2.0-20	---	---	---	----------	----			
71--------------- Leon	0-6	0-5	1.15-1.65	6.0-20	0.05-0.15	3.6-5.5	<2	Low-------	0.10	5	1	.5-4
	6-25	<3	1.30-1.65	6.0-20	0.05-0.10	3.6-5.5	<2	Low-------	0.10			
	25-34	2-8	1.35-1.70	0.6-6.0	0.15-0.30	3.6-5.5	<2	Low-------	0.15			
	34-80	1-4	1.50-1.76	0.2-20	0.05-0.10	3.6-5.5	<2	Low-------	0.10			
72--------------- Chaires	0-6	1-3	1.10-1.45	6.0-20	0.05-0.15	3.6-5.5	<2	Low-------	0.10	5	1	2-6
	6-20	0-3	1.45-1.55	6.0-20	0.05-0.10	3.6-5.5	<2	Low-------	0.10			
	20-52	2-13	1.45-1.60	0.6-2.0	0.15-0.20	3.6-5.5	<2	Low-------	0.20			
	52-80	15-35	1.60-1.70	0.06-0.6	0.10-0.20	4.5-7.3	<2	Low-------	0.24			
73--------------- Chipley	0-9	1-5	1.35-1.50	6.0-20	0.05-0.10	3.6-6.0	<2	Low-------	0.10	5	1	1-5
	9-80	1-7	1.45-1.75	6.0-20	0.03-0.08	4.5-6.5	<2	Low-------	0.10			

Table 15.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permea- bility	Available water capacity	Soil reaction	Salinity	Shrink- swell potential	Erosion factors K	Erosion factors T	Wind erodi- bility group	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH	mmhos/cm					Pct
74---------------Mascotte	0-4	0-5	1.20-1.50	6.0-20	0.05-0.15	3.6-5.5	<2	Low-------	0.10	5	1	2-7
	4-10	0-5	1.35-1.55	6.0-20	0.03-0.08	3.6-5.5	<2	Low-------	0.10			
	10-17	3-10	1.35-1.50	0.6-2.0	0.10-0.15	3.6-5.5	<2	Low-------	0.15			
	17-30	0-5	1.35-1.55	6.0-20	0.03-0.08	3.6-5.5	<2	Low-------	0.10			
	30-35	1-8	1.45-1.70	6.0-20	0.03-0.08	3.6-5.5	<2	Low-------	0.15			
	35-80	14-35	1.55-1.79	0.2-0.6	0.10-0.15	3.6-5.5	<2	Low-------	0.24			

Table 16.--Soil and Water Features

("Flooding" and "water table" and terms such as "rare," "brief," and "apparent" are explained in the text. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Soil name and map symbol	Hydro-logic group	Flooding			High water table			Bedrock		Subsidence		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hard-ness*	Ini-tial	Total	Uncoated steel	Concrete
					Ft			In		In	In		
3:													
Osier------------	A/D	None--------	---	---	0.5-1.0	Apparent	Dec-Sep	>60	---	---	---	High-----	High.
Clara------------	B/D	None--------	---	---	0-1.0	Apparent	Dec-Sep	>60	---	---	---	High-----	High.
5----------------- Chaires	B/D	None--------	---	---	0.5-1.5	Apparent	Dec-Sep	>60	---	---	---	High-----	High.
6----------------- Leon	B/D	None--------	---	---	0.5-1.5	Apparent	Dec-Sep	>60	---	---	---	High-----	High.
8----------------- Meadowbrook	B/D	None--------	---	---	0-1.0	Apparent	Dec-Sep	>60	---	---	---	Moderate	High.
9----------------- Sapelo	D	None--------	---	---	0-1.5	Apparent	Dec-Sep	>60	---	---	---	High-----	High.
10:													
Mandarin---------	C	None--------	---	---	1.5-3.5	Apparent	Dec-Sep	>60	---	---	---	Moderate	High.
Hurricane--------	C	None--------	---	---	2.0-3.5	Apparent	Dec-Sep	>60	---	---	---	Low------	Moderate.
12---------------- Ortega	A	None--------	---	---	3.5-6.0	Apparent	Dec-Sep	>60	---	---	---	Low------	High.
13---------------- Hurricane	C	None--------	---	---	2.0-3.5	Apparent	Dec-Sep	>60	---	---	---	Low------	Moderate.
14:													
Chipley----------	C	None--------	---	---	1.5-3.5	Apparent	Dec-Sep	>60	---	---	---	Low------	High.
Lynn Haven-------	D	None--------	---	---	+2-0	Apparent	Dec-Sep	>60	---	---	---	Moderate	High.
Boulogne---------	B/D	None--------	---	---	0.5-1.5	Apparent	Dec-Sep	>60	---	---	---	High-----	High.
15---------------- Ridgewood	C	None--------	---	---	1.5-3.5	Apparent	Dec-Sep	>60	---	---	---	Low------	High.
16:													
Lutterloh--------	C	None--------	---	---	1.5-3.5	Apparent	Dec-Sep	>60	---	---	---	High-----	Moderate.
Ridgewood--------	C	None--------	---	---	1.5-3.5	Apparent	Dec-Sep	>60	---	---	---	Low------	High.
17:													
Ousley-----------	C	Occasional--	Very brief	Jan-Sep	1.5-3.5	Apparent	Dec-Sep	>60	---	---	---	Low------	High.
Leon-------------	B/D	Occasional--	Brief-----	Jan-Sep	0.5-1.5	Apparent	Dec-Sep	>60	---		---	High-----	High.
Clara------------	B/D	Occasional--	Brief-----	Jan-Sep	0-1.0	Apparent	Dec-Sep	>60	---	---	---	High-----	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: Hard-ness*	Subsidence: Ini-tial	Subsidence: Total	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
					Ft			In		In	In		
19:													
Otela	A	None	---	---	4.0-6.0	Perched	Dec-Sep	>60	---	---	---	Low	Low.
Ortega	A	None	---	---	3.5-6.0	Apparent	Dec-Sep	>60	---	---	---	Low	High.
Lutterloh	C	None	---	---	1.5-3.5	Apparent	Dec-Sep	>60	---	---	---	High	Moderate.
20:													
Melvina	C	None	---	---	1.5-3.5	Apparent	Dec-Sep	60-80	Soft	---	---	Moderate	Moderate.
Mandarin	C	None	---	---	1.5-3.5	Apparent	Dec-Sep	>60	---	---	---	Moderate	High.
21 Kershaw	A	None	---	---	>6.0	---	---	>60	---	---	---	Low	High.
22 Ocilla	C	None	---	---	1.0-2.5	Apparent	Dec-Sep	>60	---	---	---	High	Moderate.
23:													
Melvina	C	None	---	---	1.5-3.5	Apparent	Dec-Sep	60-80	Soft	---	---	Moderate	Moderate.
Moriah	B	None	---	---	1.5-3.5	Apparent	Dec-Sep	40-72	Soft	---	---	High	High.
Lutterloh	C	None	---	---	1.5-3.5	Apparent	Dec-Sep	>60	---	---	---	High	Moderate.
24 Albany	C	None	---	---	1.0-2.5	Apparent	Dec-Sep	>60	---	---	---	High	High.
25 Pottsburg	B/D	None	---	---	0.5-1.0	Apparent	Dec-Sep	>60	---	---	---	High	High.
26:													
Resota	A	None	---	---	3.5-5.0	Apparent	Dec-Sep	>60	---	---	---	Low	High.
Hurricane	C	None	---	---	2.0-3.5	Apparent	Dec-Sep	>60	---	---	---	Low	Moderate.
27 Plummer	B/D	None	---	---	0-1.0	Apparent	Dec-Sep	>60	---	---	---	Moderate	High.
28:													
Surrency	D	None	---	---	+1-0	Apparent	Dec-Sep	>60	---	---	---	High	High.
Starke	D	None	---	---	+2-0	Apparent	Dec-Sep	>60	---	---	---	High	High.
Croatan	D	Rare	---	---	+2-0	Apparent	Dec-Sep	>60	---	4-10	18-24	High	High.
29:													
Albany	C	None	---	---	1.0-2.5	Apparent	Dec-Sep	>60	---	---	---	High	High.
Surrency	D	None	---	---	+1-0	Apparent	Dec-Sep	>60	---	---	---	High	High.
30:													
Dorovan	D	None	---	---	+2-0	Apparent	Dec-Sep	>60	---	6-12	51-80	High	High.
Pamlico	D	Rare	---	---	+2-0	Apparent	Dec-Sep	>60	---	4-20	10-36	High	High.
33:													
Wesconnett	D	None	---	---	+2-0	Apparent	Dec-Sep	>60	---	---	---	Moderate	High.
Evergreen	D	None	---	---	+2-0	Apparent	Dec-Sep	>60	---	2-6	8-11	High	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: Hard-ness*	Subsidence: Ini-tial	Subsidence: Total	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
					Ft			In		In	In		
33:													
Pamlico----------	D	Rare--------	---	---	+2-0	Apparent	Dec-Sep	>60	---	4-20	10-36	High-----	High.
34:													
Clara------------	B/D	Frequent----	Long------	Jan-Sep	0-1.0	Apparent	Dec-Sep	>60	---	---	---	High-----	Moderate.
Bodiford---------	D	Frequent----	Long------	Jan-Sep	0-0.5	Apparent	Dec-Sep	40-60	Soft	2-6	8-15	High-----	Low.
35:													
Tooles-----------	D	Frequent----	Long------	Jan-Sep	0-1.0	Apparent	Dec-Sep	40-60	Soft	---	---	High-----	Moderate.
Meadowbrook------	B/D	Frequent----	Long------	Jan-Sep	0-1.0	Apparent	Dec-Sep	>60	---	---	---	Moderate	High.
Wekiva-----------	D	Frequent----	Long------	Jan-Sep	+1-0	Apparent	Dec-Sep	10-30	Soft	---	---	High-----	Low.
37:													
Tooles-----------	D	None--------	---	---	+2-0	Apparent	Dec-Sep	40-60	Soft	---	---	High-----	Moderate.
Meadowbrook------	D	None--------	---	---	+2-0	Apparent	Dec-Sep	>60	---	---	---	Moderate	High.
38:													
Clara------------	D	None--------	---	---	+2-0	Apparent	Dec-Sep	>60	---	---	---	High-----	Moderate.
Meadowbrook------	D	None--------	---	---	+2-0	Apparent	Dec-Sep	>60	---	---	---	Moderate	High.
40---------------- Lutterloh	C	None--------	---	---	1.5-2.5	Apparent	Dec-Sep	60-80	Soft	---	---	High-----	Moderate.
41:													
Tooles-----------	B/D	None--------	---	---	+1-0.5	Apparent	Dec-Sep	40-60	Soft	---	---	High-----	Moderate.
Meadowbrook------	B/D	None--------	---	---	0-1.0	Apparent	Dec-Sep	>60	---	---	---	Moderate	High.
45---------------- Chaires	B/D	None--------	---	---	0.5-1.5	Apparent	Dec-Sep	50-80	Soft	---	---	High-----	High.
46. Pits													
48:													
Wekiva-----------	D	Occasional--	Brief-----	Jan-Sep	+1-0	Apparent	Dec-Sep	10-30	Soft	---	---	High-----	Low.
Tennille---------	D	Occasional--	Brief-----	Jan-Sep	+1-0.5	Apparent	Dec-Sep	6-20	Soft	---	---	High-----	Low.
Tooles-----------	D	Occasional--	Brief-----	Jan-Sep	0-1.0	Apparent	Dec-Sep	40-60	Soft	---	---	High-----	Moderate.
49:													
Seaboard---------	B	None--------	---	---	4.0-5.0	Apparent	Dec-Sep	6-20	Soft	---	---	High-----	High.
Bushnell---------	C	None--------	---	---	1.5-3.0	Apparent	Dec-Sep	20-40	Soft	---	---	High-----	Moderate
Matmon-----------	D	None--------	---	---	1.0-2.0	Apparent	Dec-Sep	10-20	Soft	---	---	High-----	Low.
51:													
Tooles-----------	D	Frequent----	Long------	Jan-Sep	0-1.0	Apparent	Dec-Sep	40-60	Soft	---	---	High-----	Moderate.
Nutall-----------	D	Frequent----	Long------	Jan-Sep	0-0.5	Apparent	Dec-Sep	20-40	Soft	---	---	High-----	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: Hard-ness*	Subsidence: Ini-tial	Subsidence: Total	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
					Ft			In		In	In		
52:													
Clara, depressional----	D	Occasional--	Brief-----	---	+2-0	Apparent	Dec-Sep	>60	---	---	---	High-----	Moderate.
Clara-----------	B/D	Occasional--	Brief-----	Jan-Sep	0-1.0	Apparent	Dec-Sep	>60	---	---	---	High-----	Moderate.
Meadowbrook------	B/D	Occasional--	Brief-----	Jan-Sep	0-1.0	Apparent	Dec-Sep	>60	---	---	---	Moderate	High.
53--------------- Bayvi	D	Frequent----	Very long	Jan-Dec	0-0.5	Apparent	Jan-Dec	>60	---	---	---	High-----	High.
54:													
Tooles----------	B/D	None--------	---	---	+2-0	Apparent	Dec-Sep	40-60	Soft	---	---	High-----	Moderate.
Meadowbrook------	B/D	None--------	---	---	0-1.0	Apparent	Dec-Sep	>60	---	---	---	Moderate	Moderate.
Clara-----------	D	None--------	---	---	+2-0	Apparent	Dec-Sep	>60	---	---	---	High-----	Moderate.
55--------------- Arents	C	None--------	---	---	1.0-3.0	Apparent	Dec-Sep	>60	---	---	---	High-----	High.
57--------------- Sapelo	D	None--------	---	---	0-1.5	Apparent	Dec-Sep	>60	---	---	---	High-----	High.
58--------------- Leon	B/D	None--------	---	---	0-0.5	Apparent	Dec-Sep	>60	---	---	---	High-----	High.
59--------------- Arents	C	None--------	---	---	1.5-3.5	Apparent	Jan-Sep	>60	---	5-10	12-36	High-----	High.
60:													
Chaires---------	B/D	Rare--------	---	---	0.5-1.5	Apparent	Dec-Sep	>60	---	---	---	High-----	High.
Meadowbrook------	B/D	Rare--------	---	---	0-1.0	Apparent	Dec-Sep	>60	---	---	---	Moderate	High.
61:													
Wekiva----------	D	Rare--------	---	---	0-1.0	Apparent	Dec-Sep	10-30	Soft	---	---	High-----	Low.
Tooles----------	B/D	Rare--------	---	---	0-1.0	Apparent	Dec-Sep	40-60	Soft	---	---	High-----	Moderate.
Tennille---------	D	Rare-------	---	---	0.5-1.0	Apparent	Dec-Sep	6-20	Soft	---	---	High-----	Low.
62:													
Tooles----------	D	None--------	---	---	+2-0	Apparent	Dec-Sep	40-60	Soft	---	---	High-----	Moderate.
Tennille---------	D	None--------	---	---	+2-0	Apparent	Dec-Sep	6-20	Soft	---	---	High-----	Low.
Wekiva----------	D	None--------	---	---	+2-0	Apparent	Dec-Sep	10-30	Soft	---	---	High-----	Low.
63--------------- Steinhatchee	B/D	None--------	---	---	0.5-1.5	Apparent	Dec-Sep	24-40	Soft	---	---	Moderate	Moderate.
64:													
Tooles----------	B/D	None--------	---	---	0-1.0	Apparent	Dec-Sep	40-60	Soft	---	---	High-----	Moderate.
Wekiva----------	D	None--------	---	---	0-1.0	Apparent	Dec-Sep	10-30	Soft	---	---	High-----	Low.
65:													
Yellowjacket-----	D	Frequent----	Long------	Jan-Dec	0-0.5	Apparent	Jan-Dec	40-80	---	4-10	16-24	High-----	Low.
Maurepas---------	D	Frequent----	Long------	Jan-Dec	0-0.5	Apparent	Jan-Dec	>60	---	15-30	>51	High-----	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: Hard- ness*	Subsidence: Ini- tial	Subsidence: Total	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
					Ft			In		In	In		
67:													
Yellowjacket-----	D	None--------	---	---	+2-0	Apparent	Jan-Dec	40-80	Soft	4-10	16-24	High-----	Low.
Maurepas---------	D	None--------	---	---	+1-0	Apparent	Jan-Dec	>60	---	15-30	>51	High-----	High.
68:													
Matmon-----------	D	Occasional	Brief-----	Jan-Sep	1.0-2.0	Apparent	Dec-Sep	10-20	Soft	---	---	High-----	Low.
Wekiva-----------	D	Occasional	Brief-----	Jan-Sep	0-1.0	Apparent	Dec-Sep	10-30	Soft	---	---	High-----	Low.
Rock outcrop-----	D	Occasional--	Brief-----	Jan-Sep	0.5-1.0	---	---	0	Soft	---	---	---	---
69:													
Eunola-----------	C	Occasional	Very brief	Jan-Sep	1.5-2.5	Apparent	Dec-Sep	>60	---	---	---	Low------	High.
Goldhead---------	B/D	Frequent----	Long------	Jan-Sep	0-0.5	Apparent	Dec-Sep	>60	---	---	---	High-----	Moderate.
Tooles-----------	D	Frequent----	Long------	Jan-Sep	0-1.0	Apparent	Dec-Sep	40-60	Soft	---	---	High-----	Moderate.
70:													
Chiefland--------	B	None--------	---	---	4-6	---	---	24-60	Soft	---	---	Low------	Low.
Chiefland, frequently flooded---------	B	Frequent----	Brief-----	Jan-Sep	4-6	---	---	24-60	Soft	---	---	Low------	Low.
71---------------- Leon	D	Rare--------	---	---	0.5-1.5	Apparent	Dec-Sep	>60	---	---	---	High-----	High.
72---------------- Chaires	B/D	Rare--------	---	---	0.5-1.5	Apparent	Dec-Sep	>60	Soft	---	---	High-----	High.
73---------------- Chipley	C	None--------	---	---	1.5-3.5	Apparent	Dec-Sep	>60	---	---	---	Low------	High.
74---------------- Mascotte	B/D	None--------	---	---	0.5-1.5	Apparent	Dec-Sep	>60	---	---	---	High-----	High.

