

Chapter 2: The Planning Process

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2.1 Introduction

The Comprehensive Conservation Plan (CCP) process for Neal Smith National Wildlife Refuge (NWR, Refuge) meets the dual requirements of compliance with the National Wildlife Refuge System Improvement Act of 1997 and the National Environmental Policy Act of 1969 (NEPA), both of which require the Service to actively seek public involvement in the preparation of environmental documents. NEPA also requires the U.S. Fish and Wildlife Service (FWS, Service) to seriously consider all reasonable alternatives to its Preferred Alternative including the “No Action” alternative, which represents continuation of current conditions and management practices.

Key steps in the CCP process include:

1. Form the planning team and conduct pre-planning.
2. Initiate scoping and public involvement.
3. Identify issues and develop vision and goal statements.
4. Develop alternatives and assess their environmental effects.
5. Identify the preferred alternative.
6. Publish the Draft CCP and NEPA document for public comment.
7. Revise and publish the final plan.
8. Implement the CCP.

2.2 Scoping and Public Involvement

The Notice of Intent to prepare a CCP and Environmental Assessment (EA) for Neal Smith NWR was published in the *Federal Register* dated December 17, 2008 (Vol. 73, No. 243, page 76677).

Internal scoping began in April 2009 when Service planning staff and Neal Smith NWR staff developed a preliminary list of issues, concerns, and opportunities associated with management of the Refuge. A second internal scoping session was held with the Service’s Regional Office staff at Fort Snelling, Minnesota in October 2009 to get input on issues from regional supervisors, biologists, planners, and other program specialists.

Public scoping began in June 2009, when Refuge staff hosted two open house events in Des Moines and Prairie City, Iowa to inform the public of the planning process and to solicit their input on issues of concern. About 15 people attended. In addition, CCP information and comment sheets were available in the Visitor Center and were sent to the several hundred stakeholders on the Refuge mailing list. Written and e-mailed comments were received from a total of 24 people.

In August 2009, the Refuge convened a team of resource professionals to share their perspectives on the biological and visitor services programs at Neal Smith NWR. Participants outside the Service included partner agencies, researchers, educators, and Refuge volunteers. Purposes of the workshop were to review the draft list of issues, begin discussing options for addressing them, and ensure that the best-available scientific and socioeconomic information was being considered.

In April 2011, a newsletter update was sent to all stakeholders on the Refuge mailing list. The newsletter summarized comments received during the scoping period, described the primary management issues being considered during development of alternatives, and outlined the schedule and next steps leading to completion of the CCP.

2.3 Summary of Issues

Issues were identified through the scoping process described above. These issues represent input from the public, other agencies and organizations, and Service staff. The following section summarizes the major issues that were identified and analyzed as part of the CCP process. The issues were critical in framing the objectives for the various alternatives considered and formed the basis for evaluating environmental effects.

2.3.1 How will we effectively and sustainably restore native prairie, savanna, and sedge meadow plant communities on the Refuge?

Although much progress has been made in converting agricultural fields and restoring remnant prairie, savanna, and sedge meadow sites, much work still remains. Knowledge gained from these initial efforts is important in setting objectives and priorities for the next phase of reconstruction and restoration in order to make effective and efficient use of limited resources. Individual tracts of land are in different stages of reconstruction/restoration so management needs vary, but several main issues predominate:

- Native plant diversity
- Management of non-native invasive plants
- Effects of subsurface drainage and other watershed alterations
- Disruption of historic fire and grazing regimes

Several public comments during the initial scoping period stated the importance of restoring the tallgrass prairie/oak savanna ecosystem, and invasive species control was often mentioned as an important issue. Other comments recommended increasing plant diversity on prairie sites, focusing more effort on completely restoring small areas first before expanding outward, focusing more effort on savanna restoration, and stopping tree cutting on the Refuge. The use of bison and elk to facilitate the natural process of grazing by large mammals was seen as worthwhile and was preferred over the use of cattle. Careful consideration of the potential effects of climate change on long-term Refuge restoration and management was recommended.

Tallgrass Prairie Reconstruction

The initial approach to reconstructing tallgrass prairie on former agricultural lands was to quickly plant as many fields as possible with as much diversity as possible. Early seed mixes contained small amounts of many species but were dominated by warm season grasses that were available in larger quantities.

