

# **Appendix A: Comprehensive Conservation Plan Chapters**



# Comprehensive Conservation Plan Chapters

Note: These chapters include Chapter 4, Management Direction, and Chapter 5, Plan Implementation for the preferred alternative.

## Chapter 4: Refuge Management

### 4.1 Our Vision for the Refuge

The vision for the Upper Mississippi River National Wildlife Refuge Complex is:

The Complex is beautiful, healthy, and supports abundant and diverse native fish, wildlife, and plants for the enjoyment and thoughtful use of current and future generations. This can be stepped down to apply to Driftless Area NWR as follows: The Refuge is beautiful, healthy, and supports and conserves native and rare wildlife and plants for current and future generations.

This section presents a 15-year plan for the Refuge in the form of Refuge goals, objectives, and strategies. This section is organized into three broad areas:

- # Habitat
- # Species Management
- # Visitor Services

The goals that follow are specific statements of what will be accomplished. Objectives describe the who, what, when, where, and why of what is to be accomplished. Strategies listed under each objective specify the activities that will be pursued to realize an objective. The strategies may be refined or amended as specific tasks are completed or new research and information come to light.

### 4.2 Habitat

#### 4.2.1 Habitat Goal

**Goal: Conserve endangered species habitat and contribute migratory bird and other wildlife habitats within a larger landscape.**

**Objective 1:** Increase management of physical and ecological impacts to algific slopes by eliminating invasive species (on slopes), maintaining zero impacts from public use, and reducing off Refuge impacts on two units by 2015.

*Rationale:* The Refuge purpose is to conserve endangered and threatened species. This objective is tied to the purpose of the Refuge and Iowa Pleistocene snail and

Northern monkshood recovery plan goals for permanent protection of habitat. Algific talus slopes are fragile because of the steep slopes with a loose surface rock layer. All algific slopes will remain closed to all public entry. However, some management activity on algific slopes is needed to maintain their ecological integrity. Invasive garlic mustard is competing with Northern monkshood. It has unknown effects on the Iowa Pleistocene snail, but we speculate garlic mustard could affect its specific food requirements. Removal of garlic mustard can be completed by carefully hand pulling it on some sites, but may take several years to control using this method because of the seed bank present. Vegetation adjacent to algific talus slopes can affect temperatures and other microclimate characteristics important to the species that inhabit them. Study of the impact of shade on algific talus slopes will help in determining what the best restoration options are adjacent to the slopes. Population monitoring of both species will continue at 2004 levels on selected sites on and off Refuge. These management activities will be done under specific guidelines such as restricting the number of people, number of sites, avoiding more sensitive sites, using wildlife trails, and other restrictions to prevent damage to the habitat.

*Strategies:*

1. Maintain existing closed areas.
2. Ensure boundary signing and fencing on all units are adequate
3. Increase inspection of units, on average 8 hours per week, particularly during hunting seasons.
4. Share a law enforcement officer with the McGregor District of UMRNWFR.
5. Increase contact with landowners adjacent to the Refuge to prevent impacts from grazing, logging, invasive species, erosion, and sinkhole filling. Specifically, use USDA programs, Partners for Fish and Wildlife program or endangered species funding to reduce erosion impacts to the Fern Ridge and Cow Branch units.
6. Remove all garlic mustard from algific slopes on the Howard Creek and Lytle Creek units in ways that minimize disturbance. Expand garlic mustard control efforts in surrounding habitats on all units.
7. Monitor Iowa Pleistocene snail and Northern monkshood populations (on Refuge and other public and private lands) at 2004 level of effort to measure population trends for recovery and as an indicator of habitat condition.
8. Monitor soil/vent temperatures on algific talus slopes with data loggers that collect daily temperatures.
9. Fund research to determine impacts of shade on algific talus slopes, particularly in regard to Northern monkshood. Complete study by 2010. This will aid in determining the best restoration alternative adjacent to algific slopes.
10. Add a wildlife biologist to the staff.

**Objective 2:** Restore existing 40 acres of grassland on the Howard Creek Unit to a mixture of at least 25 species of local genotype grasses and forbs by 2009.

*Rationale:* Other wildlife habitats are present on the Refuge and should be managed for Service trust resources when possible. Native climax vegetation would likely do best on the land and require the least long term maintenance once established. The Howard Creek unit contains remnant native prairies and much of

the area was once prairie or savanna. Some planting of native prairie species has already taken place on this unit and this objective is aimed at completing grassland restoration for the Howard Creek unit.