* Soft limestone in Taylor County is usually 6 inches to 2 feet thick over hard limestone.

Table 17.--Physical Analyses of Selected Soils

(Absence of an entry indicates that data were not available.)

Soil name and sample number	Depth	Horizon	Particle-size distribution: Sand: Very coarse (2-1 mm)	Coarse (1-0.5 mm)	Medium (0.5-0.25 mm)	Fine (0.25-0.1 mm)	Very fine (0.1-0.05 mm)	Total (2-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<0.002 mm)	Hydraulic conductivity	Bulk density (field moist)	Water content: 1/10-bar	1/3-bar	15-bar
	cm		Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	cm/hr	g/cc	Pct (wt)		
Albany sand:[4]															
S84FL-040-012-1	0-25	Ap	0.5	7.4	28.7	45.5	9.2	91.3	6.3	2.4	19.5	1.54	9.3	5.9	1.6
-2	25-66	E1	0.3	6.7	26.0	46.7	10.4	90.1	7.0	2.9	57.2	1.48	8.0	5.6	1.5
-3	66-94	E2	0.5	6.5	25.6	47.5	10.3	90.4	6.3	3.3	32.9	1.60	5.7	3.9	1.3
-4	94-127	Eg	0.4	7.1	26.2	48.2	9.6	91.5	5.5	3.0	25.6	1.61	6.0	4.0	1.4
-5	127-145	Bt	1.7	11.6	24.4	34.6	6.5	78.8	5.3	15.9	1.6	1.80	10.2	8.8	5.1
-6	145-175	Btg1	0.4	4.0	14.0	30.8	8.6	57.8	4.8	37.4	0.2	1.72	20.3	19.7	13.4
-7	175-203	Btg2	0.0	1.5	12.1	39.0	11.9	64.5	4.6	30.9	0.2	1.77	18.6	16.6	10.7
Chaires fine sand:[5]															
S88FL-123-005-1	0-15	Ap	1.2	7.9	25.5	55.0	7.6	97.2	1.5	1.3	37.3	1.31	10.8	7.5	2.6
-2	15-51	E	0.9	7.2	23.3	59.1	6.9	97.4	1.6	1.0	29.8	1.53	4.9	3.1	0.5
-3	51-66	Bh1	0.7	6.9	21.4	55.7	6.7	91.4	4.5	4.1	25.2	1.41	16.8	10.4	2.9
-4	66-76	Bh2	0.7	6.4	21.1	56.1	8.0	92.3	4.1	3.6	8.2	1.62	10.2	6.9	2.0
-5	76-132	E'	1.1	7.4	22.1	57.0	6.9	94.5	3.1	2.4	13.6	1.70	5.3	2.9	1.3
-6	132-203	Btg	0.4	4.8	17.6	33.0	5.8	61.6	5.1	33.3	1.3	1.26	38.1	34.5	17.8
Chaires fine sand, limestone substratum:[6]															
S88FL-123-008-1	0-15	Ap	1.1	10.3	23.5	52.9	9.1	96.9	2.0	1.1	23.7	1.61	6.4	4.1	1.1
-2	15-64	E	1.6	10.8	21.8	54.0	8.7	96.9	2.0	1.1	18.8	1.66	4.5	2.6	0.5
-3	64-74	Bh1	1.2	10.2	20.9	52.9	9.0	94.2	4.4	1.4	18.2	1.60	16.0	9.5	1.8
-4	74-104	Bh2	2.3	11.4	20.4	51.7	8.4	94.2	3.0	2.8	19.7	1.65	9.4	6.2	1.0
-5	104-112	E'	1.4	9.8	20.1	54.1	9.4	94.8	3.4	1.8	18.0	1.71	6.9	4.2	0.6
-6	112-140	Btg	0.7	5.6	15.4	34.8	15.6	72.1	4.7	23.2	1.4	1.68	16.8	14.3	6.8
Chiefland sand:[1]															
S90FL-029-017-1	0-13	A	0.2	5.6	33.6	41.8	12.5	93.7	3.8	2.5	44.1	1.41	7.6	5.1	1.5
-2	13-43	E1	0.2	5.5	31.1	43.0	14.9	94.7	3.6	1.7	31.6	1.57	4.9	2.5	0.6
-3	43-66	E2	0.4	6.1	33.1	42.2	12.9	94.7	4.2	1.1	26.3	1.57	4.1	2.0	0.5
-4	66-89	Bt	0.5	4.4	24.6	31.2	10.4	71.1	4.2	24.7	6.1	1.52	16.1	13.4	6.7
Chipley sand:[5]															
S88FL-123-009-1	0-23	Ap	0.6	10.2	29.0	49.5	7.2	96.5	1.6	1.9	47.3	1.46	7.4	5.2	1.1
-2	23-51	C1	0.9	10.8	28.5	48.1	6.8	95.1	2.8	2.1	23.7	1.65	5.4	3.6	0.9
-3	51-122	C2	1.6	11.7	27.8	47.5	7.0	95.6	1.9	2.5	43.4	1.64	4.1	2.7	0.7
-4	122-175	C3	1.0	10.3	27.5	52.1	6.7	97.6	1.2	1.2	37.8	1.62	3.2	1.9	0.3
-5	175-203	C4	1.0	10.9	28.6	48.5	6.5	95.5	2.8	1.7	13.6	1.73	5.0	3.4	0.6
Hurricane fine sand:[5]															
S88FL-123-012-1	0-20	Ap	0.0	1.3	9.1	80.3	6.4	97.2	1.0	1.8	45.4	1.34	8.0	5.2	1.1
-2	20-56	E1	0.0	1.2	8.5	79.8	6.0	95.5	2.7	1.8	38.8	1.51	5.6	3.4	0.7
-3	56-81	E2	0.1	1.4	8.9	80.0	6.1	96.5	1.8	1.7	52.0	1.53	4.4	2.6	0.6
-4	81-122	E3	0.0	1.2	7.8	81.9	6.3	97.2	1.8	1.0	50.0	1.51	3.8	2.2	0.5
-5	122-160	E4	0.0	1.4	7.6	83.9	5.9	98.8	0.8	0.4	42.1	1.59	2.8	1.9	0.5
-6	160-175	BE	0.0	1.2	7.4	83.4	5.1	97.1	1.5	1.4	29.6	1.57	4.9	2.7	0.6
-7	175-203	Bh	0.0	1.1	6.8	83.3	6.3	97.5	0.7	1.8	30.3	1.64	4.6	2.3	0.5

See footnotes at end of table.

