NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

EARLY SUCCESSIONAL HABITAT DEVELOPMENT/MANAGEMENT

(Acre)

CODE 647

DEFINITION

Manage early plant succession to benefit desired wildlife or natural communities.

PURPOSE

- Increase plant community diversity.
- Provide wildlife or aquatic habitat for early successional species.
- Provide habitat for declining species.

CONDITIONS WHERE PRACTICE APPLIES

On all lands that are suitable for the kinds of wildlife and plant species that are desired.

CRITERIA

- Early successional management will be designed to achieve the desired plant community in density, vertical and horizontal structure, and plant species diversity.
- Methods used will be designed to maintain soil erosion quality criteria.
- Vegetative manipulation to maximize plant and animal diversity can be accomplished by disturbance practices including; prescribed burning, light disking, mowing, grazing, or a combination of the above.
- This practice should be applied periodically to maintain the desired early successional plant community.
- Native adapted plant materials will be used whenever possible, but introduced species may be appropriate depending upon objectives.
- Management practices and activities are not to disturb cover during the primary nesting period of April 15-August 1 for grassland species. Exceptions will be allowed for periodic burning or mowing when necessary to maintain the health of the plant community. Mowing may be needed during the plant establishment period to control weeds.
- Measures must be provided to control severe outbreaks of noxious weeds and other invasive species in order to comply with state noxious weed laws.
- To benefit insect food sources for grassland nesting birds, spraying or other control of noxious weeds will be done on a “spot” basis to protect forbs and legumes that benefit native pollinators and other wildlife.

Criteria for Grassland Management

Apply this component to develop and maintain old field and grassland habitats. This practice improves habitat for species such as the bobolink, meadowlark, savannah sparrow, waterfowl and other grassland nesting birds. Areas may be developed or maintained by one or a combination of the following methods:

1. Mechanical (mowing/brush hogging or disking)

Used alone or in combination with other techniques, mechanical methods can

successfully manipulate successional stages of habitat.

Management will not disturb cover during the primary nesting season of April 15-August 1. Exceptions will be allowed, granted by the State Conservationist, for periodic management activities (eg. burning) when necessary to maintain the health of the plant community. Mowing should be completed in August to allow re-growth for fall and spring cover.

Annual mechanical disturbance, or disturbance of entire stands is discouraged since it can increase mortality and will reduce residual cover available for the following nesting season. This is particularly important for early nesting waterfowl.

A. Mowing/brush hogging

- Where possible, practice rotational mowing so that no more than 50 percent of the stand is cut in any given year. Rotational mowing consists of mowed strips separated by unmown strips (see Grassland Birds – WHMI Leaflet). The intent is to maintain grassland and early successional communities in various stages of growth and vegetative diversity. Another option can be to mow half a field one year and the other half the following year or in subsequent years depending on the management.
- Mow cool season grasses no shorter than 4-6 inches. Native warm seasons should be mowed no shorter than 6 inches.

B. Light disking

- Light disking (2-4 inches deep) of existing stands, typically greater than 4 years old, may be necessary to increase the amount of open ground and encourage a diverse plant community of annuals and perennials. Research has indicated that a light disking is better than mowing in diversifying the plant community and improving wildlife usage.
- Alternate disked strips of less than or equal to 100 feet in width, with standing buffer strips a minimum of 2 times the disked width, across the field on the contour or across the slope.
- Rotate the disked strips across the field.

2. Prescribed Burning

If the area is not mowed, grass stands may need periodic renovation to remove excess litter which may reduce the quality of wildlife habitat.

Controlled fire can allow germination of seed bearing annuals, increase plant species diversity, control unwanted woody vegetation and open up the stand for movement of small animals and birds. A written burn plan will be prepared by certified individuals. Practice standard Prescribed Burning (338) must be followed.

3. Chemicals

Selected herbicides can be used to effectively manipulate plant succession, control brush, reduce plant competition, control exotic weeds and improve habitat diversity.

- Careful planning and care in application are required in the use of chemicals to improve existing habitat. Selection of a product shall be based upon several factors, including: a) product effectiveness, b) non-target species impact, c) toxicological risks, and d) off-site movements of chemicals.
- Chemicals are to be applied only for uses listed on the container label. Follow all label directions and precautions.

Criteria for Shrub Lands and Early Successional Forest Lands

Apply this component to maintain, create or enhance shrub communities and or early successional woodlands. Management will increase the number of plants and or plant species and structural diversity of the habitat which provides important food sources (browse and mast) and cover for a variety of wildlife.

General

When planning and implementing a timber harvest, landowners must follow the Acceptable Management Practices (AMP's) from the Vermont Department of Forests and Parks.

Before planning a habitat cut, determine how appropriate it may be within the landscape or on the site. For instance, the landowner may have a significant mast stand (beech, oak, cherry, etc.) or have lands infested with invasive plants species. In both cases, early successional habitat management planned on those areas may not be appropriate.

Habitat management cuts can be located along wood roads, field-forest boundaries and other habitat breaks. This will create an important transition zone between different habitat types. Existing early successional species such as apple trees, serviceberry, dogwoods, viburnums, etc., should be retained where feasible. Plan habitat management cuts where important early successional species such as birch, aspen and alder are present and may be lost if not regenerated. Patch cuts and wide strips will provide the most available habitat. Habitat cuts should have meandering boundaries to increase available edge.

