NATURAL RESOURCES CONSERVATION SERVICE
MONTANA CONSERVATION PRACTICE SPECIFICATION

RESTORATION AND MANAGEMENT OF RARE OR DECLINING HABITATS (ACRES)

CODE 643

DEFINITION: Restoring and conserving rare or declining native vegetated communities and associated wildlife species.

SCOPE: This specification provides direction in establishing historic plant communities to increase native plat community diversity and to provide wildlife habitat.

Minimum acreage requirement for each habitat type proposed for restoration is ten acres. Except for glacial pothole ponds and peatlands, the minimum size is a combination of wetlands totaling one acre.

This practice is to restore or reclaim the functions and values of rare or declining native vegetative habitats. The U.S. Department of Interior--National Biological Service 1/ and the U.S. Department of Agriculture—Natural Resources Conservation Service in Montana have identified several habitats in Montana as rare or declining native vegetative habitats. They are:

1) Fescue grasslands in the valleys of western Montana
2) Sagebrush steppe in southwest and central Montana
3) Old growth ponderosa pine (Pinus ponderosa) forests in the northern Rocky Mountains and Intermountain West
4) Northern mixed grass prairie of the Brown Glaciated Plains
5) Northern mixed grass prairie of the Northern Dark Brown Glaciated Plains
6) Montana's riparian forests
7) Woody hardwood draws
8) Glacial pothole ponds
9) Peatlands in Montana.

HABITAT TYPE DESCRIPTION AND LOCATION IN MONTANA.

The following is a brief description of each habitat and where it applies in Montana. Refer to the Montana Major Land Resource Units map in the Field Office Technical Guide (FOTG), Section I, Maps, Management Reference Maps.

Fescue grasslands in the valleys of western Montana:

These plant communities are dominated by Idaho fescue (Festuca idahoensis) rough fescue (Festuca campestris), bluebunch wheatgrass (Pseudoroegneria spicata), lupine (Lupinus spp.), and fringed sagewort (Artemsia frigida). They are located in Major Land Resource Units 44-I, 44-IA, and 44-II (Northern Rocky Mountain Valleys).

Sagebrush steppe in southwest and central Montana:

These plant communities are dominated by big sagebrush (Artemisa tridentata), bluebunch wheatgrass (Pseudoroegneria spicata), Idaho fescue (Festuca idahoensis), green needlegrass (Nassella viridula), prairie junegrass (Koeleria macrantha), shrubby cinquefoil (Pentaphylloides floribunda), and various milkvetches (Astragalus spp.). They are located in Major Land Resource Units 44-III, 44-IV (Northern Rocky Mountain Valleys), 46-III, and 46-IV (Northern Rocky Mountain Foothills).

1/ *"Endangered Ecosystems of the United States: A Preliminary Assessment of Loss and Degradation,"* USDI--National Biological Service, Biological Report 28, February 1995. REFERENCE APPENDIX B.

Old growth ponderosa pine (Pinus ponderosa) forests in the northern Rocky Mountains and the Intermountain West:

In many areas of the Montana Rockies, the first forest zone above the grassland is the ponderosa pine (Pinus ponderosa) climax series. This species endures dry, warm environments usually less than 5,500 feet in elevation. Associated plant communities are bluebunch wheatgrass (Pseudoroegneria spicata), Idaho fescue (Festuca idahoensis), needleandthread (Stipa comata), sedge (Carex spp.), Oregongrape (Mahonia repens), Rocky Mountain juniper (Juniperus scopulorum), and common snowberry (Symphoricarpos albus) in the understory. These ponderosa pine climax communities are found in Major Land Resource Units 44-I, 44-IA, 44-II (Northern Rocky Mountain Valleys), 46-III, 46-IV (Northern Rocky Mountain Foothills), 58A-VII, 58A-VIII, 58A-IX, 58A-X (Northern Rolling High Plains), and 60A, 60B (Pierre Shale Plains).

Northern mixed grass prairie of the Brown Glaciated Plains:

These plant communities are dominated by bluebunch wheatgrass (Pseudoroegneria spicata), green needlegrass (Nassella viridula), western wheatgrass (Pascopyrum smithii), needleandthread (Stipa comata), milkvetch (Astragalus spp.), scurfpea (Pediomelum spp.), big sagebrush (Artemisa tridentata), and winterfat (Krascheninnikovia lanata). They are located in Major Land Resource Units 52-IV, 52-V, and 52-VI (Brown Glaciated).

