Glossary

abiotic—Pertaining to nonliving things.

accessible—Pertaining to physical access to areas and activities for people of different abilities, especially those with physical impairments.

adaptive management—Rigorous application of management, research, and monitoring to gain information and experience necessary to assess and modify management activities; a process that uses feedback from research, monitoring, and evaluation of management actions to support or modify objectives and strategies at all planning levels; a process in which policy decisions are implemented within a framework of scientifically driven experiments to test predictions and assumptions inherent in a management plan. Analysis of results helps managers determine whether current management should continue as is or whether it should be modified to achieve desired conditions.

Administration Act—National Wildlife Refuge System Administration Act of 1966.

alternatives—Different sets of objectives and strategies or means of achieving refuge purposes and goals, helping fulfill the Refuge System mission and resolving issues.

amphibian—Class of cold-blooded vertebrates including frogs, toads or salamanders.

annual—A plant that flowers and dies within 1 year of germination.

baseline—Set of critical observations, data, or information used for comparison or a control.

biological control—Reduction in numbers or elimination of unwanted species by the introduction of natural predators, parasites, or diseases.

biological diversity, also biodiversity—Variety of life and its processes, including the variety of living organisms, the genetic differences among them, and the communities and ecosystems in which they occur ("U.S. Fish and Wildlife Service Manual" 052 FW 1.12B). The National Wildlife Refuge System's focus is on endemic species, biotic communities, and ecological processes.

biological integrity—Composition, structure, and function at the genetic, organism, and community levels consistent with natural conditions and the biological processes that shape genomes, organisms, and communities.

biomass—Total amount of living material, plants and animals, above and below the ground in a particular habitat or area.

biota—Animals and plants of a given region.

biotic—Pertaining to life or living organisms.

breeding habitat—Habitat used by migratory birds or other animals during the breeding season.

buffer zone or buffer strip—Protective land borders around critical habitats or water bodies that reduce runoff and nonpoint source pollution loading; areas created or sustained to lessen the negative effects of land development on animals and plants and their habitats.

canopy—Layer of foliage, generally the uppermost layer, in a vegetative stand; midlevel or understory vegetation in multilayered stands. Canopy closure (also canopy cover) is an estimate of the amount of overhead vegetative cover.

CCP—See comprehensive conservation plan.

CFR—See Code of Federal Regulations.

cfs—Cubic feet per second.

climax—Community that has reached a steady state under a particular set of environmental conditions; a relatively stable plant community; the final stage in ecological succession.

Code of Federal Regulations (CFR)—Codification of the general and permanent rules published in the "Federal Register" by the executive departments and agencies of the Federal Government. Each volume of the CFR is updated once each calendar year.

community—Area or locality in which a group of people resides and shares the same government.

compatible use—Wildlife-dependent recreational use or any other use of a refuge that, in the sound professional judgment of the director of the U.S. Fish and Wildlife Service, will not materially interfere with or detract from the fulfillment of the mission of the Refuge System or the purposes of the refuge ("Draft U.S. Fish and Wildlife Service Manual" 603 FW 3.6). A compatibility determination supports the selection of compatible uses and identified stipulations or limits necessary to ensure compatibility.

complex—See refuge complex.

comprehensive conservation plan (CCP)—A document that describes the desired future conditions of the refuge and provides long-range guidance and management direction for the refuge manager to

accomplish the purposes of the refuge, contribute to the mission of the Refuge System, and to meet other relevant mandates ("Draft U.S. Fish and Wildlife Service Manual" 602 FW 1.5).

concern—See issue.

conservation—Management of natural resources to prevent loss or waste. Management actions may include preservation, restoration, and enhancement.

cool-season grass—Grass that begins growth earlier in the season and often become dormant in the summer; will germinate at lower temperatures (65–85°F). Examples are western wheatgrass, needle and thread, and green needlegrass.

cooperative agreement—Legal instrument used when the principal purpose of the transaction is the transfer of money, property, services or anything of value to a recipient in order to accomplish a public purpose authorized by Federal statute and substantial involvement between the Service and the recipient is anticipated.

coteau—A hilly upland including the divide between two valleys; a divide; the side of a valley.

cover, also cover type, canopy cover—Present vegetation of an area.

CRP—Conservation Reserve Program.

cultivar—A plant variety that has been produced in cultivation by selective breeding.

cultural resources—Remains of sites, structures, or objects used by people in the past.

cultural resource inventory—Professionally conducted study designed to locate and evaluate evidence of cultural resources present within a defined area. Inventories may involve various levels including background literature search (class I), sample inventory of project site distribution and density over a larger area (class II), or comprehensive field examination to identify all exposed physical manifestation of cultural resources (class III).

database—Collection of data arranged for ease and speed of analysis and retrieval, usually computerized.

deciduous—Pertaining to any plant organ or group of organs that is shed annually; perennial plants that are leafless for sometime during the year.

defoliation—Removing of vegetative parts; to strip vegetation of leaves; removal can be caused by weather, mechanical, animals, and fire.

demography—Quantitative analysis of population structure and trend.

dense nesting cover (DNC)—Composition of grasses and forbs that allows for a dense stand of vegetation that protects nesting birds from the view of predators, usually consisting of one to two species of wheatgrass, alfalfa, and sweetclover.

disturbance—Significant alteration of habitat structure or composition. May be natural (for example, fire) or human-caused events (for example, timber harvest).

DNC—See dense nesting cover.

drawdown—Manipulating water levels in an impoundment to allow for the natural drying-out cycle of a wetland.

EA—See environmental assessment.

easement—Agreement by which a landowner gives up or sells one of the rights on his/her property.

ecosystem—Dynamic and interrelating complex of plant and animal communities and their associated nonliving environment; a biological community, together with its environment, functioning as a unit. For administrative purposes, the Service has designated 53 ecosystems covering the United States and its possessions. These ecosystems generally correspond with watershed boundaries and their sizes and ecological complexity vary.

emergent—Plant rooted in shallow water and having most of the vegetative growth above water such as cattail and hardstem bulrush.

endangered species, Federal—Plant or animal species listed under the Endangered Species Act of 1973, as amended, that is in danger of extinction throughout all or a significant portion of its range.

endangered species, State—Plant or animal species in danger of becoming extinct or extirpated in a particular State within the near future if factors contributing to its decline continue. Populations of these species are at critically low levels or their habitats have been degraded or depleted to a significant degree.

endemic species—Plants or animals that occur naturally in a certain region and whose distribution is relatively limited to a particular locality.

environmental assessment (EA)—Concise public document, prepared in compliance with the National Environmental Policy Act, that briefly discusses the purpose and need for an action and alternatives to such action, and provides sufficient evidence and analysis of impacts to determine whether to prepare an environmental impact statement or finding of no significant impact (40 CFR 1508.9).

environmental education—Education aimed at producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of how to help solve these problems, and motivated to work toward their solution.

environmental health—Natural composition, structure, and functioning of the physical, chemical, and other abiotic elements, and the abiotic processes that shape the physical environment.

EPA—Environmental Protection Agency.

extinction—Complete disappearance of a species from the earth; no longer existing.

extirpation—Extinction of a population; complete eradication of a species within a specified area.

fauna—All the vertebrate and invertebrate animals of an area.

Federal land—Public land owned by the Federal Government, including lands such as national forests, national parks, and national wildlife refuges.

federally listed species—Species listed under the Federal Endangered Species Act of 1973, as amended, either as endangered, threatened, or species at risk (formerly candidate species).

fee title—Acquisition of most or all of the rights to a tract of land.

fire management plan (FMP)—A plan that identifies and integrates all wildland fire management and related activities within the context of approved land/resource management plans. It defines a program to manage wildland fires (wildfire and prescribed fire) (U.S. Department of Agriculture 2009).

fire regime—Description of the frequency, severity, and extent of fire that typically occurs in an area or vegetative type.

flora—All the plant species of an area.

FMP—See fire management plan.

forb—A broad-leaved, herbaceous plant; a seed-producing annual, biennial, or perennial plant that does not develop persistent woody tissue but dies down at the end of the growing season.

forest—Group of trees with their crown overlapping (generally forming 60–100% cover).

fragmentation—The alteration of a large block of habitat that creates isolated patches of the original habitat that are interspersed with a variety of other habitat types; the process of reducing the size and connectivity of habitat patches, making movement of individuals or genetic information between parcels difficult or impossible.

FTE—Full-time equivalent.

geographic information system (GIS)—Computer system capable of storing and manipulating spatial data; a set of computer hardware and software for analyzing and displaying spatially referenced features (points, lines and polygons) with nongeographic attributes such as species and age.

GIS—See geographic information system.

goal—Descriptive, open-ended, and often broad statement of desired future conditions that conveys a purpose but does not define measurable units ("Draft U.S. Fish and Wildlife Service Manual" 620 FW 1.5).

"go-back" prairie—Previously cultivated cropland that has been allowed to revert to herbaceous cover.

GPS—See global positioning system.

guild—A group of species that use a common resource base in a similar fashion within an ecological community. A guild can be generally defined (for example, grassland birds) or specifically defined (for example, seed-eating small mammals).

habitat—Suite of existing environmental conditions required by an organism for survival and reproduction; the place where an organism typically lives and grows.

habitat conservation—Protection of animal or plant habitat to ensure that the use of that habitat by the animal or plant is not altered or reduced.

habitat disturbance—Significant alteration of habitat structure or composition; may be natural (for example, wildland fire) or human-caused events (for example, timber harvest and disking).

habitat type, also vegetation type, cover type—Land classification system based on the concept of distinct plant associations.

hemi-marsh—The emergent phase of a seasonal or semipermanent wetland where the ratio of open water area to emergent vegetation cover is about 50:50, and vegetation and open water areas are highly interspersed.

herbivore—Animal feeding on plants.

herbivory—The eating of plants, especially ones that are still living.

impoundment—A body of water created by collection and confinement within a series of levees or dikes, creating separate management units although not always independent of one another.

Improvement Act—National Wildlife Refuge System Improvement Act of 1997.

integrated pest management—Methods of managing undesirable species such as invasive plants; education, prevention, physical or mechanical methods of control, biological control, responsible chemical use, and cultural methods.

interseed—Mechanical seeding of one or several plant species into existing stands of established vegetation.

introduced species—A nonnative plant or animal species that is intentionally or accidentally released into an ecosystem where it was not previously adapted.

introduction—Intentional or unintentional escape, release, dissemination, or placement of a species into an ecosystem as a result of human activity.

invasive plant, also noxious weed—Species that is nonnative to the ecosystem under consideration and whose introduction causes, or is likely to cause, economic or environmental harm or harm to human health.

inviolate sanctuary—Place of refuge or protection where animals and birds may not be hunted.

issue—Any unsettled matter that requires a management decision; for example, a Service initiative, opportunity, resource management problem, a threat to the resources of the unit, conflict in uses, public concern, or the presence of an undesirable resource condition ("Draft U.S. Fish and Wildlife Service Manual" 602 FW 1.5).

lacustrine—Relating to, formed in, living in, or growing in lakes.

lek—A physical area where males of a certain animal species gather to demonstrate their prowess and

compete for females before or during the mating season.

local agencies—Municipal governments, regional planning commissions, or conservation groups.

management alternatives—See alternatives.

management plan—Plan that guides future land management practices on a tract of land. See cooperative agreement.

mean sea level—The sea level halfway between average levels of high and low water.

mechanical control—Reduction in numbers or elimination of unwanted species through the use of mechanical equipment such as mowers and clippers.

mesic—Characterized by, relating to, or requiring a moderate amount of moisture; having a moderate rainfall.

microhabitat—Habitat features at a fine scale; often identifies a unique set of local habitat features.

migration—Regular extensive, seasonal movements of birds between their breeding regions and their wintering regions; to pass usually periodically from one region or climate to another for feeding or breeding.

migratory bird—Bird species that follow a seasonal movement from their breeding grounds to their wintering grounds. Waterfowl, shorebirds, raptors, and songbirds are all migratory birds.

migratory game bird—Bird species, regulated under the Migratory Bird Treaty Act and State laws (legally hunted, including ducks, geese, woodcock, and rails).

mission—Succinct statement of purpose or reason for being.

mitigation—Measure designed to counteract an environmental impact or to make an impact less severe.

mixed-grass prairie—Transition zone between the tall-grass prairie and the short-grass prairie dominated by grasses of medium height that are approximately 2–4 feet tall. Soils are not as rich as the tall-grass prairie and moisture levels are less.

monitoring—Process of collecting information to track changes of selected parameters over time.

monotypic—Having only one type or representative.

moraine—Mass of earth and rock debris carried by an advancing glacier and left at its front and side edges as it retreats.

national wildlife refuge (NWR)—Designated area of land, water, or an interest in land or water within the Refuge System, but does not include coordination areas; a complete listing of all units of the Refuge System is in the current "Annual Report of Lands Under Control of the U.S. Fish and Wildlife Service."

National Wildlife Refuge System (Refuge System)—Various categories of areas administered by the Secretary of the Interior for the conservation of fish and wildlife including species threatened with extinction, all lands, waters, and interests therein administered by the Secretary as wildlife refuges, areas for the protection and conservation of fish and wildlife that are threatened with extinction, wildlife ranges, game ranges, wildlife management areas, and waterfowl production areas.

National Wildlife Refuge System Improvement Act of 1997 (Improvement Act)—Sets the mission and the administrative policy for all refuges in the Refuge System; defines a unifying mission for the Refuge System; establishes the legitimacy and appropriateness of the six priority public uses (hunting, fishing, wildlife observation, wildlife photography, environmental education, and interpretation); establishes a formal process for determining appropriateness and compatibility; establish the responsibilities of the Secretary of the Interior for managing and protecting the Refuge System; requires a comprehensive conservation plan for each refuge by the year 2012. This Act amended portions of the Refuge Recreation Act and National Wildlife Refuge System Administration Act of 1966.

native species—Species that, other than as a result of an introduction, historically occurred or currently occurs in that ecosystem.

NAWMP—See North American Waterfowl Management Plan.

Neotropical migrant, also Neotropical migratory bird—Bird species that breeds north of the United States–Mexico border and winters primarily south of this border.

NEPA—National Environmental Policy Act.

nest success—Percentage of nests that successfully hatch one or more eggs of the total number of nests initiated in an area.

nongovernmental organization—Any group that does not include Federal, State, tribal, county, city, town, local, or other governmental entities.

North American Waterfowl Management Plan (NAWMP)—North American Waterfowl Management Plan, signed in 1986, recognizes that the recovery and perpetuation of waterfowl populations depends on restoring wetlands and associated ecosystems throughout the United States and Canada. It established cooperative international efforts and joint ventures composed of individuals; corporations; conservation organizations; and local, State, provincial, and Federal agencies drawn together by common conservation objectives. The Souris River basin refuges are included in the "Prairie Pothole Joint Venture."

notice of intent—Notice that an environmental impact statement will be prepared and considered (40 CFR 1508.22); published in the "Federal Register."

noxious weed, also invasive plant—Any living stage (including seeds and reproductive parts) of a parasitic or other plant of a kind that is of foreign origin (new to or not widely prevalent in the U.S.)

and can directly or indirectly injure crops, other useful plants, livestock, poultry, other interests of agriculture, including irrigation, navigation, fish and wildlife resources, or public health. According to the Federal Noxious Weed Act (PL 93-639), a noxious weed (invasive plant) is one that causes disease or has adverse effects on humans or the human environment and, therefore, is detrimental to the agriculture and commerce of the United States and to public health.

NRCS—Natural Resources Conservation Service of the U.S. Department of Agriculture.

NWR—See national wildlife refuge.

NWRS—See National Wildlife Refuge System.

objective—Concise statement of what is to be achieved, when and where it is to be achieved, and who is responsible for the work. Objectives are derived from goals and provide the basis for determining management strategies. Objectives should be attainable, time-specific, and measurable.

palustrine—Refers to a nontidal wetland dominated by trees, shrubs, persistent emergents, and emergent mosses or lichens; or a wetland in tidal areas where salinity due to ocean-derived salts is below 0.5 parts per thousand.

Partners in Flight—Western Hemisphere program designed to conserve Neotropical migratory birds and officially endorsed by numerous Federal and State agencies and nongovernmental organizations; also known as the Neotropical Migratory Bird Conservation Program.

partnership—Contract or agreement entered into by two or more individuals, groups of individuals, organizations or agencies in which each agrees to furnish a part of the capital or some in-kind service, such as labor, for a mutually beneficial enterprise.

patch—Area distinct from that around it; an area distinguished from its surroundings by environmental conditions.

perennial—Lasting or active through the year or through many years; a plant species that has a life span of more than 2 years.

phenology—The relationship between plant or animal development and climatic conditions.

planning team—Team that prepares the comprehensive conservation plan. Planning teams are interdisciplinary in membership and function. A team generally consists of a planning team leader; refuge manager and staff biologist; staff specialists or other representatives of Service programs, ecosystems or regional offices; and State partnering wildlife agencies as appropriate.

planning team leader—Typically a professional planner or natural resource specialist knowledgeable of the requirements of National Environmental Policy Act and who has planning experience. The planning team leader manages the refuge planning process and ensures compliance with applicable regulatory and policy requirements.

planning unit—Single refuge, an ecologically or administratively related refuge complex, or distinct unit of a refuge. The planning unit also may include lands currently outside refuge boundaries.

plant association—Classification of plant communities based on the similarity in dominants of all layers of vascular species in a climax community.

plant community—Assemblage of plant species unique in its composition; occurs in particular locations under particular influences; a reflection or integration of the environmental influences on the site such as soil, temperature, elevation, solar radiation, slope, aspect, and rainfall; denotes a general kind of climax plant community (ponderosa pine or bunchgrass).

PPJV—"Prairie Pothole Joint Venture."

predation—Mode of life in which food is primarily obtained by the killing or consuming of animals.

prescribed fire—A wildland fire originating from a planned ignition to meet specific objectives identified in a written, approved, prescribed fire plan for which NEPA requirements (where applicable) have been met prior to ignition (U.S. Department of Agriculture 2009).

priority public use—See wildlife-dependent recreational use.

pristine—Typical of original conditions.

private land—Land that is owned by a private individual, a group of individuals, or a nongovernmental organization.

private landowner—Any individual, group of individuals, or nongovernmental organization that owns land.

private organization—Any nongovernmental organization.

proposed action—Alternative proposed to best achieve the purpose, vision, and goals of a refuge (contributes to the Refuge System mission, addresses the significant issues, and is consistent with principles of sound fish and wildlife management). The draft comprehensive conservation plan.

public—Individuals, organizations, and groups; officials of Federal, State, and local government agencies; Indian tribes; and foreign nations. It may include anyone outside the core planning team. It includes those who may or may not have indicated an interest in Service issues and those who do or do not realize that Service decisions may affect them.

public involvement—Process that offers affected and interested individuals and organizations an opportunity to become informed about, and to express their opinions on, Service actions and policies. In the process, these views are studied thoroughly and thoughtful consideration of public views is given in shaping decisions for refuge management.

public involvement plan—Broad long-term guidance for involving the public in the comprehensive planning process.

public land—Land that is owned by the local, State, or Federal Government.

purpose of the refuge—Purpose specified in or derived from the law, proclamation, executive order, agreement, public land order, donation document, or administrative memorandum establishing authorization or expanding a refuge, refuge unit, or refuge subunit ("Draft U.S. Fish and Wildlife Service Manual" 602 FW 1.5).

refuge complex—A grouping of two or more Service units (for example, national wildlife refuge, wetland management district) that is administered by staff at one of the units.

refuge lands—Lands in which the Service holds full interest in fee title, or partial interest such as limited-interest refuges.

refuge purpose—See purpose of the refuge.

Refuge System—See National Wildlife Refuge System.

region 6—"Mountain–Prairie Region" of the U.S. Fish and Wildlife Service, which administers Service programs in Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Wyoming, and Utah.

rest—Free from biological, mechanical, or chemical manipulation, in reference to refuge lands.

restoration—Artificial manipulation of a habitat to restore it to something close to its natural state. Involves taking a degraded grassland and reestablishing habitat for native plants and animals. Restoration usually involves the planting of native grasses and forbs, and may include shrub removal and prescribed burning.

rhizomatous—A plant having rhizomes— A continuously growing, horizontal, underground stem that produces roots and sends shoots upward at intervals (for example, many iris species).

riparian area or riparian zone—Area or habitat that is transitional from terrestrial to aquatic ecosystems including streams, lakes, wet areas, and adjacent plant communities and their associated soils that have free water at or near the surface; an area whose components are directly or indirectly attributed to the influence of water; of or relating to a river; specifically applied to ecology, "riparian" describes the land immediately adjoining and directly influenced by streams. For example, riparian vegetation includes all plant life growing on the land adjoining a stream and directly influenced by the stream.

runoff—Water from rain, melted snow, or agricultural or landscape irrigation that flows over the land surface into a water body.

sandhills—Sand dunes created by wind and wave action following the melting of large glaciers about 8,000–10,000 years ago. Soils are sand and silt. Local relief exceeds 80 feet in some places.

scoping—Process of obtaining information from the public for input into the planning process.

sediment—Material deposited by water, wind, and glaciers.