Table 17.--Physical Analyses of Selected Soils--Continued

Soil name and sample number	Depth	Horizon	Particle-size distribution: Sand: Very coarse (2-1 mm)	Coarse (1-0.5 mm)	Medium (0.5-0.25 mm)	Fine (0.25-0.1 mm)	Very fine (0.1-0.05 mm)	Total (2-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<0.002 mm)	Hydraulic conductivity	Bulk density (field moist)	Water content: 1/10-bar	1/3-bar	15-bar
	cm		Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	cm/hr	g/cc	----Pct (wt)-----		
Leon fine sand:[5]															
S88FL-123-006-1	0-15	Ap	0.4	8.2	27.5	55.5	6.3	97.9	1.2	0.9	78.6	1.16	15.3	12.0	4.4
-2	15-28	E1	0.7	6.9	24.1	58.2	7.4	97.3	2.3	0.4	18.6	1.64	4.9	2.7	0.4
-3	28-64	E2	0.7	6.8	21.4	60.1	8.0	97.0	2.2	0.8	19.5	1.64	3.5	2.1	0.2
-4	64-76	Bh1	1.0	7.0	21.1	56.3	7.0	92.4	5.8	1.8	27.2	1.56	11.5	7.3	1.8
-5	76-86	Bh2	1.3	7.1	24.7	54.4	5.9	93.4	5.4	1.2	18.4	1.63	8.0	5.5	1.3
-6	86-142	C1	0.7	7.2	22.3	58.2	6.1	94.5	3.7	1.8	17.8	1.65	6.0	3.7	0.7
-7	142-203	C2	0.8	7.2	22.5	58.7	7.2	96.4	2.7	0.9	23.2	1.76	4.4	2.3	0.4
Lutterloh fine sand:[5]															
S88FL-123-003-1	0-20	A	0.0	1.6	13.2	74.0	7.8	96.6	1.5	1.9	38.4	1.33	8.6	5.4	1.4
-2	20-48	E1	0.1	2.5	13.0	73.5	6.6	95.7	2.0	2.3	28.5	1.53	5.7	3.6	1.2
-3	48-91	E2	0.1	2.4	12.6	73.2	8.2	96.5	2.0	1.5	35.3	1.58	3.2	1.9	0.3
-4	91-130	E3	0.1	2.0	12.0	74.1	8.4	96.6	1.2	2.2	26.1	1.62	3.7	2.0	0.5
-5	130-162	Bt	0.0	2.2	11.8	63.8	9.4	87.2	2.0	10.8	1.5	1.72	9.5	6.4	3.3
Lynn Haven mucky fine sand:[3]															
S89FL-067-004-1	0-33	Ap	0.1	1.5	11.8	62.2	10.4	86.0	11.0	3.1	46.7	0.80	50.9	38.9	11.5
-2	33-48	E	0.0	1.2	10.6	74.8	11.7	98.3	1.0	0.7	20.4	1.60	4.0	1.8	0.4
-3	48-69	Bh	0.0	1.2	10.3	68.7	10.7	90.9	4.5	4.6	32.9	1.55	16.0	9.4	2.2
-4	69-86	Bw1	0.1	1.4	10.8	69.0	10.3	91.6	4.3	4.1	25.0	1.54	11.7	8.3	2.1
-5	86-132	Bw2	0.0	0.1	11.7	71.0	9.2	92.0	5.0	3.0	24.7	1.60	7.5	4.6	1.3
-6	132-203	B'h	0.1	1.3	11.6	69.2	7.8	90.0	6.1	3.9	15.8	1.59	13.9	10.6	3.6
Mandarin fine sand:[5]															
S90FL-123-014-1	0-18	Ap	1.1	4.2	7.2	76.6	7.7	96.8	2.3	0.9	22.4	1.45	7.9	4.9	2.3
-2	18-38	E1	1.3	4.5	7.2	75.8	8.6	97.4	2.2	0.4	19.7	1.54	4.6	2.4	0.9
-3	38-66	E2	1.2	3.8	6.8	76.6	8.2	96.6	2.7	0.7	18.4	1.54	4.2	2.1	0.6
-4	66-76	Bh1	2.0	4.9	7.1	70.6	6.6	91.2	5.2	3.6	16.1	1.39	14.0	9.6	2.3
-5	76-112	Bh2	1.4	4.1	6.4	74.5	7.6	94.0	3.8	2.2	32.9	1.39	10.7	7.1	1.6
-6	112-203	C	1.5	4.8	6.9	76.1	7.8	97.1	2.5	0.4	25.7	1.58	4.3	2.1	0.4
Mascotte sand:[2]															
S81FL-065-029-1	0-20	Ap	0.2	9.7	28.7	42.1	11.2	91.9	6.6	1.5	5.3	1.49	13.4	7.7	1.4
-2	20-25	Bh1	0.4	12.7	29.5	39.0	10.8	92.4	3.3	4.3	27.9	1.47	13.6	9.5	1.9
-3	25-41	Bh2	0.8	18.2	31.4	30.8	7.8	89.0	6.3	4.7	4.5	1.48	16.4	12.4	3.4
-4	41-66	E	0.1	1.6	15.1	54.5	17.5	88.8	8.2	3.0	4.5	1.62	11.4	7.9	1.8
-5	66-135	Btg1	0.2	7.4	20.6	28.6	9.0	65.8	0.7	33.5	0.4	1.58	19.2	17.2	9.6
-6	135-203	Btg2	0.4	7.4	19.0	27.6	9.0	63.4	5.6	31.0	0.1	1.81	14.1	12.2	6.9
Meadowbrook sand:[5]															
S88FL-123-020-1	0-23	Ap	0.3	5.2	22.6	50.0	18.4	96.5	1.8	1.7	16.8	1.45	9.4	5.3	1.4
-2	23-46	Bw1	0.3	4.3	20.4	59.2	18.0	97.2	1.9	0.9	22.0	1.67	4.6	2.0	0.4
-3	46-79	Bw2	0.4	4.8	20.5	50.7	15.8	92.2	6.9	0.9	13.2	1.69	5.7	3.0	0.6
-4	79-147	E	0.4	4.7	19.5	51.4	21.0	97.0	2.6	0.4	14.1	1.75	4.5	1.9	0.2
-5	147-203	Btg	0.2	3.0	16.6	35.6	9.8	65.2	11.5	23.2	0.1	1.38	36.4	33.0	20.1

See footnotes at end of table.

Table 17.--Physical Analyses of Selected Soils--Continued

Soil name and sample number	Depth	Horizon	Particle-size distribution: Sand: Very coarse (2-1 mm)	Coarse (1-0.5 mm)	Medium (0.5-0.25 mm)	Fine (0.25-0.1 mm)	Very fine (0.1-0.05 mm)	Total (2-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<0.002 mm)	Hydraulic conductivity	Bulk density (field moist)	Water content: 1/10-bar	1/3-bar	15-bar
	cm		Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	cm/hr	g/cc	Pct (wt)	Pct (wt)	Pct (wt)
Melvina fine sand:[5]															
S88FL-123-018-1	0-15	Ap	1.5	5.9	7.4	75.8	6.8	97.4	0.6	2.0	28.0	1.43	6.5	3.9	2.0
-2	15-71	E	2.1	6.5	7.3	73.8	7.3	97.0	2.4	0.6	20.1	1.58	3.6	2.1	0.7
-3	71-81	Bh1	2.2	5.7	6.6	71.5	7.3	93.3	3.9	2.8	13.2	1.52	9.4	6.4	1.7
-4	81-99	Bh2	2.0	5.8	6.7	72.8	7.3	94.6	3.7	1.7	16.1	1.79	5.9	3.7	1.0
-5	99-135	EB	2.0	5.8	6.4	74.6	7.3	96.1	2.7	1.2	17.4	1.61	5.2	2.9	0.6
-6	135-170	Btg1	1.4	4.4	6.2	57.4	5.8	75.2	2.2	22.6	1.7	1.69	18.4	15.0	6.4
-7	170-203	Btg2	0.6	3.0	4.8	44.6	4.8	57.8	5.4	36.8	0.2	1.14	46.6	41.8	19.3
Moriah fine sand:[5]															
S88FL-123-013-1	0-13	A	0.4	2.2	5.3	81.7	7.8	97.4	1.8	0.8	28.9	1.47	6.5	3.6	1.0
-2	13-30	E1	0.7	2.5	6.0	81.7	7.5	98.4	1.2	0.4	29.6	1.57	4.0	2.1	0.6
-3	30-79	E2	0.6	2.4	5.9	82.4	6.6	97.9	1.7	0.4	30.3	1.53	3.7	1.8	0.6
-4	79-86	E3	1.0	3.6	10.2	75.6	3.6	94.0	5.1	0.9	27.0	1.55	3.4	1.6	0.6
-5	86-132	Bt1	0.8	5.4	19.4	38.6	2.0	61.2	5.8	33.0	2.3	1.60	25.5	21.2	9.3
-6	132-145	Bt2	1.4	7.2	23.2	34.4	2.2	68.4	3.2	28.4	0.0	1.50	20.7	17.7	8.2
Nutall fine sand:[2]															
S82FL-065-007-1	0-10	A	0.0	0.2	4.7	73.0	12.8	90.7	5.9	3.4	---	---	---	---	---
-2	10-23	A/E	0.0	0.4	4.9	77.2	12.6	95.1	3.5	1.4	---	---	---	---	---
-3	23-33	E1	0.0	0.5	5.5	79.2	11.9	97.1	1.6	1.3	---	---	---	---	---
-4	33-43	E2	0.0	0.6	4.9	77.9	12.4	95.8	2.8	1.4	---	---	---	---	---
-5	43-76	Btg	0.0	0.2	3.6	55.8	11.0	70.6	5.9	23.5	---	---	---	---	---
Ocilla sand:[5]															
S88FL-123-015-1	0-15	A	0.3	4.3	23.3	47.8	16.4	92.1	3.9	4.0	8.9	1.56	10.1	5.6	1.8
-2	15-58	E	0.2	4.6	22.2	44.9	19.3	91.2	5.2	3.6	5.8	1.67	9.7	5.5	1.8
-3	58-71	Bt	0.2	3.6	20.0	43.8	13.6	81.2	4.6	14.2	2.1	1.65	14.5	11.2	6.8
-4	71-119	Btg1	0.2	1.2	13.8	48.8	12.0	76.0	3.1	20.9	1.5	1.72	15.5	12.6	8.1
-5	119-175	Btg2	0.0	5.8	33.4	32.6	7.6	79.4	4.8	15.8	0.2	1.83	13.9	11.3	7.1
-6	175-203	Cg	0.2	6.6	35.2	34.2	8.2	84.4	3.1	12.5	0.6	1.83	11.1	7.7	4.4
Ortega fine sand:[5]															
S88FL-123-010-1	0-13	Ap	0.0	1.0	11.5	81.1	5.0	98.6	0.6	0.8	27.6	1.50	5.9	3.9	0.9
-2	13-51	C1	0.0	1.1	12.4	80.3	4.4	98.2	0.8	1.0	48.7	1.52	4.2	2.4	0.4
-3	51-107	C2	0.1	1.2	10.8	80.6	5.3	98.0	1.0	1.0	54.6	1.51	3.7	2.2	0.4
-4	107-155	C3	0.1	1.2	11.1	81.6	4.6	98.6	0.6	0.8	43.4	1.60	3.3	1.7	0.2
-5	155-203	C4	0.1	1.4	11.2	81.8	4.5	99.0	0.5	0.5	53.9	1.49	2.7	1.9	0.2
Osier fine sand:[5]															
S88FL-123-007-1	0-13	Ap	0.6	7.8	25.4	55.1	6.4	95.3	2.1	2.6	43.4	1.40	9.5	6.2	1.4
-2	13-46	C1	0.5	7.2	24.3	55.7	7.1	94.8	2.4	2.8	36.9	1.55	6.4	4.0	0.9
-3	46-64	C2	1.0	8.6	24.6	55.9	6.1	96.2	1.2	2.6	46.0	1.62	4.7	2.9	0.7
-4	64-127	C3	0.8	7.2	22.5	59.1	7.2	96.8	1.0	2.2	41.5	1.70	3.8	2.3	0.5
-5	127-203	C4	0.2	5.2	21.0	66.5	6.3	98.2	0.8	1.0	36.2	1.68	2.8	1.6	0.2
Otela fine sand:[5]															
S88FL-123-016-1	0-18	Ap	0.2	2.0	10.6	55.7	24.0	92.5	5.0	2.5	9.0	1.53	11.9	6.0	1.6
-2	18-71	E1	0.2	2.0	9.9	53.4	25.9	91.4	6.9	1.7	10.8	1.56	9.3	4.3	3.1
-3	71-119	E2	0.3	2.1	9.7	53.5	26.2	91.8	5.8	2.4	16.0	1.56	12.9	3.4	0.7
-4	119-137	Bt1	0.2	1.6	7.2	43.2	29.0	81.2	7.6	11.2	1.2	1.75	12.9	8.5	3.8
-5	137-160	Bt2	0.2	1.2	6.8	41.4	25.6	75.2	8.6	16.2	0.6	1.73	16.2	11.4	5.3
-6	160-203	Bt3	0.4	1.4	6.4	35.4	20.6	64.2	8.5	27.3	0.2	1.56	22.5	19.1	10.9