*Strategies:*

1. Use fire and other techniques to control invading woody vegetation on remnant and restored prairies.
2. Use biological, chemical, and mechanical controls to control invasive species on other habitats.
3. Develop partnerships with local groups to restore prairie and possibly create demonstration areas.
4. Plant a mixture of native grasses and forbs (local genotype).

**Objective 3:** Establish oak-hickory forests on all lands that were historically hardwood forest under pre-European settlement conditions by 2012.

*Rationale:* The majority of Driftless Area Refuge habitat is or was hardwood forest that has been impacted by past agricultural or logging uses. Some forests are degraded and some were completely cleared for farming. Changes to forests immediately adjacent to algalic talus slopes may affect microclimate variables (i.e. shade helps maintain cool conditions) on slopes and increase encroachment of invasive species. Restoration of forests is important to maintaining endangered species habitat.

Although Refuge units are relatively small, they do provide habitat for Region 3 Resource Conservation Priority species and migratory non-game birds of management concern. Fragmentation of habitats both within and around Refuge lands is a concern for migratory bird management because of the effects of predators and parasitic cowbirds. Restoration of native vegetation on the Refuge will reduce, but not eliminate, fragmentation within units and will provide closer connection to forest in the surrounding landscapes. Active restoration by planting trees will speed restoration and provide the species desired for wildlife habitat.

*Strategies:*

1. Plant 116 acres of native forest on the Pine Creek (68 ac), Fern Ridge (41 ac), and Howard Creek (7 ac) units (see figures 16-18 in the CCP).
2. Develop partnerships with local groups to restore forests and evaluate feasibility of establishing reforestation demonstration areas.
3. Inventory exotic invasive species and develop plans for control on each unit.
4. Coordinate with states and partners to develop Habitat Management Plans for each Refuge unit and implement forest management plans for existing forests on the Fern Ridge and Bankston units during the life of the plan.

**Objective 4:** Permanently conserve 2,200 additional acres of endangered species habitat above the 2004 level to achieve this recovery goal for the Iowa Pleistocene snail and contribute to recovery goals for the Northern monkshood and Leedy's roseroot by 2020.

*Rationale:* This objective is tied to the purpose of the Refuge and species' recovery plan goals for permanent protection of habitat. More habitat protection is needed

to reach these recovery goals. Refuge land protection can lead to delisting of these species and may prevent future listing of other land snail and plant species. Refuge land protection will also conserve biological integrity, diversity, and environmental health according to Service policy.

Overall Refuge expansion is proposed at 6,000 acres in 22 counties (four states) under a revised Land Protection Plan (Appendix I). The LPP is the total Refuge acreage desired to complete the Refuge project and is a longer term plan than the CCP. Expansion into additional counties will allow potential acquisition of large populations, populations across the species' ranges, and of the majority of their populations. Acquisition would not necessarily occur in every location, but where willing sellers exist for known species locations in any of these counties. Acquisition acreage includes algific slopes, associated sinkholes, and buffer areas needed to permanently protect them from adjacent land uses. The acreage listed in this alternative is what we believe is possible to protect in the next 15 years given willing sellers, funding, and Refuge resources. There is less acreage identified in Alternative C than Alternative B so that Refuge resources can be used for other objectives. Habitat protection may also be in cooperation with other agencies.

*Strategies:*

1. Maintain contact with landowners to maintain integrity of sites and identify willing sellers. Use the Service's Partners for Fish and Wildlife program and assistance from partners such as TNC.
2. Acquire additional land adjacent to Refuge sites where the algific slopes or sinkholes are not under permanent protection.
3. Protect an additional 20 snail and monkshood sites
4. Coordinate with the USFWS Twin Cities Ecological Services office and Minnesota DNR to identify and acquire any Leedy's roseroot site that becomes available.
5. Seek consistent annual Land and Water Conservation Fund appropriations to meet the objective.
6. Work with partners to protect sites through a variety of means such as funding provisions of the Endangered Species Act (Section 6), land trust conservation easements, U.S. Department of Agriculture programs, fund raising, and congressional appropriations.
7. Prioritize sites for protection and prepare site preservation plans in Geographic Information Systems format with state and partner input.
8. Protect sites through conservation easements and fee title acquisition.

**Objective 5:** Permanently conserve 75 additional acres of habitat above the 2004 level to help preclude listing of glacial relict species of concern by 2020.

*Rationale:* Some algific slopes are occupied by Service species of concern, but not by threatened and endangered species. This objective will begin to protect sites for these species to help preclude future listing as threatened or endangered.