Service—See U.S. Fish and Wildlife Service.

shelterbelt—Single to multiple rows of trees and shrubs planted around cropland or buildings to block or slow down the wind.

shorebird—Any of a suborder of birds such as a plover or a snipe that frequent the seashore or mud flat areas.

sound professional judgment—Finding, determination, or decision that is consistent with principles of sound fish and wildlife management and administration, available science and resources, and adherence to the requirements of the National Wildlife Refuge System Administration Act and other applicable laws.

spatial—Relating to, occupying, or having the character of space.

special status species—Plants or animals that have been identified through Federal law, State law, or agency policy as requiring special protection of monitoring. Examples include federally listed endangered, threatened, proposed, or candidate species; State-listed endangered, threatened, candidate, or monitor species; the Service's species of management concern; and species identified by the Partners in Flight program as being of extreme or moderately high conservation concern.

special use permit—Permit for special authorization from the refuge manager required for any refuge service, facility, privilege, or product of the soil provided at refuge expense and not usually available to the general public through authorizations in Title 50 CFR or other public regulations ("National Wildlife Refuge System Manual" 5 RM 17.6).

species of concern—Those plant and animal species, while not falling under the definition of special status species, that are of management interest by virtue of being Federal trust species such as migratory birds, important game species, or significant keystone species; species that have documented or apparent populations declines, small or restricted populations, or dependence on restricted or vulnerable habitats. Species that: (1) are documented or have apparent population declines; (2) are small or restricted populations; or (3) depend on restricted or vulnerable habitats.

stand—Any homogenous area of vegetation with more or less uniform soils, landform, and vegetation. Typically used to refer to forested areas.

step-down management plan—Plan that provides the details necessary to carry out management strategies identified in the comprehensive conservation plan ("Draft U.S. Fish and Wildlife Service Manual" 602 FW 1.5).

strategy—Specific action, tool, or technique or combination of actions, tools, and techniques used to

meet unit objectives ("Draft U.S. Fish and Wildlife Service Manual" 602 FW 1.5).

submergent—Vascular or nonvascular hydrophyte, either rooted or nonrooted, that lies entirely beneath the water surface, except for flowering parts in some species.

succession—Orderly progression of an area through time from one vegetative community to another in the absence of disturbance. For example, an area may proceed from grass–forb through aspen forest to mixed-conifer forest.

surficial—Relating to or occurring on the surface.

temporarily flooded—Surface water is present for brief periods during the growing season.

trust resource—Resource that, through law or administrative act, is held in trust for the people by the government. A Federal trust resource is one for which trust responsibility is given in part to the Federal Government through Federal legislation or administrative act. Generally, Federal trust resources are those considered to be of national or international importance no matter where they occur, such as endangered species and species such as migratory birds and fish that regularly move across statelines. In addition to species, trust resources include cultural resources protected through Federal historic preservation laws, nationally important and threatened habitats, notably wetlands, navigable waters, and public lands such as State parks and national wildlife refuges.

trust species—See trust resource.

understory—Any vegetation whose canopy (foliage) is below, or closer to the ground than canopies of other plants.

upland—Dry ground; other than wetlands.

USDA—U.S. Department of Agriculture.

U.S. Fish and Wildlife Service (Service, USFWS)—Principal Federal agency responsible for conserving, protecting, and enhancing fish and wildlife and their habitats for the continuing benefit of the American people. The Service manages the 93-million-acre National Wildlife Refuge System composed of more than 530 national wildlife refuges and thousands of waterfowl production areas. It also operates 65 national fish hatcheries and 78 ecological service field stations, the agency enforces Federal wildlife laws, manages migratory bird populations, restores national significant fisheries, conserves and restores wildlife habitat such as wetlands, administers the Endangered Species Act, and helps foreign governments with their conservation efforts. It also oversees the Federal aid program that distributes millions of dollars in excise taxes on fishing and hunting equipment to State wildlife agencies.

U.S. Fish and Wildlife Service mission—The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.

USFWS—See U.S. Fish and Wildlife Service.

U.S. Geological Survey (USGS)—Federal agency whose mission is to provide reliable scientific information to describe and understand the earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.

USGS—See U.S. Geological Survey.

vision statement—Concise statement of what the planning unit should be, or what the Service hopes to do, based primarily on the Refuge System mission, specific refuge purposes, and other mandates. In addition, the vision statement is tied to the maintenance and restoration of biological integrity, diversity, and environmental health of each refuge and the Refuge System.

visual obstruction—Pertaining to the density of a plant community; the height of vegetation that blocks the view of predators and conspecifics to a nest.

visual obstruction reading (VOR)—Measurement of the density of a plant community; the height of vegetation that blocks the view of predators to a nest.

VOR—See visual obstruction reading.

wading birds—Birds having long legs that enable them to wade in shallow water. Includes egrets, great blue herons, black-crowned night-herons, and bitterns.

warm-season grass—Grass that begins growth later in the season (early June); require warmer soil temperatures to germinate and actively grow when temperatures are warmer (85–95°F). Examples are Indiangrass, switchgrass, and big bluestem.

waterfowl—Category of birds that includes ducks, geese, and swans.

watershed—Geographic area within which water drains into a particular river, stream or body of water. A watershed includes both the land and the body of water into which the land drains.

wetland—Land transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water.

wetland easement—Perpetual agreement entered into by a landowner and the Service. The easement covers only the wetlands specified in the agreement. In return for a single lump-sum payment, the landowner agrees not to drain, burn, level, or fill wetlands covered by the easement.

wetland management district (WMD)—Land that the Refuge System acquires with Federal Duck Stamp funds for restoration and management primarily as prairie wetland habitat critical to waterfowl and other wetland birds.

wilderness—"A wilderness, in contrast with those areas where man and his own works dominate the

landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain" (Wilderness Act of 1964 Section 2c [P.L. 88-577)]). This legal definition places wilderness in the "untrammeled" or "primeval" end of the environmental modification spectrum. Wilderness is roadless lands, legally classified as component areas of the National Wilderness Preservation System, and managed to protect its qualities of naturalness, solitude, and opportunity for primitive types of recreation. 5,000 contiguous roadless acres or is sufficient in size as to make practicable its preservation and use in an unimpaired condition ("Draft U.S. Fish and Wildlife Service Manual" 610 FW 1.5).

wildfire—Unplanned ignition of a wildland fire (such as a fire caused by lightning, volcanoes, unauthorized and accidental human-caused fires) and escaped prescribed fires (U.S. Department of Agriculture 2009).

wildland fire—A general term describing any nonstructure fire that occurs in the wildland. There are two types of wildland fire – wildfire and prescribed fire (U.S. Department of Agriculture 2009).

wildlife-dependent recreational use—Use of a refuge involving hunting, fishing, wildlife observation and photography, or environmental education and interpretation. These are the six priority public uses of the Refuge System as established in the National Wildlife Refuge System Administration Act, as amended. Wildlife-dependent recreational uses, other than the six priority public uses, are those that depend on the presence of wildlife.

wildlife management—Practice of manipulating wildlife populations either directly through regulating the numbers, ages, and sex ratios harvested, or indirectly by providing favorable habitat conditions and alleviating limiting factors.

WMD—See wetland management district.

woodland—Open stands of trees with crowns not usually touching, generally forming 25–60 percent cover.

xerophytic—Pertaining to a plant that needs very little water (adapted to growing in dry habitat).

Appendix A

Key Legislation and Policies

This appendix briefly describes the guidance for the National Wildlife Refuge System and other policies and key legislation that guide the management of the Huron, Madison, and Sand Lake Wetland Management Districts.

A.1 National Wildlife Refuge System

> *The mission of the Refuge System is to administer a national 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)

Goals

- Fulfill our statutory duty to achieve refuge purpose(s) and further the Refuge System mission.
- Conserve, restore where appropriate, and enhance all species of fish, wildlife, and plants that are endangered or threatened with becoming endangered.
- Perpetuate migratory bird, interjurisdictional fish, and marine mammal populations.
- Conserve a diversity of fish, wildlife, and plants.
- Conserve and restore, where appropriate, representative ecosystems of the United States, including the ecological processes characteristic of those ecosystems.
- Foster understanding and instill appreciation of fish, wildlife, and plants, and their conservation, by providing the public with safe, high-quality, and compatible wildlife-dependent public use. Such use includes hunting, fishing, wildlife observation and photography, and environmental education and interpretation.

Guiding Principles

There are four guiding principles for management and general public use of the Refuge System established by Executive Order 12996 (1996):

- *Public Use*—The Refuge System provides important opportunities for compatible wildlife-dependent recreational activities involving hunting, fishing, wildlife observation and photography, and environmental education and interpretation.
- *Habitat*—Fish and wildlife will not prosper without high-quality habitat, and without fish and wildlife, traditional uses of refuges cannot be sustained. The Refuge System will continue to conserve and enhance the quality and diversity of fish and wildlife habitat within refuges.
- *Partnerships*—America's sportsmen and women were the first partners who insisted on protecting valuable wildlife habitat within wildlife refuges. Conservation partnerships with other Federal agencies, State agencies, tribes, organizations, industry, and the general public can make significant contributions to the growth and management of the Refuge System.
- *Public Involvement*—The public should be given a full and open opportunity to participate in decisions regarding acquisition and management of our national wildlife refuges.

A.2 Legal and Policy Guidance

Management actions on national wildlife refuges and wetland management districts are circumscribed by many mandates including laws and executive orders, the latest of which is the Volunteer and Community Partnership Enhancement Act of 1998. Regulations that affect refuge management the most are listed below.

American Indian Religious Freedom Act (1978)—Directs agencies to consult with native traditional religious leaders to determine appropriate policy changes necessary to protect and preserve Native American religious cultural rights and practices.

Americans with Disabilities Act (1992)—Prohibits discrimination in public accommodations and services.

Antiquities Act (1906)—Authorizes the scientific investigation of antiquities on Federal land and provides penalties for unauthorized removal of objects taken or collected without a permit.

Archaeological and Historic Preservation Act (1974)—Directs the preservation of historic and archaeological data in Federal construction projects.

Archaeological Resources Protection Act (1979), as amended—Protects materials of archaeological interest from unauthorized removal or destruction and requires Federal managers to develop plans and schedules to locate archaeological resources.

Architectural Barriers Act (1968)—Requires federally owned, leased, or funded buildings and facilities to be accessible to persons with disabilities.

Clean Water Act (1977)—Requires consultation with the U.S. Army Corps of Engineers (404 permits) for major wetland modifications.

Endangered Species Act (1973)—Requires all Federal agencies to carry out programs for the conservation of endangered and threatened species.

Executive Order 11988 (1977)—Requires Federal agencies to provide leadership and take action to reduce the risk of flood loss, minimize the impact of floods on human safety, and preserve the natural and beneficial values served by the floodplains.

Executive Order 12996, Management and General Public Use of the National Wildlife Refuge System (1996)—Defines the mission, purpose, and priority public uses of the National Wildlife Refuge System. It also presents four principles to guide management of the Refuge System.

Executive Order 13007, Indian Sacred Sites (1996)—Directs Federal land management agencies to accommodate access to and ceremonial uses of Indian sacred sites by Indian religious practitioners, avoid adversely affecting the physical integrity of such sacred sites, and where appropriate, maintain the confidentiality of sacred sites.

Federal Noxious Weed Act (1990)—Requires the use of integrated management systems to control or contain undesirable plant species and an interdisciplinary approach with the cooperation of other Federal and State agencies.

Federal Records Act (1950)—Requires the preservation of evidence of the government's organization, functions, policies, decisions, operations, and activities, as well as basic historical and other information.

Fish and Wildlife Coordination Act (1958)—Allows the U.S. Fish and Wildlife Service to enter into agreements with private landowners for wildlife management purposes.

Migratory Bird Conservation Act (1929)—Establishes procedures for acquisition by purchase, rental, or gifts of areas approved by the Migratory Bird Conservation Commission.

Migratory Bird Hunting and Conservation Stamp Act (1934)—Authorizes the opening of part of a refuge to waterfowl hunting.

Migratory Bird Treaty Act (1918)—Designates the protection of migratory birds as a Federal responsibility; and enables the setting of seasons and other regulations, including the closing of areas, Federal or non-Federal, to the hunting of migratory birds.

National Environmental Policy Act (1969)—Requires all agencies, including the Service, to examine the environmental impacts of their actions, incorporate environmental information, and use public participation in the planning and implementation of all actions. Federal agencies must integrate this Act with other planning requirements, and prepare appropriate documents to facilitate better environmental decision making. [From the Code of Federal Regulations (CFR), 40 CFR 1500]

National Historic Preservation Act (1966), as amended—Establishes as policy that the Federal Government is to provide leadership in the preservation of the Nation's prehistoric and historical resources.

National Wildlife Refuge System Administration Act (1966)—Defines the National Wildlife Refuge System and authorizes the Secretary of the Interior to permit any use of a refuge, provided such use is compatible with the major purposes for which the refuge was established.

National Wildlife Refuge System Improvement Act of 1997—Sets the mission and administrative policy for all refuges in the National Wildlife Refuge System; mandates comprehensive conservation planning for all units of the Refuge System.

Native American Graves Protection and Repatriation Act (1990)—Requires Federal agencies and museums to inventory, determine ownership of, and repatriate cultural items under their control or possession.

Refuge Recreation Act (1962)—Allows the use of refuges for recreation when such uses are compatible with the refuge's primary purposes and when sufficient funds are available to manage the uses.

Rehabilitation Act (1973)—Requires programmatic accessibility in addition to physical accessibility for all facilities and programs funded by the Federal Government to ensure that any person can participate in any program.

Rivers and Harbors Act (1899)—Section 10 of this Act requires the authorization of U.S. Army Corps of Engineers prior to any work in, on, over, or under navigable waters of the United States.

Volunteer and Community Partnership Enhancement Act (1998)—Encourages the use of volunteers to assist in the management of refuges within the Refuge System; facilitates partnerships between the Refuge System and non-Federal entities to promote public awareness of the resources of the Refuge System and public participation in the conservation of the resources; and encourages donations and other contributions.

Appendix B

Compliance with Migratory Bird Treaty Act and Guidance

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Mountain-Prairie Region

IN REPLY REFER TO

MAILING ADDRESS:
P.O. Box 25486, DFC
Denver, Colorado 80225-0486

STREET LOCATION:
134 Union Boulevard
Lakewood, Colorado 80228-1807

SEP 23 2010

Memorandum

To: All Region 6 National Wildlife Refuge System Employees

From: Assistant Regional Director, National Wildlife Refuge System, Region 6

Subject: Compliance with Migratory Bird Treaty Act and Guidance

As many of you are aware, Refuges met with Office of Law Enforcement (OLE) and the Migratory Bird Office (MB) to develop draft guidance to field stations on compliance with Migratory Bird Treaty Act (MBTA). U. S. Fish and Wildlife Service policy 720 FW 2 describes the Agency's responsibility to protect migratory birds. We are required to evaluate projects and management practices to avoid or minimize take of migratory birds with emphasis on Birds of Management Concern, the most recent list is attached. The other two attachments described below are designed to provide Project Leaders and Partners Biologists with guidance on compliance with MBTA.

The attachment titled "Conducting National Wildlife Refuge Non-Habitat Management Activities in Region 6" is designed to provide guidance to Project Leaders on non-habitat management activities that may result in the take of migratory birds. This would include construction and rehabilitation projects, such as wetland creation/restoration, dikes/dams, water control structures, buildings, roads, wells, power lines, water lines, septic systems, and other non-habitat management activities. If your project involves anything that is on or will be placed on your Real Property Inventory, then it fits under this guidance. If you are conducting an activity of any sort besides habitat management and it could result in take of migratory birds, then this guidance should be followed. This is also the same guidance provided to corporations and the private industry by Ecological Services, MB, and OLE.

The attachment titled "Conducting National Wildlife Refuge Habitat Management Activities in Region 6" is designed to provide guidance to Project Leaders on habitat management activities that may result in the take of migratory birds. The two areas focused on were mechanical treatment (e.g., haying, mowing, tree/shrub removal, and non-chemical invasive species suppression) and prescribed fire. Guidance on these activities is outlined in this document. Other habitat management activities, such as grazing and chemical treatment of invasive species, are not defined and best management practices should be implemented.

If you have questions on the guidance provided, please contact your zone supervisor.

Attachments

Appendix C

Preparers and Contributors

This document is the result of the extensive, collaborative, and enthusiastic efforts by the members of the Lake Andes National Wildlife Refuge Complex planning team below. Many others contributed insight and support.

Team member	*Position*	*Work unit*
Core planning team		
Michael J. Bryant	Project leader	Lake Andes National Wildlife Refuge Complex, South Dakota
Jack Freidel	Regional habitat manager	South Dakota Game, Fish and Parks
Bernardo Garza	Planning team leader	USFWS Regional Office, Denver, Colorado
Mark Heisinger	Lake Andes Wetland Management District manager	Lake Andes National Wildlife Refuge Complex, South Dakota
John Keeler	Wildlife biologist and chemist	Yankton Sioux Tribe
Cami Dixon	Zone biologist for North and South Dakota	USFWS
Mark Ely	Chief, GIS Division	USFWS Regional Office, Denver, Colorado
Andy Lindbloom	Regional wildlife manager	South Dakota Game, Fish and Parks
Edward Rodriguez	Wildlife biologist	Lake Andes National Wildlife Refuge Complex, South Dakota
Steve Spawn	Private lands biologist	Lake Andes National Wildlife Refuge Complex, South Dakota
Barry Williams	Archaeologist	USFWS Office, Bismarck, North Dakota
Additional planning team members		
Mike Artmann	Wildlife biologist, Planning Division	USFWS Regional Office, Denver, Colorado
Jeff Dvorak	Seasonal maintenance and biological technician	Lake Andes National Wildlife Refuge Complex, South Dakota
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Contributors		
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Steve Shuck	Realty operations manager	USFWS Regional Office, Denver, Colorado
Cindy Souders	Outdoor recreation planner	USFWS Regional Office, Denver, Colorado
Meg Van Ness	Regional archaeologist	USFWS Regional Office, Denver, Colorado

Appendix D

Public Involvement

Public scoping was initiated for the Lake Andes National Wildlife Refuge Complex (Complex) comprehensive conservation planning process in a notice of intent published in May 2007 in the Federal Register. The notice announced the U.S. Fish and Wildlife Service's intent to prepare a comprehensive conservation plan and environmental assessment for the entire Complex (which includes the Lake Andes National Wildlife Refuge, Karl E. Mundt National Wildlife Refuge, and the Lake Andes Wetland Management District) and to obtain suggestions and information on the scope of issues to be considered in the planning process.

Three public meetings were held in southeastern South Dakota:

- Tuesday, November 28, 2006, at the Golden Pheasant in Plankinton, 5–8 p.m.
- Wednesday, November 29, 2006, at the Turner County Courthouse in Parker, 5–8 p.m.
- Thursday, November 30, 2006 at the Community Center in Lake Andes, 5–8 p.m.

A short presentation on the Complex and the planning process was given at each meeting. Numerous written, verbal, and emailed comments were received during the open comment period (which closed on January 15, 2007). Comments received identified biological, social, and economic concerns regarding the different aspects of management of the units of the Complex.

The mailing list for the comprehensive conservation plan and environmental assessment includes, but is not limited to, the organizations and individuals listed below.

D.1 Federal Officials

U.S. Senator John Thune, Washington, DC
Senator Thune's Area Director, Pierre, South Dakota
U.S. Senator Tim Johnson, Washington DC
Senator Johnson's Area Director, Pierre, South Dakota
U.S. Representative Stephanie Herseth Sandlin, Washington DC
Representative Herseth Sandlin's Area Director, Pierre, South Dakota

D.2 Federal Agencies

Bureau of Reclamation, Pierre, South Dakota
USDA—FSA, Clear Lake, South Dakota
USDA—FSA, Faulkton, South Dakota
USDA—FSA, Brookings, South Dakota
USDA—FSA and NRCS, McIntosh, South Dakota
USDA—FSA and NRCS, Pierre, South Dakota
USDA—FSA and NRCS, Timber Lake, South Dakota
USDA—FSA and NRCS, Mound City, South Dakota
USDA—FSA and NRCS, Selby, South Dakota
USDA—FSA and NRCS, Gettysburg, South Dakota
USDA—FSA and NRCS, Onida, South Dakota
USDA—FSA and NRCS, Chamberlain, South Dakota
USDA—FSA and NRCS, Wessington Springs, South Dakota
USDA—FSA and NRCS, Highmore, South Dakota
USDA—FSA and NRCS, Ipswich, South Dakota
USDA—FSA and NRCS, Leola, South Dakota
USDA—FSA and NRCS, Aberdeen, South Dakota
USDA—FSA and NRCS, Redfield, South Dakota
USDA—FSA and NRCS, Huron, South Dakota
USDA—FSA and NRCS, Miller, South Dakota
USDA—FSA and NRCS, DeSmet, South Dakota
USDA—FSA and NRCS, Madison, South Dakota
USDA—FSA and NRCS, Howard, South Dakota
USDA—FSA and NRCS, Woonsocket, South Dakota
USDA—NRCS, Mitchell, South Dakota
USDA—APHIS, Pierre, South Dakota
National Park Service, Omaha, Nebraska
USFWS—Ecological Services, Pierre, South Dakota
USFWS—National Wildlife Refuge System, Albuquerque, New Mexico; Anchorage, Alaska; Arlington, Virginia; Atlanta, Georgia; Fort Snelling, Minnesota; Hadley, Massachusetts; Portland, Oregon; Rawlins, Wyoming; Sacramento, California; Shepherdstown, West Virginia; Washington, DC
USGS—Fort Collins Science Center, Ft. Collins, Colorado

D.3 Tribal Officials

Omaha Tribal Council, Macy, Nebraska
Otoe-Missouria Tribe, Red Rock, Oklahoma
Pawnee Tribe, Pawnee, Oklahoma
Ponca Tribe of Nebraska, Niobrara, Nebraska

Ponca Tribe of Oklahoma, Ponca City, Oklahoma
Santee Sioux Tribal Council, Niobrara, Nebraska
Winnebago Tribal Council, Winnebago, Nebraska
Yankton Sioux Tribe, Marty, South Dakota

D.4 State Officials

Governor M. Michael Rounds, Pierre, South Dakota

D.5 State Agencies

South Dakota Game, Fish and Parks Department, Pierre, South Dakota
SDSU Extension Service, Brookings, South Dakota

D.6 Local Government

County commissioners (33)
Resource conservation districts (8)
Weed board offices (19)

D.7 Organizations

American Bird Conservancy, Plains, Virginia
American Rivers, Washington, DC
Animal Protection Institute, Sacramento, California
Beyond Pesticides, Washington, DC
Defenders of Wildlife, Washington, DC
Duck Unlimited, Great Plains Office, Bismarck, North Dakota
Fund for Animals, Silver Springs, Maryland
Izaak Walton League, Gaithersburg, Maryland
Murie Audubon Society, Casper, Wyoming
National Audubon Society, Fargo, North Dakota
National Audubon Society, Washington DC and New York, New York
National Trappers Association, New Martinsville, West Virginia
National Wildlife Federation, Reston, Virginia
National Wildlife Refuge Association, Washington, DC
National Wild Turkey Federation, Bismarck, North Dakota
Sierra Club, San Francisco, California and Sheridan, Wyoming
The Nature Conservancy, Minneapolis, Minnesota
The U.S. Humane Society, Washington, DC
The Wilderness Society, Washington, DC
Union Pacific Railroad, Omaha, Nebraska
Wildlife Management Institute, Fort Collins, Colorado; Corvallis, Oregon; Washington, DC

D.8 Schools

South Dakota State University

D.9 Media

Newspaper outlets (29)
Radio outlets (4)

D.10 Individuals

Individuals (600+)

Appendix E

Proposed Staff

Position	*Full-time equivalent*
Current Complex staff	
Wildlife refuge manager	1
Wildlife refuge specialist (wetland management district)	1
Wildlife biologist	1
Wildlife biologist (Partners for Fish and Wildlife)	1
Administrative officer	1
Maintenance worker	1
Maintenance worker (career seasonal)	.7
Total	6.7
Minimum Complex staff to implement alternative A	
Wildlife refuge manager	1
Deputy wildlife refuge manager	1
Wildlife refuge specialist (wetland management district)	1
Wildlife biologist	1
Wildlife biologist (Partners for Fish and Wildlife)	1
Administrative officer	1
Maintenance worker	1
Maintenance worker	1
Total	8
Recommended Complex staff to implement alternative B	
Wildlife refuge manager	1
Deputy wildlife refuge manager	1
Wildlife refuge specialist (wetland management district)	1
Wildlife biologist	1
Wildlife biologist (Partners for Fish and Wildlife)	1
Outdoor recreation planner	1
Park ranger	1
Biological technician	1
Prescribed fire technician	1
Administrative officer	1
Maintenance worker	1
Maintenance worker	1
Total	12
Recommended Complex staff to implement alternative C	
Wildlife refuge manager	1
Deputy wildlife refuge manager	1
Wildlife refuge specialist (wetland management district)	1

Wildlife biologist	1
Wildlife biologist (Partners for Fish and Wildlife)	1
Outdoor recreation planner	1
Park ranger	1
Wildlife refuge specialist	1
Biological technician	1
Prescribed fire technician	1
Administrative officer	1
Maintenance worker	1
Maintenance worker	1
Maintenance worker	1
Total	14

Appendix F

South Dakota Upland Plant Associations

- Updated July 27, 2009.
- Record 1 of below types.
- Based on Daubenmire dominant canopy cover.
- These categories are designed for monitoring plant community composition of native sod, planted natives, and DNC.
- Revised from Grant et al. 2004b, Hegstad 1973.
- Document robust patches of native forbs >50% with category 25 (i.e., lead plant, goldenrod, etc.). Alternatively, category 75 (other weeds) can be used to document weed patches that typically dominate disturbed sites.
- Litter is not a category in itself, therefore assign litter to category it applies to (for example, Kentucky bluegrass litter = 31).
- In the event of an apparent equal mix of Kentucky bluegrass and smooth brome—consider as code 41.
- Prairie rose and leadplant are considered native forbs with respect to these categories.

