

Valentine

National Wildlife Refuge



***Comprehensive
Conservation Plan***

Valentine National Wildlife Refuge

Comprehensive Conservation Plan

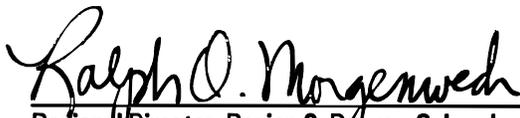
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Date:

9/30/99

**Valentine National Wildlife Refuge
Comprehensive Conservation Plan Approval
U.S. Fish and Wildlife Service, Region 6**

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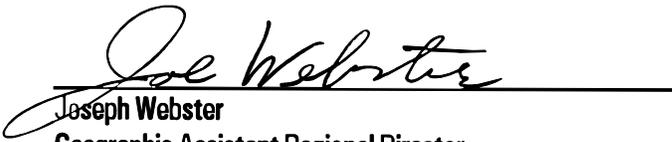
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Table of Contents

Summary	9
Introduction/Background	13
Refuge Overview: History of Refuge Establishment, Acquisition and Management	13
Valentine National Wildlife Refuge History	13
Wetland Management History	14
Gordon Creek Diversion History	14
Wildlife Management History	15
Waterfowl	15
Native Birds and Other Wildlife	16
Grassland Management History	17
Public Use History	17
Current Refuge Resources Management	17
Grassland Management	17
Wetlands Management	19
Threatened and Endangered Species Management	19
Indigenous Wildlife Management	19
Exotic and Invading Species Management	19
Proposed Wilderness Area	20
Public Use	20
Cultural and Paleontological Resources	21
Monitoring	21
Purpose of and Need for a Comprehensive Conservation Plan	22
Fish and Wildlife Service Mission	26
Valentine National Wildlife Refuge Purpose	26
Valentine National Wildlife Refuge Vision Statement	26
Legal and Policy Guidance	26
Existing Partnerships	27
Planning Process	29
Description of the Planning Process	29
Planning Issues	30
Bison Reintroduction	30
Black-Tailed Prairie Dog Introduction	32
Prescribed Burns	33
Habitat, Human Structures, and Wildlife Protection	33
Hunting, Recreation, and Other Public Uses	34
Management of the Refuge's Fisheries Resources	34
Funding and Staffing to Manage the Refuge	34
Public Involvement Methodology	35

Summary of Refuge and Resource Descriptions	37
Geographic/Ecosystem Setting	37
Climate	38
Air Quality	38
Geology	38
Soils	38
Refuge Resources, Cultural Values and Uses	39
Water Resources and Associated Wetlands	39
Vegetation	39
Grasslands	39
Woodlands	40
Wildlife	40
Birds	40
Mammals	45
Fishes	45
Insects	45
Threatened and Endangered Species	46
Federally Listed Animals	46
Federally Listed Plants	46
Cultural and Paleontological Resources	47
Socio-Economic and Political Environment	47
Public Uses	47
Special Management Areas	48
Special Legislated Designations	48
Wilderness Area	48
Definition of Wilderness	48
Research Natural Areas	48
National Landmark	48
Management Direction	49
Refuge Management Direction: Goals, Objectives, and Strategies / Projects	49
Refuge Goals and Objectives	49
Habitat Management	50
Wildlife	52
Threatened, Endangered, and Management Concern Species	53
Interpretation and Recreation	54
Ecosystem (Partner)	54

Implementation and Monitoring	55
Funding and Personnel	55
Staffing Needed to Implement This Plan	55
Funding Needed to Implement This Plan	55
CCP Implementation and Step-down Management Plans	56
Habitat Management and Monitoring	56
Proposed Wilderness Area	57
Grasslands	58
Wetlands	58
Habitat Acquisition	58
Wildlife Management and Monitoring	58
Public Use Management and Monitoring	59
Ecosystem (Partners) Management and Monitoring	60
Management of Cultural and Paleontological Resources	60
Partnership Opportunities	60
Monitoring and Evaluation	61
Plan Amendment and Revision	62
Wilderness Management	62
Appendix A. Glossary	63
Appendix B. Bibliography	67
Appendix C. Refuge Operating Needs System (RONS) List.....	69
Appendix D. Maintenance Management System (MMS) List	81
Appendix E. Compatibility Determinations	99
Appendix F. List of Animal Species at Valentine NWR	115
Appendix G. Compliance Requirements	119
Appendix H. NEPA Documentation	123
Appendix I. Summary of Public Involvement/ Comments and Consultation/ Coordination.....	133
Appendix J. Mailing List	135
Appendix K. List of Preparers	137
Appendix L. Intra-Service Section 7 Consultation	139
Tables	
Table 1. Annual Precipitation 1945-1997	14
Table 2. Historic Nest Cover Treatment	15
Table 3. Grassland Treatment	15
Table 4. Hatching Chronology	15
Table 5. Prairie Chickens	16
Figures	
Figure 1. Vicinity Map	23
Figure 2. Wetland Map	41
Figure 3. Vegetation Map	43

Summary

The 71,516-acre Valentine National Wildlife Refuge is located in the Sandhills of north-central Nebraska. The Refuge is a unique and ecologically important component of the National Wildlife Refuge System (System) which includes over 500 refuges totaling approximately 93 million acres across the United States. The native grass prairie and wetlands found here support a diversity of wildlife. Little has changed from historic times. The Refuge was established by Congress in 1935 “as a breeding ground for migratory birds and other wildlife.” The Refuge is home to 270 species of birds, 59 species of mammals, and 22 species of reptiles and amphibians. Several threatened and endangered plants, birds, and one insect are found here. The 180-acre Holt Creek and 480-acre Yellowthroat Wildlife Management Areas in Keya Paha and Brown Counties are also included in this Plan.

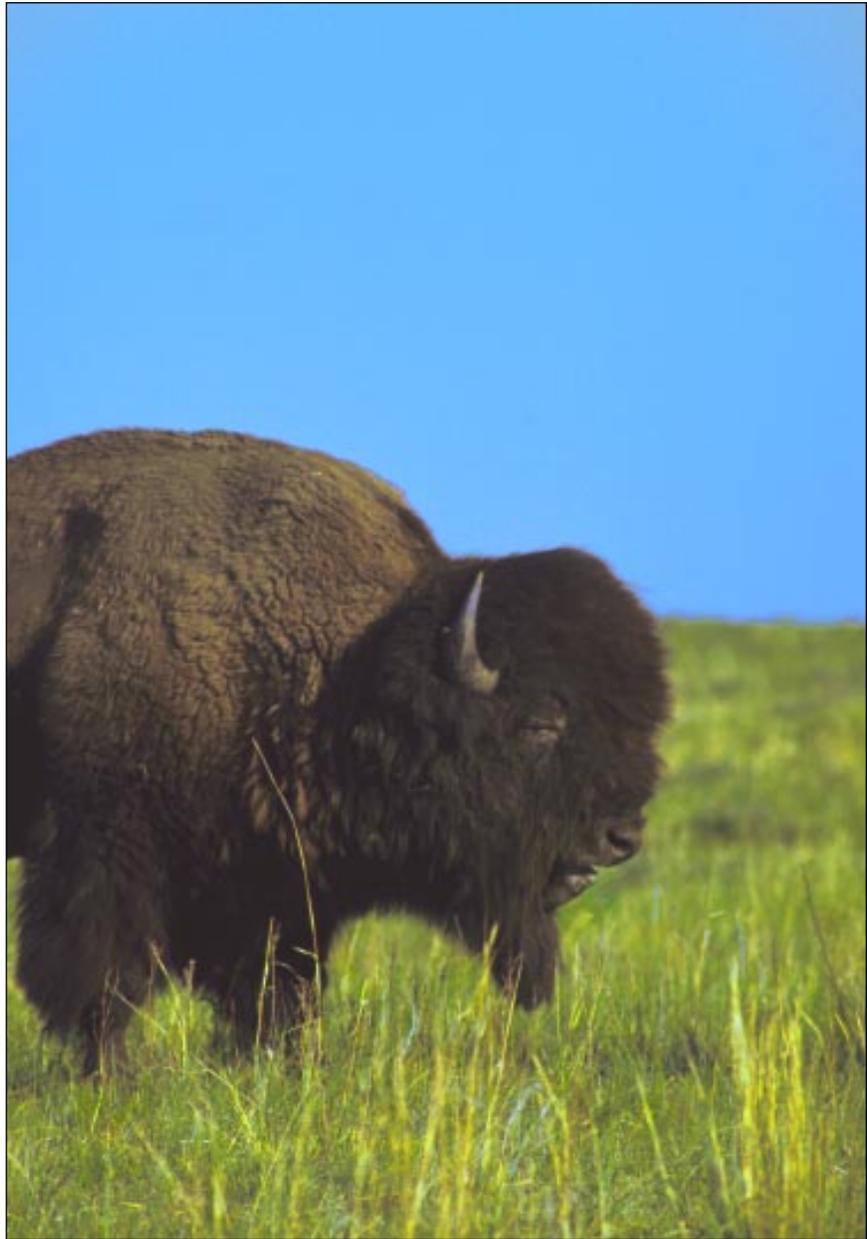
This Comprehensive Conservation Plan (Plan) was prepared for the Refuge and its Wildlife Management Areas to guide their management for the next 10 to 15 year period. It is an updated and revised version of a Draft Comprehensive Conservation Plan and Environmental Assessment completed earlier this year. It has been written to provide continuity of management of Refuge lands for the benefit of wildlife and people.

All efforts leading to the preparation of this Plan were undertaken to provide the Refuge with a vision for the future, guidelines for wildlife and habitat management over the next 15 years to ensure progress is made toward attaining the mission and goals of Valentine NWR and the Refuge System, and to comply with Congressional mandates stated in the National Wildlife Refuge System Improvement Act of 1997. The planning effort provided opportunities for interested people, Federal and State agencies, State and local governments, and private organizations to give input on future management of the Refuge. This Plan provides clear goals and objectives for management of Refuge habitats, wildlife, threatened and endangered species, cultural and paleontological resources, other compatible public uses, and partnerships, along with implementation strategies, and recommended staffing and funding for these areas. This Plan also meets the planning requirements of the National Wildlife Refuge Improvement Act enacted by Congress in 1997.

The Draft Plan considered four alternatives for management of Valentine NWR. Each of the alternatives was evaluated for environmental consequences in accordance with the National Environmental Policy Act (NEPA). The Plan, in its present form, contains the goals, objectives, and strategies found by the Service to best aid the Refuge and the National Wildlife Refuge System (System) to attain their specific goals.

For a summary of the alternatives considered during the planning process see Appendix H. Further information on alternatives considered can be found in the Valentine National Wildlife Refuge Draft Comprehensive Conservation Plan and Environmental Assessment (U.S. Fish and Wildlife Service, 1999).

Several of the alternatives for management of Valentine National Wildlife Refuge call for the return of bison to Refuge grasslands; Native grasses growing on Refuge meadows provide excellent nesting habitat for ducks, prairie chickens, and birds which prefer tall dense cover; The endangered plant, blowout penstemon, grows in the sandy dunes where wind erosion creates areas of open sand; Money from the sale of Duck Stamps was used to purchase most of the lands that now make up Valentine National Wildlife Refuge; in April prairie chicken males display on traditional breeding grounds throughout the Refuge.





Introduction / Background

Refuge Overview: History of Refuge Establishment, Acquisition and Management

Valentine National Wildlife Refuge History

Valentine NWR was established on August 14, 1935, by Executive Order No. 7142 “as a breeding ground for migratory birds and other wildlife.” Lands for the Refuge were purchased from private ranches, recreational land, resort clubs, and corporations with investment interests. Funding for acquisition came from the Emergency Conservation Fund of 1933. The dust bowl period of the 1930’s created concern among conservationists for the survival of waterfowl species. Many refuges were set-aside during this period to help in meeting the goals of the Migratory Bird Treaty Act of 1918. Since the 1940’s, additional lands have been purchased and traded to straighten Refuge boundaries and improve Refuge administration. In 1992, the Fort Niobrara-Valentine National Wildlife Refuge Complex acquired the Yellowthroat Wildlife Management Area, a 920-acre fee title/easement area in Brown County, and in 1995, the 180-acre fee title Holt Creek Wildlife Management Area in Keya Paha County through the U.S. Department of Agriculture (USDA), Farmers Home Administration, under provisions of the 1990 Farm Bill.

A Civilian Conservation Corps (CCC) Camp of 200 enrollees was established on Valentine NWR in 1935 and was operational until 1939. The CCC enrollees constructed fences, roads, buildings, fire towers, planted trees and shrubs, developed ponds and water control structures, and built a diversion ditch from Gordon Creek. Nebraska Game and Parks Commission (NG&PC) acquired a water right for the Gordon Creek Diversion. In the early 1980’s, this water right was relinquished for lack of use and also because it was not in the best interest of the Refuge. Surface water management has been facilitated by subsequent construction of seven water control structures and records of lake elevations are available since the 1950’s.

The Refuge was opened to fishing when water returned to the lakes following the drought of the 1930’s. The Refuge was opened for the following hunting seasons: deer in 1964, pheasant and grouse in 1965, waterfowl in 1977, dove in 1983, and coyotes in 1986.

From 1935 through 1972, Valentine NWR was managed by an on-site refuge manager in charge of only Valentine NWR. In 1973, the Refuge was joined with Fort Niobrara NWR to form a Complex with one manager in charge.

The Refuge has two Research Natural Areas closed to public entry, a 15,809-acre proposed wilderness area designated in 1973 and located in the southwest part of the Refuge, and was recognized as a Registered National Landmark in 1979.

Wetland Management History

Thirty-seven major wetland areas exist on Valentine NWR comprised of approximately 13,000 acres of semipermanent and permanent wetlands which historically have operated as a closed system except for periods of high precipitation. Historic data regarding surface and groundwater elevations are available for the Refuge; however, the most consistent data records available are since 1985.

Since establishment of the Refuge, various attempts have been made to manage the water elevations of six lakes by water control structures. However, water elevations are dependent upon precipitation. Since 1981, above average annual precipitation has complicated attempts of managing lake elevations beyond diminishing the adverse effects of the extremely high wetland levels experienced since the mid-1980's (See Table 1).

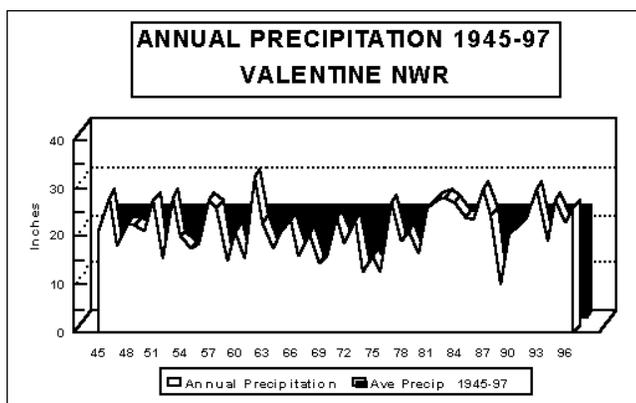


Table 1

Approximately 40 U.S. Geological Survey (USGS) wells have been established on and adjacent to the Refuge in which groundwater elevations have been monitored by Refuge staff since the 1950's. This information is part of the monitoring program carried out by USGS Water Resources Division. Groundwater elevations are presently 4-7 feet above the elevations recorded during the period 1950 to 1985.

Gordon Creek Diversion History

In the 1930's, the CCC's constructed a diversion on Gordon Creek to divert water through the Refuge. Considerable resources were allocated to the construction of the diversion dam and ditch to Hackberry Lake. However, the project was "piecemealed" beyond Hackberry Lake through the remainder of the Refuge (Dewey, Clear, and Willow Lakes) and north through Trout and Big Alkali Lakes via Slagel Creek and east through Ballard Marsh and Red Deer Lake via East Plum Creek.

In 1952, a District Court Decree (Young, Harse and Harms vs State of Nebraska) successfully challenged the construction of a larger water control structure on Willow Lake by Nebraska Game and Parks Commission (Commission); set a maximum elevation that water could be held in Willow Lake; and the defendants were "permanently restrained and enjoined from causing or permitting any interference ... and from by any act or in any manner causing or contributing to causing the water in the natural water course below and to the north of the outlet of Willow Lake to flow in any different manner or at any different time or season of the year than in the manner and at times and seasons in which they are wont to flow." In 1997, the Willow Lake water control structure washed out and the Commission has elected not to replace the structure and to allow water levels in Willow Lake to fluctuate naturally.

The water right for the Gordon Creek diversion was acquired by the Commission, but the water right was relinquished in the early 1980's because it was not of benefit to the management of the Refuge. This diversion was the original source of carp infestation for the Refuge. Wetland management subsequent to the construction of the diversion has focused on controlling carp populations and the adverse effects of carp on habitat and food resources of waterfowl and sport fish. Over the years, water control structures were constructed and reconstructed in an attempt to prevent the movement of carp. However, by the 1940's, carp had spread throughout the wetlands in the northwest area of the Refuge as well as the downstream wetlands under the management of the Commission and private landowners. Various attempts to control carp with chemical treatment were carried out in the 1950's and 1960's to control carp populations on the Refuge. The most effective control technique was initiated in 1975 and, during the period 1975-82, seven lakes were mechanically pumped and chemically treated with rotenone to reduce the carp populations. To date, only two of the renovated lakes have remained carp-free. However, in the remaining five lakes, carp populations have remained at moderate levels with the implementation of biological control. Biological control was accomplished by modifying northern pike size limits to enhance the populations of larger northern pike and subsequently reduce carp recruitment.

Wildlife Management History

Wildlife populations have been affected by both the management of wetland and grassland resources on Valentine NWR. Grazing practices increased as a result of increased demand for beef during World War II and remained in excess of 50,000 AUMs until the mid-1960's. Indigenous wildlife species with specific habitat requirements (which are not achieved under the widespread grazing/mowing regimes of that time) did not fare very well. By the mid-1950's, considerable criticism was leveled against the management of the Refuge both from within and outside the Service. In the early 1970's, a grassland management team was formed to develop recommendations regarding the management of Refuge grasslands. Wildlife populations, for which monitoring data are available, have responded positively to the spirit and intent of these recommendations; specifically, the enhancement of native Sandhill Prairie through the termination of widespread, season-long grazing, annual mowing practices, and the implementation of planned grassland management treatments (See Table 2). These provide optimum acreage of vegetative composition, structure, and undisturbed nesting cover for wildlife.

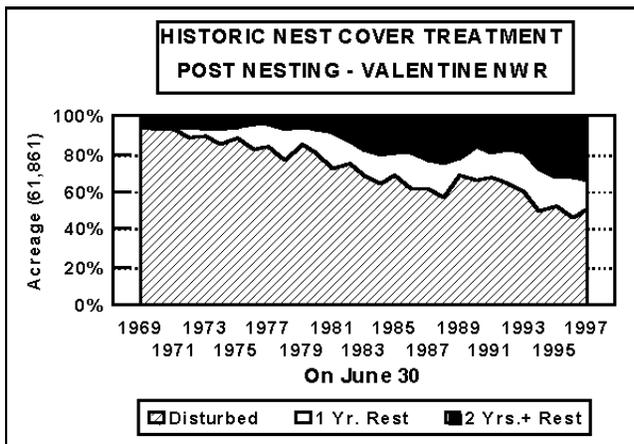
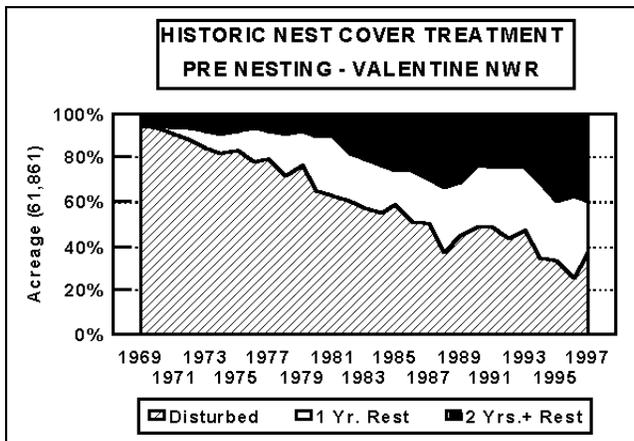


Table 2.

Waterfowl

The annual acreage of undisturbed cover for upland nesting birds increased from less than 5 percent in 1969 to greater than 50 percent by 1985 (See Table 3). The increase in undisturbed nesting cover acreage has resulted in greater productivity and population levels particularly for upland nesting waterfowl. Specifically, a significant improvement has occurred in the hatching chronology of blue-winged teal and mallards with the increased acreage of undisturbed cover. The earlier hatching peaks since 1978 have ultimately resulted in greater recruitment rates (See Table 4) and subsequently greater breeding populations and composition of dabbling ducks. In particular, mallard breeding pairs have increased dramatically with the increased acreage of cover that received rest treatment for two or more growing seasons, and this increase occurred during a period of extremely low continental duck breeding populations.