See footnotes at end of table.

Table 17.--Physical Analyses of Selected Soils--Continued

Soil name and sample number	Depth	Horizon	Particle-size distribution: Sand: Very coarse (2-1 mm)	Coarse (1-0.5 mm)	Medium (0.5-0.25 mm)	Fine (0.25-0.1 mm)	Very fine (0.1-0.05 mm)	Total (2-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<0.002 mm)	Hydraulic conductivity	Bulk density (field moist)	Water content: 1/10-bar	1/3-bar	15-bar
	cm		Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	cm/hr	g/cc	----Pct (wt)-----		
Pamlico muck:[5]															
S88FL-123-017-1	0-23	Oe&Oa1	---	---	---	---	---	---	---	---	71.4	0.23	285.3	232.8	46.4
-2	23-56	Oa2	---	---	---	---	---	---	---	---	184.0	0.22	307.6	248.7	40.9
-3	56-64	2C1	0.1	1.4	8.4	74.2	10.7	94.8	3.2	2.0	21.0	1.45	11.5	7.4	2.1
-4	64-152	2C2	0.1	1.6	8.2	74.1	10.8	94.8	3.4	1.8	14.5	1.61	6.1	3.2	0.8
Plummer fine sand:[3]															
S90FL-067-013-1	0-18	A	0.2	3.0	14.6	60.3	16.1	94.2	4.4	1.4	24.3	1.33	12.3	7.5	2.5
-2	18-36	Eg1	0.3	2.7	12.4	60.7	17.1	93.2	4.5	2.3	17.1	1.54	12.1	7.6	1.6
-3	36-56	Eg2	0.3	2.7	11.5	63.4	17.1	95.0	3.1	1.9	12.7	1.63	7.7	4.0	0.8
-4	56-140	Eg3	0.3	3.3	11.8	61.6	19.2	96.2	3.1	0.7	14.0	1.67	6.2	2.7	0.4
-5	140-203	Btg	0.3	2.5	10.2	51.3	14.5	78.8	5.8	15.4	0.3	1.79	14.5	11.6	5.1
Resota sand:[1]															
S90FL-029-015-1	0-8	A	0.0	1.9	45.2	48.8	3.3	99.2	0.1	0.7	41.4	1.49	4.3	3.1	0.9
-2	8-33	E	0.0	2.0	45.3	45.6	2.6	95.5	3.5	1.0	60.5	1.52	2.4	1.8	0.4
-3	33-48	Bw1	0.0	2.0	48.6	44.6	3.0	96.5	0.6	2.8	69.1	1.38	6.3	4.7	1.7
-4	48-94	Bw2	0.0	2.0	45.5	46.4	2.9	96.8	2.4	0.8	107.0	1.48	2.6	1.8	0.7
-5	94-140	Bw3	0.0	2.2	46.5	46.0	3.2	97.9	1.3	0.8	77.6	1.56	2.1	1.3	0.4
-6	140-203	C	0.0	1.4	42.4	50.5	4.0	98.3	1.0	0.7	47.4	1.57	2.4	1.4	0.3
Ridgewood fine sand:[5]															
S88FL-123-011-1	0-18	Ap	0.0	1.2	12.0	81.1	4.8	99.1	0.0	0.9	39.5	1.46	5.2	3.5	0.8
-2	18-41	C1	0.0	0.9	10.2	81.2	5.1	97.4	1.8	0.8	41.8	1.49	4.2	2.4	0.5
-3	41-91	C2	0.1	1.1	11.0	79.8	5.2	97.2	1.7	1.1	43.4	1.45	4.2	2.7	0.3
-4	91-135	C3	0.1	1.2	9.3	82.9	5.2	98.7	0.9	0.4	43.4	1.52	3.0	2.3	0.4
-5	135-203	C4	0.1	1.2	9.5	84.9	3.8	99.5	0.1	0.4	59.2	1.45	2.5	1.6	0.2
Sapelo fine sand:[3]															
S89FL-067-007-1	0-15	Ap	0.1	2.1	12.2	60.0	22.0	96.5	2.8	0.8	47.3	1.26	12.4	7.3	2.6
-2	15-33	E1	0.2	2.5	13.1	58.1	21.0	94.9	4.3	0.8	23.4	1.46	8.5	4.4	1.4
-3	33-71	E2	0.2	2.4	10.9	61.1	22.6	97.2	2.5	0.3	21.1	1.52	4.4	1.9	0.6
-4	71-86	Bh1	0.2	2.8	11.2	55.2	21.3	90.7	4.7	4.6	31.2	1.54	14.0	8.4	2.2
-5	86-114	Bh2	0.2	1.8	9.9	60.5	23.0	95.4	2.9	1.7	28.0	1.57	10.5	6.2	1.5
-6	114-152	E'	0.2	2.7	10.7	58.8	23.1	95.5	2.7	1.8	8.9	1.66	6.6	3.2	0.6
-7	152-185	Btg	0.2	1.8	8.6	38.6	24.8	74.0	3.3	22.7	0.5	1.73	16.7	13.9	7.8
-8	185-203	BCg	0.1	1.8	12.3	53.0	14.5	81.7	2.8	15.5	0.2	1.76	15.9	10.9	5.9
Tennille fine sand:[1]															
S90FL-029-018-1	0-15	A	0.3	1.9	6.2	79.2	5.8	93.4	1.6	5.0	109.6	0.46	95.5	72.1	23.7
-2	15-35	C	0.9	3.2	5.7	80.5	6.4	96.7	1.8	1.5	23.7	1.55	5.9	3.1	0.4

See footnotes at end of table.

Table 17.--Physical Analyses of Selected Soils--Continued

Soil name and sample number	Depth	Horizon	Sand: Very coarse (2-1 mm)	Sand: Coarse (1-0.5 mm)	Sand: Medium (0.5-0.25 mm)	Sand: Fine (0.25-0.1 mm)	Sand: Very fine (0.1-0.05 mm)	Total (2-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<0.002 mm)	Hydraulic conductivity	Bulk density (field moist)	Water content: 1/10-bar	Water content: 1/3-bar	Water content: 15-bar
	cm		Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct	cm/hr	g/cc	Pct (wt)	Pct (wt)	Pct (wt)
Tooles fine sand:[1]															
S90FL-029-006-1	0-20	Ap	0.2	4.4	21.2	63.1	6.8	95.6	0.9	3.5	27.0	1.47	7.7	4.8	1.3
-2	20-58	Bw1	0.4	5.4	26.9	61.5	3.3	97.5	1.7	0.8	16.1	1.64	4.5	2.5	0.2
-3	58-89	Bw2	0.5	6.0	24.9	61.2	4.3	96.9	2.3	0.8	10.5	1.71	7.2	5.3	1.3
-4	89-117	Btg	0.2	3.6	20.3	45.5	2.1	71.7	3.6	27.4	2.3	1.54	23.8	21.9	9.9
Wekiva fine sand:[1]															
S90FL-029-010-1	0-15	Ap	0.2	3.4	22.5	52.0	14.0	92.1	3.8	4.1	40.4	1.06	29.3	23.1	6.6
-2	15-36	E	0.8	5.8	24.0	51.2	13.2	95.0	3.4	1.6	6.6	1.72	5.9	3.4	0.9
-3	36-53	Bt	1.4	7.0	21.2	42.6	9.8	82.0	3.4	14.6	0.5	1.74	14.8	12.4	5.1

[1] The soil is the typical pedon as sampled in Dixie County, Florida. For the location of the sample site, see the series description in the section "Soil Series and Their Morphology."

[2] The soil is the typical pedon as sampled in Jefferson County, Florida. For the location of the sample site, see the series description in the section Soil Series and Their Morphology."

[3] The soil is the typical pedon as sampled in Lafayette County, Florida. For the location of the sample site, see the series description in the section "Soil Series and Their Morphology."

[4] The soil is the typical pedon as sampled in Madison County, Florida. For the location of the sample site, see the series description in the section "Soil Series and Their Morphology."

[5] The soil is the typical pedon as sampled in Taylor County, Florida. For the location of the sample site, see the series description in the section "Soil Series and Their Morphology."

[6] This soil is not the typical pedon for the series, however, it is the typical pedon for Chaires fine sand, limestone substratum, as sampled in Taylor County, Florida. Location is SW1/4SE1/4 sec. 28, T. 7 S., R. 9 E.

Table 18.--Chemical Analyses of Selected Soils

(Each of the soils is the typical pedon for the series in this survey area. For the location of the sample site, see the series description in the section "Soil Series and Their Morphology.")