Diversity of seed mixes used to plant agricultural fields is increasing compared to earlier efforts as seed from more species becomes available in larger quantities, but plant diversity continues to vary between reconstructed prairie units. All need more native cool season grasses and forbs, but this type of seed is still not easily obtained. All contain non-native invasive plants, and management of these invasive plants is time-intensive. Terraces, gullies, trees, roads, fences, and drain tiles still need to be removed on some previously planted sites. Some farm fields and former pastures have not yet been planted with native prairie species.

Native Prairie and Savanna Remnants

Patches of degraded tallgrass prairie and oak savanna remnants are found on the Refuge. These remnants are in varying stages of degradation, but many still held high potential for restoration when the initial vegetation survey was conducted in 1991 (Drobney and Bryant, 1991). These remnants provide valuable genetic diversity that is adapted to local conditions.

Refuge remnants currently vary in quality and diversity. Some have a relatively low diversity of native prairie and savanna species compared with what they historically held. Most include non-native plants. The historic fire regime has been disrupted, resulting in many remnants becoming overgrown with trees and woody shrubs. In the early years of the Refuge, management of remnants was a lower priority than native plantings on agricultural fields, so restoration efforts have been minimal to date. Where restoration has taken place the response of prairie and savanna understory species has been positive. These restored remnants contain plants not found elsewhere on the Refuge, are valuable seed collection sites, and contain remnant populations of native invertebrates (Klaas and Bishop, 1995). Refuge remnants are irreplaceable and must be restored soon before their integrity is lost.

Sedge Meadow

Dominant native plants found in healthy sedge meadows include prairie cordgrass (*Spartina pectinata*), sedges, rushes, and some forbs. In low-lying sedge meadows near Walnut Creek and its tributaries, invasive reed canarygrass (*Phalaris arundinacea*) has become a tenacious competitor due in large part to hydrologic changes to the stream and its floodplain. Over 300 acres of these low-lying Refuge lands are covered by more than 75 percent reed canarygrass. Sedge meadows on upland areas near seeps and ravines are degraded from their natural state but often still retain some diversity. Subsurface drainage tiles have reduced the level of soil saturation in seeps and ravines and have reduced the quality and diversity of sedge meadows found there.

Fire and Grazing

Fire and grazing are natural disturbances that were important in maintaining the diversity and heterogeneity of plant communities in the historic tallgrass prairie ecosystem. Both were disrupted by human settlement, and both are now important management tools for restoring prairie, savanna, and sedge meadow on the Refuge.

Variability in timing of prescribed fire promotes diversity of plant species; however, the majority of burns on the Refuge to date have been in spring. More extensive summer and fall burn seasons are difficult to implement due to weather conditions and staffing shortages, but creative and persistent use of prescribed fire in spring, summer, fall, and even winter if conditions permit, would enhance the ability to achieve Refuge goals and objectives.

Bison and elk have been reintroduced to the Refuge to re-create the historic role of large grazers. These animals cannot be allowed to roam onto private land and so must be kept within a fenced enclosure.

The enclosure size is 700 acres, which restricts the use of grazing as a management tool to only a small portion of the Refuge. The 1992 Master Plan recommended an eventual enclosure size of 2,000 acres when land acquisition is completed, but even that size would limit grazing to about one-fourth of the Refuge. A sound decision on whether and how to expand bison and elk grazing is hampered by limited data on the effects of the current program on the success of restoration. A lack of measurable objectives for grazing and restoration has precluded a strict monitoring program.

Adding cattle, sheep, and/or goat to address specific management issues would enhance flexibility and facilitate expansion of the grazing program. Although cattle have been used successfully elsewhere to increase prairie diversity and heterogeneity, some studies encourage their use only when it is not possible to have bison due to differences in behavior and grazing patterns. Electric fencing and watering tanks would need to be installed and removed seasonally, and herds would be removed from the Refuge entirely during non-grazing periods. Economic feasibility and private interest in grazing cattle on the Refuge have not been evaluated in any detail and would likely depend in large part on the specific protocol developed. Service policy (Service Manual, 601 FW3) allows for livestock grazing on refuges to meet wildlife and habitat objectives only when more natural methods, such as fire or grazing by native herbivores, cannot meet Refuge goals and objectives.