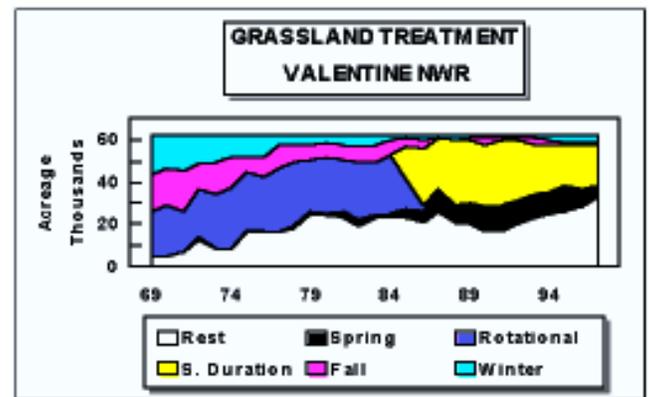


Table 3.

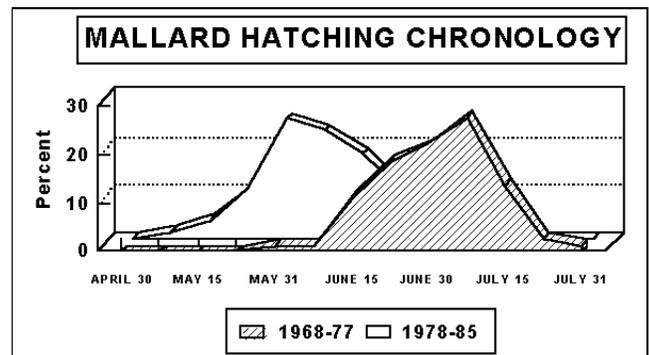
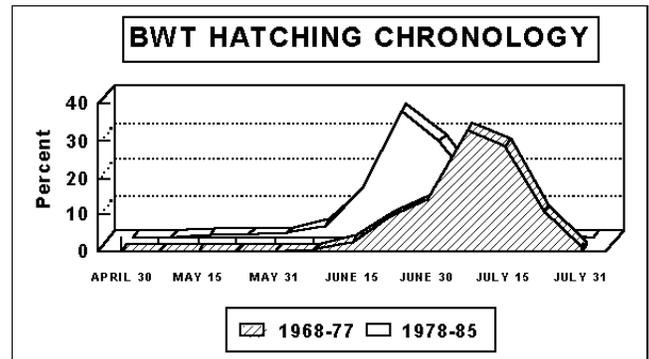


Table 4.

Native Birds and Other Wildlife

Management of native birds and other wildlife has varied in intensity over the years with the greatest impact indirectly or directly due to habitat management practices. Prairie grouse, a term used to describe sharp-tailed grouse and greater prairie chicken, were once plentiful on the Great Plains, but by the late 1800's, demand for birds in eastern markets, development of efficient railway shipping, and willingness of individuals to exploit a seemingly unlimited resource, combined to dramatically reduce prairie grouse populations. Extirpated in many parts of their ranges, remnant populations of sharp-tailed grouse and prairie chicken populations survived in the Sandhills of Nebraska due to lack of intensive agriculture- altered habitat (Mitchell et al. 1984).

Prairie grouse were identified in one of the first quarterly reports of the Refuge as native birds for management consideration and emphasis. Over the years, management decisions and actions have addressed prairie grouse needs to varying degrees. Researchers believe that habitat conditions (structure, species composition) which are correlated to use (grazing, haying) has determined the average population size, but other factors (i.e., weather) operated equally in good and poor habitat to cause similar rates of annual gallinaceous birds population changes. Annual counts of displaying sharp-tailed grouse and prairie chicken males support that relationship or effect. Prairie grouse numbers have cycled with higher average population levels occurring on the Refuge when forage availability was higher. Statistical analysis indicates that a significant inverse relationship exists between the level of AUM utilization and the breeding population of prairie chickens on Valentine NWR (See Table 5).

Additionally, Hughes and McDaniel (unpublished 1998) developed linear regression models for the Refuge to determine relationships between cover treatment and the number of male prairie chickens surveyed during the period 1969-1996. The best fit model indicated an inverse significant relationship between the percentage of disturbed cover throughout the year prior to the breeding population survey period; indicating the importance of undisturbed cover for prairie chickens throughout the year for nesting, brood rearing, and winter survival.

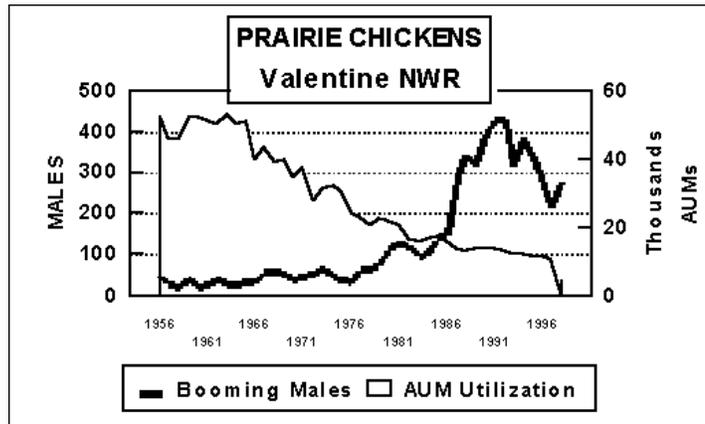


Table 5.

The greater prairie chicken is an “indicator species” of the health and vigor of native grasslands and is a reflection of the management of native grasslands. In the 1930's, 21 refuges existed with breeding populations of greater prairie chickens and, by 1963, the only remaining breeding populations existed on Ft. Niobrara-Valentine NWRs. Since the 1980's, a considerable effort has been put forth within the Ft. Niobrara-Valentine NWR Complex to increase the health, vigor, and residual cover amounts of native grasslands for upland nesting birds by controlling the timing of grazing and rest treatments.

Pronghorn antelope were historically common on the open prairies of the Sandhills through the late 1800's; however, by 1908, they were on the decline and observed only in the western and northern portions of Nebraska. The Service has never attempted to reintroduce pronghorn antelope to this Refuge. Coyote predation is the primary factor influencing the survival of pronghorn on the Refuge.

Other wildlife have undoubtedly benefitted from the enhancement of Sandhill Prairie; however, specific surveys have not been carried out to document changes in the numerous species present on Valentine NWR.

Grassland Management History

Livestock grazing has occurred on Valentine NWR since establishment. However, the level of grazing dramatically increased during the early 1950's, and by the early 1960's, annual grazing use exceeded 50,000 animal unit months (AUM). Virtually the entire Refuge grassland acreage was grazed or hayed. The two Natural Research Areas, totaling 1,381 acres, were not grazed. This level of grazing had a negative impact on wildlife and vegetation on the Refuge.

In 1971, a grassland management study team was formed to look into the situation and recommend appropriate corrective actions. The major management recommendations of the team were:

- P Zone all meadows based on their value for nesting waterfowl.
- P Stop annual mowing of meadows.
- P Improve native plant vigor and composition by prescribed burning, mowing, and grazing with alternating periods of rest.
- P Maintain nesting cover by providing 40- to 100-acre undisturbed blocks for three to eight years.
- P Hold units in reserve through normal attrition of permittees to allow for flexible and intensive manipulation.
- P Initiate restoration of native vegetation on priority meadows beginning in 1972.
- P Develop small food plots (i.e., weed patches) to promote greater diversity and abundance of wildlife species.
- P Stop season-long grazing and promote restoration and maintenance of range condition by use of rest, fall-deferment, deferred-rotation, and rest-rotation systems.
- P Establish wilderness area; remove grazing facilities and possibly employ summer grazing.
- P Initiate adequate monitoring techniques to evaluate qualitative and quantitative changes in vegetation and response by wildlife.

Recommendations of the team have generally been implemented except that the Wilderness proposal has not received Congressional approval; mowing has been reduced by approximately 85 percent; and maintaining cover in undisturbed condition, for periods of three to eight years, has annually involved less than 20 percent of the total grassland acreage of Valentine NWR.

In 1986, rotational grazing was phased out and short-duration grazing initiated. Use allowed by permittees was retained, but as permittees dropped out of the program, they were not replaced. Between 1986 and 1997, permittees went from 13 to 9 and use from approximately 9,000 to 6,000 AUMs.

Public Use History

Since the Refuge's establishment, public use has been mostly limited to recreational opportunities centered around wildlife/wildlands observation and education, as well as hunting and fishing.

Current Refuge Resources Management

Grassland Management

Cattle grazing, rest, and prescribed fire are used to manage grasslands on the Refuge. The 61,861 acres of grassland on the Refuge are divided into 327 habitat units by barbed wire and electric fences. Of this acreage, 48,755 is in hills and 13,106 in meadows. Plans are made each year to either graze, rest, or prescribe burn grasslands on the Refuge.

In 1997, 34,789 acres (56 percent) of Refuge grasslands were rested. Rested grasslands are those that are not grazed by cattle or burned by prescribed fire. Refuge studies have documented that rested grasslands are preferred nesting cover for waterfowl and grouse. Grassland management is designed to maximize undisturbed cover. Undisturbed cover is grassland that is not grazed, burned by either wild or prescribed fire, or effected by hail for the preceding year's growing season and the current year's nesting season. In 1997, 56 percent of the Refuge grasslands were in undisturbed cover through June 30.

In 1997, a total of 388 acres (less than 1 percent) of grassland in seven habitat units were burned using prescribed fire. Prescribed fire is used to invigorate native grasses, reduce cedar trees in grasslands, and control invader grasses such as brome and Kentucky bluegrass. Prescribed fires are planned and conducted by a fire crew from the Fort Niobrara/Valentine NWR Complex. Wildfires on the Refuge are aggressively suppressed by the same fire crew and local fire departments under cooperative agreements.

Nine permittees held annual permits to graze approximately 6,600 animal use months (AUMs) over the period April 1, 1997, through March 30, 1998. The permittees have held permits for many years and all own land either adjacent to or near the Refuge. Refuge staff plans a grazing program for each permittee to maintain and improve the condition of Refuge grassland for wildlife. Grazing permittees are charged at market rate for use. Improvements and repairs to wells, fences, tanks, and other facilities needed for the program are paid for by the permittees, and the cost deducted from their final bill. In 1997, \$26,759 was spent on improvements and deducted from final billings. Deductions are also made from billings for frequent moves of cattle and grazing treatments that differ from normal ranching practices. In 1997, \$46,203 was collected and deposited in the Refuge Revenue Sharing Account.

The methods and expected results for the different grazing strategies used are explained below.

Spring grazing treatment is done before the end of May on sub-irrigated meadow sites. The cattle are in the unit for more than two weeks. Cattle eat or trample most of the residual cover. They also over graze and thus reduce undesirable cool season exotic grasses (Kentucky bluegrass and smooth brome). Meadows hayed are also sometimes given this treatment to add fertilizer. Dramatic results occur with this treatment. Exotic cool season grasses are suppressed and native warm seasons (switchgrass and others) increase in vigor and density. The disadvantage is the loss of the unit for nesting in the year of treatment and a lower waterfowl nesting density in the following year. Often the unit can, however, be rested for up to five years following treatment. In 1997, 30 habitat units totaling 6,099 acres (9 percent of grassland) received a spring grazing treatment and included some areas that were later hayed.

Spring short-duration grazing is grazing a unit for less than two weeks during May. Generally the cattle are in the unit for only 3 to 5 days. This type of grazing is limited to hill units to stimulate growth of grasses, especially cool seasons. The short exposure times eliminate overgrazing. In 1997, ten habitat units totaling 3,280 acres (5 percent of grassland) had spring short-duration grazing treatments. Where possible, units grazed later in summer the previous year are grazed using this treatment. This both varies treatment and reduces disturbance to nesting cover. Most units grazed with spring short-duration grazing show excellent growth of native vegetation by fall.

Short-duration summer grazing is done from June 1 through September 1. Cattle are in a unit for less than two weeks. Most units are grazed only 3 to 5 days and the cattle moved onto the next unit. Electric fences are used to break up larger units and increase stock density. Most short-duration summer grazing is completed by mid-July. In 1997, 79 habitat units totaling 19,723 acres (32 percent of grassland) were short-duration summer grazed. Units grazed by this method show good growth by fall if adequate moisture is received. If little or no late summer rainfall is received, regrowth is less, especially in those units grazed in late July or August.

Summer grazing is done from June 1 through September 1, and cattle are in the unit for two weeks or longer. In 1997, no acres were summer grazed. If done, this is in larger units that have not been cross fenced.

Fall grazing is done from September through November. Fall grazing can reduce mulch accumulations and add fertilization. If done at the proper time, cattle will also graze out small wetlands dominated by prairie cordgrass and leave the surrounding upland vegetation alone. Generally the wetlands have green vegetation in them while the uplands have only cured grasses. Grazing in the wetlands recycles nutrients and provides pair habitat for ducks in the spring. Most units that are fall grazed are then given a spring grazing treatment the following year. In 1997, six habitat units totaling 1,446 acres (2 percent of grassland) were fall grazed.

Winter grazing is done from November through April. In winter grazing, cattle are fed hay on a feed ground in a unit. The hay comes from the Refuge. Winter feeding creates dense weed patches for several years following the treatment. These weed patches provide winter food for deer, pheasants, and other resident wildlife. Units with a history of winter grazing combined with feeding also have excellent growth of vegetation. Resident wildlife also use waste grain from the feeding operation. In 1997, three habitat units totaling 1,167 acres (2 percent of grassland) were winter grazed.

Haying was done on 714 acres (1 percent of grassland) of sand, sub-irrigated, and wetland range sites and yielded 1,520 tons of hay in 1997. Haying is done on a share-basis with three permittees receiving 60 percent and the Refuge receiving 40 percent of the hay harvested. Some hay is also put up on a contract with the cost deducted from permittees grazing bills. Most of the meadows hayed are also grazed either in the fall or spring. This adds fertilization to the meadows and improves the quality and quantity of hay produced. Haying is used to provide browse areas for Canada geese, prairie grouse, and deer, and for winter feed for the Texas Longhorn herd at Fort Niobrara NWR. In some years, part of the Refuge share of hay is used for road repair and maintenance. This was not done in 1997.

Wetlands Management

Most of the lakes, marshes, and wetlands on the Refuge are natural and have no structures for water level management. Drainage ditches put in before the area was a Refuge can still be found in several locations. These ditches are only active in high-water periods and are generally not effective in draining the Refuge wetlands.

Several of the nine lakes open to sport fishing have dikes and structures that offer limited water management capabilities. On four lakes, water levels are generally held at a level higher than the natural level to reduce the possibility of a winter-kill of sport fish. In normal water years, the Refuge staff releases water from these lakes at such a time as to not impact downstream landowners' haying operations. In recent high-water years, water has run continuously from these lakes. These lakes also have fish barriers to keep the carp from migrating between lakes and infesting new waters. The lakes open to sport fishing were pumped and treated with rotenone to kill the carp between 1975 and 1982. Following treatment, they were restocked with sport fish and have been managed as sport fisheries. Sport fish are stocked frequently, and on occasion, moved between lakes.

Threatened and Endangered Species Management

Threatened and endangered species recorded on the Refuge are blowout penstemon, western prairie fringed orchid, American burying beetle, bald eagle, whooping crane, and least tern. Managing and maintaining prairie habitat by using rest, fire, and grazing will benefit these species.

Surveys for blowout penstemon have been conducted on the Refuge and only several naturally occurring plants found each year. Nine areas of blowout penstemon have been transplanted onto the Refuge during the past three years under a University of Nebraska cooperative program. About 2,000 seedlings per year were raised and transplanted in suitable habitat during 1996 to 1998.

Western prairie fringed orchids are surveyed in July when in bloom. They grow in some areas mowed for hay. In these areas, the plants are marked with stakes so they are not cut. Areas where the orchids grow are not grazed during the flowering season. The Service assists the Task Force for Population Habitat Viability Analysis for the orchid.

American burying beetles have been documented on the Refuge.

Bald eagles are common winter residents on the Refuge. Whooping cranes, and least terns are only rarely seen. No special management is conducted. Occasionally, in the past, areas of the Refuge were closed to the public when whooping cranes were present on Refuge meadows. This closure is repeated when whooping cranes use the Refuge during migration.

Indigenous Wildlife Management

Wildlife diversity, with the exception of large ungulates and their predators, is relatively unchanged in the Nebraska Sandhills as compared to most areas of the United States. Moreover, since the 1980's, the ecological integrity of Sandhill Prairie on Valentine NWR has been enhanced by planned treatments of grazing, prescribed fire, and rest. These planned treatments have resulted in a tremendous improvement in the vigor and composition of native vegetation, natural aesthetics, and simultaneously provided greater amounts of residual vegetation for indigenous grassland wildlife than is available throughout the remainder of the 19,000 square miles of the Nebraska Sandhills.

Long-term monitoring of key indicator species has documented that waterfowl (particularly mallard) and prairie grouse (particularly prairie chicken) populations have benefitted from the greater amounts of residual and/or undisturbed vegetative cover. In fact, the Fort Niobrara and Valentine NWR's are the only Refuges that have retained historic populations of greater prairie chickens in the System; and in both cases, these populations have increased since the mid-1980's.

Positive effects on other indigenous wildlife species that require greater amounts of vegetative cover undoubtedly exist; however, specific documentation is not available for Valentine NWR.

The Service conducts very limited trapping of mammalian predators and snakes on a nesting island in the Marsh Lakes to benefit nesting waterfowl. The Refuge has a trapping plan targeted to predator control and muskrat disease outbreaks. No trapping by the public took place on the Refuge in 1997.

Exotic and Invading Species Management

Exotic and invading plant species are controlled through an integrated pest management approach. Prescribed fire, rest, and grazing are the main tools used for controlling exotic and invading plants to maintain healthy prairies. Spring grazing treatments are especially effective in reducing Kentucky bluegrass, the most widespread invader on the Refuge. Spring grazing treatments and fire are also being used to reduce smooth brome grass. Fire is also used to remove cedar trees invading native prairies. The acreage for these treatments are listed under the grassland section.

Leafy spurge is present in several locations covering less than ten acres. Insect releases for biological control have been made in some patches of spurge and several patches have been sprayed with herbicide. Canada thistle is also present in small amounts in meadows and along the edges of wetlands. High water has reduced the range of this plant on the Refuge. Insect releases for its control have also been made.

Reed canary grass and Russian olive are present in small areas but have not been treated.

Proposed Wilderness Area

Habitat management in the proposed wilderness area is accomplished with grazing as described previously in the Grassland Management section. Improvements include windmills and tanks, barbed and electric wire fences. These improvements are maintained by permittees, Refuge staff, and a contractor with the use of the current tools of less habitat impact (motorized vehicles - primarily pickup trucks and small ATVs). Permittees use horses, pick-up trucks, and ATVs to move livestock within the area being proposed as wilderness. No roads or trails are maintained. Old trail roads are becoming less obvious or disappearing altogether as use, especially by pickup trucks is declining. Some haying operations, with the use of mechanized equipment, take place in the proposed wilderness area.

Wildfires occurring in the proposed wilderness area are extinguished using fire engines. No prescribed fires have been effectuated in the area. Refuge staff use pickup and small ATVs on occasion to access the area for biological surveys, search and rescue, and maintenance. Currently, no known infestations of noxious weeds occur in the proposed wilderness area; thus, no control activities have been conducted.

Current public use of the proposed wilderness area is mainly for hunting and by a small number of hikers. Access is by foot or horseback. No use of motor vehicles is permitted for hunting or game retrieval activities. Hunters use wheeled carts to transport deer out of the area. None of the lakes in the proposed wilderness area are open to fishing.

Public Use

Valentine NWR has no accurate counts of the Refuge's visitors; thus, the quality of information on public use on the Refuge is poor. For calendar year 1997, visitations to Valentine NWR were estimated at 9,500 visits with approximately 90 percent made up of anglers. Fishing visits were lower in 1997 due to poor ice conditions during the winter fishing season. The remaining 10 percent of visitors were mostly hunters. Increasing numbers of people are visiting Valentine NWR for the purpose of bird and other wildlife observation.

News releases on Refuge events are written and distributed to area television and radio stations, as well as to newspaper outlets. The Fort Niobrara/Valentine NWR Complex also hosts special events including the Nebraska Federal Junior Duck Stamp Contest, a kids fishing day, a steel shot clinic, and a nature fest. Currently, some requests for tours and educational programs are denied due to staffing shortages.

Valentine NWR is outfitted with three information kiosks at major entry points to the Refuge. The kiosks have general information on the Refuge, a map, information on management of grasslands for wildlife, and leaflet dispensers.

Blinds for observing prairie grouse displays are set up in the spring and receive plenty of use. People come to the Refuge to birdwatch and enjoy the prairie. No counts are made for this type of visitation, but Refuge staff believe that it may be increasing.

Hunting: Waterfowl hunting is permitted only in the Watts, Rice, and Duck Lakes areas of the Refuge according to the State's seasons and limits. No counts were made, but it is estimated that about 75 visits were made by duck hunters.

The Refuge is open to hunting of sharp-tailed grouse and prairie chickens during the State set season that runs from mid-September through December. The Refuge is a popular place for out-of-state, as well as Nebraska, hunters to pursue prairie grouse. Grouse hunters are surveyed via wing collection boxes placed around the Refuge. In 1997, 258 hunter days were recorded through the collection boxes. However, not all hunters participate in the voluntary collection program.