F.1 Shrub and Tree Types

Low shrub

(generally 1.5–4.5 feet tall, for example, western snowberry)

11 dense low shrub, other plants few or none
12 low shrub, remainder native grass and forb
13 low shrub, remainder Kentucky bluegrass
14 low shrub, remainder brome or quackgrass
19 low shrub, remainder crested

Tall shrub

(generally 4.5–15 feet tall)

15 tall shrub, native
16 tall shrub, exotic

Trees

17 native trees (for example, cottonwood, green ash, bur oak)
18 nonnative trees (for example, Japanese elm, Russian olive)

F.2 Native Grass–Forb Types[a]

21 cool-season grasses and forbs: (A) green needle, (B) western wheatgrass, (C) porcupine grass
22 warm-season grasses and forbs: (A) big bluestem, (B) switch, (C) Indian, (D) little bluestem
23 meadow (sedges, baltic rush, dock, smartweed, cordgrass, reedgrass, horsetail, foxtail barley, etc.)
24 wetland; robust emergent vegetation or open water (cattail, river bulrush, bur-reed, Phragmites, manna grass)
25 forb

F.3 Introduced, Invasive, or Plants of Management Concern

31 Kentucky bluegrass dominant
41 smooth brome dominant
51 crested wheatgrass dominant
52 quackgrass
53 reed canarygrass
61 tall, intermediate, or pubescent wheatgrass
62 other nonnative grass—user defined (downy/Japanese brome, etc.)

F.4 Noxious and Other Weed Types

71 leafy spurge
72 Canada thistle
73 sow thistle
74 wormwoods
75 other weeds (kochia, ragweed, cocklebur, etc.)
76 other noxious weed (user-defined)

F.5 Other

81 tall introduced legume (sweet clover or alfalfa)
83 cactus
84 clubmoss/lichen
91 barren, unvegetated (bare soil, gopher mound)
92 other (rock, manure, hole, ant hill)

[a] *Optional Species Modifier: Document dominant native grass species using the respective letter*

Appendix G

South Dakota Species

Birds[1]

Common name	*Scientific name*
Loons	
Common loon	*Gavia immer*
Grebes	
Pied-billed grebe	*Podilymbus podiceps*
Horned grebe[2]	*Podiceps auritus*
Red-necked grebe	*Podiceps grisegena*
Eared grebe	*Podiceps nigricollis*
Western grebe	*Aechmophorus occidentalis*
Pelicans	
American white pelican	*Pelecanus erythrorhynchos*
Cormorants	
Double-crested cormorant	*Phalacrocorax auritus*
Herons and bitterns	
American bittern[2]	*Botaurus lentiginosus*
Least bittern[2]	*Ixobrychus exilis*
Great blue heron	*Ardea herodias*
Great egret	*Ardea alba*
Snowy egret	*Egretta thula*
Cattle egret	*Bubulcus ibis*
Green heron	*Butorides virescens*
Black-crowned night-heron	*Nycticorax nycticorax*
Ibises	
White-faced ibis	*Plegadis chihi*
Vultures	
Turkey vulture	*Cathartes aura*
Swans, geese, and ducks	
Greater white-fronted goose	*Anser albifrons*
Snow goose	*Chen caerulescens*
Ross' goose	*Chen rossii*
Canada goose	*Branta canadensis*
Tundra swan	*Cygnus columbianus*
Wood duck	*Aix sponsa*
Gadwall	*Anas strepera*
American wigeon	*Anas americana*
Mallard	*Anas platyrhynchos*
Blue-winged teal	*Anas discors*
Northern shoveler	*Anas clypeata*
Northern pintail	*Anas acuta*

Common name	*Scientific name*
Green-winged teal	*Anas crecca*
Canvasback	*Aythya valisineria*
Redhead	*Aythya americana*
Ring-necked duck	*Aythya collaris*
Greater scaup	*Aythya marila*
Lesser scaup	*Aythya affinis*
Bufflehead	*Bucephala albeola*
Common goldeneye	*Bucephala clangula*
Hooded merganser	*Lophodytes cucullatus*
Common merganser	*Mergus merganser*
Red-breasted merganser	*Mergus serrator*
Ruddy duck	*Oxyura jamaicensis*
Kites, eagles, and hawks	
Osprey	*Pandion haliaetus*
Bald eagle[2]	*Haliaeetus leucocephalus*
Northern harrier	*Circus cyaneus*
Sharp-shinned hawk	*Accipiter striatus*
Cooper's hawk	*Accipiter cooperii*
Northern goshawk	*Accipiter gentilis*
Broad-winged hawk	*Buteo platypterus*
Swainson's hawk[2]	*Buteo swainsoni*
Red-tailed hawk	*Buteo jamaicensis*
Ferruginous hawk	*Buteo regalis*
Rough-legged hawk	*Buteo lagopus*
Golden eagle	*Aquila chrysaetos*
Falcons	
American kestrel	*Falco sparverius*
Merlin	*Falco columbarius*
Peregrine falcon[2]	*Falco peregrinus*
Prairie falcon	*Falco mexicanus*
Partridge, pheasant, grouse, turkey, and quail	
Gray partridge (introduced)	*Perdix perdix*
Ring-necked pheasant (introduced)	*Phasianus colchicus*
Sharp-tailed grouse	*Tympanuchus phasianellus*
Greater prairie-chicken	*Tympanuchus cupido*
Wild turkey	*Meleagris gallopavo*
Rails, gallinules, and coots	
Virginia rail	*Rallus limicola*
Sora	*Porzana carolina*
American coot	*Fulica americana*
Cranes	
Sandhill crane	*Grus canadensis*
Whooping crane	*Grus americana*
Plovers	
Black-bellied plover	*Pluvialis squatarola*
American golden-plover	*Pluvialis dominica*

Common name	*Scientific name*
Semipalmated plover	*Charadrius semipalmatus*
Piping plover	*Charadrius melodus*
Killdeer	*Charadrius vociferus*
Stilts and avocets	
American avocet	*Recurvirostra americana*
Sandpipers and phalaropes	
Greater yellowlegs	*Tringa melanoleuca*
Lesser yellowlegs	*Tringa flavipes*
Solitary sandpiper	*Tringa solitaria*
Willet	*Catoptrophorus semipalmatus*
Spotted sandpiper	*Actitis macularia*
Upland sandpiper[2]	*Bartramia longicauda*
Long-billed curlew[2]	*Numenius americanus*
Hudsonian godwit	*Limosa haemastica*
Marbled godwit[2]	*Limosa fedoa*
Ruddy turnstone	*Arenaria interpres*
Sanderling	*Calidris alba*
Semipalmated sandpiper	*Calidris pusilla*
Least sandpiper	*Calidris minutilla*
White-rumped sandpiper	*Calidris fuscicollis*
Baird's sandpiper	*Calidris bairdii*
Pectoral sandpiper	*Calidris melanotos*
Dunlin	*Calidris alpina*
Stilt sandpiper	*Calidris himantopus*
Short-billed dowitcher	*Limnodromus griseus*
Long-billed dowitcher	*Limnodromus scolopaceus*
Wilson's snipe	*Gallinago delicata*
American woodcock	*Scolopax minor*
Wilson's phalarope	*Phalaropus tricolor*
Red-necked phalarope	*Phalaropus lobatus*
Jaegers, gulls, and terns	
Franklin's gull	*Larus pipixcan*
Bonaparte's gull	*Larus philadelphia*
Ring-billed gull	*Larus delawarensis*
Herring gull	*Larus argentatus*
Common tern	*Sterna hirundo*
Forster's tern	*Sterna forsteri*
Least tern	*Sterna antillarum*
Black tern[2]	*Chlidonias niger*
Pigeons and doves	
Rock pigeon (introduced)	*Columba livia*
Eurasian collared-dove (introduced)	*Streptopelia decaocto*
Mourning dove	*Zenaida macroura*
Cuckoos and anis	
Black-billed cuckoo[2]	*Coccyzus erythropthalmus*
Yellow-billed cuckoo	*Coccyzus americanus*

Common name	*Scientific name*
Typical owls	
Eastern screech-owl	*Otus asio*
Great horned owl	*Bubo virginianus*
Snowy owl	*Nyctea scandiaca*
Burrowing owl	*Athene cunicularia*
Long-eared owl	*Asio otus*
Short-eared owl[2]	*Asio flammeus*
Goatsuckers	
Common nighthawk	*Chordeiles minor*
Whip-poor-will	*Caprimulgus vociferus*
Swifts	
Chimney swift	*Chaetura pelagica*
Hummingbirds	
Ruby-throated hummingbird	*Archilochus colubris*
Kingfishers	
Belted kingfisher	*Ceryle alcyon*
Woodpeckers	
Red-headed woodpecker[2]	*Melanerpes erythrocephalus*
Red-bellied woodpecker	*Melanerpes carolinus*
Yellow-bellied sapsucker	*Sphyrapicus varius*
Downy woodpecker	*Picoides pubescens*
Hairy woodpecker	*Picoides villosus*
Northern flicker	*Colaptes auratus*
Tyrant flycatchers	
Eastern wood-pewee	*Contopus virens*
Alder flycatcher	*Empidonax alnorum*
Willow flycatcher	*Empidonax traillii*
Least flycatcher	*Empidonax minimus*
Eastern phoebe	*Sayornis phoebe*
Great crested flycatcher	*Myiarchus crinitus*
Western kingbird	*Tyrannus verticalis*
Eastern kingbird	*Tyrannus tyrannus*
Shrikes	
Loggerhead shrike	*Lanius ludovicianus*
Northern shrike	*Lanius excubitor*
Vireos	
Yellow-throated vireo	*Vireo flavifrons*
Blue-headed vireo	*Vireo solitarius*
Warbling vireo	*Vireo gilvus*
Red-eyed vireo	*Vireo olivaceus*
Jays, magpies, and crows	
Blue jay	*Cyanocitta cristata*
Black-billed magpie	*Pica hudsonia*
American crow	*Corvus brachyrhynchos*
Larks	
Horned lark	*Eremophila alpestris*

Common name	*Scientific name*
Swallows	
Purple martin	*Progne subis*
Tree swallow	*Tachycineta bicolor*
Northern rough-winged swallow	*Stelgidopteryx serripennis*
Bank swallow	*Riparia riparia*
Cliff swallow	*Petrochelidon pyrrhonota*
Barn swallow	*Hirundo rustica*
Titmice	
Black-capped chickadee	*Poecile atricapilla*
Nuthatches	
Red-breasted nuthatch	*Sitta canadensis*
White-breasted nuthatch	*Sitta carolinensis*
Creepers	
Brown creeper	*Certhia americana*
Wrens	
House wren	*Troglodytes aedon*
Sedge wren	*Cistothorus platensis*
Marsh wren	*Cistothorus palustris*
Kinglets	
Golden-crowned kinglet	*Regulus satrapa*
Ruby-crowned kinglet	*Regulus calendula*
Thrushes	
Eastern bluebird	*Sialia sialis*
Gray-cheeked thrush	*Catharus minimus*
Swainson's thrush	*Catharus ustulatus*
Hermit thrush	*Catharus guttatus*
Wood thrush	*Hylocichla mustelina*
American robin	*Turdus migratorius*
Mockingbirds and thrashers	
Gray catbird	*Dumetella carolinensis*
Brown thrasher	*Toxostoma rufum*
Starlings	
European starling (introduced)	*Sturnus vulgaris*
Pipits	
American pipit	*Anthus rubescens*
Sprague's pipit[2]	*Anthus spragueii*
Waxwings	
Bohemian waxwing	*Bombycilla garrulus*
Cedar waxwing	*Bombycilla cedrorum*

Common name	*Scientific name*
Wood-warblers	
Tennessee warbler	*Vermivora peregrina*
Orange-crowned warbler	*Vermivora celata*
Nashville warbler	*Vermivora ruficapilla*
Yellow warbler	*Dendroica petechia*
Chestnut-sided warbler	*Dendroica pensylvanica*
Magnolia warbler	*Dendroica magnolia*
Yellow-rumped warbler	*Dendroica coronata*
Black-throated green warbler	*Dendroica virens*
Blackburnian warbler	*Dendroica fusca*
Palm warbler	*Dendroica palmarum*
Bay-breasted warbler	*Dendroica castanea*
Blackpoll warbler	*Dendroica striata*
Black-and-white warbler	*Mniotilta varia*
American redstart	*Setophaga ruticilla*
Ovenbird	*Seiurus aurocapillus*
Northern waterthrush	*Seiurus noveboracensis*
Mourning warbler	*Oporornis philadelphia*
Common yellowthroat	*Geothlypis trichas*
Wilson's warbler	*Wilsonia pusilla*
Canada warbler	*Wilsonia canadensis*
Tanagers	
Scarlet tanager	*Piranga olivacea*
Towhees, sparrows, juncos, and longspurs	
Spotted towhee	*Pipilo maculatus*
Eastern towhee	*Pipilo erythrophthalmus*
American tree sparrow	*Spizella arborea*
Chipping sparrow	*Spizella passerina*
Clay-colored sparrow	*Spizella pallida*
Field sparrow	*Spizella pusilla*
Vesper sparrow	*Pooecetes gramineus*
Lark sparrow	*Chondestes grammacus*
Lark bunting	*Calamospiza melanocorys*
Savannah sparrow	*Passerculus sandwichensis*
Grasshopper sparrow[2]	*Ammodramus savannarum*
Baird's sparrow[2]	*Ammodramus bairdii*
Le conte's sparrow	*Ammodramus leconteii*
Fox sparrow	*Passerelia iliaca*
Song sparrow	*Melospiza melodia*
Lincoln's sparrow	*Melospiza lincolnii*
Swamp sparrow	*Melospiza georgiana*
White-throated sparrow	*Zonotrichia albicollis*
Harris' sparrow	*Zonotrichia querula*
White-crowned sparrow	*Zonotrichia leucophrys*
Dark-eyed junco	*Junco hyemalis*
Lapland longspur	*Calcarius lapponicus*

Common name	*Scientific name*
Chestnut-collared longspur[2]	*Calcarius ornatus*
Snow bunting	*Plectrophenax nivalis*
Cardinals, grosbeaks, and buntings	
Northern cardinal	*Cardinalis cardinalis*
Rose-breasted grosbeak	*Pheucticus ludovicianus*
Indigo bunting	*Passerina cyanea*
Dickcissel[2]	*Spiza americana*
Meadowlarks, blackbirds, and orioles	
Bobolink	*Dolichonyx oryzivorus*
Red-winged blackbird	*Agelaius phoeniceus*
Western meadowlark	*Surnella neglecta*
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*
Rusty blackbird	*Euphagus carolinus*
Brewer's blackbird	*Euphagus cyanocephalus*
Common grackle	*Quiscalus quiscula*
Brown-headed cowbird	*Molothrus ater*
Orchard oriole	*Icterus spurius*
Baltimore oriole	*Icterus galbula*
Finches	
Purple finch	*Carpodacus purpureus*
House finch	*Carpodacus mexicanus*
Red crossbill	*Loxia curvirostra*
White-winged crossbill	*Loxia leucoptera*
Common redpoll	*Carduelis flammea*
Pine siskin	*Carduelis pinus*
American goldfinch	*Carduelis tristis*
Evening grosbeak	*Coccothraustes vespertinus*
Old world sparrows	
House sparrow (introduced)	*Passer domesticus*

[1] *This list based on "the birds of south dakota" (tallman et al. 2002) And "checklist of north american birds" (aou 1998) and limited to species classified as common (>25 individuals a day could be seen by a single observer in appropriate habitat) and uncommon (<25 individuals a day could be seen by a single observer in appropriate habitat). Species classified as rare (average fewer than 6 observations state or region-wide per season), casual (out of normal range [3–10 records statewide in past 10 years]), or accidental (far from normal range [0–2 records statewide in past 10 years]) are not listed.*

[2] *Birds of conservation concern (breeding) in the prairie potholes bird conservation region (usfws 2008a).*

Mammals[1]

Common name	*Scientific name*
Opossums	
Virginia Opossum	*Didelphis virginiana*
Insectivores	
Shrews	
Cinereus or Masked Shrew	*Sorex cinereus*
Northern Short-tailed Shrew	*Blarina brevicauda*
Arctic Shrew	*Sorex arcticus*
Hayden's Shrew	*Sorex haydeni*
Dwarf Shrew	*Sorex nanus*
Pygmy Shrew	*Sorex hoyi*
Moles	
Eastern Mole	*Scalopus aquaticus*
Bats	
Vespertilionid Bats	
Little Brown Myotis	*Myotis lucifugus*
Northern Myotis	*Myotis septentrionalis*
Eastern Red Bat	*Lasiurus borealis*
Hoary Bat	*Lasiurus cinereus*
Silver-haired Bat	*Lasionycteris noctivagans*
Big Brown Bat	*Eptesicus fuscus*
Lagomorphs	
Hares and Rabbits	
Eastern Cottontail	*Sylvilagus floridanus*
White-tailed Jackrabbit	*Lepus townsendii*
Rodents	
Squirrels	
Woodchuck	*Marmota monax*
Franklin's Ground Squirrel	*Spermophilus franklinii*
Richardson's Ground Squirrel	*Spermophilus richardsonii*
Thirteen-lined Ground Squirrel	*Spermophilus tridecemlineatus*
Black-Tailed Prairie Dog	*Cynomys ludovicianus*
Eastern Gray Squirrel	*Sciurus carolinensis*
Eastern Fox Squirrel	*Sciurus niger*
Pocket Gophers	
Northern Pocket Gopher	*Thomomys talpoides*
Plains Pocket Gopher	*Geomys bursarius*
Heteromyids	
Plains Pocket Mouse	*Perognathus flavescens*
Olive-Backed Pocket Mouse	*Perognathus fasciatus*
Hispid Pocket Mouse	*Chaetodipus hispidus*
Beavers	
American Beaver	*Castor canadensis*
Mice, Rats, and Voles	
Western Harvest Mouse	*Reithrodontomys megalotis*
White-footed Mouse	*Peromyscus leucopus*

Common name	*Scientific name*
Deer Mouse	*Peromyscus maniculatus*
Northern Grasshopper Mouse	*Onychomys leucogaster*
Norway Rat	*Rattus norvegicus*
House Mouse	*Mus musculus*
Southern Red-backed Vole	*Clethrionomys gapperi*
Prairie Vole	*Microtus ochrogaster*
Meadow Vole	*Microtus pennsylvanicus*
Common Muskrat	*Ondatra zibethicus*
Jumping Mice	
Meadow Jumping Mouse	*Zapus hudsonius*
New World Porcupines	
Common Porcupine	*Erethizon dorsatum*
Carnivores	
Canids	
Coyote	*Canis latrans*
Red Fox	*Vulpes vulpes*
Common Gray Fox	*Urocyon cinereoargenteus*
Procyonids	
Common Raccoon	*Procyon lotor*
Mustelids	
Ermine	*Mustela erminea*
Long-tailed Weasel	*Mustela frenata*
Least Weasel	*Mustela nivalis*
American Mink	*Mustela vison*
American Badger	*Taxidea taxus*
Mephitids	
Eastern Spotted Skunk	*Spilogale putorius*
Striped Skunk	*Mephitis mephitis*
Cats	
Bobcat	*Felis rufus*
Ungulates	
Cervids	
Mule or Black-tailed Deer	*Odocoileus hemionus*
White-tailed Deer	*Odocoileus virginianus*
Antelope Caprids	
Pronghorn	*Antilocapra americana*
Bovids	
Domestic cattle	*Bos taurus*

[1] *This list is based on the reference "Wild Mammals of South Dakota" (Higgins et al. 2000) along with staff observations*

Amphibians and reptiles[1]