Soil name and sample number	Depth	Horizon	Extractable bases: Ca	Extractable bases: Mg	Extractable bases: Na	Extractable bases: K	Extractable bases: Sum	Extractable acidity	Sum of cations	Base saturation	Organic carbon	Electrical conductivity	pH: H_2O (1:1)	pH: $CaCl_2$ 0.01M (1:2)	pH: KCl 1N (1:1)	Pyrophosphate extractable: C	Pyrophosphate extractable: Fe	Pyrophosphate extractable: Al	Citrate-dithionite extractable: Fe	Citrate-dithionite extractable: Al
	cm		----Milliequivalents/100 grams of soil-----							Pct	Pct	mmhos/cm				Pct	Pct	Pct	Pct	Pct
Albany sand:[4]																				
S84FL-040-012-1	0-25	Ap	0.40	0.02	0.03	0.04	0.49	9.02	9.51	5	1.03	0.06	4.5	4.3	3.9	---	---	---	---	---
-2	25-66	E1	0.09	0.01	0.02	0.02	0.14	4.90	5.04	3	0.36	0.04	4.7	4.4	4.4	---	---	---	---	---
-3	66-94	E2	0.04	0.01	0.03	0.02	0.10	2.89	2.99	3	0.13	0.04	4.7	4.7	4.7	---	---	---	---	---
-4	94-127	E3	0.05	0.01	0.02	0.02	0.10	1.51	1.61	6	0.06	0.04	4.5	4.7	4.7	---	---	---	---	---
-5	127-145	Bt	0.36	0.03	0.04	0.05	0.48	3.66	4.14	12	0.07	0.04	4.5	4.2	4.2	---	---	---	0.18	0.07
-6	145-175	Btg1	0.64	0.23	0.05	0.09	1.01	8.48	9.49	11	0.07	0.06	4.1	3.9	3.9	---	---	---	0.20	0.08
-7	175-203	Btg2	0.29	0.08	0.04	0.08	0.49	7.58	8.07	6	0.04	0.06	4.1	3.9	3.9	---	---	---	0.14	0.29
Chaires fine sand:[5]																				
S88-123-005-1	0-15	Ap	0.82	0.41	0.04	0.04	1.31	9.11	10.42	13	2.44	0.06	3.8	3.1	2.9	---	---	---	---	---
-2	15-51	E	0.08	0.01	0.01	0.00	0.10	4.06	4.16	2	0.28	0.03	4.4	3.8	3.8	---	---	---	---	---
-3	51-66	Bh1	0.04	0.06	0.03	0.01	0.14	18.95	19.09	1	2.17	0.04	3.9	3.3	3.2	1.15	0.01	0.12	0.02	0.07
-4	66-76	Bh2	0.03	0.02	0.02	0.01	0.08	13.34	13.42	1	1.12	0.03	4.3	3.7	3.6	0.86	0.01	0.16	0.01	0.10
-5	76-132	E'	0.05	0.02	0.01	0.01	0.09	10.20	10.29	1	0.74	0.02	4.3	4.0	3.9	---	---	---	---	---
-6	132-203	Btg	7.75	5.35	0.05	0.06	13.21	7.07	20.28	65	0.40	0.04	5.7	5.2	5.1	---	---	---	0.14	0.05
Chaires fine sand, limestone substratum:[6]																				
S88-123-008 -1	0-15	Ap	1.32	0.34	0.03	0.03	1.72	8.22	9.94	17	1.76	0.05	3.9	3.2	3.3	---	---	---	---	---
-2	15-64	E	0.04	0.01	0.00	0.00	0.05	0.50	0.55	9	0.12	0.01	4.4	3.7	3.8	---	---	---	---	---
-3	64-74	Bh1	0.12	0.07	0.02	0.00	0.21	11.38	11.59	2	1.07	0.02	4.0	3.2	3.3	1.06	0.01	0.08	0.02	0.05
-4	74-104	Bh2	0.06	0.04	0.02	0.00	0.12	9.31	9.43	1	0.89	0.02	4.1	3.5	3.6	0.71	0.01	0.09	0.02	0.06
-5	104-112	E'	0.21	0.03	0.00	0.00	0.24	4.55	4.79	5	0.45	0.01	4.9	4.3	4.6	---	---	---	---	---
-6	112-140	Btg	7.50	7.94	0.08	0.05	15.57	3.50	19.07	78	0.49	0.04	5.8	5.4	5.4	---	---	---	0.44	0.08
Chiefland sand:[1]																				
S90FL-029-017-1	0-13	A	4.58	0.30	0.00	0.02	4.90	1.39	6.29	88	1.87	0.07	6.7	6.2	6.1	---	---	---	---	---
-2	13-43	E1	1.17	0.02	0.00	0.00	1.19	0.23	1.42	84	0.19	0.02	6.7	6.5	6.1	---	---	---	---	---
-3	43-66	E2	0.60	0.03	0.00	0.00	0.63	0.03	0.66	95	0.10	0.02	6.9	6.2	6.1	---	---	---	---	---
-4	66-89	Bt	9.50	0.18	0.00	0.03	9.71	2.96	12.67	77	0.23	0.05	6.6	6.3	6.0	---	---	---	---	---

See footnotes at end of table.

Table 18.--Chemical Analyses of Selected Soils--Continued

Soil name and sample number	Depth	Horizon	Extractable bases: Ca	Extractable bases: Mg	Extractable bases: Na	Extractable bases: K	Extractable bases: Sum	Extractable acidity	Sum of cations	Base saturation	Organic carbon	Electrical conductivity	pH H_2O (1:1)	pH $CaCl_2$ 0.01M (1:2)	pH KCl 1N (1:1)	Pyrophosphate extractable: C	Pyrophosphate extractable: Fe	Pyrophosphate extractable: Al	Citrate-dithionite extractable: Fe	Citrate-dithionite extractable: Al
	cm		----Milliequivalents/100 grams of soil-----							Pct	Pct	mmhos/cm				Pct	Pct	Pct	Pct	Pct
Chipley sand:5																				
S88FL-123-009-1	0-23	Ap	1.10	0.10	0.01	0.01	1.22	5.35	6.57	19	1.03	0.02	5.2	4.5	4.4	---	---	---	---	---
-2	23-51	C1	0.28	0.02	0.01	0.00	0.31	2.71	3.02	10	0.22	0.04	4.9	4.7	4.7	---	---	---	---	---
-3	51-122	C2	0.20	0.02	0.01	0.01	0.24	1.29	1.53	16	0.09	0.02	4.9	4.5	4.6	---	---	---	---	---
-4	122-175	C3	0.07	0.01	0.00	0.00	0.08	0.36	0.44	18	0.04	0.02	4.8	4.6	4.7	---	---	---	---	---
-5	175-203	C4	0.07	0.03	0.01	0.00	0.11	0.40	0.51	22	0.04	0.01	4.7	4.4	4.6					
Hurricane fine sand:5																				
S88FL-123-012-1	0-20	Ap	0.11	0.02	0.04	0.02	0.19	5.08	5.27	4	1.38	0.04	4.2	3.9	3.8	---	---	---	---	---
-2	20-56	E1	0.03	0.00	0.00	0.00	0.03	11.61	1.64	2	0.24	0.03	4.3	4.4	4.4	---	---	---	---	---
-3	56-81	E2	0.03	0.01	0.02	0.01	0.07	0.52	0.59	12	0.14	0.04	4.4	4.4	4.5	---	---	---	---	---
-4	81-122	E3	0.02	0.01	0.01	0.00	0.04	0.89	0.93	4	0.03	0.03	4.5	4.4	4.5	---	---	---	---	---
-5	122-160	E4	0.03	0.01	0.00	0.00	0.04	0.66	0.70	6	0.01	0.01	4.7	4.6	4.7	---	---	---	---	---
-6	160-175	BE	0.04	0.00	0.00	0.01	0.05	1.30	1.35	4	0.06	0.02	4.5	4.3	4.5	---	---	---	---	---
-7	175-203	Bh	0.03	0.00	0.00	0.01	0.04	3.02	3.06	1	0.08	0.02	4.3	4.3	4.5	0.12	0.01	0.05	0.02	0.03
Leon fine sand:5																				
S88FL-123-006-1	0-15	Ap	0.90	0.23	0.03	0.03	1.19	10.92	12.11	10	1.98	0.05	3.9	3.2	3.3	---	---	---	---	---
-2	15-28	E1	0.19	0.03	0.01	0.01	0.24	1.65	1.89	13	0.40	0.02	4.2	3.4	3.6	---	---	---	---	---
-3	28-64	E2	0.05	0.01	0.00	0.00	0.06	1.07	1.13	5	0.17	0.01	4.6	3.7	3.9	---	---	---	---	---
-4	64-76	Bh1	0.29	0.07	0.03	0.01	0.40	17.61	18.01	2	1.67	0.03	4.1	3.2	3.2	1.43	0.01	0.10	0.02	0.09
-5	76-86	Bh2	0.17	0.04	0.01	0.01	0.23	14.87	15.10	2	1.73	0.02	4.1	3.5	3.4	1.16	0.01	0.13	0.01	0.09
-6	86-142	C1	0.04	0.02	0.00	0.01	0.07	4.96	5.03	1	0.45	0.02	4.4	3.9	3.8	---	---	---	---	---
-7	142-203	C2	0.05	0.01	0.01	0.00	0.08	1.95	2.03	4	0.26	0.01	4.8	4.0	4.1	---	---	---	---	---
Lutterloh fine sand:5																				
S88FL-123-003-1	0-20	A	1.35	0.16	0.03	0.02	1.56	5.45	7.01	22	1.26	0.05	5.3	4.4	4.4	---	---	---	---	---
-2	20-48	E1	0.22	0.02	0.02	0.01	0.27	2.81	3.08	9	0.22	0.02	5.4	4.7	4.8	---	---	---	---	---
-3	48-91	E2	0.19	0.00	0.00	0.00	0.19	0.96	1.15	17	0.16	0.02	5.5	4.9	4.9	---	---	---	---	---
-4	91-130	E3	0.19	0.01	0.01	0.00	0.21	0.95	1.16	18	0.21	0.02	5.6	4.9	4.9	---	---	---	---	---
-5	130-162	Bt	3.75	0.03	0.03	0.02	3.83	3.99	7.82	49	0.00	0.03	6.1	5.5	5.4	---	---	---	0.08	0.05
Lynn Haven mucky fine sand:3																				
S89FL-067-004-1	0-33	Ap	0.44	0.82	0.21	0.22	1.69	42.04	43.73	4	6.40	0.09	3.9	2.9	2.3	---	---	---	---	---
-2	33-48	E	0.02	0.02	0.01	0.00	0.05	0.85	0.90	6	0.23	0.18	4.8	3.8	3.3	---	---	---	---	---
-3	48-69	Bh	0.03	0.10	0.05	0.01	0.19	18.24	18.43	1	1.71	0.19	4.3	3.2	2.8	1.36	0.00	0.12	0.04	0.10
-4	69-86	Bw1	0.02	0.02	0.04	0.01	0.09	7.12	7.21	1	0.72	0.11	5.2	4.2	3.5	---	---	---	---	---
-5	86-132	Bw2	0.02	0.02	0.02	0.00	0.06	5.38	5.44	1	0.27	0.05	5.1	4.3	3.8	---	---	---	---	---
-6	132-203	B'h	0.11	0.05	0.03	0.01	0.20	10.64	10.84	2	0.81	0.02	5.0	4.5	4.3	0.35	0.00	0.22	0.02	0.21

See footnotes at end of table.