The Refuge is also open to pheasant hunting during the State set season that runs from the first weekend of November through the end of January. Pheasant hunters made an estimated 100 visits to the Refuge in 1997. This is a large number of hunters considering that bird numbers remain very low.

The Refuge is open to deer hunting during the Nebraska rifle deer season in November. Most of the deer hunting takes place on opening weekend. In 1997, a total of 88 deer were harvested including both white-tailed and mule deer. These figures come from deer checked by Refuge law enforcement officers and records obtained at Nebraska Game and Parks check stations. The Refuge probably receives the heaviest hunting pressure of any location within the State hunting units. A higher quality hunt is possible if opening day is avoided.

The Refuge is also open for muzzle loader deer hunting. The season runs for two weeks in December. Hunting pressure is light and only seven muzzle loader hunters were known to hunt on Valentine NWR in 1997. This form of hunting is, however, becoming more popular. Permits are unlimited and statewide; either sex.

The Refuge is also open to archery deer hunting which runs from mid-September through the end of December. Only a few hunters were known to have visited the Refuge to archery hunt in 1997.

Coyotes can be hunted on the Refuge from December 1 through March 15. A free permit is required and can be obtained in person or by mail. The permit is a postcard that the hunter returns at the end of the season and includes harvest information. For the 1996-1997 season, 37 permits were issued.

Fishing: Nine Refuge lakes (Watts, Rice, Duck, West Long, Pelican, Hackberry, Dewey, Clear, and Willow) are open to fishing year round. Fishing, especially ice fishing, accounts for most visits to Valentine NWR. An estimated 7,900 visits were made for fishing in 1997. This figure is based on very limited counts of anglers throughout the year. In 1997, ice was on the lakes for fewer days than average resulting in lower visits for ice fishing. In some heavy use years, up to 17,000 anglers have been counted.

Bass, perch, bluegill, muskie, saugeye, and northern pike are present in the fishing lakes. Size limits are in effect to protect larger pike needed for carp control, and minnows are prohibited on Refuge lakes to prevent introduction of exotic fish. Gas powered boats are not allowed. Catch-and-release for bass and muskie is in effect on Watts Lake. The Refuge lakes are most noted for large bass, catch-and-release northern pike fishing, and large bluegills. Many Master Angler (trophy) fish are caught each year.

The Fort Niobrara/Valentine NWR Complex has one seasonal and four collateral duty law enforcement officers.

Cultural and Paleontological Resources

Limited cultural resource studies have been conducted by the U.S. Fish and Wildlife Service (Service), or any other groups to locate and describe and evaluate cultural and paleontological resources (Burgett and Nickel 1999). Current protection and interpretation of cultural and paleontological resources is minimal as well.

Monitoring

The Refuge has one full-time biologist who conducts biological monitoring on the Refuge with occasional assistance from other staff. The main emphasis is on grassland monitoring. Grassland transects are run each year to evaluate cover, composition, and grassland health. More than 100 photo points are taken to document long-term changes to the grassland. Techniques and information are shared with the Forest Service.

Refuge staff completes segments of statewide surveys in cooperation with the Nebraska Game and Parks Commission including sandhill crane, goose, waterfowl, turkey, deer, wintering eagle, pheasant brood, grouse brood, and prairie grouse breeding and productivity.

The Refuge staff maintains a weather station in cooperation with the National Weather Service at Hackberry Lake. Refuge staff read and report on U.S. Geological Survey groundwater wells at more than 30 locations on the Refuge. Both these efforts have been conducted for 60 years and yields long-term trend information. Surface water levels are also recorded for some Refuge lakes.

Surveys for sharp-tailed grouse and prairie chicken are performed and used as an indicator of grassland health. In the spring, lek counts are conducted; in the fall, wing collection boxes are maintained. Part of the lek count is a State count block and this information is passed on to the Nebraska Game and Parks Commission. Wing collection from hunters is done in cooperation with the Forest Service and the Nebraska Game and Parks Commission.

Pair and brood counts for waterfowl are done on the Marsh Lakes to assess waterfowl production. Nesting success of ducks is monitored on an island in the Marsh Lakes as part of a long-term study. Colonial and marsh nesting birds are also counted in some areas of the Refuge. Monitoring for avian botulism is conducted in late summer on Refuge lakes and wetlands. An annual count of muskrat houses is done.

Fishery surveys using electrofishing, gill, and trap nets are done on Refuge lakes open to fishing on a regular basis by USFWS Fisheries Assistance Office biologists.

Surveys of the threatened western prairie fringed orchid and endangered blowout penstemon are conducted. When orchids are found they are marked to prevent mowing them during haying operations.

Purpose of and Need for a Comprehensive Conservation Plan

The Service has recognized the need for strategic planning for all the components of its System. The System now has more than 513 refuges totaling approximately 93 million acres. Valentine NWR, located in north-central Nebraska (see Figure 1), is a unique and ecologically important component of the System. In September 1996, Executive Order 12996 was enacted which gave the System guidance on issues of compatibility and public uses of its land. Congress passed the National Wildlife Refuge System Improvement Act in October 1997. This “organic act,” for the first time in the System’s history, required that Comprehensive Conservation Plans be prepared for all refuges within 15 years.

The Service was an active participant in this historic legislation and supported the planning requirement. The planning effort helped this Refuge (and thus the entire System) meet the changing needs of wildlife species and the public. The planning effort provided the opportunity to meet with Refuge neighbors, and customers, and other agencies to ensure that this Plan was relevant and truly addressed natural resource issues and public interests. It is the Service’s goal to have the System be an active and vital part of the United States’ conservation efforts. This Plan explains the planning process, the Refuge’s characteristics, and the direction management will take in the next 15 years. It is provided to give the reader a clear understanding of the purposes of the Refuge and how the Service will manage it over the next 15 years to attain the stated purpose of the Refuge.

National Wildlife Refuge System Mission, Goals, and Guiding Principles

The National Wildlife Refuge System is the world’s largest collection of lands set aside specifically for the protection of fish, wildlife, and plant populations and their habitats. The first unit of the System was created in 1903, when President Theodore Roosevelt designated 3-acre Pelican Island, a pelican and heron rookery in Florida, as a bird sanctuary. Today, over 500 national wildlife refuges located in the 50 States and a number of U.S. Territories exist. Today, the System encompasses more than 93 million acres.

This System provides important habitat for many native mammals, birds, reptiles, amphibians, fishes, invertebrates, and plants; “trust resources” for which the Federal government is ultimately responsible. The System plays a vital role in preserving endangered and threatened species, and offers a wide variety of wildlife-dependent public uses; annually, national wildlife refuges receive 34 million visitors.

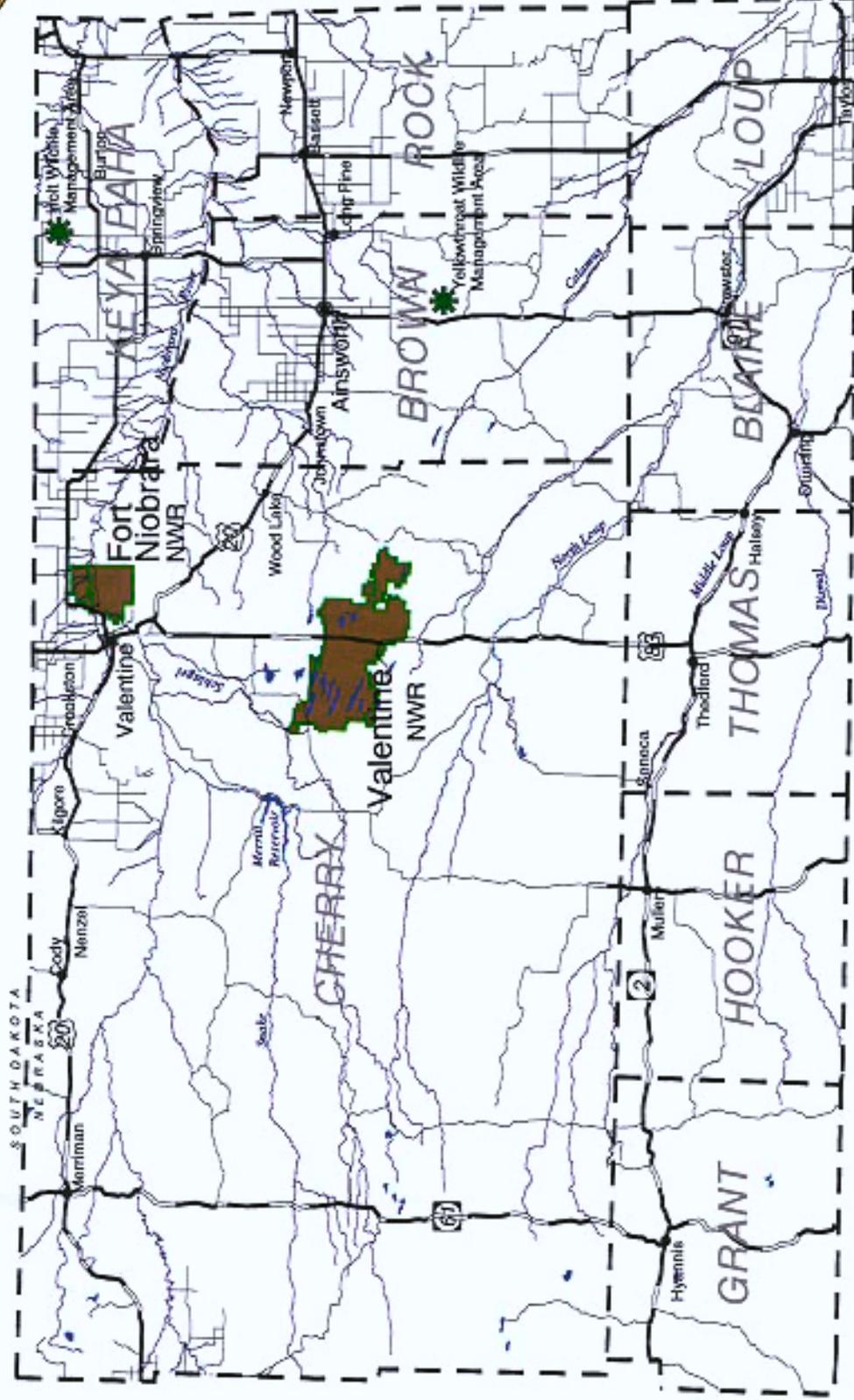
However, the System’s importance goes far beyond these services. It contributes directly and indirectly to human welfare through a number of ecosystem services and functions. Chapter IV contains a detailed discussion of ecosystem services. For the entire biosphere, the estimated annual economic value of all the world’s ecosystem services and functions is about \$33 trillion (Constanza, *et al.* 1997).

The Mission of this System is “to administer a network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans” (National Wildlife Refuge System Improvement Act of 1997, Public Law 105-57). The goals of the System are aimed at fulfilling this mission and are the following:

- Goal 1: To preserve, restore, and enhance in their natural ecosystems all species of animals and plants that are endangered or threatened with becoming endangered;*
- Goal 2: To perpetuate the migratory bird resource;*
- Goal 3: To preserve a natural diversity and abundance of fauna and flora on refuge lands; and*
- Goal 4: To provide an understanding and appreciation of fish and wildlife ecology and man’s role in his environment and provide visitors with high quality, safe, wholesome, and enjoyable recreation experiences oriented toward wildlife to the extent these activities are compatible with the purposes for which the refuge was established.*



Vicinity Map of North Central Nebraska



MAP LOCATION



State of Nebraska



Figure 1: Vicinity Map

National wildlife refuges are acquired under a variety of legislative acts and administrative orders and authorities. These orders and authorities usually have one or more purposes for which land can be transferred or acquired. Many refuges within the System provide breeding, migration, or wintering habitats for federally listed species. Nearly all refuges also supply habitats for big game species and resident or nonmigratory wildlife as well.

Individual refuges provide specific requirements for the preservation of trust resources. For example, waterfowl breeding refuges in South and North Dakota provide important wetland and grassland habitats to support populations of waterfowl as required by the Migratory Bird Treaty Act and the North American Waterfowl Management Plan. Valentine NWR also supports breeding populations as well as providing migration habitat during spring and fall periods. Sabine NWR and other refuges in Louisiana and Texas provide wintering habitat for these populations. The network of lands is critical to these birds survival. Any deficiency in one location will affect the species and the entire networks ability to maintain adequate populations.

Other refuges may provide habitat for threatened and endangered plants or animals that exist in unique habitats which occur in only very few locations. Refuges in these situations ensure that populations are protected and habitat is suitable for their use. Refuges, by providing a broad network of lands throughout the United States, help to prevent species from being listed by providing secure habitat for their use and provide recovery habitats in portions or all of a species range.

The National Wildlife Refuge System Improvement Act of 1997 amends the Refuge Administration Act's Section 4(A) with the following additions:

- P* "each refuge shall be managed to fulfill the mission of the System, as well as the specific purposes for which that refuge was established;
- P* compatible wildlife-dependent recreation is a legitimate and appropriate general public use of the System, directly related to the mission of the System and the purposes of many refuges, and which generally fosters refuge management and through which the American public can develop an appreciation for fish and wildlife;
- P* compatible wildlife-dependent recreational uses are the priority general public uses of the System and shall receive priority consideration in refuge planning and management; and
- P* when the Secretary determines that a proposed wildlife-dependent recreational use is a compatible use within a refuge, that activity should be facilitated, subject to such restrictions or regulations as may be necessary, reasonable, and appropriate.

- (4) *In administering the System, the Secretary shall—*
- P* provide for the conservation of fish, wildlife, and plants, and their habitats within the System;
- P* ensure that the biological integrity, diversity, and environmental health of the System are maintained for the benefit of present and future generations of Americans;
- P* plan and direct the continued growth of the System in a manner that is best designed to accomplish the mission of the System, to contribute to the conservation of the ecosystems of the United States, to complement efforts of States and other Federal agencies to conserve fish and wildlife and their habitats, and to increase support for the System and participation from conservation partners and the public;
- P* ensure that the mission of the System described in paragraph (2) and the purposes of each refuge are carried out, except that if a conflict exists between the purposes of a refuge and the mission of the System, the conflict shall be resolved in a manner that first protects the purposes of the refuge, and, to the extent practicable, that also achieves the mission of the System;
- P* ensure effective coordination, interaction, and cooperation with owners of land adjoining refuges and the fish and wildlife agency of the States in which the units of the System are located;
- P* assist in the maintenance of adequate water quantity and water quality to fulfill the mission of the System and the purposes of each refuge;
- P* acquire, under State law, water rights that are needed for refuge purposes;
- P* recognize compatible wildlife-dependent recreational uses as the priority general public uses of the System through which the American public can develop an appreciation for fish and wildlife;
- P* ensure that opportunities are provided within the System for compatible wildlife-dependent recreational uses;
- P* ensure that priority general public uses of the System receive enhanced consideration over other general public uses in planning and management within the System;
- P* provide increased opportunities for families to experience compatible wildlife-dependent recreation, particularly opportunities for parents and their children to safely engage in traditional outdoor activities, such as fishing and hunting;
- P* continue, consistent with existing laws and interagency agreements, authorized or permitted uses of units of the System by other Federal agencies, including those necessary to facilitate military preparedness;"

The National Wildlife Refuge System Improvement Act of 1997 further defines the wildlife-dependent recreational uses as: wildlife observation and photography, environmental education and interpretation, and fishing and hunting.

Fish and Wildlife Service Mission

The mission of the Service is to work with others to conserve, protect, and enhance fish, wildlife, and plants, and their habitats for the continuing benefit of the American people. To fulfill this mission, Congress has charged the Service with conserving and managing migratory birds, endangered species, anadromous and inter-jurisdictional fish, and certain marine mammals. The Service carries out these responsibilities through several functional entities. The National Wildlife Refuge System is one of those entities.

Valentine National Wildlife Refuge Purpose

Valentine NWR was established by Executive Order No. 7142, August 14, 1935, “. . . reserved and set apart . . . as a refuge and breeding ground for migratory birds and other wildlife.”

Valentine National Wildlife Refuge Vision Statement

Valentine NWR will strive to preserve, restore, and enhance the ecological integrity of Nebraska Sandhill uplands and associated wetlands as habitat for migratory birds and other indigenous wildlife for the benefit of present and future generations of Americans.

Valentine NWR habitat management goals will seek to maintain a healthy Refuge environment that will provide opportunities for visitors to enjoy wildlife-dependent uses of the Refuge in a natural setting. Interpreting a unique habitat, wildlife and the Refuge's historical heritage, as well as improving facilities will enhance the visitor's experience while protecting the cultural integrity of the area. To meet these challenges, the Service will seek partnerships with other agencies, interest groups, landowners, and local communities. These efforts will result in greater protection of wildlife, fish and plant resources throughout north-central Nebraska.

Legal and Policy Guidance

National Wildlife Refuges are guided by the mission and goals of the National Wildlife Refuge System (System), the designated purpose of the Refuge unit as described in the establishing legislation and/or executive orders, Service laws and policy, and international treaties (for a complete list see Appendix G).

Key concepts included in laws, regulations, and policies that guide management of the System include primary versus multiple-use public lands, compatibility, and priority wildlife-dependent recreational activities. Examples of relevant guidance include the National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997, the Refuge Recreation Act of 1962 (50 CFR), Executive Order 12996 (Management and General Public Use of the National Wildlife Refuge System), and selected portions of the Code of Federal Regulations and Fish and Wildlife Service Manual.

The National Wildlife Refuge System Administration Act of 1966, as amended, provided guidelines and directives for administration and management of all areas in the System, including wildlife refuges, areas for the protection and conservation of fish and wildlife threatened with extinction, wildlife ranges, game ranges, wildlife management areas, or waterfowl production areas. Use of any area within the System was permitted, provided that such uses were compatible with the major purposes for which such areas were established.

The National Wildlife Refuge System Improvement Act of 1997 amends the Refuge System Administration Act by including a unifying mission for the System, a new formal process for determining compatible uses on refuges, and a requirement that each refuge will be managed under a Comprehensive Conservation Plan (CCP or Plan). This Act states that wildlife conservation is the priority of the System lands and that the Secretary of the Interior (Secretary) shall ensure that the biological integrity, diversity, and environmental health of refuge lands are maintained. Each refuge must be managed to fulfill the mission of the System and the specific purposes for which it was established. Additionally, this Act identifies and establishes the legitimacy and appropriateness of the six wildlife-dependent recreational uses. These are hunting, fishing, wildlife observation and photography, environmental education and interpretation. As priority public uses of the System, they uses will receive enhanced consideration over other uses in planning and management. Furthermore, this Act requires that a CCP be in place for each refuge by the year 2012 and that the public have an opportunity for active involvement in plan development and revision. It is Service policy that CCPs are developed in an open public process and that the agency is committed to securing public input throughout the process. This Act amended portions of the Refuge Recreation Act and National Wildlife Refuge System Administration Act of 1966.

Lands within the System are different from other, multiple-use public lands in that they are closed to all public uses unless specifically and legally opened. Unlike other Federal lands that are managed under a multiple-use mandate (e.g., national forests administered by the U.S. Forest Service and public lands administered by the U.S. Bureau of Land Management), the System is managed specifically for the benefit of fish, wildlife, and plant resources and their habitats. Compatible wildlife-dependent recreation is a legitimate and appropriate general public use of the System.

Executive Order 12996 (March 23, 1996) identified a new mission statement for the System; established six priority public uses (hunting, fishing, wildlife observation and photography, environmental education and interpretation); emphasized conservation and enhancement of the quality and diversity of fish and wildlife habitat; stressed the importance of partnerships with Federal and State agencies, Tribes, organizations, industry, and the general public; mandated public involvement in decisions on the acquisition and management of refuges; and required identification, prior to acquisition of new refuge lands, of existing compatible wildlife-dependent uses that would be permitted to continue on an interim basis pending completion of comprehensive planning.

Compatible wildlife-dependent recreational uses involving hunting, fishing, wildlife observation and photography, and environmental education and interpretation are priority public uses of the System. These uses must receive enhanced consideration over other public uses in refuge planning and management.

Before any uses, including wildlife-dependent recreational activities, are allowed on national wildlife refuges, Federal law requires that they be formally determined to be “compatible.”

A compatible use is defined as a use that, in the sound professional judgement of the refuge manager, will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the Refuge. Sound professional judgement is further defined as a finding, determination, or decision that is consistent with the principles of sound fish and wildlife management and administration, available science and resources (funding, personnel, facilities, and other infrastructure), and adherence with applicable laws. If financial resources are not available to design, operate, and maintain an activity, the refuge manager will take reasonable steps to obtain outside assistance from the State and other conservation interests. No refuge use may be allowed unless it is determined to be compatible.

The Service has completed compatibility determinations for Valentine NWR (see Appendix E). All six priority wildlife-dependent recreational activities—wildlife observation, wildlife photography, environmental interpretation, environmental education, hunting and fishing—were determined to be compatible and thus will continue to be allowed and encouraged in this Refuge, with the exception of certain designated areas.

The Refuge Recreation Act, as amended, authorized the Secretary to administer refuges, hatcheries, and other conservation areas for recreational use when such uses did not interfere with the area’s primary purpose.

