NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

RESTORATION AND MANAGEMENT OF RARE OR DECLINING HABITATS

(Ac.)

CODE 643

DEFINITION

Restoring and managing rare and declining habitats and their associated wildlife species to conserve biodiversity.

PURPOSE

To return aquatic or terrestrial ecosystems to their original or usable and functioning condition and to improve biodiversity by providing and maintaining habitat for fish and wildlife species associated with the ecosystem.

CONDITIONS WHERE PRACTICE APPLIES

Sites or areas that once supported or currently support a unique, dwindling, or imperiled native plant and animal community.

In West Virginia this practice may apply to communities such as high elevation red spruce forests, marl marshes, hemlock or balsam fir dominated wetlands, mountain bogs, shale barrens, karst areas and cave systems, native grasslands and streams containing native mussel populations. Other declining or rare habitats may be identified by consulting with the WVDNR Natural Heritage Program. (See also the NRCS Threatened and Endangered Species list in Section I of the Field Office Technical Guide). Other WV Conservation Practice Standards may also be applicable to use in conjunction with, or as components of this standard such as (657) Wetland Restoration, (645) Upland Wildlife Habitat Management, (612) Tree/Shrub Establishment, (395) Stream Habitat Improvement and Management and (472) Use Exclusion.

Stocked or native trout streams for the purpose of improving trout habitat will not be restored under this standard. Refer to WV Conservation Practice Standard (395) Stream Habitat Improvement and Management for restoration and management strategies of trout streams.

NRCS planners shall work closely with the state staff biologist and/or forester when working with this standard.

CRITERIA

General Criteria Applicable to All Purposes

All measures implemented under this standard shall comply with all applicable federal, state and local laws, rules and regulations including formal and informal consultation with the US Fish and Wildlife Service (if applicable). Refer to the document entitled West Virginia NRCS Conservation Practice Effects on Threatened, Endangered, Candidate and Eagle Species for information regarding requirements for installing component practices under this and other standards.

The owner or operator shall be responsible for securing all required permits or approvals including, but not limited to, permits pertaining to the Clean Water Act sections 404 and 401, Stream Rights of Entry and sedimentation and erosion control.

All required permits will be obtained prior to installation of any measures. Permit conditions will be incorporated into design, installation, management, operation and/or

maintenance requirements.

Vegetative manipulations to restore plant and/or animal diversity can be accomplished by mechanical, biological or chemical methods, or a combination of the four.

A pretreatment assessment of the targeted habitat will be documented to provide a baseline for comparison with post-treatment habitat conditions. Goals or success criteria will be established using reference sites for guidance and comparison. Where no such reference site exists, use ecological site description or historic data to establish restoration goals.

When implementing disturbance regimes, undisturbed areas shall be conserved on a sufficient extent of the area to sustain disturbance-intolerant species. ***The amount of undisturbed habitat will be determined on a site specific basis and may depend on several factors including, but not limited to, type of community, size of existing habitat, species status, etc. Consultation with the NRCS staff biologist, WVDNR Natural Heritage Program, and/or US Fish and Wildlife Service may be necessary to determine the size and necessity of this area.***

Exclusionary measures will be installed to prevent any disturbance to sensitive communities (livestock or human). Refer to Conservation Practice Standard (472) Access Control for more information.

Methods used will be designed to protect the soil resource from erosion and compaction. ***All habitat manipulations will be planned and managed according to soil capabilities and recommendations for management will avoid excessive soil loss.***

Invasive plant and animal species and noxious weeds shall be controlled. When possible, control will be limited to that necessary to control undesirable species while still protecting habitat that benefit native pollinators and other fish and wildlife species that depend on the site for food, cover, and water. ***Measures must be provided to control invasive species to attain the optimum community function.***

Species and seeding rate specifications will be prepared ***on a site specific basis*** to achieve desired habitat condition.

Only high quality and ecologically adapted plant materials will be used. ***Use plant stock and seed from the closest possible source. Planting stock obtained from more northern regions of the U.S. tend to be more cold hardy.***

Planting dates, care in handling and establishment of the plant material will optimize the rate of survival for the vegetation. Refer to WV Conservation Practice Standard (612) Tree/Shrub Establishment concerning this information.

Site preparation, planting dates and methods, and plant material care and handling shall optimize vegetation survival and growth. ***For site preparation refer to WV Conservation Practice standard (490) Forest Site Preparation or (512) Pasture and Hayland Planting for additional information.***

Installation and management activities are not to disturb cover during the primary nesting period (March 15 – July 15). Exceptions may be granted for periodic management when necessary to maintain the health of the plant community or to meet specific requirements of individual species. Mowing, spraying or other management measures may be needed during the establishment period to control weeds or other pests.

CONSIDERATIONS

Consider how this practice may be utilized to provide diverse locally grown native forage (forbs, shrubs, and trees) and nesting resources for pollinators. Many specialist pollinators are closely tied to rare plants or habitats and these plants and rare plants may significantly benefit from efforts to restore and\or manage rare habitat. However, pollinator plants should only be planted if they were part of the rare ecosystem you are trying to restore.