Common name	*Scientific name*
Salamanders	
Tiger Salamander	*Ambystoma tigrinum*
Frogs and toads	
Plains Spadefoot	*Spea bombifrons*
Boreal Chorus Frog	*Pseudacris maculata*
Northern Leopard Frog	*Rana pipiens*
Woodhouse's Toad	*Bufo woodhousei*
American Toad	*Bufo americanus*
Canadian Toad	*Bufo hemiophrys*
Great Plains Toad	*Bufo cognatus*
Turtles	
Western Painted Turtle	*Chrysemys picta bellii*
Snapping Turtle	*Chelydra serpentina*
Spiny Soft Shelled Turtle	*Trionyx spiniferus*
Skinks	
Prairie Skink	*Eumeces septentrionalis*
Snakes	
Racer	*Coluber constrictor*
Gophersnake	*Pituophis catenifer*
Eastern Garter Snake	*Thamnophis sirtalis sirtalis*
Plains Garter Snake	*Thamnophis radix*
Smooth Green Snake	*Opheodrys vernalis*
Western Hognose Snake	*Heterodon nasicus*
Bullsnake	*Pituophis melanoleucus*
Redbelly Snake	*Storeria occipitomaculata*
Common Garter Snake	*Thamnophis sirtalis*
Prairie Rattlesnake	*Crotalus viridis*

[1] *This list is based on the reference "Field Guide to Amphibians and Reptiles of South Dakota" (Kiesow 2006) along with staff observations.*

Fish[1]

Common name	*Scientific name*
Logperch	*Percina caprodes*
Flathead Catfish	*Pylodictis olivaris*
Lake Trout	*Salvelinus namaycush*
Black Bullhead	*Ameiurus melas*
Yellow Bullhead	*Ameiurus natalis*
Stonecat	*Noturus flavus*
Channel Catfish	*Ictalurus punctatus*
Common Carp	*Cyprinus carpio*
White Sucker	*Catostomus commersoni*
Bigmouth Buffalo	*Ictiobus cyprinellus*

Common name	*Scientific name*
River Carpsucker	*Carpiodes carpio*
Shorthead Redhorse	*Moxostoma macrolepidotum*
Freshwater Drum	*Aplodinotus grunniens*
Fathead Minnow	*Pimephales promelas*
Emerald Shiner	*Notropis atherinoides*
Common Shiner	*Luxilus cornutus*
Golden Shiner	*Notemigonus crysoleucas*
Creek Chub	*Semotilus atromaculatus*
Brook Stickleback	*Culaea inconstans*
Logperch	*Percina caprodes*
Johnny Darter	*Etheostoma nigrum*
White Bass	*Morone chrysops*
Rock Bass	*Ambloplites rupestris*
Smallmouth Bass	*Micropterus dolomieu*
Largemouth Bass	*Micropterus salmoides*
Bluegill	*Lepornis macrochirus*
Pumpkinseed	*Lepomis gibbosus*
Green Sunfish	*Lepomis cyanellus*
Orange-spotted Sunfish	*Lepomis humilis*
Black Crappie	*Pomoxis nigromaculatus*
White Crappie	*Pomoxis annularis*
Yellow Perch	*Perca flavescens*
Walleye	*Stizostedion vitreum*
Saugeye	*Stizostedion* spp.
Northern Pike	*Esox lucius*
Shortnose Gar	*Lepisosteus platostomus*
Gizzard Shad	*Dorosoma cepedianum*
Mooneyes	*Hiodon alosoides*

[1] *This list is based on the reference "Guide to the Common Fishes of South Dakota" (Neumann and Willis 1994) along with staff observations.*

BUTTERFLIES[1]

Common name	*Scientific name*
Parnassians and swallowtails	
Giant Swallowtail	*Papilio cresphontes*
Eastern Tiger Swallowtail	*Papilio glaucus*
Black Swallowtail	*Papilio polyxenes asterius*
Whites and sulphurs	
Checkered White	*Pontia protodice*
Western White	*Pontia ocidentalis*
Cabbage White	*Pieris rapae*
Olympia Marble	*Euchloe olympia*
Clouded Sulphur	*Colias philodice*
Orange Sulphur	*Colias eurytheme*
Dog Face	*Zerene cesonia*
Little Yellow	*Eurema lisa*
Dainty Sulphur	*Nathalis iole*
Harvesters, coppers, hairstreaks, and blues	
Gray Copper	*Lycaena dione*
Bronze Copper	*Lycaena hyllus*
Purplish Copper	*Lycaena helloides*
Coral Hairstreak	*Satyrium titus*
Acadian Hairstreak	*Satyrium acadicum*
Striped Hairstreak	*Satyrium liparops aliparops*
Juniper Hairstreak	*Callophrys gryneus siva*
Gray Hairstreak	*Strymon melinus franki*
Marine Blue	*Leptotes marina*
Reakirt's Blue	*Hemiargus isola*
Eastern Tailed-Blue	*Everes comyntas*
Summer Azure	*Celastrina neglecta*
Silvery Blue	*Glaucopsyche lygdamus oro*
Melissa Blue	*Lycaeides melissa*
Skippers	
Silver-spotted Skipper	*Epargyreus clarus*
Common Checkered Skipper	*Pyrgus communis*
Common Sootywing	*Pholisora catullus*
Least Skipper	*Ancyloxypha numitor*
Poweshiek Skipperling	*Oarisma poweshiek*
Uncas Skipper	*Hesperia uncas*
Ottoe Skipper	*Hesperia ottoe*
Leonard's Skipper	*Herperia leonardus pawnee*
Dakota Skipper	*Hesperia dacotae*
Sachem	*Atalopedes campestris*
Peck's Skipper	*Polites peckius*
Tawny-edged Skipper	*Polites themistocles*
Crossline Skipper	*Polites origenes rhena*
Long Dash	*Polites mystic dacotah*

Common name	*Scientific name*
Arogos Skipper	*Atrytone arogos iowa*
Delaware Skipper	*Anatrytone logan lagus*
Hobomok Skipper	*Poanes hobomok*
Kiowa Skipper	*Euphyes vestries kiowah*
Common Roadside Skipper	*Amblyscirtes vialis*
Brushfoots	
American Snout	*Libytheana carinenta bachmanii*
Variegated Fritillary	*Euptoieta claudia*
Great Spangled Fritillary	*Speyeria cybele*
Manitoba Fritillary	*Speyeria aphrodite manitoba*
Regal Fritillary	*Speyeria idalia*
Edwards' Fritillary	*Speyeria edwardsii*
Callippe Fritillary	*Speyeria callippe calgariana*
Myrina Fritillary	*Boloria selene myrina*
Meadow Fritillary	*Boloria bellona*
Gorgone Checkerspot	*Chlosyne gorgone carlota*
Silvery Checkerspot	*Chlosyne nycteis*
Pearl Crescent	*Phyciodes tharos*
Northern Crescent	*Phyciodes cocyta*
Question Mark	*Polygonia interrogationis*
Eastern Comma	*Polygonia comma*
Gray Comma	*Polygonia progne*
Mourning Cloak	*Nymphalis antiopa*
Milbert's Tortoiseshell	*Nymphalis milberti*
Red Admiral	*Vanessa atalanta rubria*
American Lady	*Vanessa virginiensis*
Painted Lady	*Vanessa cardui*
Common Buckeye	*Junonia coenia*
White Admiral	*Limenitis arthemis arthemis*
Red-spotted Purple	*Limenitis arthemis astyanax*
Viceroy	*Limenitis archippus*
Mountain Emperor	*Asterocampa celtis antonia*
Tawny Emperor	*Asterocampa clyton*
Northern Pearly-Eye	*Enodia anthedon*
Eyed Brown	*Satyrodes Eurydice*
Little Wood-Satyr	*Megisto cymela*
Prairie Ringlet	*Coenonympha tulllia benjamini*
Common Wood-Nymph	*Cercyonis pegala nephele*
Monarch	*Danaus plexippus*
Uhler's Arctic	*Oeneis uhleri varuna*

[1] *This list is based on the reference "Field Guide to Butterflies of South Dakota" (Marrone 2002) along with staff observations.*

Plants[1]

Common name	*Scientific name*
Absinth wormwood	*Artemisia absinthium*
Alfalfa	*Medicago* spp.
American elm	*Ulmus americana*
American Sloughgrass	*Beckmannia syzigachne*
Annual sunflower	*Helianthus annus*
Baltic rush	*Juncus balticus*
Barley	*Hordeum* spp.
Barnyardgrass	*Echinochloa muricata*
Big bluestem	*Andropogon gerardii*
Blanket flower	*Gaillardia aristata*
Bracted spiderwort	*Tradescantia bracteata*
Breadroot scurfpea	*Pediomelum esculentum*
Buffalo grass	*Buchloe dactyloides*
Bur oak	*Quercus macrocarpa*
Canada goldenrod	*Solidago canadensis*
Canada thistle	*Cirsium arvense*
Canada wildrye	*Elymus canadensis*
Cattail	*Typha* spp.
Cocklebur	*Xanthium strumarium*
Common dandelion	*Taraxacum officinale*
Common reed	*Phragmites australis*
Corn	*Zea mays*
Crested Wheatgrass	*Agropyron cristatum*
Cudweed sagewort	*Artemisia ludoviciana*
Curlycup gumweed	*Grindelia squarrosa*
Daisy fleabane	*Erigeron strigosus*
Downy brome	*Bromus tectorum*
False boneset	*Kuhnia eupatorioides*
Fescue sedge	*Carex brevior*
Field bindweed	*Convolvulus arvensis*
Field pussytoes	*Antennaria neglecta*
Foxtail barley	*Hordeum jubatum*
Goat's beard	*Tragopogon dubius*
Green ash	*Fraxinus pennsylvanica*
Green foxtail	*Setaria viridis*
Green muhly	*Muhlenbergia racemosa*
Green needlegrass	*Nassella viridula*
Green sagewort	*Artemisia campestris*
Hardstem bulrush	*Schoenoplectus acutus*
Heath aster	*Aster ericoides*
Indian breadroot	*Psoralea esculenta*
Indiangrass	*Sorghastrum* spp.
Intermediate wheatgrass	*Agropyron intermedium*
Japanese brome	*Bromus japonicus*

Common name	*Scientific name*
Junegrass	*Koeleria macrantha*
Kentucky bluegrass	*Poa pratensis*
Kochia	*Kochia scoparia*
Leadplant	*Amorpha canescens*
Leafy spurge	*Euphorbia esula*
Little bluestem	*Schizachyrium* spp.
Maximilian sunflower	*Helianthus maximilian*
Needle and thread	*Hesperostipa comata*
Pink wild onion	*Allium stellatum*
Plains cottonwood	*Populus deltoides*
Plains muhly	*Muhlenbergia cuspidate*
Porcupine grass	*Stipa spartea*
Prairie chickweed	*Cerastium arvense*
Prairie coneflower	*Ratibida columnifera*
Prairie cordgrass	*Spartina pectinata*
Prairie dropseed	*Sporobolus heterolepis*
Prairie junegrass	*Koeleria pyramidata*
Prairie wild rose	*Rosa arkansana*
Purple loosestrife	*Lythrum salicaria*
Purple meadowrue	*Thalictrum dasycarpum*
Purple prairie clover	*Dalea purpurea*
Quackgrass	*Elymus repens*
Redtop	*Agrostis stolonifera*
Reed canarygrass	*Phalaris arundinacea*
Rush	*Juncus* spp.
Russian olive	*Elaeagnus angustifolia*
Sandbur	*Cenchrus longispinus*
Sand dropseed	*Sporobolus cryptandrus*
Scarlet globemallow	*Sphaeralcea coccinea*
Sedge	*Carex* spp.
Sideoats grama	*Bouteloua curtipendula*
Silverleaf scurfpea	*Pediomelum argophyllum*
Slender wheatgrass	*Elymus trachycaulus*
Smooth brome	*Bromus inermis*
Stiff goldenrod	*Solidago rigida*
Stiff sunflower	*Helianthus pauciflorus*
Soybean	*Glycine* spp.
Spotted knapweed	*Centaurea biebersteinii*
Spring wheat	*Triticum* spp.
Sweetclover	*Melilotus officinalis*
Switchgrass	*Panicum virgatum*
Timothy	*Phleum pretense*
Torch flower	*Geum triflorum*
Water hemlock	*Cicuta maculata*
Western ragweed	*Ambrosia psilostachya*

Common name	*Scientific name*
Western snowberry	*Symphoricarpos occidentalis*
Western wheatgrass	*Agropyron smithii*
White beardtongue	*Penstemon albidus*
White prairie clover	*Dalea candida*
Willow	*Salix* spp.
Witchgrass	*Panicum capillare*
Wormwood sage	*Artemisia absinthium*
Yellow foxtail	*Setaria glauca*

[1] *This list is based on the reference* Grassland Plants of South Dakota and the Northern Great Plains *(Johnson and Larson 2007) and* Selected North Dakota and Minnesota Range Plants *(Sedivec and Barker) along with staff observations.*

Appendix H

Compatibility Determinations

H.1 Compatibility Determination for Wildlife Observation and Wildlife Photography

Uses

Wildlife observation and wildlife photography

Unit names

Lake Andes National Wildlife Refuge, Karl E. Mundt National Wildlife Refuge, Lake Andes Wetland Management District

Counties

Aurora, Bon Homme, Brule, Charles Mix, Clay, Davison, Douglas, Gregory, Hanson, Hutchison, Lincoln, Turner, Union, and Yankton Counties, South Dakota

Establishing and acquisition authorities

Executive Order 7292 (Lake Andes National Wildlife Refuge, 1936)
Migratory Bird Conservation Act
Executive Order 5782
Endangered Species Act

Refuge complex purposes

The Lake Andes National Wildlife Refuge was created to protect habitat important to migratory birds.

The Karl E. Mundt National Wildlife Refuge was created to protect habitat important to bald eagles and other endangered species.

The Lake Andes Wetland Management District was created to administer the Small Wetlands Acquisition Program to save wetlands from various threats—particularly drainage. The main authorities in establishment of the program are briefly discussed below:

- Migratory Bird Hunting and Conservation Stamp Act (16 [United States Code] U.S.C. 718d[c])—"as waterfowl production areas subject to all provisions of the Migratory Bird Conservation Act … except the inviolate sanctuary provisions." The Duck Stamp Act provides for the conservation, protection, and propagation of native species of fish and wildlife, including migratory birds that are threatened with extinction.
- Migratory Bird Conservation Act (16 U.S.C. 715d[2])—"for any other management purposes, for migratory birds." This act addresses the obligations of the United States under the Migratory Bird Treaty Act through the following mechanisms:
  - lessening the dangers threatening migratory gamebirds from drainage and other causes
  - the acquisition of areas of land and water to furnish in perpetuity reservations for the adequate protection of such birds
  - authorizing appropriations for the establishment of such areas, their maintenance and improvement, and for other purposes

The purpose of the district is "to assure the long-term viability of the breeding waterfowl population and production through the acquisition and management of waterfowl production areas, while considering the needs of other migratory birds, threatened and endangered species, and other wildlife" (USFWS 2006). This purpose statement was developed for all Region 6 wetland management districts.

National wildlife refuge system mission

> *The mission of the System is to administer a national 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.*

Description of uses

These uses would provide opportunities that support wildlife-dependent recreation. Wildlife observation and wildlife photography would be allowed year-round on Lake Andes National Wildlife Refuge Complex (Complex) lands. Rules, restrictions, and other information would be made available to the public through publication of tear sheets and brochures and posting information on Complex kiosks. Foot trails and photography blinds would be provided for visitors. Wildlife observation and wildlife photography are two of the six wildlife-dependent, priority public uses specified in the National Wildlife Refuge System Improvement Act of 1997 (Improvement Act). These uses and their supporting access-related uses can be allowed without interfering with the migratory bird resource.

Availability of resources

Currently, the programs for wildlife observation and wildlife photography are administered using available resources. Implementation of new programs, activities, and facilities outlined in the document, "Draft Comprehensive Conservation Plan and Environmental Assessment: Lake Andes National Wildlife Refuge Complex," is tied to funding requests in the form of Refuge Operating Needs System and Service Asset Maintenance Management System projects.

Anticipated impacts of the uses

Short-Term Impacts

There may exist temporary disturbance to wildlife near the activities. Direct, short-term impacts may include minor damage from traffic to roads and trails when wet and muddy, minor damage to vegetation, littering, increased maintenance activity, and potential conflicts with other visitors. These activities would have only minor impacts on wildlife and would not detract from the primary purposes of the Complex.

Long-Term Impacts

None

Cumulative Impacts

There would be no direct or indirect cumulative impacts anticipated with these uses.

Public review and comment

This compatibility determination was prepared concurrently with the draft comprehensive conservation plan (CCP) and environmental assessment (EA) for the Complex. Public review and comment will be achieved concurrently with the public review and comment period for the draft CCP and EA.

Determination

Wildlife observation and wildlife photography, along with their supporting uses, are compatible uses at Lake Andes National Wildlife Refuge Complex.

Stipulations necessary to ensure compatibility

Stipulations regarding the public use program would be made available in published brochures. Dates, closed areas, and other information would be specified. Vehicles would be restricted to designated roads and trails, and vehicle use would be monitored for wildlife disturbance and law enforcement violations. Complex staff would also monitor use, regulate access, and maintain necessary facilities to prevent habitat degradation and minimize wildlife disturbance.

Justification

Based on the anticipated biological impacts above and in the EA, wildlife observation and wildlife photography on the Complex would not interfere with the habitat goals and objectives or purposes for which it was established. Wildlife observation and wildlife photography are priority wildlife-dependent public uses acknowledged in the Improvement Act. These uses promote an appreciation for the natural resources found on the Complex. Increased public stewardship will support and complement the Service's actions in achieving the purposes of the Complex and the mission of the Refuge System.

Submitted

Michael J. Bryant Date
Project Leader, Lake Andes National Wildlife Refuge Complex
USFWS, Region 6

Review

Bernie Peterson Date
Refuge Supervisor, North and South Dakota
USFWS, Region 6

Approval

Matt Hogan Date
Assistant Regional Director, Refuges
National Wildlife Refuge System
USFWS, Region 6

Mandatory 15-year reevaluation date: 2026

H.2 Compatibility Determination for Glyphosate-Tolerant Soybeans and Corn for Habitat Restoration and Management on National Wildlife Refuge System (System) Owned or Managed Lands in Region 6

Use

Use of glyphosate-tolerant soybeans and corn for habitat restoration and management on National Wildlife Refuge System (System) owned or managed lands in Region 6.

Refuge name

- Arrowwood Complex
- Audubon Complex
- Devils Lake Complex
- Flint Hills National Wildlife Refuge
- Huron Wetland Management District
- Kirwin National Wildlife Refuge
- Kulm Wetland Management District
- Lake Andes Complex
- Long Lake Complex
- Madison Wetland Management District
- Marais des Cygnes National Wildlife Refuge
- Quivira National Wildlife Refuge
- Rainwater Basin Wetland Management District
- Souris River Basin Complex
- Sand Lake Complex
- Tewaukon Complex
- Waubay Complex

Counties

All counties within national wildlife refuges and wetland management districts listed above in Region 6.

Establishing and acquisition authorities

System lands are managed consistent with a number of federal statutes, regulations, policies, and other guidance. The National Wildlife Refuge System Administration Act of 1966, as amended (16 United States Code [U.S.C.] 668dd–668ee) (Administration Act) is the core statute guiding management of the System.

The National Wildlife Refuge System Improvement Act of 1997 (Public Law [P.L.] 105-57) made important amendments to the Administration Act, one of which was the mandate that a comprehensive conservation plan be completed for every unit of the System. Among other things, comprehensive conservation planning has required field stations to assess their current farming program and establish objectives for the future.

The Migratory Bird Hunting Stamp Act of March 16, 1934, as amended by section 3 of the Act of August 1, 1958 (72 Stat. 486, 16 U.S.C. sec. 716 d[c]), authorized the Secretary of Interior to acquire small wetland or pothole areas suitable as Waterfowl Production Areas.

Additional Authorities include the following: Consolidated Farm and Rural Development Act, Migratory Bird Conservation Act, North American Wetlands Conservation Act, and the Emergency Wetlands Resources Act.

Refuge purposes

- As "a refuge and breeding ground for migratory birds and other wildlife, for use as an inviolate sanctuary, or for any other management purpose for migratory birds." *Migratory Bird Conservation Act*
- As "Waterfowl Production Areas" subject to "*[...]* all of the provisions of such Act *[Migratory Bird Conservation Act] [...]* except the inviolate sanctuary provisions." *16 U.S.C. 718(c) Migratory Bird Hunting and Conservation Stamp*
- For "any other management purpose, for migratory birds." *16 U.S.C. sec. 715d Migratory Bird Conservation Act*
- For "conservation purposes *[...]" 7 U.S.C. sec. 2002 Consolidated Farm and Rural Development Act*

Establishing Authorities and Refuge Purposes for individual Units may be obtained online at www.fws.gov/refuges/policiesandbudget/purposes/Purposes_Search.cfm.

National wildlife refuge system mission

> *The mission of the System is to administer a national 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.*

Description of use

What is the use? Is the use a wildlife-dependent public use? The use is as follows: use of glyphosate-tolerant corn and soybeans for habitat restoration and

management purposes on lands owned in fee title or managed through agreement by the National Wildlife Refuge System in Region 6. The primary use will be to prepare a seedbed on previously or currently cropped sites for prairie reconstruction purposes. An additional use would include incorporation into a station's integrated pest management program for the control of invasive and noxious plant species. An example would be use on System-managed lands behind flood control dams where prairie restoration would not be warranted due to the likelihood of future flooding.

The use is not a wildlife-dependent public use.

Where would the use be conducted? The use would be conducted on lands owned in fee title or managed through agreement by the System in Region 6, in Colorado, Kansas, Montana, Nebraska, North Dakota, South Dakota, Utah, and Wyoming, that are currently farmed or have previously been farmed and contain soils and receive average precipitation to support growth of agricultural soybeans and corn.

When would the use be conducted? Use would be ongoing. The use of glyphosate-tolerant soybeans and corn would be allowed as part of an integrated pest management program used to prepare a seedbed for habitat restoration and management and/or to control noxious and invasive vegetation.

How would the use be conducted? Use would be conducted by cooperative farmers through a cooperative farming agreement or by SUP.