Existing Partnerships

The Refuge works with organizations and individuals in a variety of areas but mostly in monitoring. Cooperative efforts in monitoring are listed in the next section. Fort Niobrara/Valentine NWR Complex staff works with the following groups: with private landowners through the Partners in Wildlife Program; with the Natural Resource Conservation Service in the Wetland Reserve Program; with Farmers Service Agency in the easement program; with Cherry County Extension in educational programs; with local law enforcement; with the Niobrara Council on wild and scenic river management; State, Federal, and local agricultural agencies in weed control; U.S. Forest Service; and U.S. Geological Survey.

The Refuge has formal agreements with rural fire protection districts to suppress wildfires both on and off the Refuge. Biologists from four universities regularly study reptile physiology at the Refuge. The Refuge plans grazing for, maintains the fence on, and patrols the Willow Lake Game Management Area adjacent to the Refuge. The Service works with Nebraska Game and Parks in fish stocking, fish egg collection and law enforcement. The Refuge staff works with the eight Refuge grazing permittees to manage grasslands on the Refuge using cattle.

Planning Process

Description of the Planning Process

The development of this CCP was guided, in the beginning, by the Refuge Planning Chapter of the Fish and Wildlife Service Manual (Part 602 FW2.1, November 1996) and later also by the Service's Draft Comprehensive Conservation Planning Policy. Key steps included: (1) preplanning; (2) identifying issues and developing a vision; (3) gathering information; (4) analyzing resource relationships; (5) developing alternatives and assessing their environmental effects; (6) identifying a preferred alternative; (7) publishing the Draft Plan and soliciting public comments on the Draft Plan (the comment period for input from the public spanned for a total of 105 days); (8) review of comments and effecting necessary and appropriate changes to the Draft CCP; and, (9) preparation of the final Plan for approval by the Region 6 Regional Director, and finally (10) implementation of the Plan.

Valentine NWR is located 20 miles south of Valentine, Nebraska, along Highway 83 (see Figure 1). The Refuge is administered as part of the Fort Niobrara-Valentine NWR Complex with the main office located five miles east of the city of Valentine. The Hackberry Headquarters on Valentine NWR is located along State Spur 16B.

Comprehensive conservation planning efforts for Valentine NWR began in January 1997 with a meeting of regional management and planning staff and field station employees at Fort Niobrara NWR. At that meeting, a core planning team was designated with the major responsibilities of gathering information and writing the Draft Plan. A review team was set up to provide guidance and direction to the core planning team. A working group was also organized to provide interchange of information between Service personnel, outside agencies, and interested stakeholders of the Refuge.

On March 20, 1997, an open house scoping session was held in the Cherry County Hall meeting room, Valentine, Nebraska. The open house provided participants an opportunity to learn about the Refuge's purposes, mission, and goals, and issues currently facing management. People attending were provided the opportunity to speak with Service representatives and to share their comments, issues, and concerns.

The working group and the Service's management and planning staff participated in a two-day tour of the Fort Niobrara NWR and Valentine NWR Complex in April 1997. The tour gave participants an opportunity to view the habitats, the fenced animal management and the prominent wildlife species of these Refuges, discuss management aspects of these Refuges, and give planning staff ideas for consideration in the planning process.

During the planning process, the review and working groups had access to information on objectives and alternatives that were considered. Since then and throughout the planning process, written comments have been exchanged and verbal conversations have been held among members of these groups and other stakeholders of this Refuge. The Draft CCP/EA was the first opportunity that these groups and the public have had to review the entire planning effort and the Plan.

The Draft Plan (and Environmental Assessment) was released on the last week of April 1999 and distributed in the first week of May 1999. A 60-day comment period was provided in which the Service requested information, comments, concerns, suggestions and complaints from the public regarding the Draft CCP/EA. Because of the tremendous amount of public interest in this Plan, the Service extended the comment period for 45 more days, for a total of 105 days of public comment period. With this extension, the public comment period did not close until August 19, 1999.

The voluminous amount of comment letters and electronic mail communications were reviewed and summarized by category and subject. After reading and compiling all the comments received, the review team prepared a meeting to brief the Regional Director and Assistant Regional Director of the Service's Region 6, the Programmatic and Southern Ecosystems Assistant Regional Directors, the Refuge Supervisor for Valentine NWR, the Chief of the Branch of Land Acquisition and Refuge Planning, and the Regional Wildlife Biologist. The summary of the comments received was reviewed at this meeting and appropriate modifications were made to the Draft CCP/EA in accordance with scientifically based new information provided during the comment period and the goals and objectives of the Refuge. The present Plan contains the changes made by the Service in accordance to the recommendations of the directorate and Service biologists and managers. All the actions undertaken in the preparation of this Plan satisfy the requirements under the National Environmental Policy Act of 1969.

This Plan will guide the management on the Refuge for the next 15 years. Plans are ultimately signed by the Regional Director, Region 6, thus providing Regional direction to the station project leader. A copy of this Plan will be provided to all those interested. The project leader of the station will review the Plan every five years to decide if it needs revision.

Planning Issues

Issues, concerns, and opportunities were identified through discussions with planning team members and key contacts and through the public scoping process, which began with an open house scoping session in March 1997. Comments were received orally at the meetings, via e-mail messages and in writing, both before and during the scoping and the public comment period phases of the comprehensive conservation planning process. The following issues, concerns, and comments are a compilation and summary of the those expressed by the public, other Federal and State agencies, local and county governments, private organizations and individuals, environmental groups and persons concerned for the natural resources of the Valentine NWR. This section also contains information developed by the Service throughout the planning process on the same issues.

The Draft CCP/EA for Valentine NWR had proposed to reintroduce into the Refuge an important ecological factor currently missing from the Sandhills habitats. The Service believes that the historical grassland management setting and species that contributed to that setting were important. The U.S. Fish and Wildlife Service is focused on preserving wildlife species and wildlands and strongly believes in maintaining ecological relationships. A major herbivore, the bison, is missing from Valentine NWR. Although bison have been as close as the Fort Niobrara NWR, the Service has substituted domestic cattle throughout the years in an attempt to achieve the overall habitat objective of the Refuge. It is believed that this was an appropriate time to begin to phase into this change and return the species and, with that, put a major species back into the ecological setting of the proposed Wilderness Area of the Refuge.

Another ecological force, fire, is also believed to be important. Obviously, concerns with the safety of this tool exist. Recent increases in the Service's funding for prescribed fire and increased ability to use the tool safely, make it an appropriate time to expand the use of this tool and expand the benefit it provides to grassland ecology.

The Service will use an adaptive management strategy to implement this Plan. The primary focus will be to achieve the habitat objectives defined for migratory birds and other wildlife with domestic cattle and prescribed fires being the most significant habitat management tools.

Other aspects of the Plan are similar to the current management regime of the Refuge. These programs are largely successful, well received by the public, and no reasons exist to change them significantly. Some additional discussion on this issue is found in the Environmental Assessment in Appendix H.

Bison Reintroduction

The Refuge's Draft CCP/EA (U.S. Fish and Wildlife Service, 1999) had proposed the introduction of bison into sections of the area of the Refuge being considered for designation as wilderness. The purposes of this introduction would have been: a) to return the most important large ungulate of the western plains to part of its former range and b) to utilize bison as a grazing "tool" to manage grassland habitats on this sector of the Refuge. The bison would come preferably from excess stock at Fort Niobrara NWR. The habitat is currently manipulated by domestic cattle from neighboring landowners who have a Special Use Permit from the Service.

Many people were concerned, for various reasons, about the Service's proposal to reintroduce this historic and important herbivore, that once roamed freely through the western plains, to a portion of the area under consideration for designation as a wilderness area. Many other commentators, however, met this proposal with approval and encouraged the Service to pursue this introduction.

After considering the many comments received on this issue, the Service has decided to modify how and where the bison will roam on Valentine NWR. The Service will reintroduce bison, preferably surplus bison from Fort Niobrara NWR, only to that area of Valentine NWR that is proposed as a Wilderness Area and only as funding becomes available (i.e., partnerships, grants, cooperative agreements, appropriations, etc.) to support the infrastructure costs and management of this reintroduction. Bison is one option, along with permittee grazing, that the Service could use to manage habitat in the proposed Wilderness Area. The Service will monitor and evaluate the affects of bison on this area to ensure that bison contribute to the goals and objectives of the Refuge.

Loss of Permittees' Privileges and Possible Adverse Impact to the Sandhills Habitat:

Many of the comments opposing the reintroduction of bison into Valentine NWR came from neighboring landowners holding permits to graze the area where bison could have been reintroduced. Reintroduction of this large ungulate would have resulted in the loss of these special permits for these ranchers and, consequently, a modification of their ranching practices and the income they derive from it. This was also a source of concern for the local city and county governments as they could have also seen their revenue decrease accordingly.

Other concerns expressed by commentators regarding the Service's proposed bison reintroduction hinged on the possibility that free-roaming bison could not be handled as readily as domestic cattle to care for Sandhills habitats to attain the stated goals of this Plan (both for habitat and, consequently, species dependent on it such as the federally listed western prairie fringed orchid and blowout penstemon, and bird species, such as prairie chickens). Free-roaming ungulates would change the current grazing pattern of high-impact, short-duration to year-long grazing.

As a result of public comment and additional consideration of the various alternatives, the Service will continue to use domestic cattle as an effective tool to maintain and improve habitat for wildlife. The Service has developed and maintained a very effective habitat program for wildlife with the cooperation and participation of the current permittees. This will remain. The Service will continue to use the services of the current permittees subject to Service policy. The Service will not discontinue the Special Use Permits of the current permittees after ten years. Rather, Special Use Permits with current permittees to achieve certain grazing prescriptions will continue. Domestic cattle will be utilized as the major grazing tool to achieve the overall habitat objectives for wildlife on Refuge grasslands.

Economic Considerations of the Proposed Reintroduction of Bison: Some commentators expressed reservations about the proposed reintroduction of bison due to negative economic implications. Many commentators found the cost of reintroduction and management of bison in Valentine to be unjustified given the fact that habitat management using domestic cattle is already in place, has demonstrated to be practical and successful, and continuation of this practice would not incur further expenses for the Refuge, and ultimately, for the taxpayer. As stated in the Planning Issues Section of this document, the Service believed that the historic grassland management setting and species that contributed to that setting were important. The U.S. Fish and Wildlife Service is focused on preserving wildlife species and wildlands and strongly believes in maintaining interrelationship of organisms and their environment. A major herbivore, the bison, is missing from Valentine NWR. Bison and permittee cattle can be used to manage the health and vigor of the Refuge grasslands.

Finally, other economic concerns expressed by some commentators (mostly from landowners neighboring the Refuge) was the possibility of bison roaming outside of the Refuge and damaging private property and the possible infection of their cattle with brucellosis from bison reintroduced to adjacent Valentine NWR lands. This concern with brucellosis infecting domestic cattle is unfounded given the fact that the bison for the proposed reintroduction would have come from excess animals at Fort Niobrara NWR, or another Service owned herd, which are constantly monitored and vaccinated, and are certified to be free of brucellosis.

Genetic Diversity and Pool Preservation: Some commentators expressed their belief that it was totally unnecessary to reintroduce bison into Valentine NWR for the sake of having more bison present and protected within Federal lands given the fact that many herds of bison already exist not only under Federal jurisdiction but on private property as well. Nevertheless, it is important for the Service to point out that, according to several researchers and geneticists (some of which provided the Service with written comments and scientific information in support for bison reintroduction into Valentine NWR) it would be good to expand the Fort Niobrara NWR bison herd, possibly into Valentine NWR or other Federal lands because of the unique and genetically pure bison herd at Fort Niobrara NWR. Genetically pure bison is of tremendous importance to the continued existence and survival of this species, one of symbols of our Nation. Some geneticists that have performed research on bison herds would like to see the Fort Niobrara NWR bison herd extend into other sites to prevent a possible catastrophic epizootic event. Thus, the proposed reintroduction into Valentine NWR will serve the purpose of enlarging the nationwide population of true bison, with all the characteristics that have allowed this wild ungulate to survive in the wild in the harsh environment of the American West.

Human Safety: A few other commentators expressed concern over the proposed reintroduction of bison from the standpoint of safety for hikers, hunters, anglers, bird watchers, and other visitors to the proposed wilderness area of the Refuge where the bison had been proposed for reintroduction. The problem, according to these commentators, would have been that some areas would not have been readily available to outdoor recreation as once were if the bison were introduced into the Refuge. However, visitors to the Refuge can enjoy a safe wildlife-dependent recreation experience on the Refuge. The proposed Wilderness Area on the Refuge will be the only area inhabited by bison, which leave approximately 56,000 acres of the Refuge without bison. Bison will provide an important wilderness experience for those that choose to recreate in this portion of the Refuge. Appropriate safety messages, educational efforts and perhaps at times, temporary closure of certain areas of the Wilderness Area will be part of the bison management program.

Black-Tailed Prairie Dog Introduction

Prairie Dogs and The Sandhills Habitat: Many commentators, most of which appeared to be adjacent landowners to the Refuge and cattlemen expressed vigorous opposition to the Service's proposal to introduce this species into the habitats of the Refuge classifying this animal as a pest that damages the habitat, whose burrows represent a hazard to domestic cattle and horses, and who are potential threats to human health. Some also pointed out that the Sandhills are not adequate habitat for this species, otherwise the animal would already be present there.

However, prairie dogs are an integral part of many grassland ecosystems in the western states of our Nation. Many other animal species, some listed as endangered, other deemed species of special concern (i.e., black-footed ferrets, bald eagles, burrowing owls, mountain plovers, swift foxes), and migratory birds (i.e., raptors) are either inextricably dependent on or make common use of prairie dog colonies to obtain basic food, shelter and/or habitat for nesting and rearing of their young. Valentine NWR, which was set-aside by Congress as a reservation for migratory birds and other wildlife, is located well within the historical range of this species even though considerable controversy exists as to whether this species ever inhabited the Sandhills region and whether it could survive in this area. Given the purpose for establishing this Refuge, prairie dog colonies would enhance the diversity of habitats used by local and migratory avifauna, which would in turn be in compliance with the stated purpose of the Refuge, and aid in the preservation efforts of federally listed species dependent on prairie dogs and the habitats they help shape.

The Service is interested in creating a diverse mosaic of habitats in the System that are conducive to a wide range of indigenous and migratory wildlife, especially bird species. An important component of the western plains that is currently missing from this Refuge are black-tailed prairie dogs. As noted earlier in this Plan, this species is responsible for the creation of a unique habitat that is not only conducive but essential to certain migratory birds, but to a variety of mammals and reptiles as well. The Service had proposed to allow this species gather and grow into a colony encompassing approximately 400 acres within suitable habitat in the Refuge. However, the Service decided to postpone the implementation of this habitat management strategy until sufficient research and studies have performed and the data studied to determine if any of the Refuge's habitats are conducive to a successful introduction of this species. Should adequate and suitable habitats for prairie dog introduction be found in the Refuge, the Service would prepare a step-down management plan to deal with all aspects of this introduction and management of this species, including the exclusion of this species where their presence represents a safety hazard to Refuge staff, neighbors and visitors.

Black-Tailed Prairie Dog Populations and Private

Lands: Basically, the same commentators that expressed opposition to the introduction of prairie dogs into Refuge habitats shared views that black-tailed prairie dogs are very common and widespread, and seemed to also share the notion that prairie dogs are a pest to be rid off rather than a species to protect; an enemy of the cattle industry and farming some added.

The Service will conduct research in the interior of the Refuge to determine if suitable black-tailed prairie dog habitat exists. If suitable habitat is found in the interior of this 71,516 acre Refuge, the Service will release this species, allow them to expand to a manageable population size, and control them within the boundaries of the Refuge.

This proposed expansion is in line with the Service's efforts to protect the ever decreasing numbers and size of black-tailed prairie dog colonies nationwide. The Service has estimated that this species' range has decreased by an alarming 95 percent from the time of the European settlement of the western United States. As a matter of fact, one subspecies, the Utah prairie dog, is already a federally listed and protected species under the Endangered Species Act, and lately, the Service has been petitioned to list the black-tailed prairie dog as well, given the precipitous decline in the species populations. Most researchers attribute this alarming population decline to human activities, specially past and ongoing prairie dog eradication efforts. The same highly effective eradication efforts that led to the precipitous decline in prairie dog populations are believed to have caused the disastrous decline in population and near extinction of the federally listed black-footed ferret. The Service is currently reviewing the petition to list the black-tailed prairie dog and is concerned with populations of other species that depend on prairie dogs, such as the ferruginous hawk and other raptors.

Prescribed Burns

Some commentators expressed concern and scepticism to the Service's proposal to utilize prescribed burns as habitat management tools on the Refuge. Some commentators wrote that prescribed burns are not a viable grassland management tool in the Sandhills habitats of Nebraska and that this practice could ruin the fragile Sandhills ecosystem. But the Service believes that, properly done (as proposed), this tool is not only viable but of tremendous value to reinvigorate and maintain the health of the Sandhills habitats. The Service bases this assertion on the voluminous body of evidence that research and data analysis has yielded for many years not only on Service lands, but on Forest Service, National Park Service, Bureau of Land Management, and some private lands as well. Fire ecology is an established and well grounded science.

The Service personnel that participate in prescribed burns must always prepare a "burn plan" that has to be reviewed and approved by the Service's regional fire ecologists prior to any prescribed burn taking place. Furthermore, these plans must take into consideration the possibility of a escaped fire (wildfire) and have safety features to deal with eventualities such as this.

Habitat, Human Structures, and Wildlife Protection

Many people, agencies, and environmental groups felt that protecting and enhancing bird habitats should be a priority over other management issues, followed by protection and enhancement of other trust species and trust resources. Some commented that inconspicuous wildlife species, including reptiles (such as turtles), butterflies and other insects, should also be considered in the management objectives and goals of this Refuge especially in relation to the Service's proposal to improve the Refuge's road network. Some commentators believe that improved Refuge road conditions would automatically translate into higher driving speeds by Refuge visitors; thus, higher risk of cars and trucks running over some wildlife species, specially slow-moving species such as turtles, amphibians, and insects. Blanding's and yellow mud turtles are considered species of management concern that the Refuge will take into consideration in the management of Refuge resources.

Legislation (National Wildlife Refuge System Administration Act, as amended) mandates wildlife conservation as the overriding mission of the National Wildlife Refuge System and, as such, it is the most important issue at Valentine NWR. Protection of wildlife habitat, especially for feeding, resting, and nesting birds and their young, would define the types of visitor activities and access allowed at the Refuge. Another responsibility of this and any other national wildlife refuge will be to preserve, restore, and enhance threatened and endangered species and migratory birds, as well as species of management concern. To carry out this responsibility, the Refuge's flora and fauna must be protected from human adverse impacts (i.e., overgrazing, overburning, pollution, and disruptive or incompatible activities). Public use of the Refuge's proposed Wilderness Area, and the rest of the Refuge lands must be managed to prevent disturbance of nesting birds. Nonnative plant species must be controlled and/or eradicated to restore native plant communities in upland and wetland areas, thereby enhancing habitat for migratory birds. How to provide wildlife-dependent recreation and opportunities for environmental education, while at the same time ensuring wildlife protection, is an issue to be resolved through effective adaptive management.

The Refuge will consider and implement safeguards for wildlife species in conjunction with road rehabilitation and enhancement, which might include: road design that slows vehicular speeds, signaling (i.e., speed signals, wildlife crossing signals, etc.), speed bumps, etc.

The Service received a few comments comparing the wildlife diversity and rangeland health of private lands adjoining Service lands to that of the Refuge, and arguing that the range management techniques and the history of domestic cattle grazing on their properties had led to better wildlife habitats than those present at the Refuge.

Those comments came mostly from landowners adjacent to or in the general vicinity of the Refuge. However, none of these commentators provided data and thus, the Service believes these comments were based solely on anecdotal observation or are a matter of opinion. Wildlife biologists on Valentine NWR have gathered data and information for many years indicating substantial improvement in wildlife habitat since 1972. This fact also has been acknowledged by the State's wildlife management agency, the Nebraska Game and Parks Commission.

Hunting, Recreation, and Other Public Uses

Some commentators expressed desire to see an expansion of hunting opportunities at the Refuge, opposition to the proposed closing of hunting opportunities in the area of the Fire Tower, and opposition to maintaining the hunting closure of the Hackberry area of the Refuge. Some of the same commentators also expressed opposition to any introduction of elk to the Refuge, primarily due to the possibility of transmission of chronic wasting disease that these large ungulates can carry.

The Refuge is currently open to waterfowl, pheasant, dove, prairie grouse, deer, and coyote hunting throughout most of the Refuge. The Service considered introducing elk to the Refuge, as a logical extension of the proposed bison reintroduction to the Refuge. However, the Service will not introduce elk at this time.

The Hackberry CCC area and the Fire Tower area will be closed to hunting due to safety concerns. The Hackberry CCC area was and will continue to be closed to hunting because State hunting regulations ban this activity in close proximity to housing or residential areas and buildings. The Fire Tower area will be the site of a nature trail and visitor observation deck. In order to ensure safety, quality of the experience, and to avoid conflicts between hunters and other visitors to the Refuge, the Service has decided to close the Fire Tower area to any hunting activities.