2.3.2 How will we maintain and enhance native wildlife populations on the Refuge?

The Refuge seeks to protect, restore, and maintain biologically diverse populations of native wildlife associated with a healthy tallgrass prairie ecosystem.

Grassland Birds

Grassland birds are of particular concern, because their populations have exhibited steeper, more consistent declines than any other group of North American birds. Many species largely disappeared from central Iowa due to habitat loss as the prairies were cleared for agriculture, but many, including Northern Harrier, Short-eared Owl, Sedge Wren, Field, Grasshopper, and Henslow's Sparrows, Dickcissel, Bobolink, and Eastern and Western Meadowlarks, have returned to the Refuge as former agricultural lands were restored to tallgrass prairie. Some grassland bird species are using the Refuge as a migration stopover, including Swainson's Hawk, Le Conte's Sparrow, Savanna Sparrow, and Smith's Longspur. Others such as Upland Sandpiper, Northern Bobwhite, and Loggerhead Shrike are sometimes present on the Refuge in small numbers.

Additional improvements to quality and quantity of habitat would be expected to increase the number, diversity, and productivity of grassland birds that the Refuge can support. Management strategies for conservation of grassland-nesting birds and other wildlife usually center on protecting or establishing large contiguous grassland blocks, providing plant diversity as well as structurally diverse habitat, eliminating mid-season grassland mowing, reducing edge, and controlling woody encroachment.

Bison and Elk

Bison and elk were reintroduced to a fenced enclosure to re-create the historic role of large grazers in maintaining diverse prairies, to study their effects on the ecosystem, and as a learning experience for visitors. The optimum enclosure size and configuration to best meet multiple Refuge needs has not been determined. The optimum herd size under the current management program also has not been firmly established, although a range of 73-129 animals could be supported by the vegetation based on the available forage at a moderate stocking rate. More information is needed on the effects of grazing and other behaviors on reconstructed prairie. Doubling the size of the enclosure is feasible given the current

Refuge boundary. A larger enclosure would expand the ability to manage and manipulate the grazing program creating more biological and structural diversity throughout the Refuge but also might reduce the visibility of the animals to visitors. Expanding the enclosure would also allow the Refuge to move the fence away from creeks and tributaries where it causes erosion or impedes water flow. Bison are not the cause of erosion, because they do not loaf along streams and creeks. Several waterways run through the enclosure; none are eroding due to use by bison.

The desired number of elk on the Refuge is fifteen. Animals usually are culled when the population gets above twenty. Inbreeding is a concern with such a small number of animals. The effects of their grazing on overall habitat diversity in the enclosure are probably small due to the small number of elk. Information about their impacts on Refuge habitat is limited. Refuge staff conducts weekly health monitoring, but because of their habits the elk are difficult to observe. Tranquilizers are necessary to handle them, and darting them is difficult and dangerous for staff and can be fatal for the elk, so research involving marking or tracking animals is not conducted. Live elk are not handled, and management focuses on morbidity and mortality. A study of habitat selection and diet of bison and elk in the enclosure was conducted in 2006-2007 (Kagima, 2008). Chronic Wasting Disease is a potential threat to the long-term viability of elk on the Refuge and prohibits removal or addition of live elk.

The bison and elk are extremely popular with the public, and most Refuge visitors come specifically to see the herds. Public scoping comments strongly supported the program, stating that the animals are an integral part of the Refuge, an important link to our past, and a valuable opportunity for environmental education and interpretation. Some recommended a larger enclosure. Others wanted the animals to be more visible to the public.

Other Wildlife Reintroductions

In addition to bison and elk, the regal fritillary butterfly has been successfully reintroduced on the Refuge. Other wildlife species also might need some help. Even if enough suitable habitat is available, the Greater Prairie-Chicken is unlikely to recolonize on its own due to distance from the nearest population. For reptiles, amphibians, small mammals, and invertebrates, more information is needed on current status, historic range, and/or habitat requirements before well-reasoned decisions can be made on whether or not reintroduction is warranted. All wildlife reintroduction decisions will be made in coordination and collaboration with the Iowa Department of Natural Resources.

