

III. Refuge Goals, Objectives, And Strategies

This section presents long-term guidance (15 years) for the Refuge in the form of goals, objectives, and strategies. Refuge goals are qualitative statements that define what the Refuge must be to satisfy its purpose, legal mandates, and the needs of citizens and agencies having a vital interest in what and how the Refuge performs. Refuge objectives provide quantitative (and qualitative) bench marks that indicate progress toward Refuge purpose and goals. Strategies are actions and/or projects that will lead to the accomplishment of Refuge management objectives.

The purpose for which the Refuge was established provides the basic framework for setting Refuge goals, objectives, and strategies. It is within the Refuge purpose that management functions are developed and what uses and facilities can be provided. The requirement that a permitted use be *compatible* with the Refuge purpose governs whether or not an activity or use can be allowed on the Refuge. As such, a compatibility determination is the primary statutory standard determining uses of national wildlife refuge lands. All proposals in this Plan are considered compatible based upon a site-specific evaluation of the anticipated impacts (conflicts) on migratory bird use and habitat. The section is organized into three areas: 1) watershed stewardship, 2) habitat and wildlife management, and 3) public use.

1. Watershed Stewardship Initiative

The quality of wetland habitat in the Refuge is largely related to land management practices within the Refuge watershed. The Watershed Stewardship Initiative provides a means for Refuge management to take a proactive role in addressing Refuge resource issues (and opportunities) that originate outside of the current Refuge boundary. Project implementation would be based on partnerships formed with landowners in the watershed, farm and conservation organizations, and with appropriate federal, state, and county agencies. Water quality, which directly affects Refuge resources, has been targeted for improvement through voluntary programs with neighboring producers. Success of the program is based on the premise that sustainable, profitable agriculture can be maintained and/or enhanced while benefiting Refuge resources and the people who utilize the Refuge. Land acquisition by the Service is an important tool in this initiative, but in and of itself will not meet the broad goals of the Watershed Stewardship Initiative. For that reason partnerships and use of other programs such as Monsanto's Green Stripe program, the Conservation Reserve Program (CRP), Wetland Reserve Program (WRP), Water Quality Improvement Program (WQIP), Environmental Quality Incentive Program (EQIP) and others will be vital to the long-term success of this undertaking.

Refuge staff will work with private landowners, the Iowa Farm Bureau, conservation organizations, and other governmental agencies to bring voluntary programs into the watershed to help meet Refuge water quality goals and the needs of producers. Through these programs and practices, such as Integrated Crop Management, Precision Farming, Conservation Tillage, Manure Management, and others, nutrient and chemical inputs and sediment entering the Refuge can be reduced. Other voluntary programs such as the Conservation Reserve, Wetland Reserve, and the Service easement programs offer means for

landowners to restore highly and extremely erodible areas into permanent grass cover. This initiative aims to give farmers in the Union Slough watershed an opportunity to demonstrate voluntary land management practices important to water quality and wildlife resources on the Refuge.

GOAL: *Through voluntary partnerships, improve water quality and quantity within the Refuge in a manner that is compatible with a healthy farming economy.*

OBJECTIVES:

1. Reduce the annual sedimentation rate in Refuge pools to 1/8" or less per year.
2. Reduce nitrate inputs into Refuge waters to seasonal peak concentrations of 5 ppm or less.
3. Promote the use of environmentally friendly farm chemicals so that a wider variety of products are used and that more than 50% of pesticides applied within the Union Slough watershed are listed in the lowest three levels of toxicity by the Farm Chemical Handbook (practically nontoxic, slightly nontoxic, and toxic)

STRATEGIES/PROJECTS:

- L Establish a Watershed Advisory Committee composed of landowners/producers, agribusiness, private conservation organization, and agency representatives. This Committee would provide long term guidance for the Watershed Initiative and seek new ways to meet its goals and objectives.
- L Develop an outreach packet for distribution to landowners. This packet would contain informational brochures/leaflets on land management practices which would contribute towards project goals (See Project No. 17).
- L Meet with all adjacent landowners one on one over the next year to discuss the Plan.
- L Promote the restoration of steep slopes within the Refuge watershed to grass cover through the Monsanto Green Stripe Program, CRP enrollment, conservation easements, or fee title acquisition (See Project No. 5).
- L Develop an annual water quality monitoring program.
- L Actively promote through education and partnerships Precision Farming Practices, Integrated Crop Management, or other tools on over 75% of cropland within the watershed to reduce use of harmful herbicides and insecticides. Implement these voluntary projects with local partners and funding through the USDA Water Quality Incentive Program (WQIP), Iowa DNR 319 program, or other similar sources (See Project No. 4-5).