Management of the Refuge's Fisheries Resources

Some commentators expressed desire to see the Service expand the sport fishing opportunities at the Refuge and opposition towards the Service's proposal to continue with the current level of angling opportunities. Some other commentators, who apparently must have lacked, or misinterpreting the information provided in the Draft CCP/EA, expressed concern over the purported proposal by the Service to decrease the level of fishing opportunities at the Refuge. We are not sure why some commentators believed this. The Refuge's Draft CCP/EA preferred alternative did not mention nor imply any decreased sport fishing opportunities.

The Service intends to maintain the current level of sport fishing opportunities at the Refuge. The nine lakes on the Refuge open to fishing provide ample opportunity for sport fishing. The lakes are seldom crowded and produce many master angler bluegill, northern pike, and bass. The Refuge staff will strive to improve access to the fishing lakes by upgrading roads and boat ramps. Fisheries surveys will be conducted and stocking used to both improve and maintain sport fishing in all Refuge lakes open to fishing. Other lakes on the Refuge will be managed for migratory birds and remain closed to sport fishing.

Funding and Staffing to Manage the Refuge

Managing this Refuge requires adequate funding and staffing to effectively carry out habitat and wildlife population management activities, as well as to ensure public uses that are compatible with the System mission, environmental interpretation, and education. Some people expressed concern that the Service might not be allocated sufficient funding to implement all the goals and objectives stated in this Plan. Some commentators felt that building partnerships with public agencies, private organizations, and volunteers would increase the Refuge's management ability.

As with all activities of the Service, the implementation of the proposals of this Plan are subject to availability of adequate funding and personnel. Congress has instructed the Service to assess current management conditions of the National Wildlife Refuge System and to prepare a Comprehensive Conservation Plan to guide the activities of each refuge in the Nation for the next 15 years. The Service intends to fulfill the goals and objectives of each refuge as funding and personnel become available to each refuge, and appropriation of the funding must come from Congress in order for these plans to come to fruition. If adequate funding and personnel do not materialize, perhaps some of the proposed activities will not take place and, consequently, some of the goals and objectives stated in the draft plans will not be attained. Nevertheless, this Plan outlines the recommended course of action for the Refuge and this Plan may be the best vehicle to obtain the necessary funding to accomplish the mission for which Congress designated this area a National Wildlife Refuge.

Some of the same commentators expressed reservations or outright opposition to the need for the Service's proposal to construct and relocate an interpretive center and office to a location near U.S. Highway 83 citing concerns for the total cost of such an enterprise and questioning its real need. The Service believes that an environmental education facility that is more visible and accessible to the public will yield far more benefits than the cost attached with building, staffing, and maintaining it. Thus the Service's intention to increase its emphasis on environmental education by creating a place where this important wildlife-dependent use of the Refuge can better be attained.

Public Involvement Methodology

The Service, through this and other planning processes involving NEPA, finds itself involved in the complex and essential task of involving the public in the planning process. The public involvement process is often a difficult enterprise given the specific time-frames and schedules that accompany most Service actions, this Plan not being the exception.

Throughout the process that led to the preparation of this Plan, the Service complied with NEPA requirements to involve the public through meetings of different kinds (i.e., public scoping meetings, open house meetings, meetings with specific groups), personal communications, and the disbursement of the Draft CCP/EA that preceded this final Plan and other kinds of information, and finally, through a period of time in which all interested parties had 105 days in which to provide written comments on the proposed future Refuge goals, objectives, strategies and actions. The Service effected changes to the Draft CCP/EA as a consequence of comments and information received prior and during the public comment period.

The Service, throughout the preparation of the Draft CCP/EA, attempted to consult with and involve all the groups, entities, and individuals that expressed interest in participating. The refuge manager, his staff, and Region 6 Regional Office personnel conducted various meetings to disseminate information, and collect all possible relevant data and comments for the preparation of these Plans.

After these Draft Plans had been prepared, all those involved had an opportunity to provide written comments on the Draft CCP/EA. The original public comment period was open for 60 days, but due to the high volume of comments, the Service agreed to reopen the comment period for an additional 45 days. A typical public comment period is open for 30 days. Thus, the Service gave commentators a total of 105 days in which to provide written comments, by letter or electronic mail, to the Service.

An Open House was held on June 10, 1999, in Valentine, Nebraska. It was scheduled to take place from 3 to 8 PM; instead it ran from 2:45 until 9:30 PM due to the interest shown. The purpose of the Open House was to inform the public as to the major aspects of these Plans. The public was encouraged to provide their written comments to the Service. An Open House meeting format affords the event organizers the opportunity to reach out to a greater segment of the public and each individual person from the public to voice their comments and concerns.

Summary of Refuge and Resource Descriptions

Geographic/Ecosystem Setting

Valentine NWR is 71,516 acres in size and lies in the heart of the Nebraska Sandhills, the largest sand dune area in the Western Hemisphere and one of the largest grass-stabilized regions in the world (Bleed and Flowerday, 1989). The Sandhills are characterized by rolling, vegetated sand dunes and interdunal valleys which spread over the landscape from a northwest to southeasterly direction. Native grasses predominate. Many shallow lakes and wetlands are interspersed in the lower valleys. Wildlife diversity, except large ungulates and their predators, is relatively unchanged since early settlement in the Sandhills.

Grassland comprises 90 percent of the 19,300 square mile region with nearly 97 percent of the total acreage being in private ownership (Bleed and Flowerday 1989). The predominant land-use of the Sandhills is beef cattle production which can have significant impact upon the biological diversity of native flora and fauna. Management of lands adjacent to the Refuge and throughout the Sandhills employ a combination of grazing and haying to support the ranching economy. A variety of grazing treatments and rotations are used. Most meadows are mowed or hayed annually. Prescribed fire is used very rarely. Grasslands seldom receive a prolonged rest treatment.

In the Sandhills, habitat is not a limiting factor for those species of wildlife that rely on, or are tolerant of, disturbed cover (i.e., mowed and/or grazed grasslands). Valentine NWR is one of the few areas in the Sandhills where management can be dedicated to enhancing those species of flora and fauna that do not thrive under management strategies emphasizing economic return.

An estimated 177,000 acres of open water and marsh and 1,130,000 acres of wet meadows remain in the Sandhills. These are mostly freshwater wetlands and include wet meadows, shallow marshes, fens, alkaline wetlands, and range in size from 1 to 2,300 acres with 80 percent of them less than 10 acres in size (LaGrange 1997). Many Sandhills wetlands have been drained in attempts to increase hay production. Estimates of the amount drained range from 15 percent (McMurtry et al. 1972) to 46 percent (USFWS 1986). Wetland drainage continues to this day. On Valentine NWR, drainage ditches were dug before the area became a Refuge. Most do not carry water except in very high water years.

An Atlas of the Sandhills, 1989, by Bleed and Flowerday, is an excellent reference for those wanting more in-depth information on the Sandhills of Nebraska.

The Service has adopted an ecosystem approach to national natural resource management and has identified 52 ecosystems within the United States (USFWS, 1994). The Service has formed teams to address the most important conservation and restoration issues that each one of these identified ecosystems faces. Each one of these teams has advanced, depending on the complexity of issues within a determined area, at different paces in the identification and categorization of all of the conservation issues (Service's Resource Priorities) and goals for each of these ecosystems. Valentine NWR, according to early Service watershed-based ecosystem maps, lies within the Platte/Kansas Rivers Ecosystem.

The Service's Platte/Kansas Rivers Ecosystem team has identified the five main areas of concern that need to be addressed for this ecosystem, and they are:

- P Prairie Grassland (including the Sandhills region) restoration and preservation
- P Species of Concern (rare species)
- P Water quality
- P Native fishes, small fishes and mussels
- P Water Quantity

The Service believes that the Refuge's goals and objectives delineated in this Plan will help the Service attain the goals and objectives for these resource priorities for the Platte/Kansas Rivers Ecosystem.

Climate

The climatic patterns of the Nebraska Sandhills are characteristic of the Central Great Plains: highly variable climate characterized by cold winters and hot summers, with frequent thunderstorms occurring from the spring to late summer. Annual precipitation averages 17 to 23 inches from the western to the eastern portion of the Sandhills (Wilhite and Hubbard 1989) with approximately 65 percent occurring during the May-to-September growing season (National Oceanic and Atmospheric Administration's National Climatic Data Center 1996) which, coupled with high evapotranspiration rates, has significant ecological effect on the region. Valentine NWR has been an official weather station since 1935. Annual precipitation since 1945 has averaged 21.6 inches. Temperature extremes range from -38°F in the winter to 111°F during the summer with July and August being the warmest months (average high temperature 85-87° F) and January and February the coldest months (average low temperature 8-12° F). The average frost free period is approximately 150 days. Winds ranging from 5-15 mph are common throughout the year and are generally out of the north, west, or northwest direction in the winter and out of the south, west, or southwest direction during the summer. Climatological conditions have generally been favorable since the mid-1970's and relatively high annual precipitation levels have resulted in positive net moisture balances (annual precipitation minus open pan evaporation) during most years since 1976.

Air Quality

Air quality is good thanks to the absence of significant air pollution sources due to the distance to any urban or industrial areas from the Refuge. The proposed Valentine Wilderness is a Class 2 Status Area under the Clean Air Act.

Geology

The geologic framework of the Refuge consists of formations related to the Valentine Formation which is a sandy, stream-deposited unit unconformably overlying Rosebud formations and forming gentle slopes; Sandhills are stabilized dune sand of the late Pleistocene and Holocene age.

Soils

Soil groups and series found on the Refuge are mapped and described in detail in the 1956 Soil Survey of Cherry County. In 1997 and 1998, the soils of the Refuge were surveyed for mapping by the Natural Resource Conservation Service.

Most of the soils are wind-laid sand that has not been held in place long by vegetation. They are light colored and have little organic matter. The soils in basins, valleys, and wet meadows have thicker and darker surface layers and more organic matter than soils found in the hills. Rainfall is quickly absorbed by the sandy soils and causes little erosion and low evaporation rates. Native grasses grow well in these conditions. Soil exposed by overgrazing or plowing is subject to wind erosion (Layton et al 1956). The main soil types are the Valentine-Els-Tryon, Valentine-Thurman Associations (Kuzila 1989), Valentine (fine sand, undulating), Valentine-Rosebud (loamy fine sands, undulating) and Dune Sand (stabilized, rolling).

Refuge Resources, Cultural Values and Uses

Water Resources and Associated Wetlands

The Nebraska Sandhills overlay the High Plains Aquifer - commonly referred to as the Ogallala Aquifer. This groundwater resource creates an interspersed of shallow lakes, semipermanent, and temporary wetlands in the lower elevations and valleys where the groundwater level is exposed. Water resources are the driving force supporting the ecological diversity and integrity of the Nebraska Sandhills.

Thirty-seven major wetland complexes are on Valentine NWR totaling approximately 13,000 acres. These wetlands are a mix of shallow lakes, marshes, seasonal wetlands, wet meadows, fens, and small streams that run during high water periods. Wetlands are well dispersed throughout the Refuge grasslands. Submergent and emergent vegetation in lakes and marshes range from very sparse to dense depending on soils and alkalinity. Emergents include cattail, bulrush, wild rice, and phragmites. Vegetation bordering wetlands is primarily grasses. Some lakes are bordered by trees on the south shores.

Water control structures have been installed on six lakes, however, only four can increase water elevations significantly above the maximum, naturally functioning level. Several Refuge lakes have water level gauges where records of lake levels are recorded. Refuge staff also record water levels in U.S. Geological Survey groundwater survey wells. Some old drainage ditches dug before the Refuge was established remain. These ditches are only partially functional due to siltation and perhaps poor design. In several areas, wetlands have been dug out in wet meadows and fens to produce open water areas.

Most of the wetlands on the Refuge rise and fall depending on precipitation and groundwater levels. Precipitation for the past 17 years has been high resulting in record levels for lakes. The Marsh Lakes, historically a very large cattail marsh with three areas of open water and a closed basin, is now one large lake with water flowing out of the basin. Refuge wetlands normally function as a closed system and only during high precipitation periods does excess surface water exit the Refuge. Refuge wetlands are shown in Figure 2.

Vegetation

Grasslands

Sandhill Prairie is within the wide transitional zone of the Mixed Grass Prairie between Tallgrass Prairie and the Short Grass Plains. Annual precipitation is typical of the semiarid Mixed Grass Prairie; however, the Nebraska Sandhills is characterized by a predominance of post climax tallgrass species typical of a greater moisture regime (Oosting 1948, Keeler et al. 1980). This mixture and general dominance by Tallgrass Prairie species is locally influenced by topography (i.e., the soil moisture holding capacities and soil moisture penetration in different textures of the sand soil range sites and the root structures and the photosynthetic strategies of cool and warm season plants) (Tolstead 1942, Barnes 1984). Refuge vegetation is shown on Figure 3. Four basic range sites are located within the Sandhills.

Wetland range sites are the low meadow sites dominated by grass species that thrive in a moisture saturated soil profile (i.e., prairie cordgrass, blue-joint reedgrass, sedge species, and non-grass species such as golden rods, saw-toothed sunflower and willows). A federally threatened species, western prairie fringed orchid, is found within the wetland range site.

Sub-irrigated range sites are meadows that are very close to the groundwater level. Sub-irrigated range sites are dominated by Tallgrass Prairie species such as big bluestem and Indian grass. Soil moisture in the sub-irrigated range site is adequate to support the deep rooted warm season native grasses even during periods of drought. Sub-irrigated range sites are commonly invaded by exotic species such as Kentucky bluegrass, smooth brome, and red top.

Sand range sites comprise the dry meadows (low sand sites) and the gently undulating Sandhills. Native vegetative species common to the sand range sites are cool season grasses: needle-and-thread, porcupine grass, prairie June grass and western wheat grass; and warm season grasses typical of the Tallgrass Prairie: prairie sandreed, sand bluestem, sand love grass, little bluestem, and switchgrass. Typical non-grass species of the sand range site include stiff sunflower, yucca, lead plant, and prairie rose. Exotic smooth brome and Kentucky bluegrass tend also to invade the lower elevations of the sand range sites.

Choppy sand range sites are the characteristic sand dunes for which the Nebraska Sandhills is named. Many vegetational characteristics are common to the sand range sites, but there is a greater proportion of unvegetated sand soil surface that is subject to wind and water erosion. Typical perennial grasses include: blue grama, sand bluestem, prairie sandreed, blowout grass, sand love grass, little bluestem, spiny muhly; and non-grass species include yucca, prairie rose and sunflowers. The federally endangered species, blowout penstemon, is endemic to the Nebraska Sandhills and its characteristic habitat includes the blowouts and open sand areas of the choppy sand range sites.

Native perennial and annual flowering forbs adorn the various range sites on Valentine NWR; some of which are only found on native grasslands that have not been degraded by the impact of modern man (i.e., conversion of grassland to farm land, use of herbicides, and chronic overgrazing of livestock) (Weaver 1961, Farrar 1990).

Woodlands

Approximately 45 species of native and introduced trees and shrubs exist in the Sandhills. Native willows are found around wetlands as are occasional cottonwoods. Hackberry, choke cherry and American plum are found on the north slopes usually adjacent to the south sides of lakes. The abundance of woody cover has drastically changed since Valentine NWR was established. Many shrub and tree species, including nonnatives, were planted by the Civil Conservation Corps during the 1930's. Since then cedar and Russian olive trees have been expanding and invading grassland and are beginning to jeopardize the floral and faunal integrity of native Sandhills Prairie.

Exotic and Invading vegetation found on or near the Refuge includes leafy spurge, purple loosestrife, Canada thistle, Kentucky bluegrass, smooth brome, downy brome, sweet clover, reed canary grass, phragmites, Eastern red cedar, Russian olive, black and honey locusts.

Wildlife

The Sandhills of Nebraska is one of the few prairie areas in the United States that has not been converted to farmland. This, plus the abundance of a variety of wetlands, has resulted in most of the native plants and animals historically found in the area still being present today. A list of bird, mammal, amphibian and reptile species present at Valentine NWR can be found in Appendix F.

Birds

The avifauna of the Nebraska Sandhills is extremely diverse with 270 species making up the Valentine NWR bird list. There are four endangered species that are migrants or winter residents only and three species on the species of management concern. Of the latter three, the ferruginous hawk is a migrant and the black tern and loggerhead shrike are abundant and common breeding species on Valentine NWR.

Many herons, egrets, shorebirds, and marsh and waterbirds use the Sandhills wetlands for nesting and migration. The North American Waterfowl Management Plan lists the Sandhills as a habitat of major concern in North America (USFWS and CWS 1986). Bellrose (1980) lists the Sandhills as the most important waterfowl production area outside the Prairie Pothole Region. The most common waterfowl nesting on the Refuge are mallard, blue-winged teal, northern shoveler, gadwall, Canada geese, and pintails. Trumpeter swans are a resident species.

Prairie grouse habitat and populations are being reduced significantly in North America (Proceedings Prairie Grouse Technical Conference 1998, Cornely and Braun 1997, Proceedings Minnesota Prairie Chicken Society 1998, Boydeck 1997, Boyce 1997, Hoffman and Beauprez 1997). Prairie chickens are of special concern. The Sandhills and Valentine NWR are important for conservation of both prairie chickens and sharp-tailed grouse and one of only a few places where significant populations of both species in the same area exist.

The riparian shorelines on Valentine NWR are primarily native willows which provide habitat for many neotropical migrants (Sedgewick 1993). The high water levels of the past 10-15 years have discouraged significant use by migrating shorebirds.