Northern mixed grass prairie of the Northern Dark Brown Glaciated Plains:

These plant communities are dominated by western wheatgrass (Pascopyrum smithii), green needlegrass (Nassella viridula), needleandthread (Stipa comata), little bluestem (Schizachyrium scoparium), silver sagebrush (Artemisia cana), winterfat (Krascheninnikovia lanata), fringed sagewort (Artemisia frigida), and American vetch (Vicia americana). They are located in Major Land Resource Unit 53A (Northern Dark Brown Glaciated Plains).

Montana's riparian forests:

These plant communities are dominated by plains cottonwood (Populus deltoides), narrowleaf cottonwood (Populus angustifolia), black cottonwood (Populus trichocarpa), willow (Salix spp.), and green ash (Fraxinus pennsyvanica) climax series. Associated plant communities are redosier dogwood (Cornus stolonifera), western snowberry (Symphoricarpos occidentalis), American plum (Prunus americana), silver buffaloberry (Shepherdia argentea), western yarrow (Achillea millefolium), western wheatgrass (Pascopyrum smithii), green needlegrass (Nassella viridula), prairie cordgrass (Spartina pectinata), and basin wildrye (Leymus cinereus). These riparian forests are located along the major streams, rivers, and their tributaries across Montana.

Woody hardwood draws:

Woody hardwood draws support the green ash (Fraxinus pennsylvanica), boxelder (Acer negundo), and American elm (Ulmus americana) plant community types. Associated plant communities in the understory are common snowberry (Symphoricarpos albus), western wheatgrass (Pascopyrum smithii), green needlegrass (Nassella viridula), common chokecherry (Prunus virginiana), and Woods' rose (Rosa woodsii). They are located in Major Land Resource Units 53A (Northern Dark Brown Glaciated Plains), 58A-VII, 58A-VIII, 58A-IX, 58A-X (Northern Rolling High Plains), and 60B (Pierre Shale Plains).

Glacial pothole ponds:

Glacial potholes are depressional wetlands, which occur on the northern plains of Montana and in the intermountain valleys of Montana. The depressional wetlands of the northern plains are commonly known as prairie potholes. Prairie potholes were formed by the retreat of the continental glaciers during the Pleistocene epoch. Intermountain depressions were formed by the retreat of montane glaciers. Intermountain potholes are geomorphically and vegetatively similar to prairie potholes. Plant communities that occur in depressional wetlands tend to occur in rings

or zones based on the duration of saturation and inundation. A semi-permanent pothole would have a full compliment of plant zones. From the outer edge these zones are:

Low prairie – dominated by upland species such as Baltic rush (Juncus balticus) and western wheatgrass (Pascopyrum smithii).

Wet meadow – dominated by aquatic graminoids such as sedges (Carex spp.), rushes (Juncus spp.), spikerushes (Eleocharis spp.) and hydrophitic grasses such as reedgrass (Calamagrostis spp.) and mannagrass (Glyceria spp).

Shallow marsh – dominated by water tolerant graminoids such as sedges (Carex spp.), bulrushes (Scirpus spp.) and cattails (Typha spp).

Deep marsh – dominated by true aquatics such as pond weed (Potomogeton spp).

A shallow pothole might only have a low prairie and wet meadow zones. A deep, steep sided pothole might exhibit all the zones but these would be extremely compressed. These wetlands are located in Major Land Resource Units 52-IV, 52-V, and 52-VI (Brown Glaciated Plains), 53A (Northern Dark Brown Glaciated Plains) for prairie potholes and Major Land Resource Units 44-I, 44-IA, and 44-II (Northern Rocky Mountain Valleys) for intermountain potholes.

Peatlands in Montana:

The majority of peatlands in Montana are found west of the continental divide. The most common type of peatland found in Montana is a fen. Fens are peat accumulating wetlands. Water sources are both surface and ground water. Fens are generally classified as poor fens or rich fens. Poor fens have a low pH. Rich fens have a higher pH.