Coarse woody debris (CWD) on the forest floor provides habitat for plants, animals and insects and is a source of nutrients, moisture and structure for soil development. Woody debris should be spread out across the area and can also be placed in brush piles. Placing smaller diameter branches on top of larger diameter branches or logs will provide optimum escape cover for numerous wildlife species. Leaving large trees and logs on the ground is encouraged.

Wildlife reserve trees will be retained where possible and larger ones will be favored as they meet the habitat needs of the greatest number of species. Most snags should be retained during forest habitat cuts, primarily near edges. Leave large mast trees (beech, oak, hophornbeam, cherry, etc.) near the perimeter of the cut as they may provide food and cavities at the same time. If an area is rich in mast trees and or large cavity trees consider adjusting the cutting boundary to accommodate this habitat. Reserve trees should be retained where possible but they should not detract (primarily through shading) from the intent of the practice which is creation and regeneration of early successional woodland habitat.

Definitions of Wildlife Reserve Trees

Snag – Includes standing dead or partially dead trees which are at least 6 inches diameter at breast height (dbh) and 20 feet tall. ("Stub" if shorter)

Hard Snag – Trees composed essentially of sound wood on the outside and usually marketable

Soft Snag – Trees with wood, especially sapwood, in an advanced stage of decay and generally not merchantable.

Replacement Tree – A live or partially dead tree left to become a hard snag and eventually a soft snag replacement.

Den Tree – A live or dead tree of any diameter containing a natural cavity or exfoliating bark used by wildlife for nesting, brood rearing, hibernating, roosting, daily or seasonal shelter and escape.

Mast Tree – Species which provide nuts and fruits.

Nest Tree – Trees containing large nests built by crows and hawks that resemble a platform of sticks from the ground (2-3 feet diameter). These may be used by owls or re-used by hawks.

1. Mechanical: including brush hogging, hand cutting, chainsaw, brontosaurus, or other approved techniques.

Used alone or in combination with other techniques, mechanical methods can successfully manipulate successional stages of habitat.

- When possible, management should occur outside the primary nesting season of April 15-August 1. If impact/disturbance to bat roosting sites is likely then date range should be extended to August 30th.
- Wildlife reserve trees will be marked for retention prior to activities that could cause their removal. Standing dead trees will not be cut except where designated or where the dead tree presents a hazard to the operator cutting target trees.
- Nest trees and Den trees will be retained where appropriate.

- A minimum of four snags (≥6" dbh) should be maintained per acre, two of which should be hard snags. If suitable numbers of snags do not exist, replacement trees may be substituted. If no snags are present, leave two replacement trees.
- A minimum of four logs per acre should be left on site. At least two of these logs should be >12 inches in diameter. Larger logs are encouraged to improve habitat quality.

Note: Requirements for reserve trees and logs may not be applicable in habitat cuts in certain natural communities such as alder swamps.

2. Prescribed burning: According to a burn plan and 338 Standard.

3. Chemical: Including but not limited to spot, cut-stem, or basal treatments. Refer to safety precautions listed under grassland management.

CONSIDERATIONS

All habitat manipulations will be planned and managed according to soil capabilities and recommendations for management will avoid excessive soil loss.

Early successional treatments should be rotated throughout the managed area.

Treatment shall be accomplished whenever succession has gone past the desired stages.

Managing for early successional plant communities is beneficial if not essential for less mobile animal species. The less mobile the species, the more important to provide all the habitat requirements in a small area.

Design and install the treatment layout to best facilitate operation of all machinery used on the strips or to make easily controlled burning boundaries. Whenever possible, lay out strips to have some multiple or full width passes by all farm implements.

Grazing may be used as a management tool to achieve the intended purpose of this practice. A grazing plan is required.

This practice may be used to promote the conservation of declining species, including threatened and endangered (plant, wildlife or aquatic) species.

PLANS AND SPECIFICATIONS

Specifications for this practice shall be prepared for each site. Specifications shall be recorded using approved specifications sheets, job sheets, narrative statements in the conservation plan, or other acceptable documentation.

NRCS Staff is encouraged to work with NRCS state office staff, Vermont Department of Fish and Wildlife Biologists and US Fish and Wildlife Service Biologists in developing site specific plans and specifications. Current approved habitat appraisal tools will be used to evaluate the benchmark and planned conditions of the early successional habitat.

Information for managing land for a specific species can be attained from the NRCS state office staff and the Vermont Department of Fish and Wildlife and from species specific information sheets found in the References section. See 'A Landowner's Guide – Wildlife Habitat Management for Vermont Woodlands', NRCS WHMI Wildlife Habitat Management Leaflets, and 'Managing Michigan's Wildlife: A Landowner's Guide.'

OPERATION AND MAINTENANCE

The following actions shall be carried out to insure that this practice functions as intended throughout its expected life. These actions include normal repetitive activities in the application and use of the practice (operation), and repair and upkeep of the practice (maintenance).

Any use of fertilizers, pesticides and other chemicals to assure early successional management shall not compromise the intended purpose.

REFERENCES

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