Scoping comments supported restoration of the overall floral and faunal diversity of the Refuge. A specific recommendation was made to remove unnecessary roads and power lines to create more suitable habitat for Greater Prairie-Chicken reintroduction. (Determining the feasibility of road and power line removal would require coordination and planning with Jasper County and MidAmerican Energy.) Careful consideration of the potential impacts of climate change on Refuge wildlife was recommended.

2.3.3 How will we encourage more people to connect more closely with the Refuge while ensuring visitor safety and minimizing disturbance to wildlife and habitat?

The Refuge seeks to provide a variety of compatible wildlife-dependent recreational and educational opportunities so visitors can experience and treasure our native tallgrass prairie heritage. Visitors love the Refuge, and requests for additional activities are more than can be met with current resources. The Refuge must balance visitor services with safety concerns and the potential for disturbance to wildlife and habitat.

Environmental Education and Interpretation

The Visitor Center has excellent facilities for environmental education and interpretation programs. Current program offerings include Project Bluestem teacher training workshops, the Partner Schools program, and a variety of ranger-led environmental education programs and special events. Demand for these programs is high. In addition, many new ideas have been proposed for reaching new audiences. The potential for program expansion is much greater than staff and volunteers can meet, so priorities need to be set.

Non-personal interpretation outside the building includes kiosks, signs, and trail brochures, but more interpreted sites on the Refuge are desired, such as spotting scopes along the entry road where visitors can see bison and elk. The Visitor Center exhibits are high quality but in need of updating, possibly to include new interpretive messages. The Visitor Center is open seven days per week requiring full staffing to meet the public demand. The station is fortunate to have dedicated volunteers to operate the information desk and bookstore.

Many public scoping comments strongly supported an important role for the Refuge as an environmental education leader in central Iowa. Commenters also requested more activities throughout the year, more interpretive programs geared toward adults and families, and handicapped parking closer to the building entrance. Some made suggestions for new exhibits and brochures.

Wildlife Observation and Photography

Wildlife observation and photography are popular Refuge uses. Many visitors come just to drive the auto tour route to see bison and elk without leaving their vehicles. Four designated foot trails are available, as well as pull-offs along the entrance road. Some visitors also want to walk the mowed fire breaks or explore off-trail. Close visitor connection to the tallgrass prairie ecosystem is a meaningful experience to be encouraged. However, there are safety concerns when staff is burning, mowing, or spraying on the Refuge or when visitors get out of their vehicles to look at the bison and elk. Although current demand for Refuge access off the main trails is low (mostly hunters and birders), wildlife disturbance could become an issue if demand increases. A well-defined policy is needed that balances visitor access and exploration with safety concerns and the potential for wildlife disturbance.

Comments during the scoping process supported increased public access and participation on the Refuge without losing sight of the primary wildlife mission. Some had an interest in making wildlife viewing easier including allowing foot access in the bison and elk enclosure.

Hunting

About two-thirds of the Refuge is currently open for deer, squirrel, rabbit, pheasant, and quail hunting. All are open during the full state season with the exception of cottontail rabbit. All hunting on the Refuge ceases on January 31 of each year to accommodate research, biological monitoring, and other non-consumptive recreational activities on the Refuge. Shotgun, archery, and muzzleloader hunting are allowed. Drive hunting for deer is currently allowed, which is traditional in the local community, but there are safety concerns and potential conflict with other recreational uses.

Public comments have supported banning drive hunts or limiting group size. There have been requests by the public for turkey and furbearer hunting. No special disabled or youth hunts are offered. There are multiple entry points onto the Refuge, ten hunter parking lots, and no required on-Refuge registration,

so accurate assessments of hunter use are not available. Trespass occurs on adjacent private lands; 200-yard shooting zones are marked. There is no regular law enforcement presence.

Other Recreational Opportunities

Public scoping comments indicate support for development of a designated biking trail on the Refuge. Additional horseback riding opportunities are desired by some. Other uses requested by visitors have included camping, picnicking, snowmobiling, antler collecting, and creation of potholes for winter ice fishing and for wildlife. Some visitors would like to bring their dogs on the Refuge.