Confer with other agencies and organizations such as the WVDNR Natural Heritage Program, US Fish and Wildlife Service and the Nature Conservancy to

develop guidelines and individual specifications for conserving declining habitats. Contact the NRCS State Biologist for assistance.

Consider rotating methods and timing of planned management or other treatments throughout the restored/managed area.

Consider the appearance of the restored/managed project, particularly in areas of high visibility and those areas associated with recreation. The shape and form of any structures as well as the planned plant community should relate visually to the surrounding area.

Consider the effects on and from adjacent land uses.

Consider short-term effects on water quality and wildlife resources.

Consider the effects of deer browse and other nuisance species when establishing vegetation.

Consider the effects to water temperature to prevent undesired effects on aquatic communities.

Consider times that are appropriate for recreation, observation and monitoring activities (e.g. recreational caving).

Consider plant materials centers and commercial growers in the development of materials for habitat restorations.

Consider growing season length when working in high elevation plant communities.

Consider those sites adjacent to existing communities as they increase complexity and diversity, decrease habitat fragmentation, and ensure colonization of the site by desired flora and fauna.

Consider how land use and habitat in the associated landscape may influence the ability to achieve restoration and management objectives.

Consider the likelihood of being able to maintain or establish important ecological disturbances such as burning, flooding or grazing.

Consider how the short and long term effects of climate change may influence the ability to achieve restoration and management objectives.

Generally, the size of the restored or managed habitat should be large enough to support populations of all species associated with the targeted habitat.

Other conservation practices that will facilitate the restoration and management of rare and declining habitats include:

Fence – Code 382

Access Control – Code 472

Tree and Shrub Establishment – Code 612

PLANS AND SPECIFICATIONS

Specifications for this practice shall be prepared for each habitat type. Specifications shall be recorded using approved specifications sheets and job sheets. Narrative statements in the conservation plan or other acceptable documentation may provide supplemental information to the specifications and job sheets.

At a minimum plans and specifications shall include:

- ***a documented benchmark condition of the project area and the intended goals and objectives (including a functional assessment of wetlands, if applicable);***
- ***any required permits including CPA-52 or similar environmental evaluation documentation;***
- ***a plan map showing installation of practices and locations;***
- ***documentation of consultations with other agencies (if applicable);***
- ***a planting plan (if applicable) including species, size of planting, spacing, amounts, planting dates and locations;***

- ***any component practices and specifications required for implementation of this practice including drawings and designs of any structures necessary to restore the project area; and***

- ***a soils investigation of the project area for sites which include wetlands.***

OPERATION AND MAINTENANCE

Habitat conditions should be evaluated on a regular basis to adapt the conservation plan and scheduled maintenance to ensure the desired habitat condition.

Management and maintenance activities should be rotated to mimic natural disturbance regimes.

Haying, grazing, forest stand improvement, and other management activities will be planned and managed (including access control) as necessary to achieve and maintain the intended purpose.

Vegetation management and maintenance activities shall not be conducted during critical life stages of fish and wildlife except when necessary to achieve the desired habitat condition.

Use of fertilizers, pesticides and other chemicals shall not compromise the intended purpose of this practice.

At a minimum, items that shall be addressed in the operation and management plan as applicable are:

- ***the operation and maintenance plans for any individual practice components designed and installed under the provisions of other WV standards;***

- ***a periodic inspection schedule of structures for damage assessment;***

- ***required maintenance of vegetation (e.g. nutrient management, reseeding, or similar practices) to include timing and intensity;***

- ***any management techniques to control noxious or invasive species. Biological control of undesirable plant species and pests (e.g., using predator or parasitic species) shall be implemented where available and feasible; and***

- ***any acceptable uses including the timing and intensities (e.g. forestry management, haying and livestock grazing plans) to allow for establishment, development, and management of the community and associated areas.***

REFERENCES

USFWS and NMFS, Endangered Species Act Consultation Handbook, Procedures for Conducting Consultations and Conferences, 1998.

United States Department of Agriculture, Natural Resources Conservation Service. 2002. National Biology Manual. Title 190, Washington, DC.

The WV Division of Natural Resources, West Virginia Natural Heritage Program. http://www.wvdnr.gov/wildlife/endangered.shtm

Barbour, M.G., and W. D. Billings (eds.). 2000. North American Terrestrial Vegetation. Cambridge University Press, New York, Second Edition, 695 pp.

Kuchler, A.W. 1964 Potential Natural Vegetation of the Conterminous United States. American Geography Society, Special Publication 36. 116 pp. + map Second edition (revised), 1975.

Noss, R.F., E.T. LaRoe III, and J.M. Scott. 1995. Endangered ecosystems of the United States: a preliminary assessment of loss and degradation. Biological Report 28; National Biological Service, Washington, D.C

**** Bold italics indicate modifications of the National Standard by WV.***