Why is this use being proposed? Refuge managers' experience combined with published literature indicates that use of glyphosate-tolerant soybeans and corn—which allows for the application of an herbicide containing the active ingredient glyphosate during the growing season—is very effective at killing invasive cool season grasses and other noxious and invasive species. This results in a weed-free seedbed used for habitat restoration purposes, which increases the possibility of successful habitat reconstruction efforts on System-managed and -owned lands.

Availability of Resources

Resources involved in the administration and management of the use:

- No additional management or administrative costs will be associated with this activity.
- Special equipment, facilities, or improvements necessary to support the use: none
- Maintenance costs: none
- Monitoring costs: none
- Offsetting revenues: none

Anticipated Impacts of the Use

Short-Term Impacts. The use of glyphosate-tolerant soybeans and corn will increase the likelihood that conservation tillage can be successfully conducted, reducing soil erosion.

Long-Term Impacts. The effective reconstruction of degraded and weed-infested habitats on System lands to native mixed-grass and tallgrass prairie which can be managed through the historical ecological processes of prescribed fire and prescribed grazing, will cumulatively reduce needed expenditures of labor and funds for weed control efforts on System lands in Region 6 over the long term.

Stipulations Necessary to Ensure Compatibility

1. Refuge managers will comply with all existing and current policies regarding the use of genetically modified crops (glyphosate-tolerant soybeans and corn).
2. Activity will occur only on currently farmed or previously farmed System-owned or -managed lands.

Public Review and Comment

The period of public review and comment was held from February 2, 2011 through March 4, 2011. A total of eleven written comments were received. Responses to substantive comments can be found in appendix F.

Why was this level of public review and comment selected? It is appropriate to provide opportunity to comment on this compatibility determination at the same time as the draft environmental assessment. The proposed activity has a national as well as local level of interest, and it was felt that a full month with wide distribution should be given to review.

Signature: Refuge Manager

3/27/11

Kim Hanson, Arrowwood Complex (Signature) (Date)

3/28/11

Lloyd Jones, Audubon Complex (Signature) (Date)

3/30/11

Roger Hollevoet, Devils Lake Complex (Signature) (Date)

3/24/11

Mike Rich, Flint Hills National Wildlife Refuge (Signature) (Date)

3/25/2011

Clarke Dirks, Huron Wetland Management District (Signature) (Date)

3-28-11

Craig Mowry, Kirwin National Wildlife Refuge (Signature) (Date)

3/29/2011

Mick Erickson, Kulm Wetland Management District (Signature) (Date)

3-31-11

Brian DeVries, Lacreek National Wildlife Refuge (Signature) (Date)

3/25/2011

Mike Bryant, Lake Andes Complex (Signature) (Date)

3/25/2011

Paul VanNingen, Long Lake Complex (Signature) (Date)

3-25-11

Tom Turnow, Madison Wetland Management District (Signature) (Date)

3/28/2011

Patrick Martin, Marais des Cygnes National Wildlife Refuge (Signature) (Date)

4/6/2011

Dan Severson, Quivira National Wildlife Refuge (Signature) (Date)

3-29-11

Gene Mack, Rainwater Basin Wetland Management District (Signature) (Date)

3-28-11

Harris Hoistad, Sand Lake Complex (Signature) (Date)

Kelly M. Hogan 3/25/11

Kelly Hogan, Souris River Basin Complex (Signature) (Date)

3/25/11

Rob Bundy, Tewaukon Complex (Signature) (Date)

Larry D Martin 29 March 2

Larry Martin, Waubay Complex (Signature) (Date)

Review: Regional Compatibility Coordinator Lloyd Jones 3/28/11

Lloyd Jones (Date)

Review: Zone Supervisor J. Paul Cornes 4-8-11

Paul Cornes (Date)

Review: Zone Supervisor Barbara Boyle 4-18-11

Concurrence: Regional Chief Richard A Coleman 4/18/11

Rick Coleman (Date)

Mandatory 10- or 15-year Re-Evaluation Date: 2021

Compatibility Determination

Use: Buried waterlines on grassland easements to provide livestock watering

Refuge Name:
Arrowwood Wetland Management District
Audubon Wetland Management District
Chase Lake Wetland Management District
Crosby Wetland Management District
Devils Lake Wetland Management District
Huron Wetland Management District
J. Clark Salyer Wetland Management District
Kulm Wetland Management District
Lake Andes Wetland Management District
Long Lake Wetland Management District
Lostwood Wetland Management District
Madison Wetland Management District
Sand Lake Wetland Management District
Tewaukon Wetland Management District
Valley City Wetland Management District
Waubay Wetland Management District

County: all counties within the Districts

Establishing and Acquisition Authority(ies):

Consolidated Farm and Rural Development Act, Migratory Bird Conservation Act, Migratory Bird Hunting and Conservation Stamp Tax, North American Wetlands Conservation Act, Emergency Wetlands Resources Act

Refuge Purpose(s):

> "...as Waterfowl Production Areas" subject to" ...all of the provisions of such Act [Migratory Bird Conservation Act] ...except the inviolate sanctuary provisions..." 16 U.S.C. 718(c) (Migratory Bird Hunting and Conservation Stamp)
>
> "...for any other management purpose, for migratory birds." 16 U.S.C. § 715d (Migratory Bird Conservation Act)
>
> "...for conservation purposes ... "7 U.S.C. § 2002 (Consolidated Farm and Rural Development Act)

National Wildlife Refuge System Mission:

> "The mission of the System is to administer a national 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."

Description of Use:

What is the use? Is the use a wildlife-dependent public use?

The activity requested involves burying waterlines to provide for livestock watering on areas encumbered by Service grassland easements in North and South Dakota. The buried waterline is a new use of the grassland easement because of the surface grass disturbance which would be considered an economic use. There are approximately 2,500 individual grassland contract holders in the two states. It is estimated that no more than 10% or 250 will ever make a request for a buried waterline. In those cases where additional water supplies are provided there is a better distribution of grazing on the easement tract and overall health and sustainability of the grass is improved. The waterlines are installed by either a chisel plow or narrow trenching (not exceeding 2 feet) equipment to a depth of 6-8 feet. Minor and very temporary disturbance to the grass is confined to an area no greater than 10 feet on either side of the pipe location. The waterlines are polyethylene pipe of approximately 2 inches in diameter. The disturbance to grass is minimal (generally not exceeding 1 acre of disturbance) in relation to the acreage involved in the easement tract (average 600 acres). The disturbance caused by the trench is immediately restored and with residual and seeded grasses, the activity disturbance is temporary within 1-2 years little to no evidence remains of the activity. The activity will be permitted with a Special Use Permit and stipulations provided to ensure special and limiting conditions are adhered to and restoration is complete. The waterline will deliver water to a holding tank and gravel pad causing permanent disturbance to grass on an area of approximately 60 feet by 60 feet, representing less than one-tenth of one acre or less than 0.00001 percent of the average grassland easement tract.

Where would the use be conducted?

The use will be conducted on grassland easements in all the Wetland Management Districts listed including both North Dakota and South Dakota. Generally the grassland easement tracts are native grassland areas that are used predominately for cattle grazing. There will be minimal or non detected disturbance to wildlife as a result of the activity and what does occur will be very temporary. The disturbance to the average grassland easement tract will represent less than 0.002 percent of the average easement tract.

When would the use be conducted?

The use will be conducted as a one time event in the summer season when frost no longer exists and conditions have dried sufficiently to minimize grass disturbance. There is little to no future maintenance.
How would the use be conducted?

The activity will be conducted with either trenching equipment such as a back hoe or a chisel plow. Disturbance will not exceed 2 feet in width or be less if the chisel plow is used.

Why is this use being proposed?

It will be the grassland easement holder requesting the use. The request will be to provide better water availability for improved grass utilization due to more equal grazing distribution. Buried waterlines for livestock watering is a cost effective and reliable alternative to traditional stock watering dams, especially in times of drought or low precipitation conditions.

Availability of Resources:

Resource involved in the administration and management of the use:

No additional management or administrative costs will be associated with this activity.

Special equipment, facilities, or improvements necessary to support the use: None

Maintenance costs: None

Monitoring costs: None

Offsetting revenues: None

Anticipated Impacts of the Use:

Short-term impacts:

There will be only temporary disturbance to the grass from the construction activities so all impacts will be short-term. In 1-2 years little to no evidence exists of the activity. There will be no indirect impacts associated with this activity.

Long-term impacts:

There will be no long term impacts associated with this activity.

Cumulative impacts:

The only cumulative direct impact will be the loss of grassland from the installation of water holding facilities, estimated to be approximately 360 square feet, representing 0.008 of an acre or 0.00001 percent of the average grassland easement (600 acres). There are no indirect impacts from the proposed activity.

Public Review and Comment:

The period of public review and comment began 8/9/2004 and ended 8/13/2004.

The following methods were used to solicit public review and comment:

Posted notices in public places.

Why was this level of public review and comment selected?

The proposed activity is considered minor, incidental, one-time with minimal temporary disturbance.

Summarize comments received and any actions taken or not taken because of comments received.

No comments were received.

Determination:

Use is compatible with the following stipulations.

Stipulations Necessary to Ensure Compatibility:

1. Soil, if removed through trenching, will be replaced in the same soil profile as it was removed. Topsoil will be replaced and all soils compacted.

2. Activity will occur during the time when soils are dry and equipment activity will have reduced impact to grasses and soils.

3. Any areas that are disturbed will be reseeded to the appropriate grass mixture if determined necessary for reestablishment by the Refuge Manager.

Justification:

There will be minimal and temporary disturbance to the grassland resources protected by

the Service's easement by this activity. The use will not detract from or materially interfere with the mission or purpose of the NWRS. It is an economic use and as such the activity will benefit the Service mission and purpose through better management of the grassland community by providing improved grazing distribution.

If the proposed use is an economic use of refuge natural resources, how would it contribute to the purposes of the refuge or the mission of the National Wildlife Refuge System?

The activity of providing water for livestock grazing will contribute to the mission by providing improved grazing distribution and better range management of the grassland resources protected by the Service's easement.

Text of Public Notice:

The U.S. Fish and Wildlife Service (Service) is soliciting public comments on whether to allow buried waterlines to provide for livestock watering on Service Grassland Easements in North and South Dakota. The activity will cause minor and temporary disturbance to the grassland area. Restoration will be ensured through stipulations defined in a Special Use Permit agreed to by the landowner. Through better distribution of livestock grazing the health and sustainability to the grasslands will be better ensured. People wishing to provide comments can do so by August 13th by submitting them to the Wetland Habitat Office, 3425 Miriam Avenue, Bismarck, ND 58501. For more information contact Lloyd Jones at (701) 355-8529.

Compatibility Determination

Signature: Refuge Manager:

Kim Hanson, Arrowwood Wetland Management District (Signature) 8/17/04 (Date)

Mike McEnroe, Audubon Wetland Management District (Signature) 8/17/04 (Date)

Mick Erickson, Chase Lake Wetland Management District (Signature) 8/17/04 (Date)

Tim Kessler, Crosby Wetland Management District (Signature) 8/17/04 (Date)

Roger Hollevoet, Devils Lake Wetland Management District (Signature) 8/17/04 (Date)

Harris Hoistad, Huron Wetland Management District (Signature) 8-17-04 (Date)

Lee Albright, J. Clark Salyer Wetland Management District (Signature) 8-17-04 (Date)

Bob Vanden Berge, Kulm Wetland Management District (Signature) 8/17/04 (Date)

Mike Bryant, Lake Andes Wetland Management District (Signature) 8/17/04 (Date)

Paul VanNingen, Long Lake Wetland Management District (Signature) 8/17/04 (Date)

Todd Frerichs, Lostwood Wetland Management District (Signature) 8-17-04 (Date)

Thomas Tornow, Madison Wetland Management District (Signature) 8-17-04 (Date)

Gene Williams, Sand Lake Wetland Management District (Signature) 8-17-04 (Date)

Jack Lalor, Tewaukon Wetland Management District (Signature) 8/18/04 (Date)

Cory Richardson, Valley City Wetland Management District (Signature) 8-18-04 (Date)

Larry Martin, Waubay Wetland Management District (Signature) 17 Aug. 2004 (Date)

Review: Regional Compatibility Coordinator Lloyd Jones 8/18/04 (Date)

Review: Zone Supervisor Rod Krey 8/18/04 (Date)

Concurrence: Regional Chief Rick Coleman (Date) 8/19/04

Mandatory 10- or 15- year Re-Evaluation Date: 2019

Exhibit XII-4a

COMPATIBILITY DETERMINATION
for
Authorized Curtilage Expansion
or Structural Additions on Grassland Easements

Use: Authorized expansion or construction of additional buildings or structures on a grassland or FmHA easement. Examples of proposed uses include additions to farmstead buildings, livestock facilities, storage sheds, or the planting of farmstead windbreaks.

Station Names:

South Dakota Wetland Management Districts:

Lake Andes WMD, SD
Madison WMD, SD
Huron WMD, SD
Waubay WMD, SD
Sand Lake WMD, SD
Lacreek NWR, SD

North Dakota Wetland Management Districts:

Tewaukon WMD, ND
Kulm WMD, ND
Arrowwood WMD, ND
Valley City WMD, ND
Chase Lake WMD, ND
Audubon WMD, ND
Long Lake WMD, ND
J Clark Salyer WMD, ND
Devils Lake WMD, ND
Lostwood WMD, ND
Crosby WMD, ND

Montana Wetland Management Districts:

Northeast Montana WMD, MT
Bowdoin WMD, MT
Benton Lake WMD, MT

Northwest Montana WMD, MT
Charles M. Russell WMD, MT

Establishing and Acquisition Authorities:

Waterfowl Production Areas, Wetland Easements, Grassland Easements - The Migratory Bird Hunting and Conservation Stamp Act, March 16, 1934, (16 USC Sec. 718-718h, 48 Stat. 452) as amended August 1, 1958, (PL 85-585; 72 Stat. 486) for acquisition of "Waterfowl Production Areas"; the Wetlands Loan Act, October 4, 1961, as amended (16 USC 715k-3 - 715k-5, Stat. 813), funds appropriated under the Wetlands Loan Act are merged with duck stamp receipts in the fund and appropriated to the Secretary for the acquisition of migratory bird refuges under the provisions of the Migratory Bird Conservation Act, February 18, 1929, (16 USC Sec. 715, 715d - 715r, as amended.

FmHA deed restricted properties - Consolidated Farm and Rural Development Act - (7 USC Para. 2002).

Tall Grass Prairie Tracts - Land and Water Conservation Fund Act of 1965, as amended (16 U.S.C. 460*l*-4 through 460*l*-11)

Refuge Purpose(s):

"...as Waterfowl Production Areas" subject to "...all of the provisions of such Act [Migratory Bird Conservation Act] ...except the inviolate sanctuary provisions..." 16 USC 718(c) (Migratory Bird Hunting and Conservation Stamp)

"...for any other management purpose, for migratory birds." 16 USC 715d (Migratory Bird Conservation Act)

"...for conservation purposes..." 7 USC 2002 (Consolidated Farm and Rural Development Act)

National Wildlife Refuge System Mission:

"The Mission of the National Wildlife Refuge System is to administer a national 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 Administration Act of 1966, as amended) [16 USC 668(dd)-668(ee)].

Description of Use:

A landowner may have need to increase the size of his/her home and increase the size or number of buildings and facilities on the farm or ranch operation in order to more efficiently continue the agricultural operation of the property, or to plant and develop a windbreak planting of trees to protect the farm house or livestock facilities. Such an expansion may be requested on upland areas adjacent to the existing farmstead, the base of operations for the farm/ranch, or on a former building site where buildings are no longer present, on lands that are included within a grassland or FmHA conservation easement. In order to be permitted, such a request must be shown to be consistent with existing agricultural uses or practices on the property, have no other reasonable location or alternative, essential to the farm/ranch operation, not be able to be accommodated by a temporary (less than one year) permit, and be judged not to materially interfere with or detract from the easement or the purpose and mission of the NWRS.

Availability of Resources:

Financial and staff resources are determined to be sufficient at each field station to administer these requests. Staff time will be needed to evaluate the proposed use, to prepare the site-specific permits, and to insure compliance with the permit authorization and stipulations necessary to insure compatibility.

Anticipated Impacts of the Use:

Authorized use of easement protected grasslands for expanded farmstead, farm or ranch facilities, or a farmstead windbreak, will result in a loss or destruction of the grassland where the facilities are built. The remainder of the easement tract will not be affected. The disturbance caused by the expanded farmstead, additional buildings or facilities, new or expanded windbreak, on an existing building site or a former building site is not expected to be significantly greater than that caused by the previous structures, and will not contribute to the fragmentation of existing habitats.

The impacts associated with this authorized use will be minimal due to the relatively small size or acreage of the proposed facilities. If multiple requests are received from the same landowner, or for the same easement by different or subsequent landowners, they will each be evaluated on its own merits. Each grassland easement may be authorized up to a threshold level of 8 acres of total impact, whether it occurs at one time or through different approved requests. Therefore, only up to 8 acres of potential grassland impact may be authorized for each grassland easement for authorized expansion or construction of additional buildings or structures, or a proposed tree planting for farmstead windbreak purposes.

In addition, there will be no secondary impacts allowed within this Compatibility Determination. Fragmentation of grasslands habitats is minimized by allowing curtilage expansion only on existing or former building sites, or for farm/ranch operations. If the

potentially affected grassland provides habitat for wildlife species with management concerns, such as a grouse lek or burrowing owl nesting site, or some unique feature, the use may not be allowed, or it may be permitted only with stipulations that would eliminate the secondary or indirect impact. The Region 6 states of South Dakota, North Dakota, and Montana have over 500,000 acres of grasslands protected by Service easements. It is anticipated that between five and ten requests annually may be received to allow curtilage expansion. Under this scenario, a maximum of between 40 and 80 acres annually could be affected. This is an immaterial impact to the acreage included within the grassland easement program.

If multiple requests are received from the same landowner, or on the same easement, each will be evaluated on its own merits. Each grassland easement contract may be authorized up to one threshold level (8.0 acres) of total impact, whether it occurs at one time or in different request authorizations. Therefore, only up to 8.0 acres of encumbered grassland per easement contract (regardless of it's size), may be authorized for curtilage expansion or other authorized uses.

Public Review and Comment:

The period of public review and comment began April 10, 2005 and ended April 17, 2005.

Posted notices were made in public places for each of the field stations listed on this Compatibility Determination. This method was selected because the proposed activity is considered minor, incidental, infrequent, with only minimal impacts. No comments were received as a result of the posted notices.

Determination:

Compatibility Threshold: In order to be compatible, this use must not exceed the upper threshold limit of 8 acres on grassland. To achieve compatibility, the proposed use must not interfere with nor detract from the mission or the purposed for which the easement areas were established.

_____ Use is Not Compatible

__XXX____Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Issuance of a permit does not preclude the requirements for obtaining necessary permits and/or approvals from other County, State, or Federal Agencies and from local landowners.

2. The permit is issued subject to the revocation and appeals procedure contained in Title 50, Part 25 of the Code of Federal Regulations.

3. Storage of building materials or disposal of fill material from the construction project will not be allowed on easement protected grassland areas.

4. Additional stipulations may be added or included to address specific concerns with individual projects or requests or to address any secondary impacts which may occur as a result of the proposed use.

Justification:

The expansion of curtilage or the construction of additional structures for agricultural or farmstead use is expected to be permitted only rarely, perhaps five to ten times per year for ALL the stations listed within this CD.

Data from the Habitat and Population Evaluation Team (HAPET) in the Bismarck FWS office can be used to predict the waterfowl response to the permitted upland changes. Evaluating grassland loss from a waterfowl population perspective is not precise, because we are estimating the loss of productivity of a hen that may or may not nest on a grassland site because of a disturbance or a slightly smaller size. HAPET used the Mallard Model to evaluate the change in the productivity of the affected grassland habitat. The land cover composition of a grassland easement (160 acres) and 1990 acres of cropland within a four-square mile landscape (2,560 acres), was incrementally reduced by the amount of grassland necessary to cause a production decline of two ducks (one pair). This size grassland easement was chosen because it represents the smallest individual tract to be considered for a stand-alone easement purchase, and the impact of grassland loss is proportionally greater on a smaller tract. The loss of two ducks produced equates to a replacement pair of ducks for the following breeding season. The average decrease in native grassland required to achieve a one pair reduction was 10 acres.

In a second modeling analysis, Breeding Bird Survey data were used to estimate the average breeding bird population on 160 acres of native grassland. A modeled loss of 5 acres of 160 acres of grassland showed no discernable change (positive or negative) in the breeding bird population of the 160 acre easement tract.

The working group proposes that the threshold level of grassland impact is 8 acres, in order to build in a margin of safety. The 8-acre figure (80 % of the actual determination made by HAPET for nesting ducks) corresponds with the 80% value developed for the wetland threshold. In conclusion, a proposed use that passes all the filters in the flowchart, and results in a grassland impact of 8 acres or less, may be determined to be less than a "material impact" which would interfere with or detract from the Mission or the purpose

for which the grassland easement was purchased.

Mandatory 10-Year Reevaluation Date: 10 years from the date of APPROVAL signature

Enter Re-evaluation date: May 15th, 2015.

Signatures:

Submitted:

Michael Bryant, Project Leader — Date: 4/26/05
Lake Andes WMD

Tom Tornow, Project Leader — Date: 4-26-05
Madison WMD

Harris Hoistad, Project Leader — Date: 4-26-05
Huron WMD

Larry Martin, Project Leader — Date: 26 April 2005
Waubay WMD

Gene Williams, Project Leader — Date: 4-26-05
Sand Lake WMD

Tom Koerner, Project Leader — Date: 4-26-05
Lacreek NWR

Jack Lalor, Acting Project Leader — Date: 4/26/05
Tewaukon WMD

Dave Azure, Acting Project Leader — Date: 4/26/05
Kulm WMD

Kim D. Hanson, Project Leader — Date: 4/26/05
Arrowwood WMD
Chase Lake WMD
Valley City WMD

Gary Williams, Acting Project Leader — Date: 4/26/05
Audubon WMD

Paul C. Van Ningen — 4/26/05
Paul Van Ningen, Project Leader — Date
Long Lake WMD

Theodore Gutzke — April 26, 2005
Tedd Gutzke, Project Leader — Date
J Clark Salyer WMD

4/26/05
Roger Hollevoet, Project Leader — Date
Devils Lake WMD

Fred G. Giese — 04/26/05
Fred G. Giese, Project Leader — Date
Lostwood WMD
Crosby WMD

Michael G. Rabenberg — 04/26/05
Michael Rabenberg, Acting Project Leader — Date
Medicine Lake WMD

Carmen R. Luna — 4/26/05
Carmen Luna, Project Leader — Date
Bowdoin WMD

4/26/05
David Gillund, Project Leader — Date
Benton Lake WMD

Steven W. Kallan — 4/26/05
Steve Kallan, Project Leader — Date
NW Montana WMD

Review: Lloyd Jones — 4.27.05
Lloyd Jones — Date
Regional Compatibility Coordinator

Rodney F. Frey — 4/28/05
Rodney Frey / Refuge Supervisor

Approval: Ron Shupe — May 15, 2005
Ronald D. Shupe, Region 6 — Date
Acting Chief of Refuges

Compatibility Determination
for
Allowing Dogs on Fish & Wildlife Service Fee-Owned WPA's

Use: We encourage the use of dogs for hunting. We allow dogs for other recreational activities only if the dog is confined to a vehicle, boat, ice house, or is on a leash controlled by the handler. We prohibit dog training and dogs roaming freely.