2.3.4 How will we improve our communication and community outreach efforts?

Communication and partnerships with area residents and local communities are crucial to the success of Neal Smith NWR. The Refuge is an active partner with the nearby town of Prairie City and has a supportive volunteer group called Friends of Neal Smith National Wildlife Refuge (Friends). In 2010, volunteers contributed more than 13,000 hours of service to Refuge programs. Refuge staff and volunteers provide current news and event information to the public through a quarterly Friends newsletter, the Friends website, news releases sent to local media, presentations to community groups, and participation in the Prairie City Business Association. When first established, the Refuge was a big story in the local media. Now, however, few area newspapers and radio stations publish the news releases, and few television stations have covered stories about the Refuge in several years. As is common at refuges across the nation, there are many residents in the Des Moines area who are unaware that the Refuge exists.

The importance of developing strong community outreach and partnerships was a frequent theme during the public scoping period. Comments included the need to promote and publicize the Refuge at every opportunity; increase outreach in metropolitan Des Moines and the Midwest; and collaborate with other local organizations such as libraries, historical societies, and garden clubs. The partnership with Prairie City received praise, and continued development of that relationship was recommended. Recruitment of additional volunteers was encouraged, including more volunteers from the Prairie City area.

2.3.5 How will we address conservation concerns related to urban development and loss of wildlife habitat outside the Refuge boundary?

The Refuge is located in a primarily rural area just 20 miles east of urban Des Moines. Development is increasing rapidly near the Refuge as the city and suburbs expand. Additional homes may be built close to the Refuge boundary and throughout the watershed; commercial development likely will increase near the highway. Wildlife movement between the Refuge and other protected areas will decrease. Our long-term ability to restore and sustain native vegetation and wildlife on Refuge lands depends in part on the integrity of the surrounding landscape. As more agricultural areas are developed, opportunities for the Service to influence land use decisions and reduce habitat fragmentation will become increasingly rare.

Many conservation options are available on private lands outside the Refuge boundary including cooperative efforts with landowners, conservation easements, or fee acquisition from willing sellers in some cases. Public scoping comments often named development as a significant threat to the Refuge.

Some commenters encouraged continued emphasis on land acquisition near the Refuge and/or creation of habitat corridors connecting the Refuge to other public lands in the area.

2.4 Preparation, Finalization, and Implementation of the CCP

The Neal Smith NWR CCP was prepared by a team of staff from Neal Smith NWR and the USFWS Regional Office. The CCP was published in two phases and in accordance with the National Environmental Policy Act (NEPA). The Environmental Assessment, which was published as Appendix A in the Draft CCP, presented four alternatives for future management and identified a preferred alternative. A 30-day public review period, including a public open house, followed release of the draft plan.

The alternative that was selected has become the basis of the Final CCP, which will guide management over the next 15 years. It will guide the development of more detailed step-down plans for specific resource areas and it will underpin the annual budgeting process through Service-wide allocation databases. Most importantly, the CCP lays out the general approach to managing habitat, wildlife, and people at Neal Smith NWR that will direct day-to-day decision making and actions.

2.5 Public Comments on the Draft CCP

The Draft CCP was officially released for public review and comment on August 20, 2012; the comment period ended on September 21, 2012. Availability of the Draft CCP was announced through local media outlets and a summary of the document was sent to more than 400 individuals and organizations. The Draft CCP was posted on the Service website and hard copies were available on request. Nine people attended the open house event on August 26th at the Neal Smith NWR Visitor Center. Fifteen written responses were received by the end of the comment period.

Wildlife and Habitat

Some comments expressed full support for the Service's preferred alternative (Alternative B: Refuge Grassland Bird Focus); expansion of the Refuge boundary was seen as an important buffer to the effects of increasing development. Others supported a larger Refuge boundary expansion to include the upper reaches of Walnut Creek or the entire watershed (Alternative C: Watershed Focus) to improve water quality and Refuge floodplain habitat, or the entire Chichaqua Bottoms–Neal Smith–Lake Red Rock corridor (Alternative D: Corridor Focus) to support wildlife populations and enable full restoration of ecosystem processes. The emphasis on Refuge habitat restoration and management was supported. Continued research was seen as important. The conversion of all cropland to prairie within just five years was questioned. The importance of considering the effects of climate change on wildlife and habitat was described. The importance and value of partnerships with other agencies, organizations, and private landowners to achieve conservation goals was recognized.