Table 18.--Chemical Analyses of Selected Soils--Continued

Soil name and sample number	Depth	Horizon	Extractable bases: Ca	Mg	Na	K	Sum	Extractable acidity	Sum of cations	Base saturation	Organic carbon	Electrical conductivity	pH H_2O (1:1)	pH $CaCl_2$ 0.01M (1:2)	pH KCl 1N (1:1)	Pyrophosphate extractable: C	Fe	Al	Citrate-dithionite extractable: Fe	Al
	cm		----Milliequivalents/100 grams of soil-----							Pct	Pct	mmhos/cm				Pct	Pct	Pct	Pct	Pct
Mandarin fine sand:[5]																				
S88FL-123-014-1	0-18	Ap	0.52	0.25	0.02	0.04	0.83	5.00	5.83	14	1.24	0.08	4.5	3.2	3.2	---	---	---	---	---
-2	18-38	E1	0.09	0.06	0.00	0.01	0.16	1.64	1.80	9	0.41	0.06	4.6	3.3	3.2	---	---	---	---	---
-3	38-66	E2	0.06	0.02	0.00	0.00	0.08	0.12	0.20	40	0.25	0.01	5.0	3.8	3.8	---	---	---	---	---
-4	66-76	Bh1	0.19	0.04	0.01	0.01	0.25	12.94	13.19	2	1.34	0.02	4.7	3.8	3.6	0.92	0.00	0.13	0.08	0.16
-5	76-112	Bh2	0.07	0.03	0.02	0.01	0.13	12.50	12.63	1	1.27	0.02	4.9	4.1	3.8	0.79	0.00	0.17	0.07	0.16
-6	112-203	C	0.02	0.01	0.00	0.00	0.03	0.42	0.45	7	0.22	0.01	5.2	4.8	4.7	---	---	---	---	---
Mascotte sand:[2]																				
S81FL-065-029-1	0-20	Ap	0.22	0.08	0.03	0.02	0.35	7.09	7.44	5	1.19	0.04	4.6	3.6	3.5	---	---	---	---	---
-2	20-25	Bh1	0.10	0.02	0.03	0.01	0.16	11.26	11.42	1	1.38	0.03	5.0	4.1	4.2	0.65	0.01	0.23	0.04	0.14
-3	25-41	Bh2	0.04	0.02	0.01	0.00	0.07	14.31	14.38	0	1.02	0.02	4.9	4.5	4.4	0.58	0.01	0.27	0.03	0.27
-4	41-66	E	0.03	0.01	0.01	0.00	0.05	4.48	4.53	1	0.19	0.02	5.1	4.6	4.7	---	---	---	---	---
-5	66-135	Btg1	0.02	0.04	0.03	0.01	0.10	7.23	7.33	1	0.09	0.02	4.6	4.1	4.1	---	---	---	0.06	0.07
-6	135-203	Btg2	0.05	0.06	0.03	0.01	0.15	7.43	7.58	2	0.04	0.02	5.1	4.0	4.1	---	---	---	0.08	0.05
Meadowbrook sand:[5]																				
S88FL-123-020-1	0-23	Ap	0.35	0.09	0.00	0.01	0.45	4.50	4.95	9	1.06	0.15	5.2	4.4	3.8	---	---	---	---	---
-2	23-46	Bw1	0.03	0.02	0.00	0.00	0.05	1.17	1.22	4	0.27	0.15	6.6	5.8	4.5	---	---	---	---	---
-3	46-79	Bw2	0.06	0.04	0.00	0.00	0.10	1.15	1.25	8	0.36	0.15	6.7	5.7	4.3	---	---	---	---	---
-4	79-147	E	0.07	0.02	0.00	0.00	0.09	0.89	0.98	9	0.14	0.16	6.9	6.1	4.8	---	---	---	---	---
-5	147-203	Btg	11.25	3.70	0.02	0.15	15.12	4.65	19.77	76	0.49	0.20	7.0	6.6	6.0	---	---	---	0.19	0.05
Melvina fine sand:[5]																				
S88FL-123-018-1	0-15	Ap	0.46	0.11	0.00	0.01	0.58	4.68	5.26	12	0.98	0.16	4.6	3.8	3.4	---	---	---	---	---
-2	15-71	E	0.20	0.07	0.00	0.01	0.28	2.03	2.31	12	0.67	0.16	6.5	5.9	4.4	---	---	---	---	---
-3	71-81	Bh1	0.12	0.06	0.00	0.00	0.18	9.40	9.58	2	0.64	0.14	5.6	4.3	3.6	0.51	0.00	0.10	0.11	0.09
-4	81-99	Bh2	0.07	0.02	0.00	0.00	0.09	7.27	7.36	1	0.53	0.15	6.1	4.5	3.7	0.58	0.00	0.10	0.06	0.08
-5	99-135	EB	0.09	0.01	0.00	0.00	0.10	2.65	2.75	4	0.31	0.15	6.7	5.6	4.5	---	---	---	---	---
-6	135-170	Btg1	8.50	0.29	0.00	0.09	8.88	2.85	11.73	76	0.31	0.20	7.1	6.5	6.3	---	---	---	0.08	0.04
-7	170-203	Btg2	26.75	0.82	0.04	0.24	27.85	8.31	36.16	77	0.36	0.20	7.6	6.9	6.5	---	---	---	0.24	0.09
Moriah fine sand:[5]																				
S88FL-123-013-1	0-13	A	0.41	0.16	0.00	0.01	0.58	2.10	2.68	22	0.76	0.07	3.8	3.6	3.5	---	---	---	---	---
-2	13-30	E1	0.08	0.03	0.00	0.00	0.11	0.35	0.46	24	0.28	0.05	5.0	3.9	3.8	---	---	---	---	---
-3	30-79	E2	0.04	0.02	0.00	0.00	0.06	0.19	0.25	24	0.13	0.06	5.5	4.5	4.3	---	---	---	---	---
-4	79-86	E3	0.08	0.04	0.00	0.00	0.12	0.29	0.41	29	0.13	0.02	5.3	4.2	4.0	---	---	---	---	---
-5	86-132	Bt1	24.25	11.93	0.10	0.26	36.54	7.84	44.38	82	0.32	0.10	6.6	6.0	5.7	---	---	---	0.17	0.07
-6	132-145	Bt2	24.50	12.76	0.09	1.37	38.72	5.76	44.48	87	0.30	0.13	7.1	6.5	6.2	---	---	---	0.17	0.07

See footnotes at end of table.

Table 18.--Chemical Analyses of Selected Soils--Continued

Soil name and sample number	Depth	Horizon	Extractable bases: Ca	Extractable bases: Mg	Extractable bases: Na	Extractable bases: K	Extractable bases: Sum	Extractable acidity	Sum of cations	Base saturation	Organic carbon	Electrical conductivity	pH: H_2O (1:1)	pH: $CaCl_2$ 0.01M (1:2)	pH: KCl 1N (1:1)	Pyrophosphate extractable: C	Pyrophosphate extractable: Fe	Pyrophosphate extractable: Al	Citrate-dithionite extractable: Fe	Citrate-dithionite extractable: Al
	cm		----Milliequivalents/100 grams of soil-----							Pct	Pct	mmhos/cm				Pct	Pct	Pct	Pct	Pct
Nutall fine sand:[2]																				
S82FL-065-037-1	0-10	A	6.16	0.60	0.08	0.08	6.92	14.25	21.17	33	3.58	0.06	4.7	4.1	3.9	---	---	---	---	---
-2	10-23	A/E	2.50	0.04	0.03	0.01	2.58	1.78	4.36	59	0.86	0.06	6.2	5.1	5.2	---	---	---	---	---
-3	23-33	E1	0.52	0.02	0.03	0.01	0.58	0.53	1.11	52	0.06	0.06	6.8	5.8	5.7	---	---	---	---	---
-4	33-43	E2	0.63	0.02	0.02	0.00	0.67	0.39	1.06	63	0.05	0.05	7.3	6.5	6.3	---	---	---	---	---
-5	43-76	Btg	24.37	0.24	0.10	0.25	24.96	5.20	30.16	83	0.12	0.06	7.7	6.8	6.5	---	---	---	0.31	0.05
Ocilla sand:[5]																				
S88FL-123-015-1	0-15	A	0.40	0.10	0.00	0.01	0.51	3.14	3.65	14	1.10	0.02	5.3	4.4	4.1	---	---	---	---	---
-2	15-58	E	0.13	0.04	0.00	0.00	0.17	3.02	3.19	5	0.46	0.02	5.5	4.7	4.6	---	---	---	---	---
-3	58-71	Bt	0.18	0.07	0.00	0.01	0.26	3.40	3.66	7	0.28	0.03	4.8	4.1	4.2	---	---	---	0.07	0.06
-4	71-119	Btg1	0.16	0.11	0.00	0.00	0.27	3.94	4.21	6	0.16	0.03	4.8	4.1	4.1	---	0.24	0.08	---	---
-5	119-175	Btg2	0.03	0.04	0.01	0.00	0.08	3.81	3.89	2	0.05	0.02	4.7	4.0	4.0	---	---	---	0.14	0.04
-6	175-203	Cg	0.02	0.02	0.00	0.00	0.04	2.99	3.03	1	0.14	0.03	4.8	4.1	4.1	---	---	---	---	---
Ortega fine sand:[5]																				
S88FL-123-010-1	0-13	Ap	0.51	0.08	0.02	0.01	0.62	1.11	1.73	36	0.57	0.02	5.0	4.2	4.2	---	---	---	---	---
-2	13-51	C1	0.03	0.01	0.02	0.00	0.06	1.23	1.79	5	0.19	0.02	4.8	4.5	4.7	---	---	---	---	---
-3	51-107	C2	0.02	0.01	0.02	0.00	0.05	1.52	1.57	3	0.20	0.03	4.5	4.5	4.8	---	---	---	---	---
-4	107-155	C3	0.03	0.01	0.02	0.00	0.06	0.01	0.07	86	0.04	0.02	4.7	4.5	4.8	---	---	---	---	---
-5	155-203	C4	0.01	0.00	0.02	0.00	0.03	0.29	0.32	9	0.04	0.03	4.6	4.6	4.8	---	---	---	---	---
Osier fine sand:[5]																				
S88FL-123-007-1	0-13	Ap	0.41	0.10	0.02	0.04	0.57	7.21	7.78	7	1.39	0.03	4.8	4.2	4.0	---	---	---	---	---
-2	13-46	C1	0.06	0.01	0.01	0.01	0.09	4.97	5.06	2	0.60	0.02	4.8	4.4	4.5	---	---	---	---	---
-3	46-64	C2	0.04	0.01	0.00	0.00	0.05	2.18	2.23	2	0.24	0.01	4.9	4.5	4.7	---	---	---	---	---
-4	64-127	C3	0.02	0.01	0.00	0.00	0.03	1.11	1.14	3	0.12	0.01	4.8	4.5	4.7	---	---	---	---	---
-5	127-203	C4	0.03	0.01	0.00	0.00	0.04	0.16	0.20	20	0.06	0.01	5.1	4.7	4.8	---	---	---	---	---
Otela fine sand:[5]																				
S88FL-123-016-1	0-18	Ap	1.15	0.41	0.00	0.06	1.62	5.04	6.66	24	1.53	0.07	5.7	4.8	4.5	---	---	---	---	---
-2	18-71	E1	0.09	0.07	0.00	0.00	0.16	2.16	2.32	7	0.26	0.03	4.6	4.5	0.1	---	---	---	---	---
-3	71-119	E2	0.07	0.06	0.00	0.00	0.13	0.79	0.92	14	0.16	0.01	5.4	4.5	4.5	---	---	---	---	---
-4	119-137	Bt1	1.40	0.82	0.01	0.03	2.26	5.08	7.34	31	0.17	0.01	5.2	4.3	4.2	---	---	---	1.64	0.08
-5	137-160	Bt1	2.20	0.99	0.02	0.05	3.26	7.11	10.37	31	0.08	0.02	5.2	4.2	4.1	---	---	---	2.23	0.26
-6	160-203	Bt2	5.00	2.76	0.06	0.12	7.94	14.06	22.00	36	0.18	0.02	5.2	4.0	3.9	---	---	---	3.33	0.29
Pamlico muck:[5]																				
S88FL-123-017-1	0-23	Oe&Oa1	2.65	1.40	0.36	0.49	4.90	186.29	191.19	3	48.39	0.12	3.7	2.9	2.8	---	---	---	---	---
-2	23-56	Oa2	0.61	0.14	0.13	0.04	0.92	154.24	155.16	1	42.52	0.11	3.7	2.9	2.9	---	---	---	---	---
-3	56-64	2C1	0.09	0.03	0.01	0.00	0.13	8.16	8.29	2	2.34	0.04	4.0	3.3	3.3	---	---	---	---	---
-4	64-152	2C2	0.03	0.01	0.00	0.00	0.04	3.08	3.12	1	1.26	0.02	4.4	3.7	3.6	---	---	---	---	---

See footnotes at end of table.