Refuge Name:

North Dakota Wetland Management Districts:

Arrowwood Wetland Management District
Audubon Wetland Management District
Chase Lake Wetland Management District
Crosby Wetland Management District
Devils Lake Wetland Management District
J. Clark Salyer Wetland Management District
Kulm Wetland Management District
Long Lake Wetland Management District
Lostwood Wetland Management District
Tewaukon Wetland Management District
Valley City Wetland Management District

South Dakota Wetland Management Districts:

Huron Wetland Management District
Lake Andes Wetland Management District
Madison Wetland Management District
Sand Lake Wetland Management District
Waubay Wetland Management District

County: All counties within the Districts listed above

Establishing and Acquisition Authority(ies):

Consolidated Farm and Rural Development Act, Migratory Bird Conservation Act, Migratory Bird Hunting and Conservation Stamp Tax, North American Wetlands Conservation Act, Emergency Wetlands Resources Act

Refuge Purpose(s):

"…as Waterfowl Production Areas" subject to "…all of the provisions of such Act [Migratory Bird Conservation Act] …except the inviolate sanctuary provisions…" 16 U.S.C. 718(c) (Migratory Bird Hunting and Conservation Stamp)

"…for any other management purpose, for migratory birds." 16 U.S.C § 715d (Migratory Bird Conservation Act)

"…for conservation purposes…" 7 U.S.C. § 2002 (Consolidated Farm and Rural Development Act)

National Wildlife Refuge Mission:

"The mission of the System is to administer a national 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."

Description of Use:

What is the use? Is the use a wildlife-dependent public use?

Dogs are allowed for hunting. With the increase in urban encroachment, more people are recreating on WPAs, and bringing their dogs with them while hunting, ice fishing, boating, fishing, running, walking trails, etc. Controlled use of dogs on WPAs will not threaten wildlife. This is a wildlife dependent use.

Where would the use be conducted?

The use would be conducted on WPAs in all the Wetland Management Districts listed.

When would the use be conducted?

The use could be conducted at any time of the year.

How would the use be conducted?

The use would be conducted as long as the owner maintains control of the dog. Confined and controlled dogs are expected to have little to no effect on our wildlife resources.

Why is this use being proposed?

Recreational users are requesting this use to allow the companionship of their dogs while they are visiting WPAs for consumptive and non consumptive uses.

Availability of Resources:

Resources involved in the administration and management of the use:

No additional management of administrative costs will be associated with this activity.

Special equipment, facilities, or improvements necessary to support the use:

None

Maintenance Costs: None

Monitoring Costs: None

Offsetting revenues: None

Anticipated Impacts of the Use:

Short-term impacts:

There would be minimal or non-detected disturbance to wildlife as a result of the activity, and what would occur would be very temporary.

Long-term impacts:

Confined and controlled dogs are expected to have little to no effect on the wildlife resources. There would be no long-term impacts.

Cumulative impacts:

There would be no negative cumulative impacts to WPAs. The use may provide an increase in visitor use as the users can now bring along their family pet dog.

Public Review and Comment:

The period of public review and comment began 06/18/2010 and ended 07/02/2010.

The following methods were used to solicit public review and comment:

Posted notices in public places.

Why was this level of public review and comment selected?

The proposed activity is considered minor, with minimal temporary disturbance and no negative permanent and cumulative impacts.

Summarize comments received and any actions taken or not taken because of comments received:

Received: No Comments were received during period of public review. Attached are comments received prior to the public review that resulted in the proposed change in wording on dog uses.

Determination:

Use is compatible with the following stipulations:

Stipulations Necessary to Ensure Compatibility:

Dogs are allowed for hunting. Dogs used for other activities must be confined to a vehicle, boat, or ice house, or is on a leash controlled by the handler. We prohibit dog training and dogs allowed to roam freely.

Justification:

There will be minimal temporary disturbance and/or permanent impact to WPAs by this activity. The use will not materially interfere with or detract from the mission or purpose of the NWRS.

If the proposed use is an economic use of refuge natural resources, how would it contribute to the purposes of the refuge or the mission of the National Wildlife Refuge System?

It is not an economic use.

Text of Public Notice:

The U.S. Fish and Wildlife Service (Service) is soliciting public comments on General Regulations on the uses of dogs in addition to hunting on Waterfowl Production Areas in North Dakota and South Dakota. The regulation on the use of dogs will state: "We encourage the use of dogs for hunting. We allow dogs for other activities, only if the dog is confined to a vehicle, boat, or ice house, or is on a leash controlled by the handler. We prohibit dog training and dogs roaming freely."

People wishing to provide comments can do so by July 2 by submitting them to the Zone Law Enforcement Office, P.O. Box 48 Madison SD or Zone Law Enforcement, 3425 Miriam Avenue, Bismarck, ND 58501. For more information, contact Ray Portwood at 605 256-2974 or David Bonham at (701) 355-8572.

Submitted:

7/15/2010

Kim Hanson, Project Leader — Date
Arrowwood WMD
Chase Lake WMD
Valley City WMD

7/15/10

Lloyd Jones, Project Leader — Date
Audubon WMD

7/15/10

Dave Gillund, Project Leader — Date
Crosby WMD
Lostwood WMD

7/16/2010

Roger Hollevoet, Project Leader — Date
Devils Lake WMD

7/15/2010

Kelly Hogan, Project Leader — Date
J. Clark Salyer WMD

7/15/2010

Mick Erickson, Project Leader — Date
Kulm WMD

7/15/2010

Paul Van Ningen, Project Leader — Date
Long Lake WMD

7/15/2010

Rob Bundy, Project Leader — Date
Tewaukon WMD

7/15/2010

Clark Dirks, Project Leader
Huron WMD

Date

7-15-2010

Mike Bryant, Project Leader
Lake Andes WMD

Date

7-15-2010

Tom Tornow, Project Leader
Madison WMD

Date

7-15-10

Harris Hoistad, Project Leader
Sand Lake WMD

Date

7-15-10

Larry Martin, Project Leader
Waubay WMD

Date

Reviewed:

9/27/10

Lloyd Jones, Regional Compatibility Coordinator

Date

9-27-10

Paul Cornes, Refuge Supervisor

Date

Approved:

9/28/10

Rick Coleman, ARD – Refuges/Partners for Fish & Wildlife
Region 6

Date

Mandatory 10-year Re-Evaluation Date:

10 years from the date of the "**Approved**" signature

COMPATIBILITY DETERMINATION
for
PUBLIC AND PRIVATE
BURIED UTILITY LINES
OCCURRING ON
FWS
EASEMENT PROPERTIES
or Fee-Owned WPA's

Use: Projects associated with buried utility lines and/or cables where impacts to Service lands and interests are only temporary and minor. Requests from utility companies, rural water systems, and minor impacts associated with some highway improvement projects, and certain requests from private landowners. The use covered by this compatibility determination is in conjunction with the Region 6 Policy Memorandum of April 5, 2002, entitled "Rights-of Way and Permits for Minor Disturbance Projects". See Exhibit XII-7 for a copy of the Policy Memorandum.

Station Names:

South Dakota Wetland Management Districts:

Lake Andes WMD, SD
Madison WMD, SD
Huron WMD, SD
Waubay WMD, SD
Sand Lake WMD, SD
Lacreek NWR, SD

North Dakota Wetland Management Districts:

Tewaukon WMD, ND
Kulm WMD, ND
Arrowwood WMD, ND
Valley City WMD, ND
Chase Lake WMD, ND
Audubon WMD, ND
Long Lake WMD, ND
J Clark Salyer WMD, ND
Devils Lake WMD, ND
Lostwood WMD, ND
Crosby WMD, ND

Montana Wetland Management Districts:

Medicine Lake WMD, MT
Bowdoin WMD, MT
Benton Lake WMD, MT
Northwest Montana WMD, MT

Establishing and Acquisition Authorities:

Waterfowl Production Areas Wetland Easements, Grassland Easements - The Migratory Bird Hunting and Conservation Stamp Act, March 16, 1934, (16 USC Sec. 718-718h, 48 Stat. 452) as amended August 1, 1958, (PL 85-585; 72 Stat. 486) for acquisition of "Waterfowl Production Areas"; the Wetlands Loan Act, October 4, 1961, as amended (16 USC 715k-3 - 715k-5, Stat. 813), funds appropriated under the Wetlands Loan Act are merged with duck stamp receipts in the fund and appropriated to the Secretary for the acquisition of migratory bird refuges under the provisions of the Migratory Bird Conservation Act, February 18, 1929, (16 USC Sec. 715, 715d - 715r, as amended.

FmHA deed restricted properties - Consolidated Farm and Rural Development Act - (7 USC Para. 2002).

Tall Grass Prairie Tracts - Land and Water Conservation Fund Act of 1965, as amended (16 U.S.C. 460*l*-4 through 460*l*-11)

Refuge Purpose(s):

"...as Waterfowl Production Areas" subject to "...all of the provisions of such Act [Migratory Bird Conservation Act] ...except the inviolate sanctuary provisions..." 16 USC 718(c) (Migratory Bird Hunting and Conservation Stamp)

"...for any other management purpose, for migratory birds." 16 USC 715d (Migratory Bird Conservation Act)

"...for conservation purposes..." 7 USC 2002 (Consolidated Farm and Rural Development Act)

National Wildlife Refuge System Mission:

"The Mission of the National Wildlife Refuge System is to administer a national 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 Administration Act of 1966, as amended) [16 USC 668(dd)-668(ee)].

Description of Use:

Wetland Management Districts receive frequent requests from utility companies to cross fee and easement properties with buried pipelines, electric cables, communications lines, natural gas lines, and/or rural or potable water lines or systems. These requests are generally part of an overall area-wide project to provide better services to the people residing in the area. When these types of projects are proposed in the Prairie Pothole Region, it may not be possible to avoid all Service land interests (fee and easement), and therefore, some Service property interests may be temporarily impacted during the construction period. This use includes requests for projects on wetland, grassland, FmHA, or conservation easements or fee-owned Waterfowl Production Areas. Construction methods may include cable-plowing, utilizing a vibrating cable-plow, or narrow trenching equipment. In each case, the surface disturbance is minimal, and the temporary cable or trenching scar will grow over with grass or marsh vegetation within a year or two.

A second area covered by this Compatibility Determination is requests received to temporarily alter upland sites in conjunction with highway maintenance projects to improve highway safety. These activities may be outside the existing highway right-of-way, but a formal ROW expansion is not needed because of the only temporary impacts to Service interests. An example of this type of request is for back-sloping a hill adjacent to the ROW to remove a snow catch area. Construction methods here include stripping away the vegetation and topsoil, removing enough of the hill to satisfy the sloping requirements, re-spreading the topsoil, and reseeding the vegetation to the manager's specifications.

It is expected that the use will be conducted as a one time event in the summer season when frost no longer exists and conditions have dried sufficiently to minimize grass disturbance. There is little to no future maintenance.

Availability of Resources:

Financial and staff resources are determined to be sufficient at each field station to administer these requests. Staff time will be needed to evaluate the proposed use, to prepare the site-specific permits, and to insure compliance with the permit authorization and stipulations, as well as checking for satisfactory restoration of any disturbed sites after the reseeded areas have had a chance to grow in.

No specialized equipment will be necessary, as the work requirement associated with these projects is monitoring and compliance checking only. Actual work, including restoration needs, will be completed by the applicant as specified by the wetlands manager.

Anticipated Impacts of the Use:

The uses authorized under this compatibility determination must result in impacts that are only very minor and temporary in nature. In other words, there will be NO long term negative impacts to Service land or water interests.

Examples of work authorized under this Compatibility Determination include:

- trenched and backfilled areas to accommodate buried pipelines and cables
- buried utility lines or PVC water lines using a cable plow
- excavated trenches using a backhoe equipped with a "trenching" bucket (approximately 8 inches wide).
- use of crawler-type equipment to shave hills and back-sloping associated with highway safety projects which may extend beyond the existing ROW.

Anticipated impacts are as follows:

- temporary disturbance to the grassland area during and for a period of time following the backfilled trench
- some wildlife may be temporarily displaced during the actual construction
- water quality may be temporarily and slightly reduced due to possible silt deposition if a rainstorm washes the exposed areas for a short period of time after backfilling the trenches or washing of the exposed back-sloped areas.

There will be no long-term impacts nor will there be any cumulative impacts to Service lands or interests.

Public Review and Comment:

The period of public review and comment began April 10, 2005 and ended April 17, 2005.

Posted notices were made in public places for each of the field stations listed on this Compatibility Determination. This method was selected because the proposed activity is considered minor, incidental, infrequent, with only short-term disturbance, and/or displacement of wildlife. No comments were received as a result of the posted notices.

Determination:

Compatibility Threshold: Material Interference of Detraction from the Purposes and/or Mission of the NWRS.

_____ Use is Not Compatible

__XXX____Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Issuance of a permit does not preclude the requirements for obtaining necessary permits and/or approvals from other County, State, or Federal Agencies and from local landowners.

2. The permit is issued subject to the revocation and appeals procedure contained in Title 50, Part 25 of the Code of Federal Regulations.

3. The proposed activity will result in no impacts to wetlands protected by FWS easements. No wetlands or any part thereof will be filled with any material, leveled by any equipment, drained by any means including pumping or by diverting water, or burned.

4. Any work within protected wetland basins will be backfilled and compacted to the normal contour of the wetland bottom. No excess, non-compacted fill will be permitted.

5. Upland impacts to areas protected by FWS grassland easements will be only temporary. Any disturbed areas will be leveled, seeded, and restored to pre-work condition as specified by the Refuge Manager.

6. Additional stipulations may be added to address specific concerns with individual projects.

7. The authorization under the permit issued in accordance with this determination is for the initial construction only; any future maintenance or repairs will require additional consultation with the Wetland Management District office, and will require a supplemental permit issued prior to the initiation of any remedial work.

Justification:

There will be minimal and temporary disturbance to the wetland and grassland resources protected by the Service's fee or easement by this activity. The use will not detract from or materially interfere with the mission or purpose of the NWRS. The uses covered by this CD are considered NOT to be an economic use under the guidelines found in 50CFR29.1.

Prior to issuing any permit, the manager will have worked with the applicant to avoid as many impacts as possible, and then to minimize any impacts to Service interests. The impacts are deemed to be minor and only temporary, and complete site restoration will occur, usually with the next growing season.

Where possible, and without compromising any preservation program goal or objective, and without affecting (in the long term) any land interest held by the Service, it is critically important that field stations be able to accommodate these requested uses which are designed to improve highway safety or the quality of life in rural America.

Mandatory 10-Year Reevaluation Date:

10 years from the date of APPROVAL signature.

Enter Reevaluation Date:_____

Signatures:

Submitted:

Michael Bryant, Project Leader — Date: 3/10/2005
Lake Andes WMD

Tom Tornow, Project Leader — Date: 3-10-05
Madison WMD

Harris Hoistad, Project Leader — Date: 3-10-05
Huron WMD

Larry Martin, Project Leader — Date: 3-10-05
Waubay WMD

Gene Williams, Project Leader — Date: 3-10-05
Sand Lake WMD

Tom Koerner, Project Leader — Date: 3-10-05
Lacreek NWR

Jack Lalor, Acting Project Leader — Date: 4/26/05
Tewaukon WMD

Dave Azure, Acting Project Leader — Date: 3-10-05
Kulm WMD

Kim D. Hanson, Project Leader — Date: 3/10/05
Arrowwood WMD
Chase Lake WMD
Valley City WMD

Gary Williams, Acting Project Leader — Date: 3/10/05
Audubon WMD

Paul Van Ningen, Project Leader — Date: 3/10/2005
Long Lake WMD

Tedd Gutzke, Project Leader — Date: 3/10/2005
J Clark Salyer WMD

Roger Hollevoet, Project Leader — Date: 3/10/05
Devils Lake WMD

Fred G. Giese, Project Leader — Date: 04/26/05
Lostwood WMD
Crosby WMD

Michael Rabenberg, Acting Project Leader — Date: 04/26/05
Medicine Lake WMD

Carmen Luna, Project Leader — Date: 4/26/05
Bowdoin WMD

David Gilland, Project Leader — Date: 4/26/05
Benton Lake WMD

Steve Kallan, Project Leader — Date: 4/26/05
NW Montana WMD

Review:

Lloyd Jones — Date: 4-27-05
Regional Compatibility Coordinator

Rodney F. Finney — 4/28/05
Refuge Supervisor

Approval:

Ronald D. Shupe, Region 6 — Date: May 15, 2005
Acting Chief of Refuges

COMPATIBILITY DETERMINATION
for
Authorized Health and Safety Needs
Associated with FWS Wetland Easements
resulting in NO Permanent Impacts

Use: Approved requests to temporarily pump or drain an easement protected wetland which is causing a Health and Safety problem or a major threat to personal or public property, such as flooding a road, driveway, resulting in seepage in a basement, surface waters affecting a domestic well or a sanitation system, or surface waters affecting a feed storage area or feedlot. The landowner's right to drain or otherwise alter the natural characteristics of the wetland is one of the rights the Service acquired with the easement. The use authorized under this CD is to permit temporary dewatering of protected wetlands which are posing a health and/or safety threat.

Station Names:

South Dakota Wetland Management Districts:

Lake Andes WMD, SD
Madison WMD, SD
Huron WMD, SD
Waubay WMD, SD
Sand Lake WMD, SD
Lacreek NWR, SD

North Dakota Wetland Management Districts:

Tewaukon WMD, ND
Kulm WMD, ND
Arrowwood WMD, ND
Valley City WMD, ND
Chase Lake WMD, ND
Audubon WMD, ND
Long Lake WMD, ND
J Clark Salyer WMD, ND
Devils Lake WMD, ND
Lostwood WMD, ND
Crosby WMD, ND

Montana Wetland Management Districts:

Medicine Lake WMD, MT
Bowdoin WMD, MT
Benton Lake WMD, MT
Northwest Montana WMD, MT

Establishing and Acquisition Authorities:

Waterfowl Production Areas Wetland Easements, Grassland Easements - The Migratory Bird Hunting and Conservation Stamp Act, March 16, 1934, (16 USC Sec. 718-718h, 48 Stat. 452) as amended August 1, 1958, (PL 85-585; 72 Stat. 486) for acquisition of "Waterfowl Production Areas"; the Wetlands Loan Act, October 4, 1961, as amended (16 USC 715k-3 - 715k-5, Stat. 813), funds appropriated under the Wetlands Loan Act are merged with duck stamp receipts in the fund and appropriated to the Secretary for the acquisition of migratory bird refuges under the provisions of the Migratory Bird Conservation Act, February 18, 1929, (16 USC Sec. 715, 715d - 715r, as amended.

FmHA deed restricted properties - Consolidated Farm and Rural Development Act - (7 USC Para. 2002).

Tall Grass Prairie Tracts - Land and Water Conservation Fund Act of 1965, as amended (16 U.S.C. 460*l*-4 through 460*l*-11)

Refuge Purpose(s):

"...as Waterfowl Production Areas" subject to "...all of the provisions of such Act [Migratory Bird Conservation Act] ...except the inviolate sanctuary provisions..." 16 USC 718(c) (Migratory Bird Hunting and Conservation Stamp)

"...for any other management purpose, for migratory birds." 16 USC 715d (Migratory Bird Conservation Act)

"...for conservation purposes..." 7 USC 2002 (Consolidated Farm and Rural Development Act)

National Wildlife Refuge System Mission:

"The Mission of the National Wildlife Refuge System is to administer a national 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 Administration Act of 1966, as amended) [16 USC 668(dd)-668(ee)].

Description of Use:

During times of high water cycles or excessive runoff, prairie wetlands can temporarily swell to an oversized condition. The easement agreements provide for this natural fluctuation in wetland hydrology and relief is generally not authorized. However, when the over-full wetland basins result in situations which involve health, safety, or major threats to public or landowner appurtenances which cannot be resolved without violating the easement and for which no reasonable alternative exists, then the Service is authorized to provide relief to nullify the Health and Safety threat. The use associated with this category of request results in either pumping or draining the problem-causing wetland, lowering its elevation to a point that the problem is resolved. Situations involving Health and Safety include: major threats to buildings, roads, and infrastructure; basement flooding caused by high water in a nearby wetland, barnyard or feedlot flooding, driveway or other road flooding, or threat to domestic water supply or sewer system

The use results in ONLY a temporary lowering of the wetland. If a drainage ditch was used to lower the wetland, it must be filled to the original contour of the land after the wetland has been lowered, and the threat has subsided.

The use could occur in any of the Wetland Management Districts listed within the CD, and would likely occur during or shortly after the spring runoff or after a large rainstorm event. These are the conditions which sometimes result in the protected wetland basins becoming larger than the historic photo record would indicate.

Any requested use to lower the water levels of protected wetlands will result in ONLY temporary impacts, lasting a year or two.

Availability of Resources:

Financial and staff resources are determined to be sufficient at each field station to administer these requests. Staff time will be needed to evaluate the proposed use, to prepare the site-specific permits, and to insure compliance with the permit authorization and stipulations, as well as checking for satisfactory restoration of any disturbed sites after the wetland areas have returned to more historical elevations.

No specialized equipment will be necessary, as any work associated with these projects involves monitoring and compliance checking only. Actual work, including restoration needs, will be completed by the applicant as specified by the wetlands manager.