One respondent suggested that objectives for wildlife and habitat restoration should be more ambitious: the focus on grassland birds was seen as too narrow, monitoring of other wildlife species and consideration of additional wildlife reintroductions was encouraged, and restoration of a greater diversity of native plants than that proposed in the Draft CCP was recommended.

Service Response

The 3,200-acre boundary expansion includes the headwaters of tributaries that flow through the Refuge, which will allow us to reduce the number of drainage tiles, reestablish more natural soil moisture and water flow, and thereby improve the quality and sustainability of habitat on lands within

the current Refuge boundary. In addition, the new boundary will help buffer habitat and wildlife on the Refuge from the negative effects of development, habitat fragmentation, and climate change. The expanded Refuge acquisition boundary includes only those lands of highest conservation value to the Service and is the most cost-effective means of achieving Refuge purposes and National Wildlife Refuge System goals.

Although the primary focus of the CCP is on restoring Refuge lands, working with partners to achieve mutual conservation goals throughout the Walnut Creek watershed and within the Chichaqua Bottoms—Neal Smith—Lake Red Rock corridor will continue to be a high priority. Effective partnership efforts can greatly improve the amount and quality of wildlife habitat and ecosystem services within the watershed and the corridor.

The CCP focuses limited resources on creating high quality wildlife habitat on the Refuge and providing the varied habitat structure needed to support migratory grassland birds of primary concern to the Service. Grassland-dependent bird populations have declined from historic levels more than any other group of birds. Restoration of diverse high quality habitat that meets the needs priority grassland birds will also benefit other prairie and savanna dependent wildlife including mammals, amphibians, reptiles, invertebrate pollinators, and many additional bird species.

About 450 acres of farmland are still being cropped on the Refuge. The original Service intent was to plant Refuge lands to native vegetation within two to three years of acquisition; many farmland conversions are now long overdue. Current research projects on the Refuge will not be affected by the ambitious five-year conversion objective. As additional lands are acquired by the Refuge, they will be planted to prairie within three to five years. The tallgrass prairie ecosystem has been reduced to less than 0.1 percent of its original extent in Iowa. We can best help to reverse that trend by beginning the long-term process of reconstructing native prairie and savanna as soon as possible.

Restoration of the tallgrass prairie ecosystem will take many years with many adjustments over time as additional experience is gained. Specific wildlife and habitat objectives in this CCP are not meant to indicate full restoration of Neal Smith NWR; instead they reflect realistic results thought to be achievable within the 15-year time frame of this plan. Monitoring of wildlife and habitat is an important part of measuring success in achieving the CCP objectives. A detailed habitat management plan and monitoring plan will be developed within the next few years.

People

Requests for increased recreational opportunities included more bicycle access, more multi-use trails (e.g., for mountain biking), and allowing leashed dogs on walking trails. Hunting-related comments included support for increased opportunities, support for current programs only, and the desire to eliminate all hunting. Fostering partnerships with the local community and developing outreach and education messages that make Refuge issues relevant to everyday life were both seen as important. Development of more visitor programs geared toward families and children was appreciated. A suggestion was made to incorporate more recent data on Refuge cultural resources.

Service Response

County roads that cross through the Refuge already are open to bicycle traffic. In addition, a new bicycle trail paralleling the entrance road will be constructed in 2013–2014. We believe that we can accommodate both bicycles and pedestrians by keeping some trails—Overlook, Tallgrass, Savanna, and

Basswood—closed to bicycle access. Biking outside of designated roads and trails is not allowed because of the potential for harm to habitat, nests, and wildlife.

Based on public comments received, dogs now will be allowed on trails and roads within the Refuge provided they are on a leash and the owner cleans up after them. Dogs may not threaten wildlife or people, and owners must remain in full control at all times. The Refuge reserves the right to close any trail to dogs if problems arise.

Hunting is a priority wildlife-dependent recreational use on national wildlife refuges under the Improvement Act passed by Congress in 1997. Comments on the details of the Neal Smith NWR hunting program have been noted. Final decisions on any changes to the hunting program on the Refuge will be addressed in the step-down Hunt Plan to be completed within one year of CCP approval.

Information from the most recent Refuge cultural resources investigation, completed in 1991, was incorporated into this plan.