*Strategies:*

1. Protect 3 sites for other species of concern.
2. Maintain contact with landowners to maintain integrity of sites and identify willing sellers. Use assistance from partners such as TNC.
3. Protect sites through conservation easements and fee title acquisition.

## 4.2.2 Species Management

**Goal: Manage and protect endangered species, other trust species, and species of management interest based on sound science through identification and understanding of algific slope communities and associated habitats.**

**Objective 1:** Identify and evaluate new algific slopes in the Driftless Area for the presence of threatened and endangered species and species of concern within 3 years of plan approval.

*Rationale:* Initial surveys to locate algific talus slopes and associated species were done in the 1980s. Several new algific slopes were found in the last few years just by casual observation, indicating that more may be present than is currently known. A renewed comprehensive survey should be done to ensure that as many algific slopes as possible are known. This information may shed new light on species abundance or threats to endangered and rare species. Survey of potential habitat is a recovery goal.

*Strategies:*

1. Review existing algific slope records to identify potential new survey locations. Actively search areas that may have been underrepresented in original surveys. Survey any new locations for Iowa Pleistocene snail and Northern monkshood.
2. Seek assistance from partners such as TNC to provide funding or people to accomplish objective.

**Objective 2:** Establish the size of upland buffers needed to provide permanent protection of algific talus slopes by 2009.

*Rationale:* Sinkholes are crucial to cold air flow on algific talus slopes. Their function, locations, and distance from slopes is not completely known. More information is needed on sinkhole locations and distance from algific talus slopes. This objective is also a recovery task for the Iowa Pleistocene snail and is essential to determining land protection areas and strategies.

1. Conduct winter surveys to locate sinkholes associated with algific slopes to aid in protection efforts.
2. Initiate studies to determine the function and association of sinkholes to cold air flow and hydrology.
3. Explore ways to study the potential impacts of climate change on algific talus slopes.

**Objective 3:** Gain a better understanding of plants and animals associated with algific talus slopes and similar habitats in the Driftless Area.

*Rationale:* Comprehensive surveys for plants and insects have never been done for algific talus slopes. There may be additional rare, endemic or new species. Inventory of wildlife on other Refuge habitats has not been completed. An inventory of Refuge plant and animal communities is needed to prepare effective management strategies. The Refuge Improvement Act also requires inventory and monitoring of fish, wildlife, and plants on all Refuges. Refuge partners are also interested in inventory of algific slopes.

*Strategies:*

1. Use experts to inventory snail, plant and insect species on six or more algific talus slopes within 8 years of plan approval.
2. Inventory birds on Refuge units to document habitat use and develop plans for management of conservation priority species on the Refuge.

**Objective 4:** By 2008, determine the appropriate deer density for Refuge units that will safeguard habitat.

*Rationale:* Deer populations in northeast Iowa have been high for several years. There is concern that high deer densities, particularly on units where hunting is not allowed, could impact algific talus slopes as well as other habitats. The population level that causes negative impacts needs to be determined.

*Strategies:*

1. Use research or literature searches to determine the current and desired deer density on the Refuge.
2. Working with states, manage deer populations at a level and population structure that does not negatively impact algific slopes or associated habitats.
3. Use special permit hunts when damage to algific slopes or other habitats from deer is observed.

**Objective 5:** Update the recovery plans for Iowa Pleistocene snail and Northern Monkshood within 5 years of CCP approval.

*Rationale:* The current recovery plans for these species are outdated and do not include all locations, specific recovery objectives, threats, or specific monitoring guidelines. Updated plans will provide for better planning and species protection and increase the likelihood of recovery.

*Strategies:*

1. Work with Ecological Services and applicable states to update and rewrite draft recovery plans.

## 4.2.3 Visitor Services Goal

**Goal: Visitors have an understanding and appreciation of the role of the Refuge in conserving endangered species.**

**Objective 1:** Increase environmental education programs by 50 percent within 8 years of CCP approval and establish an upper level limit for visitation within 5 years of CCP approval.

*Rationale:* Promotion of the Refuge and wildlife-dependent recreation has historically been limited because of the sensitive nature of endangered species habitat and limited staff to manage public use. However, the public is now more aware of land owned by the Service and has expressed interest in increasing outreach and wildlife-dependent recreation opportunities. With targeted programs, visitors' understanding of the Refuge's purpose can be enhanced. Education about endangered species and the special resources of the Driftless Area may promote stewardship among landowners and therefore further protection of rare and endangered species. Education about snails and their habitat is a recovery task.

