MANAGING HERBACEOUS VEGETATION

FOREST STEWARDSHIP MANAGEMENT NOTE #7

INTRODUCTION

Herbaceous vegetation can play several important roles in land stewardship. First, grasses and forbs (herbaceous plants other than grass) are valuable for controlling erosion, especially where the landowner wishes to maintain vehicular access or visibility. Second, herbaceous plantings can provide certain types of food and cover for wildlife that may be in short supply. Third, herbaceous plants can be used in many ways to enhance visual quality.

This Note gives general guidelines for planning herbaceous plantings, outlines the value of herbaceous vegetation for various applications, and summarizes recommendations on planting methods. Sources of further information are listed.

GENERAL GUIDELINES

1. GIVE PREFERENCE TO NATIVE SPECIES - Conventional recommendations for herbaceous plantings rely heavily on non-native species of grasses and legumes (pea-family plants, many of which fix nitrogen from the air). Although such species have their virtues, some of them tend to compete aggressively with native plants that may have greater ecological value (#1). Consequently, there is a trend toward the greater use of native species, including wildflowers, although seed for these may be harder to find (#4,9 list seed sources). Especially worth considering are some of the warm-season prairie and savannah species that remain green during the heat of the summer (#3,4,12). The U.S. Forest Service is moving in this direction and may be able to provide suggestions for local conditions.

2. MODIFY SEED MIXTURES FOR SHADY SITES - Attention should be given to the shade tolerance of the species selected when planting wood roads or other shady areas (#5). Consider felling some trees to allow more light to reach the ground on high-risk sites. Consult local extension agents, or other experts, for suggestions on modifying practices for shady conditions.

3. COORDINATE WITH FARMING ACTIVITIES - Although farming activities are not always compatible with ideal wildlife practices, careful timing can alleviate conflicts and create mutual benefits. For example, delaying hay harvest or grazing until after the nesting season allows dual use (#3,4,11).

SPECIFIC APPLICATIONS

1. EROSION CONTROL

POTENTIAL BENEFITS - The most effective means of controlling erosion on low-use roads, log landings, and similar areas is usually to stabilize the soil with permanent herbaceous vegetation (#13). Plant roots bind the soil together. Leaves and stems reduce the powerful impact of falling rain. A well-established cover crop of herbaceous plants will also suppress the growth of woody plants that can take over low-use roads. Seeding with grasses and legumes may not be effective in heavily shaded areas where ground vegetation is difficult to establish and on extremely steep slopes that must be stabilized immediately. For such cases, mechanical means of erosion control should be used (FSMN #6).

METHODS OF ESTABLISHMENT - Agencies often refer to the establishment of herbaceous vegetation on roads, and other highly erodible areas, as "Critical Area Treatment". The practice includes: soil protection during establishment (controlling runoff with mulch, etc.), site preparation (grading, tilling, packing), soil

amendments (fertilizer, lime), seeding, inoculation (for legumes), mulching, and maintenance of seedings (fertilizer, control of weeds, traffic and grazing). Specifications for planting dates, seed mixtures, etc. are available from the DNR (#7,8).

CUSTOM VARIATIONS - For situations where sod application, tree and shrub planting, or sand stabilization are needed, special specifications apply (#7).

2. WILDLIFE HABITAT

BENEFITS - Herbaceous food plots can provide nutritious forage for wildlife that is often in short supply during certain times of year, especially in heavily wooded areas. In addition to providing food, wildlife plantings also attract wildlife to areas where they can be observed more readily.

METHODS - To favor game species, several small food plots strategically located near cover and well dispersed over the property are generally better than one or two large food plots. Wherever possible, however, food plots should be 2-4 acres in size and at least 40 yards wide. On farms, opportune sites for herbaceous plantings that favor wildlife include roadsides, fence rows, waterways, odd corners, riparian zones, hay fields, and pastures (#4).

Whereas plantings for erosion control generally include perennial species that grow back each year, wildlife plantings may also consist of annual species that must be replanted. Reference #2 gives a table of agricultural crops that have high value as wildlife food (especially for game species), including their requirements and wildlife usages. Reference #4 provides several extensive tables of native, cultivated, and exotic plant species, including their growth requirements, their wildlife value, and their landscaping characteristics. Separate tables are given for grasses and legumes, butterfly/bee/moth plants, and hummingbird/oriole plants, among others. A listing of seed suppliers is also included.

3. RECREATIONAL/AESTHETIC VALUES

BENEFITS - For many activities, people tend to prefer a savannah-like habitat, that is a mixture of trees and herbaceous vegetation (FSMN #33). Depending on one's tastes and efforts, herbaceous areas can become lawns, wildflower meadows, or something in between.

METHODS - Reference #4 describes the visual characteristics of many herbaceous (and woody) plants, lists sources of plants, and discusses landscaping methods that combine visual and wildlife values.

REFERENCES

#1 Crow, T.R., et al. 1993. Report of the scientific roundtable on biological diversity. USDA Forest Service TP-R9-CNF/NNF-93-1.
#2 Decker, D.J. and J.W. Kelley. 1982. Enhancement of wildlife habitat on private lands. Cornell Coop. Extension Publication - Information Bulletin 181.
#3 George, R.R., et al. 1979. Native prairie grass pastures as nest cover for upland birds. Wildlife Society Bulletin 7(1):4-9.
#4 Henderson, C.L. 1987. Landscaping for wildlife. Minn. Dept. Natural Resources.
#5 Maynard, A.A. and D.E. Hill. 1992. Vegetative stabilization of logging roads and skid trails. Northern Journal of Applied Forestry 9(4):153-157.
#6 McCaffery, K.R., et al. 1981. Forest opening construction and impacts in northern Wisconsin. Wisc. Dept. Natural Resources Technical Bulletin No. 120.
#7 Michigan Department of Natural Resources, Forest Management Division. 1992. Stewardship Incentive Program (SIP) practice standards & specifications manual. See sections on critical area planting and wildlife habitat.

#8 Michigan Department of Natural Resources, Forest Management Division. 1993. Water quality practices on forest land (A manual for Michigan's forest landowners, managers and users). This publication is commonly referred to as the "Best Management Practices" (BMP's). See Appendix A. Critical Area Planting.
#9 Michigan Department of Natural Resources. Undated. Source guide for wildlife habitat plantings.
#10 Rogers, E. and D. Premo. 1994. Native and exotic species. A brief for the "Biodiversity Management Opportunities on Small Landholdings" Workshop. White Water Associates, Inc.
#11 Severson, K.E. (coordinator). 1990. Can livestock be used as a tool to enhance wildlife habitat? USDA Forest Service GTR RM-194.
#12 U.S. Fish and Wildlife Service. Date unknown. Establishment of seeded grasslands for wildlife habitat in the Prairie Pothole Regions. Special Scientific Report - Wildlife No. 234.
#13 Webb, W.L. and E.F. Patric. 1961. Seeding herbaceous perennials in forest areas for game food and erosion control. N.Y. Fish and Game J. 8(1):19-30.

CITATION: Burnett, Christopher D. 1994. Managing herbaceous vegetation. Michigan Forest Stewardship Management Note #7. Michigan Department of Natural Resources, Forest Management Division.

ACKNOWLEDGEMENTS: This project was supported, in part, by a grant from the Michigan Department of Natural Resources and the USDA Forest Service.