Valentine National Wildlife Refuge

Cherry County, Nebraska

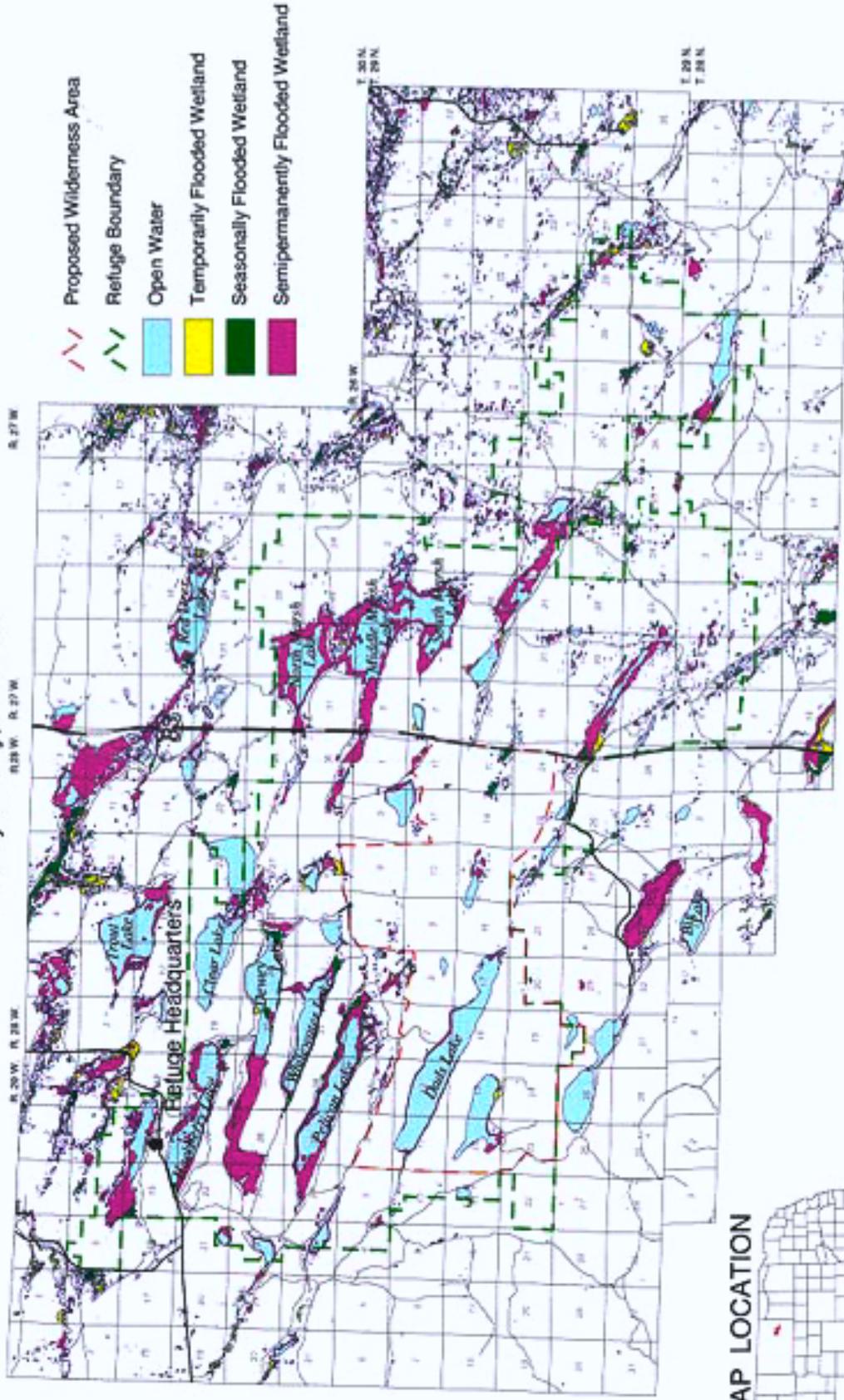


Figure 2: Wetland Map



Valentine National Wildlife Refuge

Cherry County, Nebraska

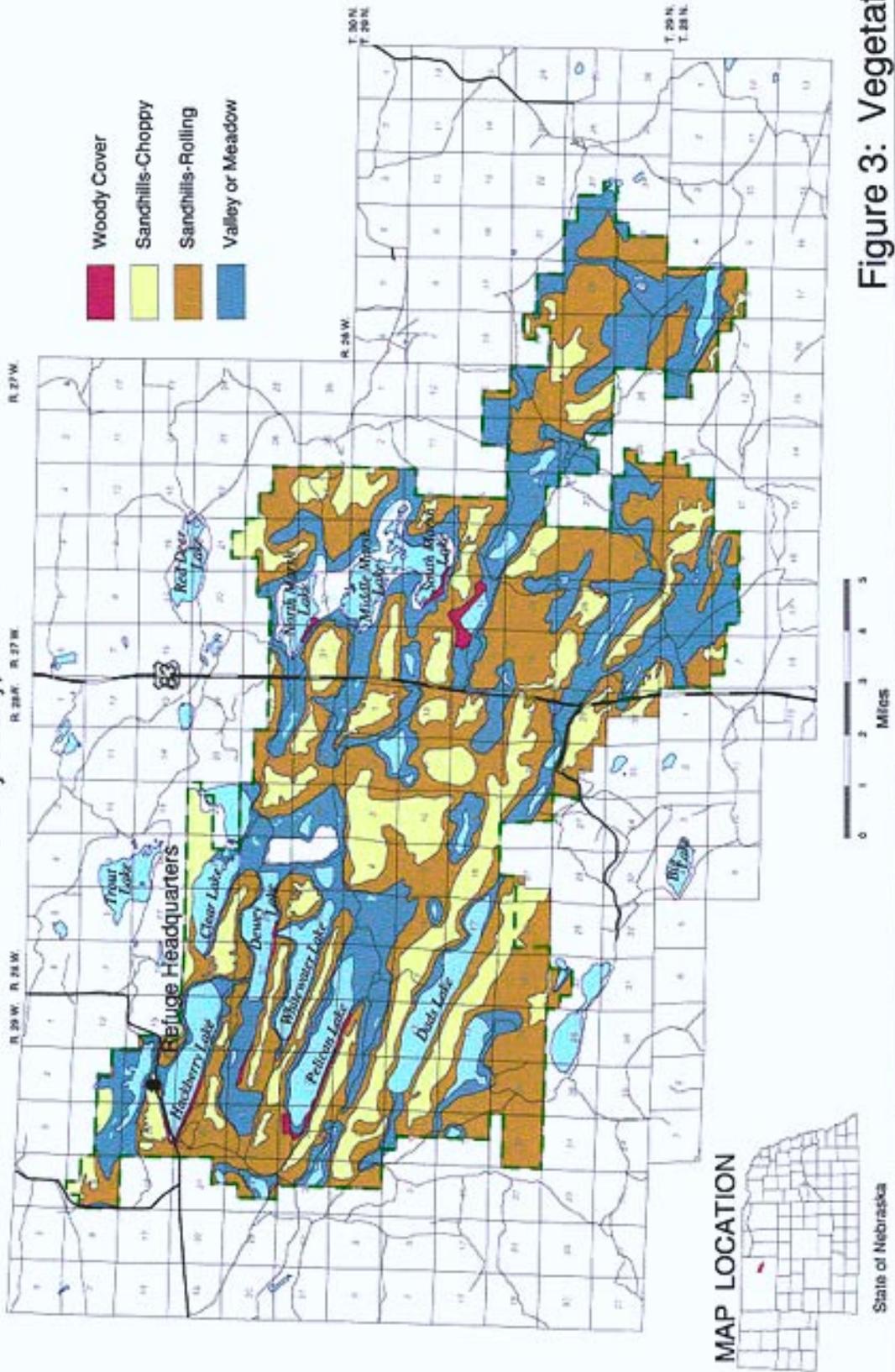


Figure 3: Vegetation Map

Mammals

The Nebraska Sandhills provide two distinct land types, Sandhills and wet meadows, that support an abundant diversity of native mammals. The original native mammalian fauna probably comprised 59 species. Ten carnivores and ungulates were probably extirpated by the turn of the century. The remaining 49 native mammal species have been augmented by ten additional species introduced or whose ranges have been extended (Jones 1964, McDaniel 1967, Freeman 1990, and Bogan and Ramotnik 1993). One native species, the swift fox, is on the Federal Candidate Species List as well as the State Endangered Species List. The present range of occurrence of this species is within the region of Valentine NWR, but no recent sightings have been made.

Amphibians and Reptiles

The Nebraska Sandhills are within the range of 26 to 27 species of amphibians and reptiles (Freeman 1990). Twenty-two species are relatively common on Valentine NWR, including 6 amphibians, 5 turtles, 4 lizards, and 7 snake species. The turtle fauna on Valentine NWR is rich in species with abundant populations (Corn et al. 1993) - especially the Blanding's turtle and the yellow mud turtle which are species of management concern. Of the seven snake species on Valentine NWR, only the milk snake and prairie rattlesnake do not occur in any significant numbers.

Fishes

More than 75 species of fishes have been recorded in the Sandhills (Hrabik 1989) including a mix of native and introduced species. Most are fishes of rivers and stream and thus not found on Valentine NWR. Native fishes known to occur on the Refuge include grass pickerel, fathead minnow, brook stickleback, green sunfish, and bullhead. No complete survey of native fishes has been made.

Nonnative fishes including northern pike, largemouth bass, bluegill, saugeye, yellow perch, and muskellunge are stocked and managed for sport fisheries in nine Refuge lakes open to fishing. In the past, black crappie, channel catfish, flathead catfish, Sacramento perch, and trout were introduced. The Refuge lakes are noted in Nebraska for fine bluegill and pike fishing and are a popular destination for anglers from Nebraska and other states. Under cooperative agreement, the Nebraska Game and Parks Commission collects brood stock and eggs from the Refuge lakes for their hatchery operations. They also stock fishes in Refuge fishing lakes.

Carp entered the Refuge via the Gordon Creek diversion and have been a continual problem in Refuge lakes and wetlands. In recent years, high water levels have connected additional lakes, and carp are now found throughout the Refuge. In recent years, carp entered the Marsh Lakes, the best waterfowl and other water bird habitat on the Refuge. In the late 1970's and early 1980's, lakes open to fishing were treated with rotenone to reduce carp populations and improve sport fishing, water quality, and habitat for waterbirds. Restrictive size limits have been placed on northern pike to protect them as a predator of the carp. This measure has been partially successful in keeping carp populations in control.

Insects

Three insect species are on the list of species of management concern -- the regal fritillary butterfly, the Belfragi's chlorochroan bug, and the noctuid moth. However, systematic monitoring of the diverse insect life on and adjacent to Valentine NWR has not been done. In 1983, personnel from the Smithsonian Institute's Museum of Natural History, Washington, D.C., collected small moths on Valentine NWR and reported that a minimum of 25 species had not been previously described. The occurrence of the endangered American burying beetle is another case in point that insect life and range of occurrence of insects are not well documented throughout the Nebraska Sandhills.

Threatened and Endangered Species

Some species listed under provisions of the Endangered Species Act have been documented on the Refuge and/or in the surrounding area.

Federally Listed Animals

The following rare and endangered species have been documented on Valentine NWR during spring and/or fall migrations: bald eagles, interior least tern, piping plover, and whooping crane. Most are only recorded at intervals of several years. Bald eagles are annual winter residents. Generally a maximum of six bald eagles are recorded during the winter survey. In late winter, up to 100 bald eagles have concentrated at fish kills both on and adjacent to the Refuge.

The American burying beetle was listed under the provisions of the Endangered Species Act in 1989. Before 1992, Valentine NWR was considered outside the previously known range of the American burying beetle. Six records of the species were documented in 1992, and in 1993, one specimen was photographed on Valentine NWR, and a second specimen was recovered from private land adjacent to Valentine NWR. A limited survey conducted in 1998 recorded eight beetles. However, grassland management on Valentine NWR that encourages the production of waterfowl and prairie grouse, (i.e., a potential carrion food source of appropriate size) (USFWS 1991), should enhance the survival of this species.

Federally Listed Plants

Blowout Penstemon

Hayden's, or blowout penstemon, is perhaps Nebraska's rarest plant and is listed as endangered under the provisions of the Endangered Species Act (Farrar 1990). Listing was accomplished in 1987. This species is endemic to the Nebraska Sandhills and is dependent upon disturbance, to promote the blowouts or open sand habitat, for its existence (Fritz et al. 1992). The plant grows in and around blowouts, areas of open sand maintained by wind erosion. A small number of naturally occurring blowout penstemon plants have been found in three locations on the Refuge. In recent years, seedlings have been transplanted into nine blowouts in an attempt to increase the population.

Blowout penstemon has also been documented at two locations immediately adjacent to Valentine NWR. Since 1979, annual inventories have been conducted by personnel from the University of Nebraska-Lincoln, Chadron State College, and Valentine NWR.

Western Prairie Fringed Orchid

The western prairie fringed orchid is one of Nebraska's rarest wildflowers (Farrar 1990) and, in 1989, was listed as threatened under the provisions of the Endangered Species Act. Prairie fringed orchid site locations are characterized by a high soil moisture profile common to the wetland range sites on Valentine NWR (Fritz 1993). Since 1985, inventories have been performed by Nebraska Game and Parks Commission and Valentine NWR personnel. Prairie fringed orchids have been documented at eight sites on Valentine NWR and at three sites on private land immediately adjacent to Valentine NWR.

Grassland management treatments that pose a threat to prairie fringed orchids are continuous and/or inopportune timing of grazing and mowing; the indiscriminate use of herbicides; and application of insecticides that may affect populations of the insect pollinators (Fritz 1993). Prairie fringed orchids have been reported to respond to spring grassland burns (Sather et al. 1992) and fall burns (Hull-Seig and King 1995). Management on Valentine NWR involves excluding prairie fringed orchids from mowing and grazing manipulative treatments during the critical period of plant growth through the maturation of seeds (June - September).

Cultural and Paleontological Resources

Limited cultural resource inventory has been conducted on the Refuge. No sites of Native American occupation are known. Before becoming a Refuge, the land was used for cattle ranching. The ranch headquarters area has little remaining. One house at Pelican Lake was part of a ranch and is now used for Refuge housing. Some remains of old waterfowl hunting camps can be seen around the Marsh Lakes. The Civilian Conservation Corps had a camp at Valentine NWR and most of the buildings at Hackberry Lake were built at this time. The house at Pelican Lake and the CCC construction at Hackberry Lake Headquarters have been determined eligible for nomination to the National Register of Historic Places. Two fire observation towers built by the CCCs are on the Refuge. The CCCs had a resort at Dads Lake of which the foundations and chimney are still present. They also planted most of the tree belts found on the Refuge.

Euro-American settlement of the Sandhills began in the late 1870's and 1880's and corresponded with the strong cattle market provided by the Military Fort near the Refuge. The railroad (Fremont, Elkhorn, and Missouri Valley) reached Fort Niobrara in 1883 resulting in the development of the town of Valentine. Homesteading was further encouraged by the Fort's ready market for local farm produce and labor. Several saw and flour mills were in operation along the Niobrara River by the mid-1880's. Homesteading and farming grew during the 1880's but were challenged by drought and recession in the 1890's. The 1904 Kinkaid Act encouraged more settlement; however, the Sandhills was nearly the last of the Great Plains to be homesteaded. Population in the area increased and peaked during World War I with elevated commodity prices but steadily declined to current levels (Miller 1990).

Socio-Economic and Political Environment

The Refuge is located in Cherry County approximately 25 miles south of the city of Valentine, which is also the seat and biggest city of the county with a population of approximately 2,800 (see Figure 1). Cherry County is the largest County in Nebraska with a total area of approximately 6,013 square miles with an economy based primarily on ranching and tourism. The Yellowthroat WMA is located in Brown County while the Holt Creek WMA is located in Keya Paha County. The Refuge contributes to the economies of these counties primarily by attracting tourists, bird-watchers, hunters, and anglers. The rural population in these counties is very sparse due to large ranch sizes.

Predominate land-use in Cherry County is native prairie grazing and haying with less than 10 percent of the acreage cropped or irrigated (Miller 1990). Family-owned ranching is the primary source of income in these counties, although income generated from tourism is increasing. The permitting of some grazing and haying on Service lands benefits the local economy, as do the in-lieu-of-tax payments made to Cherry County for Service lands. Presently, eight ranchers have permits to graze and/or hay on the Refuge. The grazing permitted is an important part of their ranching operations.

According to the County and City Data Book (U.S. Bureau of Census, 1994), for the year 1989, the median family income for Cherry County was \$22,902, the median household income was \$18,962 and the per capita income was \$10,758. The percentage of households, for the same year, with annual income levels below \$15,000 was 37.8 percent. The number of families with income below the poverty level was 286 and the number of persons was 1,386. According to the same source, Cherry County minority population (excluding women) accounted for only .4 percent of the total population (218 persons out of 6,336 in the 1992 Cherry County population).

Nebraska State Highway 83 cuts through the center of the Refuge and State Spur 16B goes to the west end of the Refuge. The nearest airport with scheduled passenger service is in North Platte, 136 miles south of Valentine. Most of the land adjacent to the Refuge is in private ownership. The Nebraska Game and Parks Commission owns two Wildlife Management Areas, Rat and Beaver Lake WMA and Willow Lake WMA, adjacent to the Refuge. The State also owns four parcels of school land managed by Educational Lands and Funds which border the Refuge. Some School lands are scheduled to be sold in the future. Other public lands in the Sandhills include Merrit Reservoir State Recreation Area, Bowring Ranch, and the Cowboy Trail, and several additional WMAs managed by the Nebraska Game and Parks Commission; the McKelvie and Halsey National Forests managed by the U.S. Forest Service; and several small tracts managed by the Bureau of Land Management. The Nature Conservancy manages the large Niobrara Valley Preserve at the northern edge of the Sandhills.

Public Uses

Valentine NWR is presently open to wildlife observation and photography, fishing, hunting, and environmental education and interpretation activities. Public use of the Refuge occurs year-round with the greatest amount of visitation documented from mid-May to mid-October. A more detailed look at current levels of use can be found in the Environmental Assessment on Appendix H. NEPA Documentation, under the Current Management (No Action) Alternative discussion.

Facilities for visitors are limited. Most interior Refuge roads are two track trails which are often only passable in 4-wheel drive and often closed when water is high or snow is deep. Mowed parking areas are near primitive boat launches. One handicapped accessible fishing dock and surfaced boat ramp are at Watts Lake. Rest rooms are available in the summer at Hackberry Lake. Three information kiosks with leaflet dispensers are at Refuge entrances. Refuge entrances and boundaries are marked with signs, and limited directional and regulation signs are on the Refuge.

Special Management Areas

Special Legislated Designations

Wilderness Area

Definition of Wilderness

The Wilderness Act of 1964 (Public Law 88-577 [16 U.S.C. 1131-1136]) defines wilderness as follows: "A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value."

Principles Governing the Management of Wilderness Areas

Manage wilderness as a distinct resource with inseparable parts.

1. Manage the use of other resources and activities within wilderness in a manner compatible with the wilderness resource.
2. Allow natural processes to operate freely within wilderness.
3. Attain the highest level of primeval wilderness character within legal constraints.
4. Preserve wilderness air and water quality.
5. Produce human values and benefits while preserving wilderness.
6. Preserve outstanding opportunities for solitude or a primitive and unconfined recreation experience in each wilderness.
7. Control and reduce the adverse physical and social impacts of human use in wilderness through education or minimum regulation.
8. Favor wilderness-dependent activities when managing wilderness use.
9. Exclude the sight, sound, and other tangible evidence of motorized or mechanical transport wherever possible within wilderness.
10. Remove existing structures and terminate uses and activities not essential to wilderness management or not provided for by law.
11. Accomplish necessary wilderness management work with the "minimum tool."
12. Establish specific management direction with public involvement, in a management plan for each wilderness.
13. Harmonize wilderness and adjacent land management activities.
14. Manage wilderness with interdisciplinary scientific skills.
15. Manage special provisions provided for by wilderness legislation with minimum impact on the wilderness resource.

In 1973, the entire Refuge was studied to ascertain the suitability or lack thereof of the Refuge or any portion of the Refuge for inclusion in the National Wilderness Preservation System. Following the study, a 16,317-acre portion of the Refuge was recommended for inclusion. The boundaries of the proposed wilderness are shown in Figure 2, Wetland Map. Congress must approve the change from a proposed to a designated wilderness but has taken no action. In 1999, the proposed wilderness area was included, along with several other refuge wilderness study areas, in a proposal to Congress to complete designation. In 1998, the proposed wilderness area was reduced in size when 508 acres in the designated area were traded for private lands which were added in another area of the Refuge. Proposed wilderness areas are to be managed as wilderness areas until the designation is completed or withdrawn. Present management of the proposed wilderness area is described in various sections throughout this Plan.

The proposed wilderness is located in the southwest portion of the Refuge. The proposal includes two large lakes, Dad's and Mule, and several smaller ones. The smaller lakes are bordered by marshes while Dad's Lake, one of the largest natural lakes in the Sandhills, is bordered on the south by a narrow strip of trees and brush and high sandy hills. Vegetation and wildlife is similar to that found in other areas of the Refuge. The area is very scenic with the native grasses, undeveloped lakes, high choppy sand hills, and feeling of isolation and the expanse of the prairie. Man-made structures in the wilderness consist of a few windmills and tanks, electric and barbed wire fences. Visible from within the wilderness area are Highway 83 to the east, a power line to the west, a radio tower to the south, and a few isolated ranch buildings.

The area of the Refuge proposed for designation as Wilderness is to be managed according to the Wilderness Act of 1964 which requires wilderness areas to be managed in a natural condition for solitude or a primitive and unconfined type of recreation. Until such a time as Congress either officially designates the area as Wilderness or drops it from further consideration for designation.

Research Natural Areas

Two research natural areas are located on Valentine NWR. They are called the George Wiseman Natural Area and Natural Area 2. They are south of Hackberry and Dewey Lakes, and have a combined total size of 1,381 acres. These areas are currently closed to access and have not been subjected to cattle grazing.

National Landmark

In 1979, the special qualities of the Sandhills were recognized when Valentine NWR was designated a Registered Natural Landmark by the Heritage Conservation and Recreation Service.

Management Direction

Refuge Management Direction: Goals, Objectives, and Strategies/Projects

Refuge Goals and Objectives

The mission and purposes of the National Wildlife Refuge System, the purpose(s) for which a refuge was established, and the existence of an area being studied for designation as wilderness within the Refuge boundaries are the primary references for setting refuge goals and objectives. The ecosystem priorities provide a secondary reference for setting refuge goals and objectives.

Refuge goals are qualitative statements that define what outputs and outcomes a refuge must achieve to satisfy the System's mission and purposes as well as the refuge's purpose(s). Refuge objectives are benchmarks indicating progress toward achieving the mission, purposes and goals.

Valentine NWR goals and objectives are listed below. These goals and objectives were established during the developmental stages of this Plan and refined, updated and merged with each revision during the planning process of the Draft Comprehensive Conservation Plan and Environmental Assessment.

The goals and objectives were the benchmarks used for the development of the Preferred Alternative from among the management actions discussed in the Alternatives presented in the Draft Comprehensive Conservation Plan and Environmental Assessment (see Appendix H for more information on the alternatives considered during the draft stages of this Plan).

The Refuge planning team spent considerable time defining habitat and other objectives to further describe management actions needed to meet Refuge goals. They are presented in this Plan to provide a logical step-down from the broad purpose and vision statement to concrete management decisions.

Interrelationships of Goals and Objectives

The subsequent Refuge goals and objectives are being presented separately for ease of understanding and reference. They are, however, not independent of each other. The goals and objectives, and the resources and activities discussed are completely interrelated in spatial, ecological, and management considerations.

The habitat goals and objectives are the primary criteria which refuge managers will use to guide their efforts and evaluate successes towards accomplishing this Plan. Goals and objectives for habitat, wildlife, threatened and endangered species, interpretation and recreation, and ecosystem provide additional information for managers to refine specific actions and to help in evaluating success of habitat management and use of the Refuge by the public. In order for refuge managers to achieve the vision of the Refuge in full, these objectives need to be understood holistically and applied in combination, each being a critical part of the Refuge vision.

P Habitat Management

Goal: -Preserve, restore, and enhance the ecological diversity of indigenous flora of the physiographic region described as Sandhills Prairie within the Northern Great Plains.

Grassland Management

Grasslands will be maintained through grazing so that a minimum of 60 percent of the meadow areas and 55 percent of the hills are in undisturbed cover.