Table 18.--Chemical Analyses of Selected Soils--Continued

Soil name and sample number	Depth	Horizon	Extractable bases: Ca	Mg	Na	K	Sum	Extractable acidity	Sum of cations	Base saturation	Organic carbon	Electrical conductivity	pH: H_2O (1:1)	$CaCl_2$ 0.01M (1:2)	KCl 1N (1:1)	Pyrophosphate extractable: C	Fe	Al	Citrate-dithionite extractable: Fe	Al
	cm		----Milliequivalents/100 grams of soil-----							Pct	Pct	mmhos/cm				Pct	Pct	Pct	Pct	Pct
Resota sand:[1]																				
S90FL-029-015-1	0-8	A	0.07	0.03	0.00	0.00	0.10	0.70	0.80	13	0.74	1.49	4.9	3.8	3.5	---	---	---	---	---
-2	8-33	E	0.01	0.01	0.00	0.00	0.02	0.37	0.39	5	0.08	1.52	5.4	4.4	4.3	---	---	---	---	---
-3	33-48	Bw1	0.02	0.02	0.00	0.00	0.04	6.36	6.40	1	0.54	1.38	5.0	4.4	4.3	---	---	---	---	---
-4	48-94	Bw2	0.02	0.02	0.00	0.00	0.04	1.38	1.42	3	0.13	1.48	4.9	4.7	4.5	---	---	---	---	---
-5	94-140	Bw3	0.03	0.01	0.00	0.00	0.04	0.38	0.42	10	0.08	1.56	5.4	4.7	4.5	---	---	---	---	---
-6	140-203	C	0.02	0.02	0.00	0.00	0.04	0.05	0.09	44	0.05	1.57	5.4	4.6	4.6	---	---	---	---	---
Ridgewood fine sand:[5]																				
S88FL-123-011-1	0-18	Ap	0.38	0.08	0.02	0.01	0.49	1.85	2.34	21	1.08	0.02	4.7	4.1	4.1	---	---	---	---	---
-2	18-41	C1	0.06	0.02	0.04	0.01	0.13	1.52	1.65	8	0.25	0.03	4.8	4.6	4.7	---	---	---	---	---
-3	41-91	C2	0.03	0.02	0.02	0.01	0.08	0.67	0.75	11	0.10	0.02	4.6	4.5	4.6	---	---	---	---	---
-4	91-135	C3	0.01	0.00	0.01	0.00	0.02	0.20	0.22	9	0.06	0.02	4.6	4.6	4.7	---	---	---	---	---
-5	135-203	C4	0.06	0.00	0.00	0.00	0.06	0.23	0.29	21	0.04	0.02	4.8	4.7	4.8	---	---	---	---	---
Sapelo fine sand:[3]																				
S89FL-067-007-1	0-15	Ap	0.21	0.15	0.02	0.03	0.41	5.23	5.64	7	1.13	0.04	4.3	3.4	3.4	---	---	---	---	---
-2	15-33	E1	0.07	0.07	0.01	0.02	0.17	4.10	4.27	4	1.12	0.03	4.3	3.4	2.9	---	---	---	---	---
-3	33-71	E2	0.02	0.02	0.00	0.00	0.04	0.46	0.50	8	0.47	0.01	5.5	4.2	3.8	---	---	---	---	---
-4	71-86	Bh1	0.04	0.02	0.01	0.01	0.07	11.25	11.32	1	1.41	0.02	4.7	3.8	3.3	0.75	0.00	0.15	0.04	0.10
-5	86-114	Bh2	0.02	0.01	0.00	0.00	0.03	5.40	5.43	1	0.34	0.01	5.3	4.6	3.8	---	---	---	---	---
-6	114-152	E'	0.05	0.02	0.00	0.00	0.07	0.76	0.83	8	0.16	0.01	5.7	4.7	4.4	---	---	---	---	---
-7	152-185	Btg	0.72	0.49	0.02	0.03	1.26	7.89	9.15	14	0.18	0.01	5.5	4.2	4.1	---	---	---	0.05	0.11
-8	185-203	BCg	1.60	0.82	0.02	0.02	2.44	3.38	5.82	42	0.11	0.01	5.6	4.4	4.1	---	---	---	---	---
Tennille fine sand:[1]																				
S90FL-029-018-1	0-15	A	14.50	1.03	0.08	0.04	15.65	5.14	20.79	75	3.48	0.33	6.5	6.3	6.1	---	---	---	---	---
-2	15-35	C	2.72	0.14	0.00	0.00	2.86	0.10	2.96	97	0.23	0.08	6.9	6.4	6.3	---	---	---	---	---
Tooles fine sand:[1]																				
S90FL-029-006-1	0-20	Ap	0.70	0.04	0.00	0.00	0.74	1.75	2.49	30	0.46	0.01	5.2	4.6	4.4	---	---	---	---	---
-2	20-58	Bw1	0.46	0.03	0.00	0.00	0.49	0.64	1.13	43	0.20	0.01	5.6	5.1	5.0	---	---	---	---	---
-3	58-89	Bw2	0.60	0.02	0.00	0.00	0.62	0.30	0.92	67	0.15	0.01	5.5	5.6	5.4	---	---	---	---	---
-4	89-117	Btg	24.00	0.24	0.02	0.11	24.37	2.64	27.01	90	0.18	0.06	6.4	6.3	6.2	---	---	---	1.68	0.26

See footnotes at end of table.

Table 18.--Chemical Analyses of Selected Soils--Continued

Soil name and sample number	Depth	Horizon	Extractable bases: Ca	Extractable bases: Mg	Extractable bases: Na	Extractable bases: K	Extractable bases: Sum	Extractable acidity	Sum of cations	Base saturation	Organic carbon	Electrical conductivity	pH: H_2O (1:1)	pH: $CaCl_2$ 0.01M (1:2)	pH: KCl 1N (1:1)	Pyrophosphate extractable: C	Pyrophosphate extractable: Fe	Pyrophosphate extractable: Al	Citrate-dithionite extractable: Fe	Citrate-dithionite extractable: Al
	cm		----Milliequivalents/100 grams of soil-----							Pct	Pct	mmhos/cm				Pct	Pct	Pct	Pct	Pct
Wekiva fine sand:[1]																				
S90FL-029-010-1	0-15	Ap	5.00	0.99	0.05	0.07	6.11	3.42	9.53	64	2.68	0.07	5.9	5.8	5.7	---	---	---	---	---
-2	15-36	Bw	2.18	0.15	0.10	0.01	2.44	0.14	2.58	95	0.25	0.05	6.1	5.9	5.9	---	---	---	---	---
-3	36-53	Bt	9.00	0.41	0.03	0.04	9.48	0.82	10.30	92	0.34	0.04	6.3	6.2	6.1	---	---	---	1.27	0.29

[1] The soil is the typical pedon as sampled in Dixie County, Florida.
[2] The soil is the typical pedon as sampled in Jefferson County, Florida.
[3] The soil is the typical pedon as sampled in Lafayette County, Florida.
[4] The soil is the typical pedon as sampled in Madison County, Florida.
[5] The soil is the typical pedon as sampled in Taylor County, Florida.
[6] This soil is not the typical pedon for the series, however, it is the typical pedon for Chaires fine sand, limestone substratum, as sampled in Taylor County. Location is SW1/4SE1/4 sec. 28, T. 7 S., R. 9 E.

Table 19.--Clay Mineralogy of Selected Soils

(Each of the soils is the typical pedon for the series in this survey area. For the location of the sample site, see the series description in the section "Soil Series and Their Morphology.")

Soil name and sample number	Depth	Horizon	Clay minerals				
			Montmo-rillonite	14-angstrom intergrade	Kaolinite	Quartz	Gibbsite
	cm		Pct	Pct	Pct	Pct	Pct
Albany sand:[4]							
S84FL-040-012-1	0-25	Ap	0	16	18	66	0
-5	127-145	Bt	0	9	6	5	0
-7	175-203	Btg2	0	5	91	4	0
Chaires fine sand:[5]							
S88FL-123-005-1	0-15	Ap	0	0	15	85	0
-3	51-66	Bh1	21	17	35	27	0
-6	132-203	Btg	17	14	59	10	0
Chaires fine sand, limestone substratum:[6]							
S88FL-123-008-1	0-15	Ap	0	0	0	100	0
-3	64-74	Bh1	19	17	22	42	0
-6	112-140	Btg	0	31	55	14	0
Chipley sand:[5]							
S88FL-123-009-1	0-23	Ap	0	41	23	36	0
-3	51-122	C2	13	43	31	13	0
-5	175-203	C4	0	45	33	22	0
Hurricane fine sand:[5]							
S88FL-123-012-1	0-20	Ap	0	39	17	44	0
-4	81-122	E3	0	48	19	33	0
-7	175-203	Bh	0	37	17	46	0
Leon fine sand:[5]							
S88FL-123-006-1	0-15	Ap	0	0	18	82	0
-4	64-76	Bh1	13	16	20	51	0
-7	142-203	C2	0	37	17	46	0
Lutterloh fine sand:[5]							
S88FL-123-003-1	0-20	A	0	43	20	37	0
-3	49-91	E2	0	33	18	49	0
-5	130-162	Bt	0	43	41	16	0
Lynn Haven mucky fine sand:[3]							
S89FL-067-004-1	0-33	Ap	21	0	10	69	0
-3	48-69	Bh	22	27	17	34	0
-6	132-203	B'h	0	24	15	61	0
Mascotte sand:[2]							
S81FL-065-029-1	0-20	Ap	41	0	39	20	0
-2	20-25	Bh1	0	35	40	25	0
-5	66-135	Btg1	0	17	77	6	0
Nutall fine sand:[2]							
S82FL-065-037-1	0-10	Ap	0	25	10	65	0
-5	43-76	Btg	84	10	1	5	0

See footnotes at end of table.

Table 19.--Clay Mineralogy of Selected Soils--Continued

Soil name and sample number	Depth	Horizon	Clay minerals: Montmo-rillonite	14-angstrom intergrade	Kaolinite	Quartz	Gibbsite
	cm		Pct	Pct	Pct	Pct	Pct
Ortega fine sand:[5]							
S88FL-123-015-1	0-13	Ap	28	37	15	20	0
-3	51-107	C2	15	49	13	23	0
-5	155-203	C4	26	36	10	28	0
Osier fine sand:[5]							
S88FL-123-007-1	0-13	Ap	0	43	15	42	0
-3	46-64	C2	0	53	23	24	0
-5	127-203	C4	0	46	14	40	0
Plummer fine sand:[3]							
S90FL-067-013-1	0-18	Ap	4	26	20	50	0
-5	140-203	Btg	26	28	31	15	0
Ridgewood fine sand:[5]							
S88FL-123-011-1	0-18	Ap	0	56	16	28	0
-3	41-91	C2	12	54	18	16	0
-5	135-203	C4	18	41	8	33	0
Sapelo fine sand:[3]							
S89FL-067-007-1	0-15	Ap	0	0	20	80	0
-4	71-86	Bh1	0	36	30	34	0
-7	152-185	Btg	0	24	69	7	0
-8	185-203	BCg	0	22	71	7	0
Tooles fine sand:[1]							
S90FL-029-006-1	0-20	Ap	29	21	19	17	14
-2	20-58	Bw1	22	30	12	15	20
-4	89-117	Btg	49	18	17	7	9

[1] The soil is the typical pedon as sampled in Jefferson County, Florida.
[2] The soil is the typical pedon as sampled in Lafayette County, Florida.
[3] The soil is the typical pedon as sampled in Madison County, Florida.
[4] The soil is the typical pedon as sampled in Taylor County, Florida.
[5] This soil is not the typical pedon for the series, however, it is the typical pedon for Chaires fine sand, limestone substratum, as sampled in Taylor County, Florida. Location is SW1/4SE 1/4 sec. 28, T. 7 S., R. 9 E.