- L In selected areas, filter and treat surface runoff and tile water through a series of treatment wetlands to reduce nitrate loading into the Refuge's wetlands. (See Project No. 4-5).
- L With partners, develop an environmental education curriculum that focuses on water quality issues and solutions in Kossuth County (See Project No. 17).

2. Habitat And Wildlife Management

Habitat and wildlife management at the Refuge involves using a variety of management techniques to preserve and enhance marsh and upland habitats for wildlife. Marsh management involves the manipulation of water levels to achieve a desired succession of wetland plant communities to meet the seasonal needs of wildlife populations. Upland management includes establishing and maintaining grasslands to provide nesting and feeding habitat for ducks and various song birds. The Refuge strives to maintain adequate numbers, distributions, variations, and species associations within and between plant and animal populations to promote recovery and ensure continued existence. Management focuses on monitoring and assessing populations, controlling predators and exotic species, and research.

GOAL: *Protect, restore, and manage habitat on the Refuge and within the Refuge watershed with increased emphasis on restoring and preserving a community of life typical of the tallgrass prairie ecosystem.*

OBJECTIVES:

1. Increase Refuge waterfowl breeding pair populations to 5,000 pairs, with a recruitment rate equal to or greater than 0.6.
2. Maintain 400 wood duck boxes in a manner to achieve a 75 percent occupancy rate.
3. Increase and maintain waterfowl nesting success rates to a minimum of 25 percent.
4. Through a combination of voluntary partnerships, easements, and land acquisition, restore and preserve a 1/4-mile grassland buffer around Refuge wetlands (approximately 2,500 acres), with emphasis on establishing high quality waterfowl and migratory bird nesting and feeding habitats and a cost-effective means for safeguarding water quality within Refuge wetlands (See Project No.1).
5. Through a combination of voluntary partnerships, easements, and land acquisition, restore and preserve a 4,300 acre complex of wetlands, wet meadows, and grasslands to meet the needs of breeding waterfowl and area-sensitive grassland bird species (See Project No. 2).
6. Through a combination of voluntary partnerships, easements, and land acquisition, restore and preserve a 1/4-mile grassland buffer around the lower reaches of Buffalo Creek (approximately 1,500 acres)(See Project No. 3).

7. Preserve all remnant tallgrass prairie within the Union Slough NWR watershed.
8. Reduce crop depredation on neighboring lands from geese and deer.
9. Increase bald-eagle use by protecting, restoring and maintaining roosting and feeding sites.
10. Restore and maintain a viable self-sustaining population of Trumpeter swans on the Refuge (minimum 5 pairs).

STRATEGIES/PROJECTS:

- L Restore and enhance fish spawning, nursery, and overwintering habitat by selective dredging, bank stabilization, and controlling carp (primarily Buffalo Creek).
- L Develop monitoring and assessment programs for waterfowl (breeding pair recruitment/nesting success), other wildlife, fish, and Refuge plant communities.
- L Actively manipulate water levels on Refuge pools to produce a mosaic of wetland habitat conditions favorable to a wide variety of waterfowl and wetland wildlife.
- L Review and update the Refuge's waterfowl, migratory bird, and water management plans.
- L Control the populations of medium-sized predators such as skunks, fox, and raccoons on Refuge lands until sufficiently sized blocks of nesting habitat are restored.
- L Work with adjacent landowners to develop and maintain natural vegetative barriers and/or fencing between Refuge wetlands and adjacent farm fields to control field depredation by geese.
- L In cooperation with the State, manage the Refuge deer population through controlled hunts.
- L Restore and maintain mature trees in a zone 300 feet wide around each bald eagle roosting sites.
- L Minimize human activities within 300 feet of bald eagle roosts.
- L Improve collaboration between Service staff and other Federal agencies, the State, local officials, conservation groups, and private landowners (Service partners).
- L Redistribute existing wood duck boxes to new habitats as they become available.
- L Intensify and concentrate Federal, State, local, and private habitat restoration and preservation mechanisms in the Refuge watershed,
- L Using the proceeds from the sale of Federal duck stamps, acquire 250 acres of additional habitat each year for 15 years (willing seller/willing buyer basis).