The use of prescribed fire will be increased to invigorate grasslands, and provide cedar control. From 1,000 to 8,000 acres could conceivably be treated annually.

Grasslands Habitat (Composition) Objective: Preserve, restore, and enhance the diverse native floral communities so that greater than 75 percent is composed of climax species (good to excellent range condition). The following are the indicator species and composition of the desired floral community by range site (USDA Range Handbook and Potential Natural Vegetation of Nebraska - Kaul and Rolfsmeier, 1993).

Wetland Range: Eighty percent grasses (bluejoint and northern reedgrass, inland saltgrass, prairie cordgrass and foxtail barley); 15 percent grasslike plants (sedges and rushes); 5 percent forbs (saw-toothed sunflower, marsh hedge-nettle, Indian hemp dogbane, swamp milkweed, arrowhead and smartweeds).

Sub-irrigated Range: Seventy-five to 85 percent grasses (switchgrass, big bluestem, Indian grass, Scribner's panicum, prairie cord grass, inland saltgrass and purple lovegrass); 5-10 percent grasslike plants (sedges and rushes); 5-10 percent forbs (American licorice, blue verbena, purple prairie clover, stiff sunflower, nodding lady's-tresses, western ironweed, milkweeds, goldenrods, closed and downy gentians, blue lobelia, and the threatened western prairie fringed orchid); 5 percent shrubs (leadplant, willow, poison ivy, western snowberry, Arkansas and Wood's wild rose).

Sand Range: Eighty to 95 percent grasses (switchgrass, sand bluestem, little bluestem, big bluestem, Indian grass, prairie sandreed, needle-and-thread, porcupine grass, sand love grass, Canada wildrye, Scribner's panicum, western wheatgrass, prairie June grass); less than 5 percent grasslike plants (sedges); 10 percent forbs (blue verbena, bush morning glory, cudweed sagewort, blazing star, penstemons (shell-leaf, narrow beardtongue), western ragweed, bracket spiderwort, Rocky Mountain bee plant, evening primrose, prairie coneflower, silky and purple prairie clovers, gilia, ten-petal mentzelia, sunflowers, goldenrods, vetches, scurfpeas, yucca and pricklypear cactus); less than 5 percent shrubs (Arkansas and wild rose, leadplant, green sage, poison ivy, sand cherry, wild plum, chokecherry and western snowberry).

Chopy Sands Range: Eighty-five percent grasses (prairie sandreed, little bluestem, sand bluestem, blowout grass, needle-and-thread, prairie June grass, sand dropseed, sand love grass, spiny muhly, switchgrass, and blue grama); less than 5 percent grasslike plants (thread-leaf sedge); less than 10 percent forbs (bush morning glory, painted milkvetch, bracted spiderwort, western ragweed, cudweed sagewort, sunflowers, scurfpeas, yucca, pricklypear cactus and the endangered blowout penstemon); less than 5 percent shrubs (Arkansas and wild rose, green sage, poison ivy, sand cherry, wild plum, chokecherry and western snowberry).

Grassland Cover (Structure) Objective: Annually provide diverse vegetation composition and structure with greater than 50 percent (30,930 acres) of the total grassland (61,861 acres) remaining in undisturbed cover (i.e., vegetative cover that has not been disturbed by grazing, mowing or fire during the preceding growing season through July 10 of the current year) to meet nesting, brooding, feeding and protective cover requirements of various grassland dependent wildlife species. The following combinations of cover treatment and vegetative structure are recommended for meadow and hill acreage:

Cover Treatment	Acreage (%)	VOR Ave. (Range)*
Meadow (13,106 Acres)		
Disturbed cover	~ 5,200 (~ 40%)	~ 3.0" (1-10")
1 Year Rest	~ 2,600 (~ 20%)	~ 10.0" (2-20")
2 Years+ Rest	~ 5,200 (~ 40%)	~ 12.0" (4-24")
Hills (48,755 Acres)		
Disturbed cover	~ 21,900 (~ 45%)	< 3.0" (1-10")
1 Year Rest	~ 12,200 (~ 25%)	= > 6.0" (1-16")
2 Years+ Rest	~ 14,600 (~ 30%)	= > 6.0" (1-18")

* - Visual Obstruction Readings averages are residual cover readings taken in the Fall (before the upcoming nesting season).

Wetland Management

The Service will continue to maintain water control structures and depths appropriate for sport fisheries at designated fishing lakes. Ditch plugs will be placed on ditches unnecessary for water management. The Refuge staff will conduct drawdowns and renovations of wetlands and lakes when possible to rejuvenate wetland plant productivity and diversity, and provide carp control. Sport fishing lakes may periodically be drawn down and renovated. Renovations in these cases would include restocking with appropriate mixes of sport fish species.

Wetland Habitat Objectives: Groundwater Resources: Maintain a database on Refuge groundwater resources to ensure long-term protection of Refuge groundwater quantity and quality.

Surface Water Resources: Maintain a database on Refuge surface water resources by documenting wetland elevations for long-term protection of Refuge water supplies.

Maximize production of invertebrate (protein) and plant (carbohydrate) resources on 11,181 wetland acres to provide an appropriate food base for indigenous wildlife (migratory birds, mammals, reptiles, amphibians, fish) and enhance production on 2,650 acres of lakes for sport fishing.

Maximize food production for migratory birds by providing an unexploited food base on the following acreage of wetlands that are not designated for sport fishing:

<u>Wetland Class</u>	<u>Acreage</u>
Temporary	735
Seasonal	1,094
Semipermanent	4,636
Lakes	<u>4,716</u>
Total Acreage	11,181

Enhance food production by periodic drawdowns/renovations on the following Lakes designated for sport fishing:

<u>Wetland</u>	<u>Acreage</u>
Clear	532
Dewey	494
Duck and Rice	118
Hackberry	528
Pelican	617
Watts	173
West Long	76
Willow (Refuge)	<u>112</u>
Total	2,650

Maintain Dewey Marsh Fen and identify and maintain other fen sites which have unique vegetation and hydrology.

Indigenous Trees, Brush, and Planted Tree Habitat

Objective: Enhance the Sandhill Prairie landscape by reducing invading cedar trees while still maintaining a representative interspersed of indigenous woody vegetation per the following specific objectives.

Site specific indigenous woody vegetation

recommended targets: Maintain indigenous woody vegetation of the north facing slopes next to the south shorelines of Clear, Dewey, Hackberry, Pelican, Whitewater, Dad's and South Marsh Lakes.

Maintain indigenous willow tree and brush on the northwest-west ends of Dewey, Hackberry and Pelican Lakes and around Duck Lake.

Maintain indigenous trees in and adjacent to the Headquarters and Sub-headquarters areas.

Recommended maximum target level of composition by habitat unit: Willow occurrence and invasion on meadows and around lakes (less than 10 percent).

Cedar occurrence and invasion on meadows (less than 5 percent) and in the Sandhills (less than 5 percent).

Reduce cottonwood invasion in the northern King Flat area.

Maintain the two relic stands of quaking aspen at the west end of Watts Lake Habitat Unit (H.U. 1A) and the north side of Dewey Marsh (H.U. 3B)

Exotic and Invading Species

The Service will continue its integrated pest management program. Mechanical and some chemical control to reduce Canada thistle, invasive cool season grasses, and leafy spurge will continue. Increased efforts to reduce cedar and exotic cool-season grasses through prescribed fire will be conducted.

Exotic and Invading Species Objective: Prevent additional exotic plant species from becoming established and reduce the occurrence, frequency and stand density of existing exotic species to less than 5 percent of composition within five years. The invading and exotic species targeted by this objective include, but are not limited to:

Russian olive	Black and honey locust
Siberian elm	Mulberry
Smooth brome	Quack grass
Reed canary grass	Leafy spurge
Canada thistle	Kentucky bluegrass

P Wildlife

Goals: Preserve, restore and enhance the ecological diversity and abundance of migratory birds and other indigenous wildlife with emphasis on waterfowl, prairie grouse, and other grassland dependent birds.

In addition to implementing habitat management actions that improve and maintain the diverse native plant communities, the Service will consider and implement management regimes that meet various native bird requirements. Biological monitoring of native birds and other wildlife will increase to better document population trends and effects of management.

The following wildlife objectives are based upon unpublished Refuge data, and represent average population levels that can normally be expected to occur given the above habitat objectives. Periodic severe weather events, continental changes in migratory bird populations, and other factors can, and do, cause fluctuations in Refuge populations.

Migratory Waterfowl Objectives: Achieve an average annual breeding pair density of equal to or greater than 4,000 dabbling and 700 diving ducks with a brood/pair ratio expressed as a percent of equal to or greater than 20 percent over a five year period (unpublished Refuge data 1978-91). A brood/pair ratio is the percent of pairs that produce a brood to flight stage.

Maintain an annual breeding population of approximately 100 Canada goose pairs.

Provide approximately 11,000 acres of wetland for spring and fall migrating waterfowl.

Trumpeter swans: Cooperate with Lacreek NWR by reporting all trumpeter swan production and winter activity observed on and adjacent to Valentine NWR. Generally one and periodically two breeding pairs of swans are present on Valentine NWR.

Other Migratory Birds Objectives: Maintain and increase breeding populations of indigenous, neotropical migrants that are water-based including American bittern, white-faced ibis, black tern, marbled godwit, northern harrier and other shorebirds and wading birds that inhabit the Refuge. Establish average densities of appropriate species and an overall species richness/diversity index to document baseline levels and to determine subsequent population trends.

Maintain and increase breeding populations of land-based species of management concern such as upland sandpiper, long-billed curlew, short-eared owl, barn owl, grasshopper sparrow, dickcissel, eastern phoebe, eastern kingbird, loggerhead shrike, and eastern meadowlark (Bogan, 1995). Establish average densities of selected species and an overall species richness/diversity index to document baseline levels and to determine subsequent population trends.

Maintain and increase breeding populations of colonial nesting species (western and eared grebes, Forster's and black terns, cormorants and black-crowned night herons).

Evaluate reintroduction of breeding populations of sandhill cranes to the Nebraska Sandhills and specifically Valentine NWR.

Prairie Grouse Objectives: Maintain a five-year average density of equal to or greater than one prairie grouse lek per 1.6 sq. mi. (28 total leks including 15 prairie chicken and 13 sharp-tailed grouse) within the area designated as the State Survey Block. The Refuge surveyed each year is one part of a statewide survey of prairie chicken and sharp-tailed grouse.

Maintain annually a minimum of 35 prairie chicken leks (2.8 sq. mi. / lek) throughout Valentine NWR.

Annually achieve a minimum target sample of 350 prairie grouse wings from the Volunteer Prairie Grouse Hunter Harvest Survey. Achieve a harvest ratio of equal to or greater than 2.5 juveniles per adult. The harvest ratio measures current year nesting success and health of the population by comparing the number of young in the fall population to the number of adults. Ratios greater than or equal to 2.5 indicate a healthy population.

Other Indigenous Wildlife Species Objective: Ensure the diversity and abundance of indigenous mammals, reptiles, amphibians, fish, and invertebrates remain intact. Establish average densities of key indicator species to document baseline levels and to determine subsequent population trends.

Evaluate the suitability of habitat on the Refuge for introduction of the black-tailed prairie dog and, if suitable habitat is present, prepare a step-down management plan for introduction and management of this species.

The Service will maintain the existing furbearer harvest program, which uses trapping as a management tool to achieve Refuge wildlife objectives.

Exotic and Invading Species Objectives: Prevent the establishment of additional introduced species and refrain from carrying out management activities specifically to encourage population expansion of existing introductions (i.e., pheasants).

Reduce carp population densities in Refuge lakes.

Sport Fishery Objective: Maintain sustainable and harvestable populations of sport fish in the nine designated sport fishing lakes.

Threatened, Endangered, and Management Concern Species

Goal: Contribute to the preservation and restoration of endangered and threatened flora and fauna that occur or have historically occurred around Valentine NWR.

The Refuge staff will continue to maintain existing habitat and document endangered bird use and will conduct surveys for American burying beetles. The Refuge staff will intensify efforts to reintroduce blowout penstemon and will conduct Refuge wide surveys for it and western prairie fringed orchids. In consultation with the Service's Ecological Services staff, the Refuge staff will conduct applied research efforts to determine management practices promoting these species. The Service will maintain existing woodland, and promote regeneration of woodland habitat along lake borders that are important as bald eagle roosting sites.

Threatened and Endangered Plant Objectives:

Maintain approximately 72 acres of blowouts, with potential for the endangered blowout penstemon, on the Refuge. In a minimum of five blowouts, establish and maintain populations of 100 penstemon plants per blowout. Currently the Refuge has an estimated 72 acres of blowouts in at least a dozen locations. Three habitat units exist with very small natural populations of penstemon and three additional habitat units with nine blowouts that have had plants transplanted into them. The blowout penstemon recovery plan has an objective of maintaining ten population groups with 300 plants in each group. The Refuge, if successful in increasing its populations to the objective, would satisfy approximately 16 percent of the endangered penstemon recovery goal.

Maintain and manage a meadow habitat with potential for western prairie fringed orchids (2,000 acres) insuring an average annual population of 300 individuals in at least four locations. Currently the Refuge has an estimated population of approximately 300 plants in five known locations. Western prairie fringed orchids have been observed on private land at four other sites adjacent to the Refuge. The Refuge currently manages meadows with orchids so that plants can flower and set seed.

Threatened and Endangered Wildlife

Species Objectives: Monitor and document migration use by whooping cranes, piping plover, and least terns. Record habitats used, areas used, and durations of stay. Keep use areas free from human disturbance while individuals are present. Use by these species is so seldom that no habitat management objective or population objectives can be stated. Monitoring, documenting use, and keeping them undisturbed may at some time provide insights into ways to help these populations.

Monitor and document use by American burying beetles.

Maintain large hackberry, cottonwood, and willow trees around Refuge lakes as roost sites for migrating and wintering bald eagles. Monitor and document eagles use of habitat, roost trees, and eagle mortality. Monitoring will help in describing key locations and trees, and in documenting eagle mortality, a problem in past years. Some of these wintering locations could become nesting areas as eagle populations expand.

Species of Management Concern Objective: Maintain self sustaining populations of Blanding's and yellow mud turtles. Develop and implement strategies to reduce mortality from vehicles.

Interpretation and Recreation

Goal: Provide the public with quality opportunities to learn about and enjoy Sandhill Prairie, fish, wildlife, and history of the Refuge in a largely natural setting and in a manner compatible with the purposes for which the Refuge was established.

Interpretation, Wildlife Observation and Photography, and Environmental Education Objectives: Provide visitors with quality interpretation, environmental education, wildlife observation, and photography opportunities.

The Service will seek funds to construct a visitor contact station along Highway 83 to improve environmental education and interpretation of wildlife, cultural, and historic resources on the Refuge. A site plan that is being developed will include a concept design. The site plan will also contain suggestions for improving and upgrading existing facilities for visitors. Current facilities, wildlife observation, and photography uses will remain open.

Fishing Objective: Provide year-round fishing opportunities for warm water fish in designated lakes in a largely natural setting. Watts Lake has handicap accessibility.

The Service will continue its current sport-fishing program on nine designated fishing lakes. No additional lakes will have sport fish stocked in them.

Hunting Objective: Provide quality hunting opportunities for waterfowl, deer, prairie grouse, pheasants, dove, and coyote on portions of the Refuge.

The current Refuge hunting program will continue with the exception of 160 acres adjacent to the Hackberry Civilian Conservation Corps fire tower which will be closed to hunting. This no-hunting area will be from the west side of the George Wiseman Research Natural Area west to the county road. This Fire Tower, which is adjacent to the Wiseman Natural Area, will be enhanced to support the addition of a self-guided nature trail and interpretive observation deck on the tower.

Cultural and Paleontological Resources Objective: Conduct a cultural resource inventory and provide protection for and interpretation of Refuge cultural and paleontological resources and sites.

The Service will develop a Cultural Resource/Paleontological Management Plan. The Plan will include Refuge-wide cultural resource inventory and paleontological resource inventory strategies. It will also include increased interpretation, protection, and education about the cultural and paleontological resources on the Refuge.

Ecosystem (Partner)

Goal: Promote partnerships to preserve, restore, and enhance a diverse, healthy, and productive ecosystem of which Valentine is part.

Ecosystem Objectives/Strategies for Ft. Niobrara-Valentine NWR Complex: Support the Sandhills Management Plan through Partners for Wildlife Program to enhance wildlife habitat on private lands.

Support use of Refuges as research areas for relevant natural resource studies. Conduct applied research on management of threatened and endangered plant and animal populations.

Develop an effective outreach program that results in two wildlife habitat/public use projects completed annually with nongovernmental organizations.

Develop greater cooperation with state and local governments that result in completion of at least two projects annually. Projects are to benefit wildlife resources or to enhance public use opportunities such as fishing.

Use this Plan to help in marketing Refuge needs through grant writing and networking with other entities.

Implementation and Monitoring

Funding and Personnel

Staffing Needed to Implement This Plan

The following Staff Chart shows current staff and proposed additional staffing needed to fully implement this Plan. If all positions were filled, the Refuge Complex would be able to carry out all aspects of this Plan to a high standard. If some positions are not filled, all aspects of this Plan may not be able to be completed or those completed may be done over a longer period of time. Staffing and funding are expected to come over the 15 year life of this Plan. Positions marked with an * are shared with Fort Niobrara NWR. The new refuge operations specialist position would be responsible for the Partners For Wildlife program, Holt Creek WMA, and Tower WMA. (✓ = filled; ✗ = vacant)

Position	Current	Proposed
Refuge Manager*	✓	✓
Refuge Operations Specialist	✓	✓
Refuge Operations Specialist*	✗	✓
Outdoor Recreation Planner*	✗	✓
Law Enforcement Officer*	✓	✓
Administrative Officer*	✓	✓
Office Automation Clerk*	✓	✓
Wildlife Biologist	✓	✓
Biological Technician	✗	✓
Biological Technicians/Seasonal(2)	✗	✓
Heavy Equipment Operator*	✓	✓
Maintenance Worker	✓	✓
Maintenance Worker (2)	✗	✓
Maintenance Laborer/Seasonal (2)	✗	✓
Assistant Fire Management Officer*	✓	✓
Range Technician (Fire)	✓	✓
Firefighters/Seasonal (3)	✓	✓

Funding Needed to Implement This Plan

The Refuge currently has a large backlog of maintenance needs. The needs are recorded in a national Maintenance Management System (MMS). In 1997, under current management plans, the backlog for Valentine NWR was \$3,633,000. Most of these maintenance needs would also need to be met under the preferred or other alternatives. A synopsis of these needs is listed below:

Vehicles and Equipment	\$794,000
Fences, Windmills, Tanks	\$230,000
Water Control Structures and Dikes	\$258,000
Roads and Gates	\$790,000
Public Use Facilities	\$131,000
Buildings and Maintenance Facilities	\$672,000
Residences	\$282,000
Administrative Buildings/Facilities	<u>\$476,000</u>
TOTAL	\$3,633,000

The System uses another database, the Refuge Operating Needs System (RONS), to document proposed new projects that will implement a Plan, implement ecosystem or federally listed species goals or meet legal mandates. In 1999, the total for projects in the RONS is \$5,543,000 with annual recurring costs (including salary costs) of \$475,000. Most of this cost is associated with the need to upgrade substandard roads. A synopsis of these needs is listed below:

	Construction	First Year	Annual Recurring
Roads, parking areas/related facilities	\$4,650,000	\$358,000	\$205,000
Biological Monitoring and Studies	--	\$283,000	\$149,000
Habitat Restoration	\$115,000	\$27,000	\$ 9,000
Habitat Management	--	\$118,000	\$ 80,000
Partners for Wildlife Program	--	\$ 27,000	\$ 2,000
Resource Protection	\$ 320,000	\$275,000	\$ 30,000
Public Education and Recreation	<u>\$ 458,000</u>	<u>\$358,000</u>	<u>\$205,000</u>
TOTAL	\$5,543,000	\$1,446,000	\$680,000

The preferred alternative also proposes projects that have costs that are not included in the MMS or RONS. The total of these costs is \$1,356,000. A summary of these costs follows:

Fences	\$300,000
Carp and water control structures	\$160,000
Move headquarters to site along Highway 83	\$640,000
Wildlife projects	\$38,000
Public use projects	\$18,000
Cultural resource inventory	<u>\$200,000</u>
TOTAL	\$1,356,000

CCP Implementation and Step-down Management Plans

This section is intended to provide additional information to the Refuge Management Direction section above. Where possible, time frames are delineated, specific strategies and actions are stated, and a list of projects is presented.

The Service has traditionally used a Refuge Manual to guide field station management actions. The policy direction provided through the Manual has been used to prepare annual work schedules, budget, land management plans (i.e., prescribed fire, grazing, haying), sale of surplus animals, biological monitoring, public use, safety, and other aspects of public land management in the Refuge.