Table 20.--Engineering Index Test Data

(Tests performed by the Florida Department of Transportation (FDOT) in cooperation with the U.S. Bureau of Public Roads, in accordance with standard procedures of the American Association of State Highway and Transportation Officials. See the section "Soil Series and Their Morphology" for location of pedons sampled. NP means nonplastic.)

Soil name, report number, horizon, and depth in inches	FDOT Report Number	Classification		Mechanical analysis								Liquid limit	Plasticity index	Moisture density	
				Percentage passing sieve--				Percentage smaller than--							
		AASHTO	Unified	No. 4	No. 10	No. 40	No. 200	.05 mm	.02 mm	.005 mm	.002 mm			Maximum dry density	Optimum moisture
												Pct		Lb/ft^3	Pct
Albany sand:[4]															
(S84FL-040-012)															
E3-------- 37-50	19	A-2-4	SM	100	100	87	13	11	8	4	4	---	NP	113.4	10.6
Btg1------ 57-69	20	A-7-6	SC	100	96	84	46	45	44	41	39	43.0	23.0	109.0	16.7
Chaires fine sand:[5]															
(S88FL-123-05)															
E--------- 6-20	5	A-3	SP	100	100	87	4	2	1	0	0	NP	NP	104.1	13.1
Chaires fine sand, limestone substratum:[6]															
(S88FL-123-008)															
E--------- 6-25	8	A-3	SP-SM	100	100	81	6	3	1	0	0	NP	NP	105.3	12.1
Chiefland sand:[1]															
(S90FL-029-017)															
Bt-------- 26-35	20	---	---	---	---	---	---	---	---	---	---	---	---	116.0	13.0
Chipley fine sand:[5]															
(S88FL-123-019)															
C2-------- 25-48	9	A-3	SP-SM	100	100	82	5	2	2	0	0	NP	NP	112.5	10.0
Hurricane fine sand:[5]															
(S88FL-123-012)															
E1-------- 48-63	12	A-3	SP	100	100	97	2	0	0	0	0	NP	NP	101.7	14.9
Leon fine sand:[5]															
(S88FL-123-006)															
E2-------- 11-25	6	A-3	SP	100	100	88	4	4	4	3	2	NP	NP	105.2	13.1
Lutterloh fine sand:[5]															
(S88FL-123-003)															
E2-------- 19-36	3	A-3	SP	100	100	95	4	3	2	1	1	NP	NP	106.3	11.7
Lynn Haven mucky fine sand:[3]															
(S89FL-067-004)															
E'1------- 45-60	---	A-3	SP-SM	100	100	98	10	8	6	5	2	--	NP	109.1	10.3
Mandarin fine sand:[5]															
(S88FL-123-014)															
E2-------- 15-26	15	A-2-4	SP	100	100	92	4	---	---	---	---	NP	NP	102.9	14.4
Meadowbrook sand:[5]															
(S88FL-123-020)															
Bw2------- 18-31	24	A-3	SP-SM	100	100	91	7	---	---	---	---	NP	NP	108.5	11.4
Btg------- 58-80	25	A-2-6	SC	100	100	94	33	---	---	---	---	32	20	108.1	13.9
Melvina fine sand:[5]															
(S88FL-123-018)															
E--------- 6-28	20	A-3	SP-SM	100	100	90	7	---	---	---	---	NP	NP	103.2	14.0
Btg1------ 53-67	21	A-2-4	SC	100	100	93	23	---	---	---	---	NP	NP	112.4	13.7

See footnotes at the end of table.

Table 20.--Engineering Index Test Data--Continued

Soil name, report number, horizon, and depth in inches	FDOT Report Number	Classification: AASHTO	Classification: Unified	Mechanical analysis: Percentage passing sieve--: No. 4	No. 10	No. 40	No. 200	Mechanical analysis: Percentage smaller than--: .05 mm	.02 mm	.005 mm	.002 mm	Liquid limit	Plasticity index	Moisture density: Maximum dry density	Moisture density: Optimum moisture
												Pct		Lb/ft3	Pct
Moriah fine sand:[5] (S88FL-123-013)															
E2-------- 9-31	13	A-3	SP	100	96	92	3	---	---	---	---	NP	NP	100.3	15.4
Bt1------- 34-52	14	A-2-6	SC	100	99	89	33	---	---	---	---	38	20	99.5	13.4
Nutall fine sand:[2] (S82FL-065-037)															
Btg------- 17-30	46	A-2-6	SC	100	100	99	31	30	26	25	23	35	19	108.8	14.5
Ocilla fine sand:[5] (S88FL-123-015)															
E--------- 6-23	16	A-2-4	SM	100	96	89	16	---	---	---	---	NP	NP	114.0	8.9
Cg-------- 68-80	17	A-2-4	SM	100	100	94	27	---	---	---	---	NP	NP	117.7	12.9
Ortega fine sand:[5] (S88FL-123-010)															
C2-------- 20-42	10	A-3	SP	100	100	92	2	0	0	0	0	NP	NP	104.0	11.9
Osier fine sand:[5] (S88FL-123-007)															
C3-------- 25-50	7	A-3	SP	100	100	90	6	2	2	1	1	NP	NP	109.3	10.9
Otela fine sand:[5] (S88FL-123-016)															
E1-------- 7-28	18	A-2-4	SM	100	100	97	18	---	---	---	---	NP	NP	111.8	10.3
Pamlico muck:[5] (S88FL-123-017)															
Cg2------- 25-60	19	A-3	SM	100	100	97	18	---	---	---	---	NP	NP	106.2	11.3
Plummer fine sand:[3] (S90FL-067-013)															
Btg------- 55-80	---	A-2-4 (0)	SM	100	96	91	24	21	18	15	15	---	NP	118.3	12.3
Resota fine sand:[1] (S90FL-029-015)															
Bw2------- 19-37	17	---	---	---	---	---	---	---	---	---	---	NP	NP	107.0	12.0
Ridgewood fine sand:[5] (S88FL-123-011)															
C3-------- 36-53	11	A-3	SP	100	100	98	2	1	0	0	0	NP	NP	102.1	15.3
Tooles fine sand:[1] (S90FL-029-006)															
Btg------- 36-46	8	A-2-4	SM	100	100	92	22	21	19	16	15	21	5	116.2	13.4
Wekiva fine sand:[1] (S90FL-029-010)															
Bt-------- 14-21	14	A-2-4	SM	100	100	86	22	19	16	14	13	NP	NP	121.5	11.5

[1] The soil is the typical pedon as sampled in Dixie County, Florida.

[2] The soil is the typical pedon as sampled in Jefferson County, Florida.

[3] The soil is the typical pedon as sampled in Lafayette County, Florida.

[4] The soil is the typical pedon as sampled in Madison County, Florida.

[5] The soil is the typical pedon as sampled in Taylor County, Florida.

[6] This soil is not the typical pedon for the series, however, it is the typical pedon for Chaires fine sand, limestone substratum, as sampled in Taylor County, Florida. Location is 7.8 miles north of State Highway 361 and 3.5 miles west of U.S. Highway 19 in SW1/4SE1/4 sec. 28, T. 7 S., R. 9. E.

Table 21.--Classification of the Soils

Soil name	Family or higher taxonomic class
Albany	Loamy, siliceous, subactive, thermic Grossarenic Paleudults
Arents	Arents
Bayvi	Sandy, siliceous, thermic Cumulic Endoaquolls
Bodiford	Loamy, siliceous, superactive, thermic Arenic Endoaqualfs
Boulogne	Sandy, siliceous, thermic, Typic Alaquods
Bushnell	Fine, mixed, superactive, thermic Albaquic Hapludalfs
Chaires	Sandy, siliceous, thermic Alfic Alaquods
Chiefland	Loamy, siliceous, active, thermic Arenic Hapludalfs
Chipley	Thermic, coated Aquic Quartzipsamments
Clara	Siliceous, thermic Spodic Psammaquents
Croatan	Loamy, siliceous, dysic, thermic Terric Medisaprists
Dorovan	Dysic, thermic Typic Medisaprists
Eunola	Fine-loamy, siliceous, semiactive, thermic Aquic Hapludults
Evergreen	Sandy, siliceous, thermic Histic Alaquods
Goldhead	Loamy, siliceous, active, thermic Arenic Endoaqualfs
Hurricane	Sandy, siliceous, thermic Oxyaquic Alorthods
Kershaw	Thermic, uncoated Typic Quartzipsamments
Leon	Sandy, siliceous, thermic Aeric Alaquods
Lutterloh	Loamy, siliceous, semiactive, thermic Grossarenic Paleudalfs
Lynn Haven	Sandy, siliceous, thermic Typic Alaquods
Mandarin	Sandy, siliceous, thermic Oxyaquic Alorthods
Mascotte	Sandy, siliceous, thermic Ultic Alaquods
Matmon	Loamy, siliceous, active, thermic, shallow Aquic Hapludalfs
*Maurepas	Euic, thermic Typic Medisaprists
Meadowbrook	Loamy, siliceous, subactive, thermic Grossarenic Endoaqualfs
Melvina	Sandy, siliceous, thermic Oxyaquic Alorthods
Moriah	Loamy, siliceous, superactive, thermic Aquic Arenic Hapludalfs
Nutall	Fine-loamy, siliceous, superactive, thermic Mollic Albaqualfs
Ocilla	Loamy, siliceous, semiactive, thermic Aquic Arenic Paleudults
Ortega	Thermic, uncoated Typic Quartzipsamments
Osier	Siliceous, thermic Typic Psammaquents
Otela	Loamy, siliceous, semiactive, thermic Grossarenic Paleudalfs
Ousley	Thermic, uncoated Aquic Quartzipsamments
Pamlico	Sandy or sandy-skeletal, siliceous, dysic, thermic Terric Medisaprists
Plummer	Loamy, siliceous, subactive, thermic Grossarenic Paleaquults
Pottsburg	Sandy, siliceous, thermic Grossarenic Alaquods
Resota	Thermic, uncoated Spodic Quartzipsamments
Ridgewood	Thermic, uncoated Aquic Quartzipsamments
Sapelo	Sandy, siliceous, thermic Ultic Alaquods
Seaboard	Thermic, uncoated Lithic Quartzipsamments
Starke	Loamy, siliceous, semiactive, thermic Grossarenic Paleaquults
Steinhatchee	Sandy, siliceous, thermic Alfic Alaquods
Surrency	Loamy, siliceous, semiactive, thermic Arenic Umbric Paleaquults
Tennille	Siliceous, thermic Lithic Psammaquents
Tooles	Loamy, siliceous, superactive, thermic Arenic Albaqualfs
Wekiva	Loamy, siliceous, active, thermic, shallow Aeric Endoaqualfs
Wesconnett	Sandy, siliceous, thermic Typic Alaquods
Yellowjacket	Sandy or sandy-skeletal, siliceous, euic, thermic Terric Medisaprists

* The soil is a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series.

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