Only units with public access routes and sufficient acreage surrounding endangered species habitat will be open to the public. However, there is a level of use that could cause unacceptable changes in habitat and wildlife. To better achieve the endangered species purpose of the Refuge, the level below which impacts are negligible needs to be determined. The primary increased use will be off-site environmental education.

*Strategies:*

1. Howard Creek and Fern Ridge units would remain open to upland game and white-tailed deer hunting. The Pine Creek unit would be opened to hunting under the same special regulations as Howard Creek and Fern Ridge units.
2. Steeles Branch and Fern Ridge units would remain open to fishing.
3. Howard Creek and Fern Ridge units would remain open to wildlife observation and photography.
4. Maintain McGregor District Visitor Contact Station as place of primary public contact.
5. Develop information kiosk at the Fern Ridge unit by 2007.
6. Develop a wildlife observation trail at the Howard Creek Unit by 2008
7. Develop an interpretive display at McGregor District Visitor Contact Station by 2007.
8. Present to local school groups at least 10 environmental education programs per year, with an emphasis on endangered species.
9. Share an interpretive park ranger with the McGregor District.
10. Develop a Visitor Services Plan within 2 years of CCP approval. The Plan will describe basic visitor and resource protection, appropriate signing, informational brochures, Visitor Center displays, and other information needed for visitors to have an educational and enjoyable experience.
11. Permit compatible wildlife-dependent recreation on newly acquired lands.
12. Establish reliable system for documenting and monitoring public use within 2 years of plan approval.

13. Establish the relationship between the level of use and impacts to resources within 5 years of plan approval and modify the Visitor Services Plan accordingly.
14. Develop a volunteer program and continue to work with the Friends of the Upper Mississippi River Refuges.

# Chapter 5: Plan Implementation

## 5.1 Personnel and Office Needs

One Refuge Operations Specialist is currently assigned to the Refuge and supervised by the McGregor District Manager. A wildlife biologist will be added to implement the many goals and objectives identified in this CCP. The Nature Conservancy of Iowa has funded a summer intern to work at the Refuge for the last three years and plans to continue this position as funds permit, to assist with endangered species monitoring and other tasks of interest to both the Service and TNC. McGregor District staff occasionally assists with maintenance, prescribed burning and habitat improvements on the Refuge.

Refuge staff currently use a mobile home (obtained as excess property from the Federal Emergency Management Agency) located adjacent to the McGregor District office. It is not clear to visitors that the Driftless Area Refuge office is here and there is only a small display made by Refuge staff in the McGregor District Visitor Contact Station. The Refuge shares limited equipment storage space with McGregor District. A new office located with McGregor District or at a different location is needed to meet basic operational needs.

## 5.2 Step-down Management Plans

This CCP provides broad guidance for future management and land acquisition for Driftless Area National Wildlife Refuge. Before projects are implemented, additional detailed plans will need to be prepared. Several step-down management plans must be completed to better describe the planned work and to meet Service policy. The following plans will be completed during the life of the CCP:

- # Habitat Management Plan
- # Unit Management Plans
- # Forest Management Plans
- # Endangered Species Site Preservation Plans
- # Visitor Services Plan
- # Funding

Funding will come from a variety of internal and external sources. Refuge maintenance funds are currently used primarily for fencing needs and replacement of tools and equipment. Habitat restoration funds have come from challenge cost share grants or internal funds. All of these funding sources are in short supply. The full implementation of this plan will be dependent on increased traditional funding or new sources of funding as a result of partnerships or grants. In particular, partnerships for land acquisition and habitat restoration may be needed. The Nature Conservancy, Iowa Natural Heritage Foundation, States, and universities are potential partners that have expressed interest in various actions identified in the plan. Volunteers will also be important in assisting Refuge staff with fulfilling the future vision of the Refuge.

## **5.3 Partnerships**

Partnerships are an essential element in accomplishing our goals and objectives.

We will continue our partnerships with TNC, the Iowa Natural Heritage Foundation, and the Iowa DNR. We will continue to seek creative partnerships to achieve our vision.

## **5.4 Volunteer Program**

We will work with volunteers in carrying out the activities of this plan. Likely activities where volunteers can help us include tours, environmental education, habitat restoration, monitoring, and invasive species removal.

## **5.5 Monitoring and Evaluation**

Monitoring is critical to the successful implementation of the plan. Every five years this plan will be revisited to document progress, reassess direction and determine if any modifications are necessary to meet changing conditions. Public involvement in evaluating progress and plan implementation will be encouraged. Increased public visitation and new facilities will be evaluated for compatibility with Refuge purposes.