Poor fens - dominated by sphagnum mosses (Sphagnum spp.). Typical vascular plant communities include water sedge (Carix aqualtilis), blister sedge (Carix vesicaria), and silvery sedge (Carix canescens). Typical grasses are bluejoint grass (Calamagrostis canadensis) and tufted hairgrass (Deschampsia cespitosa). Typical shrubs include small leafed laurel (Kalmia microphylla), bog laurel (Ledum groenlandica) and huckleberry (Vaccinium spp.).

Rich fens - dominated by brown mosses (Brynum spp., Campylium spp.). Typical vascular plants include woolly fruitsedge (Carix lasiocarpa), Northwest Territory sedge (Carex utriculata), yellow sedge (Carex flava) and spikerushes (Eleocharis spp.). Typical woody plants include Drummond willow (Salix drummondiana), Bebb's willow (Salix bebbiana), bog birch (Betula glandulosa), and mountain alder (Alnus incana).

These communities are located in Major Land Resource Units 44-I, 44-IA, and 44-II (Northern Rocky Mountain Valleys).

RESTORATION AND MANAGEMENT RECOMMENDATIONS.

Site preparation shall be sufficient for establishment and growth of selected species. Planting success depends on removal of competition, species selection, seed placement, and protection of seedlings.

Only high quality and ecologically adapted native seed and plant material will be used. Seeding rates and species mixtures will be adequate to accomplish the planned purpose.

Species suited for the site will be based on site descriptions in the Field Office Technical Guide, Section II-E-8, or Section II, Ecological Site Descriptions. Select cultivars of species adapted to the soils, mean annual rainfall, and geographic area.

Proper management practices will be incorporated to ensure the native plant communities are maintained. Management measures will control invasive species and noxious weeds in order to comply with noxious weed laws.

RESTORATION PRACTICES

Native species, which represent the plant community to be restored, will be seeded in diverse mixtures. No introduced species will be seeded.

For the following vegetative habitats:

- Fescue grasslands in the valleys of western Montana;
- Sagebrush steppe in southwest and central Montana;
- Northern mixed grass prairie of the Brown Glaciated Plains; and
- Northern mixed grass prairie of the Northern Dark Brown Glaciated Plains.

Refer to the FOTG, Section IV, Standard and Specification 550—Range Planting for management guidance. Refer to the FOTG, Section II-E-8, or Section II, Ecological Site Descriptions, to find the appropriate technical range site description for specifics on percent composition (% grass, % forbs, % shrubs) and the species composition of that restored climax plant community.

Old growth ponderosa pine (Pinus ponderosa) forests in the northern Rocky Mountains and the Intermountain West:

Refer to the FOTG, Section IV, Standards and Specifications 612—Tree/Shrub Establishment for guidance on spacing distances and 550—Range Planting for management guidance. Refer to the FOTG, Section II-E-8, or Section II, Ecological Site Descriptions, to find the appropriate technical range site description for specifics on percent composition (% grass, % forbs, % shrubs) and the species composition of that restored climax plant community.

Montana's riparian forests:

Refer to the FOTG, Section IV, Standards and Specifications 391—Riparian Forest Buffer for guidance on species and spacing distances and 550—Range Planting for management guidance. Refer to the FOTG, Section II-E-8, or Section II, Ecological Site Descriptions, to find the appropriate technical range site description for specifics on percent composition (% grass, % forbs, % shrubs) and the species composition of that restored climax plant community.

Woody Hardwood draws:

For woody hardwood draws refer to the FOTG, Section IV, Standard and Specification 391—Riparian Forest Buffer for guidance on species and spacing distances. Refer to the FOTG, Section IV, Standard and Specification 550—Range Planting for management guidance. Refer to the FOTG, Section II-E-8, or Section II, Ecological Site Descriptions, to find the appropriate technical range site description for specifics on percent composition (% grass, % forbs, % shrubs) and the species composition of that restored climax plant community.

Glacial pothole ponds and peatlands in Montana:

Restoration of glacial pothole ponds and peatlands requires reestablishment of the original hydrology. Wetland plant communities generally establish from natural sources once the hydrology has been restored. No plantings and/or seedings are recommended unless determined by an on-site evaluation. The restored climax plant community should contain those species listed in the “Habitat Type Description and Location in Montana” section of this standard. Adjacent uplands will be restored to native mix or declining habitat as appropriate.

REFERENCES

“Endangered Ecosystems of the United States: A Preliminary Assessment of Loss and Degradation,” U. S. Department of the Interior—Natural Biological Service, Biological Report 28, February 1995.