This CCP is intended as a broad umbrella plan that provides general concepts, specific wildlife and habitat objectives, federally listed species, public use, and partnership objectives. Depending on the Refuge needs, these may be very detailed or quite broad. The purpose of step-down management plans is to provide greater detail to managers to implement specific actions authorized by the CCP. Step-down management planning is the formulation of detailed plans that describe management activities necessary to implement strategies identified in this CCP. Step-down plans describe the specific management actions to be followed, "stepping down" from general goals, objectives, and strategies

Step-down plans provide a detailed assessment and strategy that is based upon and complement the Valentine NWR CCP. While many potential topics exist for step-down plans, the most critical ones include Habitat Management, Wildlife Inventory, Use and Public Use Plans. The objectives and implementation strategies in each step-down plan will dovetail with each other and the CCP.

The Refuge, within a reasonable amount of time, will prepare all the necessary Step-down Management Plans to attain the goals and objectives described in this CCP.

Habitat Management and Monitoring

A step-down Habitat Management Plan for the Refuge may include an assessment of the current status and distribution of plant communities and wildlife habitat, and a prescription and strategy for habitat management that will achieve long-term habitat, wildlife population, and ecosystem goals for the Refuge and surrounding landscape. The habitat prescription, or objectives (how much of what kind located where), will be based on: (1) Refuge resource priorities identified locally, regionally, and nationally; (2) potential contribution of a site to resource priorities (rare species/communities, other priority species, ecosystem function); and (3) historical, current, and potential plant community types for particular site in the Refuge area.

Habitat prescriptions will focus on lands already owned by the Refuge, but will also include areas approved for acquisition. Consequently, when a tract is acquired, its habitat value and management requirements will be easily integrated into the program.

The habitat objectives will be combined with an implementation strategy to produce a Habitat Management Plan. Habitat strategies will include site-specific manipulations to achieve site objectives and evaluations of the manipulations. Manipulations include standard practices of wetland, grassland, prescribed burning, moist soil and water management, and allowing natural ecosystem processes to dictate the ecological community type. The cycle time for some of the habitat management strategies is very long-term. However, many habitat management actions may be initiated immediately, if staff and dollars are available.

Under this Plan, Valentine NWR will revise its current monitoring plan. An overall Habitat Management Plan will be developed to guide all aspects of habitat management including but not limited to: annual grazing, the use of prescribed fire, prairie dog colony growth and management (should the species be introduced into the Refuge), other wildlife, and rest required by habitat for native birds.

Reduce the presence of nonnative tree species in Refuge plantations by allowing natural degeneration to occur. Future replantings/plantings will include only native tree and shrub species.

Develop and implement a monitoring program that assesses landscape and individual habitat variables such as vegetation species composition, grassland structure (density, height) and ground cover, woodland structure (percent tree, shrub, herbaceous, bare ground, canopy cover; basal area, diameter and height, age, snags), and utilization by large ungulates. Procedures will be completed annually or at three- to five-year intervals depending upon available staff and technique requirements.

Fire-funded personnel will develop and implement a fire effects monitoring program that integrates with other Refuge biological monitoring activities.

Proposed Wilderness Area

The proposed wilderness will be managed until such time as Congress may designate the area as wilderness or remove it from areas for consideration. If this area of the Refuge is designated as Wilderness by Congress, the Service will develop a step-down Wilderness Management Plan which will ensure continued compliance with the intent and statutes of the Wilderness Act and the purposes of the Refuge.

Furthermore, should the area being studied for inclusion into the Wilderness network of lands be designated by Congress as Wilderness Area, the Service will need further funding in order to comply, in full, with all the statutes of the Wilderness Act. The use of some mechanized equipment will continue in order for the Service to be able to adequately manage the habitats and resources on the wilderness area. Mechanized equipment is currently in use in this area of the Refuge to maintain fences and windmills and to move stock. While the preferred method of transportation of personnel and equipment in the proposed wilderness area is by foot or on horseback, in order for the Refuge staff, contractors, and permittees to perform their management duties, they need, and probably will continue to rely on, small ATVs and trucks as well as the tools of less impact. On the other hand, man-made structures, such as fences and windmills, will be reduced overtime but not to the extent that grassland management capabilities are reduced. Haying in the proposed wilderness will be eliminated as the need for winter feed for Texas longhorn cattle at Fort Niobrara NWR is phased out.

Due to the fast rate of spread and the likelihood that wildfires could not be contained within the proposed wilderness area, motorized equipment will continue to be used to suppress wildfires. This Plan calls for increased use of prescribed fire as a grassland management technique. Where possible, prescribed fires will be performed without the use of mechanized equipment but with fire engines standing-by outside of the proposed wilderness area in case they are needed. In most cases, the use of some mechanized equipment will be needed to complete prescribed fires. Whenever possible, small ATVs will be used instead of large fire engines. Furthermore, fire lines will be set outside of the proposed wilderness area when this is feasible.

Hunting will be allowed on the proposed wilderness area with access by foot or horseback. No use of motorized equipment by hunters will be permitted. Non-motorized, wheeled carts will continue to be allowed for transport of deer. No public fishing is proposed for the area. Search and rescue will be conducted by horseback, small ATV, or pickup truck.

Refuge staff need to access the proposed wilderness for biological monitoring and maintenance activities. Access for Refuge staff, in order of preference, will be by foot, horseback, small ATV, with occasional use of trucks. Refuge staff may need to access the proposed wilderness for noxious weed control if infestations are discovered. Preferred method of treatment will be using biological control and hand spraying with chemical.

If infestations are large, mechanized equipment may be used with first preference given to small ATVs and then the use of a tractor or pickup truck.

Yellowthroat Wildlife Management Area: The Refuge will continue managing and conserving trust resources at the Yellowthroat Wildlife Management Area formerly known as the Tower WMA. This area is located in Sections 25 and 26, T28N, R22W, Brown County, Nebraska. The area is composed of a 480-acre parcel owned in fee title by the Service and an adjacent 440 acres protected by a Farmers Home Administration Conservation Easement. Together, the 920 acres protect 153 acres of wetland and 767 acres of Sandhill Prairie, much of it restored after being cropped in the 1980's. The area is physically located 13 miles south of Ainsworth, Nebraska on Highway 7 and is accessible by prairie trail.

Grassland and wetland habitats will be managed with fire, rest, and permittee grazing under the same objectives as discussed previously for Valentine NWR. Some restoration of sandhill prairies is still needed on previously cropped areas. The major habitat goals will be to have a high quality prairie and wetland environment present for use by migratory waterfowl and other wildlife.

Portions of the tract will be open to fishing, hunting, wildlife observation, and photography in the same manner and under the same authority as Valentine NWR.

Holt Creek Wildlife Management Area: This Plan will implement the proposed exchange of the Holt Creek Wildlife Management Area for the Willow Lake property presently owned and managed by the Nebraska Game and Parks Commission. This Nebraska Game and Parks Commission land is located adjacent to Valentine NWR. The Holt Creek Wildlife Management Area is located about nine miles north of Springview, NE in section 32, T35N, R20W in Keya Paha County, Nebraska. Holt Creek flows through the 180-acre property which has a mix of woodlands and grasslands. Prior to the proposed exchange, the tract will be open to hunting, wildlife observation, and photography in the same manner, and under the same authority, as Valentine NWR. Habitat management of Holt Creek will include permittee grazing, prescribed fire and rest as long as it is managed by the Service.

Grasslands

Grazing, as a management tool, will continue on the Refuge through permittee grazing and bison when reintroduced. Present grazing permittees will retain grazing privileges as in the past. As present permittees drop from the grazing program, a bid system will be used to replace any grazing needed for grassland management.

Some windmills will continue to be retained as a water source for wildland wildfire suppression efforts.

Monitoring of fire effects on grasslands and animal distribution will be conducted by fire staff.

Additional equipment for prescribed fire work will be needed.

Fences around existing tree plantings will be removed; no new tree belts will be planted. Tree rows planted by the Civilian Conservation Corps will not be removed, replaced, or fenced.

Wetlands

Old ditches draining Refuge wetlands will be plugged.

Continue use of northern pike as a predator to control the carp.

Carp barriers will be constructed where needed and renovations conducted where possible. Restocking of Refuge wetlands and lakes will be done with native fishes. Drought and winter-kill may present opportunities for renovation and exclusion of the carp. Maintain water control structures on six lakes and build carp barriers on Marsh Lakes.

The Calf Camp water control structures will be replaced and the dike repaired so water levels in this wetland can be managed for migratory birds.

A Crissafulli pump is needed to increase water management capabilities.

Habitat Acquisition

A trade of land in fee title will be sought for the exchange of the U.S. Fish and Wildlife Service's Holt Creek Wildlife Management Area for the Nebraska Game and Parks Commission's Willow Lake Wildlife Management Area.

Trades or purchase of lands with willing landowners will be sought to reduce inholdings and straighten boundaries, and reduce boundary fencing costs.

Wildlife Management and Monitoring

Perform necessary studies and research to determine if the Refuge contains habitats that are suitable and conducive to the successful establishment of a black-tailed prairie dog colonies. If adequate habitats are found, prairie dogs will not be established in areas adjacent to Refuge boundaries. The Refuge staff will allow the growth of the prairie dog colony(ies) to a manageable size, and will use appropriate methods to control spread.

Conduct an education program to reduce turtle mortality from visitors driving Refuge trail roads and/or modify trails to ensure reduced turtle mortality.

Continue monitoring prairie grouse populations using lek counts and the hunter harvest survey.

Annually conduct the Breeding Bird Survey route at Valentine NWR.

Use point count or line transects to sample grassland, wetland, and woodland songbirds; annually conduct a colonial bird survey.

Limited trapping by Refuge staff and a public trapping program for management purposes will continue.

Conduct a sandhill crane feasibility study, and if feasible, reintroduce sandhill cranes as a nesting bird.

Waterfowl pair and brood counts will be conducted on certain Refuge lakes.

Monitor reptile, amphibian, and small mammal populations at five year intervals.

Conduct a survey to determine native fish species presence and abundance.

Maintain a sport fishery in the nine lakes presently open to fishing in cooperation with Nebraska Game and Parks Commission by using fish stocking, transfer of fish between lakes, surveys, drawdowns, renovations, brood stock, and egg harvest.

Fishery surveys using electrofishing, gill and trap nets will be done on an annual basis by the USFWS Fisheries Assistance Office.

Conduct an annual winter count of muskrat houses.

Refuge lakes and wetlands will be monitored for botulism and other diseases, dead birds picked up, and disposed of according to USFWS regulations.

Conduct American burying beetle surveys.

Continue to maintain a general observation log of bird sightings to document presence/absence, relative abundance, and use areas.

Completing the above monitoring and survey requirements will require the addition of two seasonal biological technicians.

Public Use Management and Monitoring

Prepare a site plan under contract. This site plan will include information on visitor access, interpretive themes, and locations for future developments.

The rest rooms and information area at Hackberry will be closed when alternate facilities are completed. The boat ramp at Hackberry headquarters will be closed immediately due to safety concerns.

Construct an observation platform on the Hackberry CCC fire tower, and provide a self-guiding nature trail leading from the parking area to the Hackberry CCC fire tower. Close 160 acres adjacent to this area to hunting.

Provide a self-guiding auto tour route passable in a passenger car. Cost is variable depending upon location and distance.

Maintain information kiosks/leaflet dispensers at the main Refuge entrances.

Provide one information and regulation sign at entrances and remove most of the regulation and information signs in the interior of the Refuge.

Update Refuge brochures to the new USFWS standard.

When bison are reintroduced, provide access for viewing the main bison herds in roadless areas of the Refuge through a concessionaire.

Provide blinds for viewing prairie grouse on leks.

Designate a prairie hiking trail for visitors to get to remote areas of the Refuge on foot.

Move headquarters to a location along Highway 83 and provide staffing during the week to provide information to visitors.

Fishing

Provide one improved boat ramp at all fishing lakes except Rice which will remain walk-in fishing only.

Develop one additional handicapped accessible fishing dock and parking area on the Refuge. Other accessible sites will be provided in future years.

Use of live minnows will be prohibited.

Electric motors, row, and paddle power will be allowed; gas powered motors will be prohibited.

Guiding will be allowed under a permit; a maximum of five guides will be allowed. Guides will be selected by lottery if demand exceeds supply. Guides will pay a fee of a percent of gross receipts and/or a flat fee to the Refuge.

Catch-and-release fishing tournaments by nonprofit groups will be permitted.

Taking of frogs, turtles, and minnows will not be authorized.

Size limits and catch-and-release may be used to manage northern pike for carp control and provide a trophy fishery.

The Refuge fishing leaflet will be updated to USFWS standards.

Hunting

Waterfowl, deer, prairie grouse, pheasants, dove, and coyote hunting will be allowed in designated areas of the Refuge.

Guiding will be allowed by permit with a maximum of five guides allowed. Guides will be selected by lottery if demand exceeds supply. Guides will pay a fee of a percent of gross receipts and/or a flat fee to the Refuge.

No new roads will be constructed for hunter access; some existing hunting access roads will be improved to all-weather roads as funding permits.

Hunting tournaments will not be allowed on Valentine NWR.

Dog training will not be allowed outside regular hunting seasons.

If crowding occurs or develops during hunting seasons, a permit system with drawings for permits will be instituted.

Persons charging a fee for the use of their horses to haul big game from the Refuge will be required to obtain a permit and pay a fee.

Ecosystem (Partners) Management and Monitoring

Work with Boy Scouts, Girl Scouts, 4-H, National Audubon Society, Cherry County Schools, and others to complete at least two wildlife/public use projects a year.

Contact and seek cooperation/partnership with universities regarding a paleontological inventory of the Refuge.

Continue to cooperate with NRCS on soil mapping and data digitizing of Service lands, review and comment on revised National Range and Pasture Handbook, participation in range judging contests, range condition surveys, and provide technical assistance on wildlife/wildland concerns.

Continue to cooperate with the Nebraska Game and Parks Commission on wildlife and fish surveys.

Write a minimum of three grant proposals a year to seek outside funding.

Management of Cultural and Paleontological Resources

A cultural resource and paleontological resources management plan to provide a basis for research and enactment of special regulations concerning protection of these resources on the Refuge will be prepared by the Service.

Complete a Refuge-wide cultural resource survey (under contract) and develop a management plan based on results. The history of the Civilian Conservation Corps will be interpreted at the fire tower observation platform.

Conduct a Refuge-wide paleontological inventory.

Display and interpret cultural and paleontological specimens.

Partnership Opportunities

Only with public support will the Service succeed in its mission. That support comes through outreach: fostering education, understanding, and communicating the importance of the Service commitment to protecting habitat upon which wildlife depends. Outreach includes a broad array of activities and services focused on building relationships and communication. The Service is committed to getting its message to both traditional and nontraditional groups.

The Service continues to seek opportunities to work with various conservation groups, State and local agencies, and private corporations and organizations to advance the mission of Valentine NWR. Generally, the Fort Niobrara NWR and Valentine NWR Complex will strive to combine resources with appropriate entities to expedite and carry out planning projects.

Fort Niobrara/Valentine NWR Complex staff works with the following groups: private landowners through the Partners in Wildlife Program; the Natural Resource Conservation Service in the Wetland Reserve Program; Farmers Service Agency in the easement program; Cherry County Extension in educational programs; local law enforcement; the Niobrara Council on wild and scenic river management; state, Federal, and local agricultural agencies in weed control; U.S. Forest Service; and U.S. Geological Survey.

The Refuge has formal agreements with rural fire protection districts to suppress wildfires both on and off the Refuge. Biologists from four universities regularly study reptile physiology at the Refuge. The Refuge plans grazing for, maintains the fence on, and patrols the Willow Lake Game Management Area adjacent to the Refuge. The Service works with Nebraska Game and Parks in fish stocking, fish egg collection and law enforcement. The Refuge staff works with the eight Refuge grazing permittees to manage grasslands on the Refuge using cattle.

The Service will continue its current cooperation with Nebraska Game and Parks Commission for sport fish management. Agreements in place for wildland wildfire suppression efforts and other common coordination efforts with other agencies and landowners will continue. The Refuge staff will seek to increase partnerships with other entities.

The Service will seek to develop outside funding sources and support for implementing some aspects of this Plan. Examples would be moving the subheadquarters, big game fence, and possible acquisition of several inholdings from willing sellers. Trading Holt Creek Wildlife Management Area for Willow Lake State WMA will be pursued with Nebraska Game and Parks Commission. A partnering effort in bison management will be pursued.

Partnerships require extensive time to coordinate, develop, and nurture. This must be accounted for in the development of budgets and annual work plans.

Monitoring and Evaluation

Adaptive management is a flexible approach to long-term management of biotic resources that is directed over-time by the results of ongoing monitoring activities and other information. Biological management techniques and specific objectives will be regularly evaluated in light of monitoring results and other new information. These periodic evaluations will be used over-time to adapt both the management objectives and techniques to better achieve management goals.

Monitoring is an essential component of this Plan, and specific monitoring strategies have been integrated into the goals and objectives outlined above. All habitat management activities will be monitored to assess whether the desired effect on wildlife and habitat components has been achieved. Monitoring the number of breeding pairs and the reproductive parameters of native and neotropical bird species will follow established Federal and statewide protocols, at a minimum. Baseline surveys will be established for other species of wildlife for which existing or historical numbers are not well known. It also will be important to begin studies to monitor the response of wildlife to increased public use in the form of observation and environmental education.

This Plan is designed to be effective for a 15-year period. Periodic review of the Plan will be required to ensure that established goals and objectives are being met and that the Plan is being implemented as scheduled. To assist this review process, an ongoing monitoring and evaluation program will be implemented, focusing on issues involving public use activities, wildlife-dependent recreational activities, and habitat and population management.

Monitoring of public use programs will involve the collection and compilation of visitation figures and activity levels. In addition, research and monitoring programs will be established to assess the impacts of public use activities on wildlife and wildlife habitat. The Refuge will strive to establish the collection of baseline data on all wildlife populations. This data will be used to update existing records of wildlife species using the Refuges, their habitat requirements, and seasonal use patterns. This data will also be used to evaluate the effects of public use and habitat management programs on wildlife populations.

Refuge habitat management programs will be continually monitored for positive and negative impacts on wildlife and wildlife habitat, and to determine if these management tools are helping to meet Refuge goals and objectives. Monitoring will focus on habitat changes and the associated changes in the wildlife community.

The establishment of a monitoring and evaluation program is important to support the direction of the Plan. The information gathered through this program will provide necessary data to ensure that goals and objectives established in the Plan are being met.

The Refuge has one full-time biologist who conducts biological monitoring on the Refuge with occasional assistance from other staff. The main emphasis is on grassland monitoring. Grassland transects are run each year to evaluate cover, composition, and grassland health. More than 100 photo points are taken to document long-term changes to the grassland. Techniques and information are shared with the Forest Service.

Refuge staff completes segments of statewide surveys in cooperation with the Nebraska Game and Parks Commission including sandhill crane, goose, waterfowl, turkey, deer, wintering eagle, pheasant brood, grouse brood, and prairie grouse breeding and productivity.

The Refuge maintains a weather station in cooperation with the National Weather Service at Hackberry Lake. Refuge staff read and report on U.S. Geological Survey groundwater wells at more than 30 locations on the Refuge. Both these efforts have been conducted for 60 years and yields long-term trend information. Surface water levels are also recorded for some Refuge lakes. Surveys for sharp-tailed grouse and prairie chicken are performed and used as an indicator of grassland health. In the spring, lek counts are conducted; in the fall, wing collection boxes are maintained. Part of the lek count is a State count block and this information is passed on to the Nebraska Game and Parks Commission. Wing collection from hunters is done in cooperation with the Forest Service and the Nebraska Game and Parks Commission.

Pair and brood counts for waterfowl are done on the Marsh Lakes to assess waterfowl production. Nesting success of ducks is monitored on an island in the Marsh Lakes as part of a long-term study. Colonial and marsh nesting birds are also counted in some areas of the Refuge. Monitoring for avian botulism is conducted in late summer on Refuge lakes and wetlands. An annual count of muskrat houses is done.

Fishery surveys using electrofishing, gill, and trap nets are done on Refuge lakes open to fishing on an annual basis by USFWS Fisheries Assistance Office biologists.

Surveys of the threatened western prairie fringed orchid and endangered blowout penstemon are conducted. When orchids are found, they are marked to prevent mowing them during haying operations.

Plan Amendment and Revision

This Refuge CCP is a dynamic Plan. While it will serve as a guide for overall Refuge direction, it will be adjusted to consider new and better information, ensuring that Refuge activities best serve the intended purpose for which this Refuge was established and the mission of the National Wildlife Refuge System. The CCP will be reviewed every five years, and monitored continuously to ensure the management actions developed support the goals and objectives of Valentine NWR.

This Plan will be informally reviewed by Refuge staff while preparing annual work plans and updating the Refuge Information Management System (RMIS) database. It may also be reviewed during routine inspections or programmatic evaluations. Results of the reviews may indicate a need to modify the Plan. The monitoring of objectives is an integral part of the Plan, and management activities may be modified if desired results are not achieved. If minor changes are required, the level of public involvement and associated NEPA documentation will be determined by the project leader. This CCP will be formally revised at least every 15 years.

Wilderness Management

Should the proposed wilderness area be officially designated wilderness, the Refuge will develop and implement a Wilderness Management Plan, taking into consideration wilderness values (in compliance with the Wilderness Act), Service policy, adjoining land uses, and comments and concerns expressed during public meetings.