Anticipated Impacts of the Use:

Short-term Impacts:

Short-term impacts include the temporary loss of some wetlands habitat because of the authorized lowering of the wetland causing the Health and Safety problem. Since this is only a temporary authorization, limitations of the amount of lowering needed will not be imposed except to require the least amount necessary to resolve the issue. The length of time will be "until the situation is resolved" NTE one year. Permits can be extended if necessary.

After the situation has been resolved, the wetland's hydrology will be restored, and if drainage was used to reduce the wetlands's volume, then the drainage facilities will be restored to a "pre-work" condition.

Long-term Impacts:

There will be no long-term impacts associated with this authorization to resolve a Health and Safety issue.

Cumulative Impacts:

There will be no cumulative impacts as a result of possible numerous authorizations because there are no permanent impacts. The authorization will be granted only to resolve the issue at hand.

Public Review and Comment:

The period of public review and comment began April 10, 2005 and ended April 17, 2005.

Posted notices were made in public places for each of the field stations listed on this Compatibility Determination. This method was selected because the proposed activity is considered minor, incidental, infrequent, with only short-term disturbance, and/or displacement of wildlife. No comments were received as a result of the posted notices.

Determination:

Compatibility Threshold: Material Interference of Detraction from the Purposes and/or Mission of the NWRS.

_____ Use is Not Compatible

__XXX____Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Issuance of a permit does not preclude the requirements for obtaining necessary permits and/or approvals from other County, State, or Federal Agencies and from local landowners.

2. The permit is issued subject to the revocation and appeals procedure contained in Title 50, Part 25 of the Code of Federal Regulations.

3. When the Health and Safety threat has subsided, the wetland will be allowed to function under natural hydrological cycles. Any drainage facilities which were installed to lower the wetland will be restored, compacted, and rendered non-functional.

4. If the area is also protected with a Service grassland easement, then the backfilled ditch will also be reseeded to the specifications of the wetland manager.

Justification:

There will be only temporary disturbance to the wetland and possible grassland resources protected by the Service's easement by this activity. The use will not detract from or materially interfere with the mission or purpose of the NWRS. The uses covered by this CD are considered NOT to be an economic use under the guidelines found in 50CFR29.1.

Where possible, and without compromising any preservation program goal or objective, and without affecting (in the long term) any land interest held by the Service, it is critically important that field stations be able to accommodate these requested uses which are designed to avert a human health and/or safety issue or a major threat to personal or public property.

Mandatory 10-Year Reevaluation Date:

10 years from the date of APPROVAL signature. Enter Reevaluation Date:_____

Signatures:

Submitted:

Michael Bryant, Project Leader — Date: 3/10/2005
Lake Andes WMD

Tom Tornow, Project Leader — Date: 3-10-05
Madison WMD

Harris Hoistad, Project Leader — Date: 3-10-05
Huron WMD

Larry Martin, Project Leader — Date: 3-10-05
Waubay WMD

Gene Williams, Project Leader — Date: 3-10-05
Sand Lake WMD

Tom Koerner, Project Leader — Date: 3-10-05
Lacreek NWR

Jack Lalor, Acting Project Leader — Date: 4/26/05
Tewaukon WMD

Dave Azure, Acting Project Leader — Date: 3-10-05
Kulm WMD

Kim D. Hanson, Project Leader — Date: 3/10/05
Arrowwood WMD
Chase Lake WMD
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Paul Van Ningen, Project Leader — Date: 3/10/2005
Long Lake WMD

Tedd Gutzke, Project Leader — Date: 3/10/2005
J Clark Salyer WMD

Roger Hollevoet, Project Leader — Date: 3/10/05
Devils Lake WMD

Fred G. Giese, Project Leader — Date: 04/26/05
Lostwood WMD
Crosby WMD

Michael Rabenberg, Acting Project Leader — Date: 04/26/05
Medicine Lake WMD

Carmen Luna, Project Leader — Date: 4/26/05
Bowdoin WMD

David Gilland, Project Leader — Date: 4/26/05
Benton Lake WMD

Steve Kallan, Project Leader — Date: 4/26/05
NW Montana WMD

Review:

Lloyd Jones — Date: 4.27.05
Regional Compatibility Coordinator

4/28/05

Rodney Krey / Refuge Supervisor — 4/28/05

Approval:

Ronald D. Shupe, Region 6 — Date: May 15, 2005
Acting Chief of Refuges

COMPATIBILITY DETERMINATION
for
Authorized Early Haying
of Grassland Easements
for
Management Purposes

Use: Authorized Early Haying of Grassland Easements and FmHA Conservation Easements.

Station Names:

South Dakota Wetland Management Districts:

Lake Andes WMD, SD
Madison WMD, SD
Huron WMD, SD
Waubay WMD, SD
Sand Lake WMD, SD
Lacreek NWR, SD

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Tewaukon WMD, ND
Kulm WMD, ND
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J Clark Salyer WMD, ND
Devils Lake WMD, ND
Lostwood WMD, ND
Crosby WMD, ND

Montana Wetland Management Districts:

Medicine Lake WMD, MT
Bowdoin WMD, MT
Benton Lake WMD, MT
Northwest Montana WMD, MT

Establishing and Acquisition Authorities:

Waterfowl Production Areas, Wetland Easements, Grassland Easements - The Migratory Bird Hunting and Conservation Stamp Act, March 16, 1934, (16 USC Sec. 718-718h, 48 Stat. 452) as amended August 1, 1958, (PL 85-585; 72 Stat. 486) for acquisition of "Waterfowl Production Areas"; the Wetlands Loan Act, October 4, 1961, as amended (16 USC 715k-3 - 715k-5, Stat. 813), funds appropriated under the Wetlands Loan Act are merged with duck stamp receipts in the fund and appropriated to the Secretary for the acquisition of migratory bird refuges under the provisions of the Migratory Bird Conservation Act, February 18, 1929, (16 USC Sec. 715, 715d - 715r, as amended.

FmHA deed restricted properties - Consolidated Farm and Rural Development Act - (7 USC Para. 2002).

Tall Grass Prairie Tracts - Land and Water Conservation Fund Act of 1965, as amended (16 U.S.C. 460*l*-4 through 460*l*-11)

Refuge Purpose(s):

"...as Waterfowl Production Areas" subject to "...all of the provisions of such Act [Migratory Bird Conservation Act] ...except the inviolate sanctuary provisions..." 16 USC 718(c) (Migratory Bird Hunting and Conservation Stamp)

"...for any other management purpose, for migratory birds." 16 USC 715d (Migratory Bird Conservation Act)

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National Wildlife Refuge System Mission:

"The Mission of the National Wildlife Refuge System is to administer a national 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 Administration Act of 1966, as amended) [16 USC 668(dd)-668(ee)].

Description of Use:

Haying is the cutting and removal, by baling or stacking, and transport to an off-site location, of grass and/or forb species. Haying of grassland easement-protected properties is not restricted after July 15 each year. Landowners may hay their lands every year after

this date without compromising the terms of the easement. However, the use described in this compatibility determination is to permit early haying (prior to July 15) of the uplands to accomplish some management purpose on the land. The control of noxious weeds is primarily the target of early haying agreements. Canada thistle, a perennial, primary noxious weed, is required by state law to be controlled by each landowner. Haying can be an effective tool in controlling the seed dispersal of Canada thistle, but it must be done before the thistle flowers mature and develop wind-dispersed seeds. In many years, the thistle plants have matured and dispersed their seeds prior to July 15, and haying after seed dispersal would not be effective as a management tool.

Periodic early haying may also be authorized to help improve the vigor and health of the grass stand. It is expected that the authorized use of early haying for this purpose will be used very infrequently.

Haying prior to July 15th to increase plant density is also a management tool occasionally used. This is primarily done the first few years after a new seeding to encourage tillering and to accelerate establishment. Haying, rather than just mowing, the plants helps to prevent shading caused by the mowed vegetation left in the field. Haying done just prior to seed head development will stimulate most grass plants to propagate vegetatively by rhizomes rather than by seed production. This generally encourages grass plants to fill in bare soil areas between plants, compete more favorably with invasive species, and shorten the overall establishment period on new grass seedings.

Availability of Resources:

Financial and staff resources are determined to be sufficient at each field station to administer these requests. Staff time will be needed to evaluate the proposed use, to prepare the site-specific permits, and to insure compliance with the permit authorization and stipulations necessary to insure compatibility.

Anticipated Impacts of the Use:

Authorized early haying of grassland easements may displace some wildlife species during the time period the haying operation is being performed. It is possible, also, that some nesting migratory birds may be disturbed, and abandon their nests as a result of the haying operation. The decision to authorize early haying must weigh the potential benefits of legally required weed control, plant density management, and other management gains, against these short-term losses associated with the early haying.

Cutting and removal of standing grasses prior to July 15 will also result in short-term loss of habitat for those species requiring tall grasses for feeding and perching.

The impacts associated with this authorized use will be minimal since the area will likely be hayed after July 15 anyway, which is not prohibited by the easement agreement. Therefore, the impacts of the use are only between the time of authorized early haying, and July 16 in any given year.

Public Review and Comment:

The period of public review and comment began April 10, 2005 and ended April 17, 2005.

Posted notices were made in public places for each of the field stations listed on this Compatibility Determination. This method was selected because the proposed activity is considered minor, incidental, infrequent, with only short-term disturbance, and/or displacement of wildlife. No comments were received as a result of the posted notices.

Determination:

Compatibility Threshold: As this activity is an economic use, it must meet the compatibility threshold of "contributing to the Mission and Purposes" of the Refuge System and the Refuge Area.

_____ Use is Not Compatible

__XXX____Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Issuance of a permit does not preclude the requirements for obtaining necessary permits and/or approvals from other County, State, or Federal Agencies and from local landowners.

2. The permit is issued subject to the revocation and appeals procedure contained in Title 50, Part 25 of the Code of Federal Regulations.

3. Permits for early haying will not be issued in consecutive years for the same land.

4. If a permit is issued for weed control on tame grassland, a condition of the permit must include a required fall herbicide treatment of the regrown noxious weeds at the permittee's expense.

5. Bales or stacks must be removed from the area within two weeks after baling.

6. Early haying to encourage tillering on new grass seedings should leave at least 5" of stubble to ensure sufficient leaf area needed for the responding growth.

Justification:

The control of noxious weeds is required of every landowner by state law, even on grassland easement-encumbered property. If infestations are severe, then a measure of weed control can be achieved by haying the lands with the infestation to limit the seed dispersal. Seed dispersal in Canada thistle often happens prior to July 15, so knocking the plants down prior to seed maturation and dispersal can help control the invading plants.

Additionally, more effective weed control can be achieved by removing the overstory of grass, allowing the tap-rooted noxious weeds to regrow, then applying a herbicide treatment. The grass will not regrow as quickly as the forb (weed) species, and the spraying application will be more effective, especially going into the fall season when the thistle plants are storing their root reserves for the winter dormant period.

Early haying to encourage tillering can shorten the establishment period of new grass seedings. Obtaining the best stand of grass in the shortest time period possible will increase wildlife use and minimize the need for weed control in subsequent years.

As such, it is concluded that the accrued benefits of more effective weed control and shorter establishment periods more than compensate for the potential short-term loss associated with authorized weed control and plant density management accomplished by haying the grassland area prior to July 15.

Mandatory 10-Year Reevaluation Date:

10 years from the date of APPROVAL signature Enter date: _____

Signatures:

Submitted:

Michael Bryant, Project Leader — 3/10/2005 Date
Lake Andes WMD

Tom Tornow, Project Leader — 3-10-05 Date
Madison WMD

Harris Horstad, Project Leader — 3-10-05 Date
Huron WMD

Larry Martin, Project Leader — 3-10-05 Date
Waubay WMD

Gene Williams, Project Leader — 3-10-05 Date
Sand Lake WMD

Tom Koerner, Project Leader — 3-10-05 Date
Lacreek NWR

Jack Lalor, Acting Project Leader — 4/26/05 Date
Tewaukon WMD

Dave Azure, Acting Project Leader — 3-10-05 Date
Kulm WMD

Kim D. Hanson, Project Leader — 3/10/05 Date
Arrowwood WMD
Chase Lake WMD
Valley City WMD

Gary Williams, Acting Project Leader — 3/10/05 Date
Audubon WMD

Paul Van Ningen, Project Leader — 3/10/2005 Date
Long Lake WMD

Tedd Gutzke, Project Leader — 3/10/2005 Date
J Clark Salyer WMD

Roger Hollevoet, Project Leader — 3/10/05 Date
Devils Lake WMD

Fred G. Giese, Project Leader — 04/26/05 Date
Lostwood WMD
Crosby WMD

Michael Rabenberg, Acting Project Leader — 04/26/05 Date
Medicine Lake WMD

Carmen Luna, Project Leader — 4/26/05 Date
Bowdoin WMD

David Gilland, Project Leader — 4/26/05 Date
Benton Lake WMD

Steve Kallan, Project Leader — 4/26/05 Date
NW Montana WMD

Review:

Lloyd Jones — 9.27.05 Date
Regional Compatibility Coordinator

Rodney Krey / Ref. Sup — 4/28/05

Approval:

Ronald D. Shupe, Region 6 — May 15, 2005 Date
Acting Chief of Refuges

COMPATIBILITY DETERMINATION
for
the Cooperative Farming Program on
National Wildlife Refuges and Waterfowl Production Areas
for Management Purposes

Use: Cooperative farming on National Wildlife Refuges and Waterfowl Production Areas in North and South Dakota.

Station Names:

South Dakota Wetland Management Districts:

Lake Andes NWR and WMD, SD
Madison WMD, SD
Huron WMD, SD
Waubay NWR and WMD, SD
Sand Lake NWR and WMD, SD
LaCreek NWR and WMD, SD

North Dakota Wetland Management Districts:

Tewaukon NWR and WMD, ND
Kulm WMD, ND
Arrowwood NWR and WMD, ND
Valley City WMD, ND
Chase Lake NWR and WMD, ND
Audubon NWR and WMD, ND
Long Lake NWR and WMD, ND
J Clark Salyer NWR and WMD, ND
Devils Lake WMD, ND
Lostwood NWR and WMD, ND
Crosby WMD, ND
Des Lacs NWR, ND
Upper Souris NWR, ND

Establishing and Acquisition Authorities:

Arrowwood NWR; Executive Order (E.O.) 7168, Sept. 4, 1935
Audubon NWR; 16 USC $664 (Fish and Wildlife Coord. Act)
Chase Lake NWR; E.O. 932, Aug. 28, 1908
Des Lacs NWR; E.O. 7154-A, Aug. 22, 1935
Florence Lake NWR; E.O. 8119, May 10, 1939
J. Clark Salyer NWR; E.O. 7170, Sept. 4, 1935

Kellys Slough NWR; E.O. 7320, Mar. 19, 1936
Lake Alice NWR; 16 USC $ 715d (Mig. Bird Cons. Act)
Lake Ilo NWR; E.O. 8154, June 12, 1939
Lake Nettie NWR; E. O. 8155, June 12, 1939
Lake Zahl NWR; E. O. 8158, June 12, 1939
Long Lake NWR; E.O. 5808, Feb. 25, 1932
Lostwood NWR; E.O. 7171, Sept. 4, 1935
McLean NWR; 16 USC $ 715d (Mig. Bird Cons. Act)
Slade NWR; 16 USC 715d (Mig. Bird Cons. Act)
Sullys Hill NGP; E. O. 3596, Dec. 22, 1921
Tewaukon NWR; Public Land Order (PLO) 286, June 26, 1945
Upper Souris NWR; E.O. 7161, Aug. 27, 1935

LaCreek NWR; E.O. 7160, Aug. 26, 1935
Lake Andes NWR; E. O. 7292, Feb. 14, 1936
Sand Lake NWR; E. O. 7169, Sept. 4, 1935
Waubay NWR; E. O. 7245, Dec. 10, 1935

Waterfowl Production Areas, Wetland Easements, Grassland Easements - The Migratory Bird Hunting and Conservation Stamp Act, March 16, 1934, (16 USC Sec. 718-718h, 48 Stat. 452) as amended August 1, 1958, (PL 85-585; 72 Stat. 486) for acquisition of "Waterfowl Production Areas"; the Wetlands Loan Act, October 4, 1961, as amended (16 USC 715k-3 - 715k-5, Stat. 813), funds appropriated under the Wetlands Loan Act are merged with duck stamp receipts in the fund and appropriated to the Secretary for the acquisition of migratory bird refuges under the provisions of the Migratory Bird Conservation Act, February 18, 1929, (16 USC Sec. 715, 715d - 715r, as amended.

Refuge Purpose(s):

The Executive Orders for most of the refuges state the purpose "as a refuge and breeding ground for migratory birds and other wildlife."

"...as Waterfowl Production Areas" subject to "...all of the provisions of such Act [Migratory Bird Conservation Act] ...except the inviolate sanctuary provisions..." 16 USC 718(c) (Migratory Bird Hunting and Conservation Stamp)

"...for any other management purpose, for migratory birds." 16 USC 715d (Migratory Bird Conservation Act)

National Wildlife Refuge System Mission:

"The Mission of the National Wildlife Refuge System is to administer a national 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 Administration Act of 1966, as amended) [16 USC 668(dd)-668(ee)].

Description of Use:

Cooperative farming is the term used for cropping activities done by a third party on lands that are owned in fee-title by the U. S. Fish and Wildlife Service (Service) or controlled by the Service through a conservation easement (wetland, grassland, or FmHA). This activity is usually done on a short-term basis (3-4 years or less) to provide an optimum seed bed for the establishment of native grasses and forbs or other more desirable planted cover for wildlife. Cooperative farming may also be used on certain tracts to provide a fall food source for migratory waterfowl or a winter food source for resident wildlife.

The farming is done under the terms and conditions of a Cooperative Farming Agreement or Special Use Permit (SUP) issued by the Project Leader, Refuge Manager, or Wetland District Manager. Terms of the agreement insure that all current Service and District restrictions are followed.

Cooperative farming activities are generally limited to areas of former cropland or poor quality stands of tame or cool season exotic grasses. Service policies do not allow highly erodible soils to be tilled or cropped without an approved NRCS Conservation Plan. Waterfowl Production Areas (WPAs) in the Dakotas average about 200 acres in size. Generally, areas to be cooperatively farmed at one time prior to reseeding to more desirable plant species will not be more than 50 percent of the tract. Areas on WPAs and Refuges planted for food plots will be limited to the size needed to provide sufficient food for the targeted wildlife species.

Availability of Resources:

Staff time for development and administration of Cooperative Farming Agreements is already available. Most of the needed field work to prepare and plan for this use would be done as part of routine grassland management duties. The decision to use a cooperating farmer would occur as part of the overall strategy for managing lands on the Refuge or within the WMD. The additional time needed to coordinate issuance of the SUP or Cooperative Farming Agreement and oversight of the permit is relatively minor and within Refuge or WMD resources. In addition, the use of a cooperating farmer frees up other staff time from conducting the farming operation through force account.

Cooperative farming of Service lands in most cases is done on a share basis rather than for a fee. The Service typically receives its share as harvested grain used for other management purposes, as standing grain left for wildlife food, or as additional work such as

weed control, cultivation, or additional seed bed preparation, or for supplies such as herbicide or grass seed to be used on the same tract of land. Any fees or cash income received by the Service would be deposited in the Refuge Revenue Sharing Account. The Service will receive fair market value consideration from cooperating farmers, but the generation of income is a secondary consideration when developing the terms and conditions of a cooperative farming agreement or SUP.

To lessen any appearance of favoritism or impropriety, managers should follow Refuge Manual procedures for establishing rental rates and cooperator selection.

Anticipated Impacts of the Use:

Cooperative farming to prepare suitable seed beds for planting better cover and habitat will result in short-term disturbances and long-term benefits to both resident and migratory wildlife using the Refuges, WPAs, and easements. Short-term impacts include disturbance and displacement of wildlife typical of any noisy heavy equipment operation, and the loss of poor quality cover while the tract is farmed. Wildlife may also use the farmed area as an additional food source for the period which it is farmed. Long-term benefits are extremely positive due to the establishment of diverse or more desirable habitat for nesting, escape cover, perching, or non-crop feeding activities. The resulting habitat will generally improve conditions for most of the species negatively affected by the short period of farming activity.

In 2004, approximately 2900 acres of Service lands were farmed under SUPs in South Dakota. North Dakota refuges and WPAs permitted an average of 6,400 acres of cooperative farming during the 1996-2000 period.

Public Review and Comment:

The period of public review and comment began May 1, 2005 and ended on May 14, 2005.

Notices were posted in public places at each of the field stations listed on this Compatibility Determination. This method was selected because the proposed activity is considered minor, incidental, infrequent, with only short-term disturbance.

Determination:

Compatibility Threshold: As this activity is an economic use, it must meet the compatibility threshold of "contributing to the Mission and Purposes" of the Refuge System and the Refuge Area. Cooperative farming is used to benefit Refuge and Waterfowl Production Area uplands and the migratory birds and other wildlife that use these lands.

_____ Use is Not Compatible

__XXX____Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. SUPs or Cooperative Farming Agreements will specify the type of crop to be planted and describe the refuges' share.

2. The SUP may specify any herbicide or agricultural restrictions of the tract.

3. The SUP may specify timing constraints to insure that the proper field work is completed at the appropriate time.

4. The permit is issued subject to the revocation and appeals procedure contained in Title 50, Part 25 of the Code of Federal Regulations.

Justification:

The cooperative farming of Service lands or easements is done to develop or reseed better wildlife cover and habitat than was previously on the area. Only areas that have been previously cropped, or are seeded to decadent stands of cool season grasses (brome or crested wheatgrass), or decadent tame grass-legume mixes will be included in a cooperative farming plan. Cooperative farming in most cases provides the fastest, most cost effective means to establish native grasses or re-seeded cover on the Service property. In many cases, tracts are located many miles away from the Refuge or WMD headquarters, making force account labor a very time-consuming effort. The long-term benefits of managed, quality cover offset the short-term impacts and disturbance while the tract is farmed prior to seeding or re-seeding.