- L Develop a Geographic Information System (GIS) for the Refuge. (See Project No. 19)
- L Construct and maintain predator proof enclosures for nesting waterfowl (See Project No. 6).
- L Construct and maintain 3-5 predator-free nesting islands for waterfowl within Refuge pools (minimum 150 feet from shore) by limited dredging (See Project No. 6).
- L Construct and maintain 200 additional waterfowl nesting structures within a one mile radius of Refuge wetlands (See Project No. 6).
- L Relocate the Refuge auto tour route at least 1,000 feet from Refuge pools (See Project No. 8)

3. Public Use

Union Slough Refuge currently provides opportunities for birdwatchers, photographers, educators, students, researchers, hunters, anglers, and hikers. Annual visitation is estimated at 8,000 visits per year. The Refuge, the largest parcel of public land in Kossuth County, will provide a greater contribution to the quality of life for county residents by preserving the region's natural and aesthetic beauty and by affording wildlife-dependent recreational and educational opportunities.

Existing Refuge activities and facilities were evaluated based on three criteria: 1) compatibility with wildlife, 2) local demand and need, 3) function and aesthetics. The public use recommendations are a balanced package of programs and facilities that will allow the Refuge to achieve its long-term visitation objective of 14,000 visitors per year while preserving the biological integrity of the Refuge.

Conservation biology principles of preserving blocks of habitat uninterrupted by public facilities and reducing the amount of roads along the marsh edge have been applied where appropriate. Sediment containment ponds and filter wetlands, proposed to preserve the marsh, will be interpreted to educate people on the need for and techniques of watershed stewardship.

A number of wildlife dependent visitor activities will continue to be offered at Union Slough. This Plan includes proposals to renovate most of the existing facilities to bring them up to Service standards. New opportunities are proposed for wildlife viewing, bicycling, and wetland education. Proposed facilities will increase visitor use while at the same time protecting wildlife from excessive human disturbance.

GOAL: *Provide people with high quality environmental education and wildlife-dependent recreation programs and facilities at the Refuge.*

OBJECTIVES:

1. Through improvements to visitor programs, facilities and information, increase the total number of Refuge visitors to 14,000 people per year.
2. Through special events and partnerships with local schools, youth organizations, and county naturalists, increase environmental education programs on the Refuge to accommodate 1,500 students per year.
3. Increase hunting and fishing opportunities on Union Slough NWR to accommodate 4,000 visits per year.

STRATEGIES/PROJECTS:

- L Enhance the Refuge visitor's experience through the development of a clear system of welcome and orientation. Visitors must know where to go and what recreation or education opportunities are available. Develop a Communication Plan that includes a basic package of signs and brochures for the Refuge. Market Refuge activities and events through the local communities.
- L In partnerships with local teachers, county naturalists, and youth organizations, develop curriculum and monitoring programs focusing on Refuge water and watershed issues.
- L Promote the Refuge as a "Watchable Wildlife" destination in northern Iowa. In partnership with county naturalists, local tourism offices, and special interest groups, develop a system of signs,

brochures, wildlife identification materials, and equipment to allow Refuge visitors increased opportunities to see wildlife.

- L With partners, conduct four watchable wildlife workshops per year to educate Refuge visitors on species identification, habitat identification, wildlife observation skills, and wildlife threats and conflicts.
- L Expand tour route access times during peak migration and throughout the summer.
- L Promote winter recreation on the Refuge including wildlife observation, cross-country skiing, and hiking.
- L Evaluate new hunting opportunities on existing and newly acquired lands. In 15 years, an estimated 2,000 additional acres could be opened to hunting.
- L Improve the Refuge headquarters site for visitors by better defining visitor parking, visitor entrance, and providing information on a kiosk overlooking pool C. Construct a 624 square foot addition (Office Space) and use existing office space for school groups and visitors. Design space as a Watershed Education Room to describe Refuge habitat and techniques for protecting and enhancing the Refuge (See Project No. 7).
- L Realign the auto tour route to reduce disturbance to wildlife and to meander through a variety of habitats. Acquire an adequate interest in additional lands to allow for realignment . Increase roadway width and load capacity to accommodate school and tour buses (See Project No. 8).
- L Develop the gravel pit area to function as an outdoor classroom site to study watersheds, wetlands, and water quality. The project will include a wetland boardwalk, wetland sampling sites, shelter, equipment storage, and toilets (See Project No. 13).
- L Develop interpretive pull-off areas along the tour route to provide opportunities to see eagles or learn about wildlife, habitat and the Refuge (See Project No. 9).
- L Develop accessible hiking trails at Deer Meadow and Buffalo Creek to maximize wildlife viewing and wildlife/wildlands interpretation (See Project No. 11).
- L Develop two new hunter parking areas and upgrade others to Service standards (See Project No. 12)
- L Develop fishing access and facilities at the Tienan's Dam site (See Project No. 15).
- L Develop a 5 mile hiking/ biking trail from the Refuge headquarters (See Project No. 14).