Mandatory 10-Year Reevaluation Date: 10 years from the date of APPROVAL signature

Signatures:

Submitted:

Michael Bryant, Project Leader
Lake Andes Complex

4/26/05
Date

Tom Tornow, Project Leader
Madison WMD

4-26-05
Date

Harris Hoistad, Project Leader
Huron WMD

4-26-05
Date

Larry Martin, Project Leader
Waubay Complex

26 April 2005
Date

Gene Williams, Project Leader
Sand Lake Complex

4-26-05
Date

Tom Koerner, Project Leader
LaCreek Complex

4-26-05
Date

Jack Lalor, Acting Project Leader
Tewaukon Complex

4/26/05
Date

Dave Azure, Acting Project Leader
Kulm WMD

4/26/05
Date

Kim D. Hanson, Project Leader
Arrowwood Complex
Chase Lake WMD
Valley City WMD

4/26/05
Date

Gary Williams, Acting Project Leader
Audubon Complex

4/26/05
Date

Paul Van Ningen, Project Leader
Long Lake Complex

4/26/05
Date

Tedd Gutzke, Project Leader
J Clark Salyer Complex

Date: April 26, 2005

Roger Hollevoet, Project Leader
Devils Lake Complex

Date: 4/26/05

Fred G. Giese, Project Leader
Des Lacs Complex

Date: 04/26/05

Dean Knauer, Project Leader
Upper Souris NWR

Date: 4-27-05

Review:

Lloyd Jones
Regional Compatibility Coordinator

Date: 4.27.05

Rod Krey
Refuge Supervisor, ND-SD

Date: 4/28/05

Approval:

Ronald D. Shupe, Region 6
Acting Chief of Refuges

Date: May 15, 2005

COMPATIBILITY DETERMINATION
for
Prescribed Haying of Grasslands
on National Wildlife Refuges and Waterfowl Production Areas
for Management Purposes

Use: Prescribed Haying of Grasslands on National Wildlife Refuges and Waterfowl Production Areas in North and South Dakota.

Station Names:

South Dakota Refuges and Wetland Management Districts:

Lake Andes NWR and WMD, SD
Madison WMD, SD
Huron WMD, SD
Waubay NWR and WMD, SD
Sand Lake NWR and WMD, SD
LaCreek NWR and WMD, SD

North Dakota Refuges and Wetland Management Districts:

Tewaukon NWR and WMD, ND
Kulm WMD, ND
Arrowwood NWR and WMD, ND
Valley City WMD, ND
Chase Lake NWR and WMD, ND
Audubon NWR and WMD, ND
Long Lake NWR and WMD, ND
J Clark Salyer NWR and WMD, ND
Devils Lake WMD, ND
Lostwood NWR and WMD, ND
Crosby WMD, ND
Des Lacs NWR, ND
Upper Souris NWR, ND

Establishing and Acquisition Authorities:

Arrowwood NWR; Executive Order (E.O.) 7168, Sept. 4, 1935
Audubon NWR; 16 USC $664 (Fish and Wildlife Coord. Act)
Chase Lake NWR; E.O. 932, Aug. 28, 1908
Des Lacs NWR; E.O. 7154-A, Aug. 22, 1935
Florence Lake NWR; E.O. 8119, May 10, 1939

J. Clark Salyer NWR; E.O. 7170, Sept. 4, 1935
Kellys Slough NWR; E.O. 7320, Mar. 19, 1936
Lake Alice NWR; 16 USC $ 715d (Mig. Bird Cons. Act)
Lake Ilo NWR; E.O. 8154, June 12, 1939
Lake Nettie NWR; E. O. 8155, June 12, 1939
Lake Zahl NWR; E. O. 8158, June 12, 1939
Long Lake NWR; E.O. 5808, Feb. 25, 1932
Lostwood NWR; E.O. 7171, Sept. 4, 1935
McLean NWR; 16 USC $ 715d (Mig. Bird Cons. Act)
Slade NWR; 16 USC 715d (Mig. Bird Cons. Act)
Sullys Hill NGP; E. O. 3596, Dec. 22, 1921
Tewaukon NWR; Public Land Order (PLO) 286, June 26, 1945
Upper Souris NWR; E.O. 7161, Aug. 27, 1935

LaCreek NWR; E.O. 7160, Aug. 26, 1935
Lake Andes NWR; E. O. 7292, Feb. 14, 1936
Sand Lake NWR; E. O. 7169, Sept. 4, 1935
Waubay NWR; E. O. 7245, Dec. 10, 1935

Waterfowl Production Areas, Wetland Easements, Grassland Easements - The Migratory Bird Hunting and Conservation Stamp Act, March 16, 1934, (16 USC Sec. 718-718h, 48 Stat. 452) as amended August 1, 1958, (PL 85-585; 72 Stat. 486) for acquisition of "Waterfowl Production Areas"; the Wetlands Loan Act, October 4, 1961, as amended (16 USC 715k-3 - 715k-5, Stat. 813), funds appropriated under the Wetlands Loan Act are merged with duck stamp receipts in the fund and appropriated to the Secretary for the acquisition of migratory bird refuges under the provisions of the Migratory Bird Conservation Act, February 18, 1929, (16 USC Sec. 715, 715d - 715r, as amended.

Refuge Purpose(s):

The Executive Orders for most of the refuges state the purpose "as a refuge and breeding ground for migratory birds and other wildlife."

"...as Waterfowl Production Areas" subject to "...all of the provisions of such Act [Migratory Bird Conservation Act] ...except the inviolate sanctuary provisions..." 16 USC 718(c) (Migratory Bird Hunting and Conservation Stamp)

"...for any other management purpose, for migratory birds." 16 USC 715d (Migratory Bird Conservation Act)

National Wildlife Refuge System Mission:

"The Mission of the National Wildlife Refuge System is to administer a national 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 Administration Act of 1966, as amended) [16 USC 668(dd)-668(ee)].

Description of Use:

Haying is the cutting and removal, by baling and transport to an off-site location, of grass or other upland vegetation for the production of livestock forage. Haying for this purpose is typically done by a cooperating farmer acting under authority of a Cooperative Farming Agreement or Special Use Permit (SUP) issued by the Project Leader, Refuge Manager or Wetland District Manager.

Haying is an effective management tool as part of an overall grassland management plan to improve and maintain Fish and Wildlife Service (Service)-managed grasslands for the benefit of migratory birds and other wildlife. Grasslands require periodic renovation to maintain vigor, diversity, and the structure necessary for migratory bird nesting. Haying can be an alternative to prescribed burning or grazing, which are the two other methods used to manage grassland habitats. If local conditions preclude the use of prescribed fire, or livestock numbers are not available, removal of biomass through haying serves to reduce unwanted overstory, reduce woody plant invasion, and open the soil surface up to sunlight. Such removal of vegetation allows for more vigorous regrowth of desirable species following the haying although results are neither as dramatic nor positive as with fire or grazing.

Haying may also be used as part of a native grass seeding strategy on newly acquired lands or on tame grass stands on older lands needing renovation. To reduce weed or undesirable species competition and minimize herbicide applications, a cooperating farmer may be used to seed the native grass seed mix and interseed with a cover crop. As a requirement of the SUP, the cooperator would be required to cut. bale, and remove the cover crop before it matures and goes to seed. The resultant hay can be used for livestock feed and haying serves the biological purpose of releasing young native grass and forb seedlings for growth with minimal competition.

A third possible use of haying on FWS-managed grasslands involves the initial steps of removing unwanted vegetation prior to seeding the tract to native grasses. Haying of a nonnative cool season stand of grass is an effective step in advance of spraying the field with herbicide to kill all existing vegetation. Removal of the heavy grass overstory by haying allows the herbicide to more effectively reach and treat the remaining target plants. Better removal of the unwanted grasses will in turn ensure better success of the planted grasses and forbs whether they are interseeded into the sod or into the soil turned over and leveled prior to seeding.

Haying is sometimes used prior to a noxious weed treatment; the tract is hayed and after a period of time, the "flush" of noxious weeds is treated with a herbicide application. Removing the vegetation through haying allows the herbicide to more effectively reach and treat the target weeds.

A more limited application of haying on FWS-managed lands involves its use for establishing fire breaks for prescribed burning. A cooperative farmer would be permitted to hay the firebreak strips in the fall. That area would then have little standing dead vegetation in the early spring, or would green up earlier in the spring and allow use as a fire break.

Prescribed haying in North Dakota averaged about 13,500 acres per year (1996-2000). In South Dakota, FWS managers use prescribed haying on about 2450 acres annually (2004 estimates).

Availability of Resources:

Financial and staff resources are determined to be sufficient at each field station to administer these requests. Staff time will be needed to evaluate the proposed use, to prepare the site-specific SUPs, and to insure compliance with the permit authorization and stipulations necessary to insure compatibility.

To lessen any appearance of favoritism or impropriety, managers should follow Refuge Manual procedures for establishing rental rates and cooperator selection.

Anticipated Impacts of the Use:

Haying will result in short-term disturbances to wildlife and long-term benefits to grasslands and the wildlife species that use these grasslands. Short-term impacts will include disturbance and displacement of wildlife typical of any noisy heavy equipment operation. Cutting and removal of standing grass will result in the short-term loss (late-summer to mid-summer the following year of habitat for those species requiring taller grass for feeding and perching. Prescribed haying will typically be scheduled after July 31 to avoid impacts to most nesting birds. Long-term benefits will accrue due to the increased vigor of the regrown grasses or the establishment of highly desirable native grass and forb species, which will improve habitat conditions for the same species affected by the short-term removal of the cover. Longer-term negative impacts may occur to some resident wildlife species such as pheasant that may lose overwinter habitat in hayed areas. Strict time constraints, and limiting grass stands to no more than 50 percent being hayed at any one time will limit the anticipated impacts to these areas.

Public Review and Comment:

The period of public review and comment began May 1, 2005 and ended on May 14, 2005.

Notices were posted in public places at each of the field stations listed on this Compatibility Determination. This method was selected because the proposed activity is considered minor, incidental, infrequent, with only short-term disturbance.

Determination:

Compatibility Threshold: As this activity is an economic use, it must meet the compatibility threshold of "contributing to the Mission and Purposes" of the Refuge System and the Refuge Area. Prescribed haying is used to benefit Refuge and Waterfowl Production Area grasslands and the migratory birds and other wildlife that use these grasslands.

_____ Use is Not Compatible

__XXX____Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Prescribed haying will generally not take place before August 1 in any given year, unless there are documented management reasons for prescribing an earlier hay date.

2. The permit is issued subject to the revocation and appeals procedure contained in Title 50, Part 25 of the Code of Federal Regulations.

3. Generally, not more than 50 percent of a tract may be hayed in any one year, unless size restrictions or habitat conditions warrant haying of more than half of the area.

4. Prescribed haying can be coupled with a light discing or dragging operation, or an interseeding of desirable species of grass or legumes to further increase the vigor of the grass stand.

5. Bales or stacks must be removed from the area by September 10.

Justification:

Haying will not materially interfere with or detract from the purposes for which these NWRS lands were acquired or established. Haying creates temporary disturbance to vegetation. This disturbance is desirable for grassland management. Haying produces an undesirable but short-term impact to grassland nesting birds and site aesthetics. In the long-term, haying increases grassland vigor, species diversity, and habitat quality. Haying is an alternative management tool that can be used to replace or compliment prescribed burning, mowing, or grazing of Service grasslands. Without periodic disturbance caused by haying, burning, or grazing, the health of the grassland community would decline, as would an areas potential for waterfowl and other migratory bird nesting.

Mandatory 10-Year Reevaluation Date: 10 years from the date of APPROVAL signature

Signatures:

Submitted:

Michael Bryant, Project Leader
Lake Andes Complex
Date: 4/26/05

Tom Tornow, Project Leader
Madison WMD
Date: 4-26-05

Harris Hoistad, Project Leader
Huron WMD
Date: 4-26-05

Larry Martin, Project Leader
Waubay Complex
Date: 26 April 2005

Gene Williams, Project Leader
Sand Lake Complex
Date: 4-26-05

Tom Koerner, Project Leader
LaCreek Complex
Date: 4-26-05

Jack Lalor, Acting Project Leader
Tewaukon Complex

4/26/05
Date

Dave Azure, Acting Project Leader
Kulm WMD

4/26/05
Date

Kim D. Hanson, Project Leader
Arrowwood Complex
Chase Lake WMD
Valley City WMD

4/26/05
Date

Gary Williams, Acting Project Leader
Audubon Complex

4/26/05
Date

Paul Van Ningen, Project Leader
Long Lake Complex

4/26/05
Date

Tedd Gutzke, Project Leader
J Clark Salyer Complex

April 26, 2005
Date

Roger Hollevoet, Project Leader
Devils Lake Complex

4/26/05
Date

Fred G. Giese, Project Leader
Des Lacs NWR
Lostwood WMD
Crosby WMD

04/26/05
Date

Dean Knauer, Project Leader
Upper Souris NWR

04-27-05
Date

Review:

Lloyd Jones
Regional Compatibility Coordinator

4-27-05
Date

Rod Krey
Refuge Supervisor, ND-SD

4/28/05
Date

Approval:

Ronald D. Shupe, Region 6
Acting Chief of Refuges

May 15, 2005
Date

COMPATIBILITY DETERMINATION
for
Prescribed Grazing on
National Wildlife Refuges and Waterfowl Production Areas
for Management Purposes

Use: Prescribed grazing on National Wildlife Refuges and Waterfowl Production Areas in North and South Dakota.

Station Names:

South Dakota Refuges and Wetland Management Districts:

Lake Andes NWR and WMD, SD
Madison WMD, SD
Huron WMD, SD
Waubay NWR and WMD, SD
Sand Lake NWR and WMD, SD
LaCreek NWR and WMD, SD

North Dakota Refuges and Wetland Management Districts:

Tewaukon NWR and WMD, ND
Kulm WMD, ND
Arrowwood NWR and WMD, ND
Valley City WMD, ND
Chase Lake NWR and WMD, ND
Audubon NWR and WMD, ND
Long Lake NWR and WMD, ND
J Clark Salyer NWR and WMD, ND
Devils Lake WMD, ND
Lostwood NWR and WMD, ND
Crosby WMD, ND
Des Lacs NWR, ND
Upper Souris NWR, ND

Establishing and Acquisition Authorities:

Arrowwood NWR; Executive Order (E.O.) 7168, Sept. 4, 1935
Audubon NWR; 16 USC $664 (Fish and Wildlife Coord. Act)
Chase Lake NWR; E.O. 932, Aug. 28, 1908
Des Lacs NWR; E.O. 7154-A, Aug. 22, 1935
Florence Lake NWR; E.O. 8119, May 10, 1939

J. Clark Salyer NWR; E.O. 7170, Sept. 4, 1935
Kellys Slough NWR; E.O. 7320, Mar. 19, 1936
Lake Alice NWR; 16 USC $ 715d (Mig. Bird Cons. Act)
Lake Ilo NWR; E.O. 8154, June 12, 1939
Lake Nettie NWR; E. O. 8155, June 12, 1939
Lake Zahl NWR; E. O. 8158, June 12, 1939
Long Lake NWR; E.O. 5808, Feb. 25, 1932
Lostwood NWR; E.O. 7171, Sept. 4, 1935
McLean NWR; 16 USC $ 715d (Mig. Bird Cons. Act)
Slade NWR; 16 USC 715d (Mig. Bird Cons. Act)
Sullys Hill NGP; E. O. 3596, Dec. 22, 1921
Tewaukon NWR; Public Land Order (PLO) 286, June 26, 1945
Upper Souris NWR; E.O. 7161, Aug. 27, 1935

LaCreek NWR; E.O. 7160, Aug. 26, 1935
Lake Andes NWR; E. O. 7292, Feb. 14, 1936
Sand Lake NWR; E. O. 7169, Sept. 4, 1935
Waubay NWR; E. O. 7245, Dec. 10, 1935

Waterfowl Production Areas, Wetland Easements, Grassland Easements - The Migratory Bird Hunting and Conservation Stamp Act, March 16, 1934, (16 USC Sec. 718-718h, 48 Stat. 452) as amended August 1, 1958, (PL 85-585; 72 Stat. 486) for acquisition of "Waterfowl Production Areas"; the Wetlands Loan Act, October 4, 1961, as amended (16 USC 715k-3 - 715k-5, Stat. 813), funds appropriated under the Wetlands Loan Act are merged with duck stamp receipts in the fund and appropriated to the Secretary for the acquisition of migratory bird refuges under the provisions of the Migratory Bird Conservation Act, February 18, 1929, (16 USC Sec. 715, 715d - 715r, as amended.

Refuge Purpose(s):

The Executive Orders for most of the refuges state the purpose "as a refuge and breeding ground for migratory birds and other wildlife."

"...as Waterfowl Production Areas" subject to "...all of the provisions of such Act [Migratory Bird Conservation Act] ...except the inviolate sanctuary provisions..." 16 USC 718(c) (Migratory Bird Hunting and Conservation Stamp)

"...for any other management purpose, for migratory birds." 16 USC 715d (Migratory Bird Conservation Act)

National Wildlife Refuge System Mission:

"The Mission of the National Wildlife Refuge System is to administer a national 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 Administration Act of 1966, as amended) [16 USC 668(dd)-668(ee)].

Description of Use:

Prescribed grazing is the use of livestock, usually cattle, to remove standing vegetation, reduce vegetative litter, suppress woody vegetation or noxious weeds, open up vegetation-choked wetlands, or open up areas to sunlight and encourage native grass seedlings and growth. Prescribed grazing is carefully timed, and usually of short duration (usually 2-4 weeks), to target certain species for grazing impacts in order to benefit other species for growth after the competing vegetation has been removed.

The prescribed grazing period generally will take place between April and September. Early spring grazing (mid-April through late May) is targeted at cool season exotic species and encourages warm season native grasses and forbs. Mid-season grazing (June and July), especially on non-native grasslands, stimulates fall regrowth. Late-season grazing (August and September) removes litter and encourages spring growth of cool season natives or other cool season species.

Fence construction and maintenance, often temporary electric fence, and control and rotation of the livestock, are the responsibility of cooperating private party. Market rate grazing fees are determined by the Regional Office, but may include standard deductions for fence construction and maintenance, frequent livestock rotations, construction of water gaps, or hauling/providing additional water in dry pastures.

The frequency and duration of prescribed grazing on any Refuge or WPA will be based on site-specific evaluations of the grassland being managed.

Availability of Resources:

Developing grazing plans and Special Use Permits (SUPs) and monitoring compliance and biological effects requires some Service resources. Most grazing management costs; fencing labor, monitoring and moving the livestock, hauling water; are provided by the cooperator or permittee. Evaluating the grasslands for grazing prescriptions and grassland response is already a part of the stations grassland management responsibilities. Some alternative form of grassland management, prescribed burning or haying, may be used if the areas are not treated with prescribed grazing. Managing grasslands through permitted haying has comparable costs to managing a prescribed grazing program. Managed mowing is more expensive since all the labor costs are assumed by the Service. Prescribed burning can be an effective grassland management tool, but there are personnel and weather

limitations on a burning program, as well the fact the some tracts are just not suited to burning management. In addition, there is an ecological benefit to rotating grassland management techniques, such as grazing, burning, and haying, at different seasons, rather than just relying on one technique.

Anticipated Impacts of the Use:

Grazing by domestic livestock has the short-term effect of removing some or much of the standing vegetation from a tract of grassland. Properly prescribed, the effect of this removal of vegetation increases the vigor of the grassland, stimulates the growth of desired species of grass and forbs, and reduces the abundance of targeted species such as cool season exotics, woody species, noxious weeds or invasive species, or cattails. Grazing in the spring may cause the loss of some bird nests due to trampling, and may cause some birds not to nest in areas being grazed. Grazing on public wildlife lands can create an aesthetic issue of concern for some people or visitors who do not understand grassland management. Prescribed grazing is usually of short duration and enhanced, most diverse and vigorous grassland habitats are the end result. Grazing livestock may create a minor and temporary disturbance to wildlife but generally do no harm. There is a slight potential for conflict between the visiting public and the livestock or the permittee, particularly during fall hunting seasons. These situations can be limited by having the livestock removed by the anticipated beginning of fall hunting seasons.

In 2004, prescribed grazing occurred on approximately 17,500 acres of Refuges and WPAs in South Dakota (202,000 fee acres). During the 1996-2000 period, approximately 39,700 acres of grasslands on North Dakota Refuges and WPAs (470,000 fee acres) were treated annually by prescribed grazing treatments.

To eliminate any appearance of favoritism or impropriety, managers should follow Refuge Manual procedures for cooperator or permittee selection.

Public Review and Comment:

The period of public review and comment began May 1, 2005 and ended on May 14, 2005.

Notices were posted in public places at each of the field stations listed on this Compatibility Determination. This method was selected because the proposed activity is considered minor, incidental, infrequent, with only short-term disturbance.

Determination:

Compatibility Threshold: As this activity is an economic use, it must meet the compatibility threshold of "contributing to the Mission and Purposes" of the Refuge System and the Refuge Area. Prescribed grazing is used to improve and manage grassland habitats

on Refuges and Waterfowl Production Areas and the migratory birds and other wildlife that use these habitats.

_____ Use is Not Compatible

__XXX___Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. SUPs will specify the stocking rate, dates of use, and timing for each unit or grazing cell on the Refuge or WPA.

2. The standard grazing fee, as determined for each state by the Regional Office. and any standard deductions for any labor or work done on the Service lands will be included on the SUP.

3. Grazing permittees must comply with all applicable State Livestock Health laws.

4. No supplemental feeding will be allowed without authorization from the Project Leader/Manager.

5. Control and confinement of livestock will be the responsibility of the permittee.

6. The permit is issued subject to the revocation and appeals procedure contained in Title 50, Part 25 of the Code of Federal Regulations.

Justification:

Controlled grazing by domestic livestock will not materially interfere or detract from the purposes for which these NWRS lands were acquired or established. Prescribed livestock grazing creates temporary disturbances to vegetation. Many of these disturbances are desirable for grassland management. Grazing produces an undesirable but short-term impact to grassland nesting birds and site aesthetics. In the long-term, prescribed grazing increases grassland vigor, species diversity, and habitat quality. Prescribed grazing is an alternative management tool that can be used to replace or complement prescribed burning, mowing, or haying of Service grasslands. Without periodic disturbance caused by haying, burning, or grazing, the health of the grassland community would decline, as would an areas potential for waterfowl and other migratory bird nesting.

Mandatory 10-Year Reevaluation Date: 10 years from the date of APPROVAL signature

Signatures:

Submitted:

Michael Bryant, Project Leader — Date: 4/26/05
Lake Andes Complex

Tom Tornow, Project Leader — Date: 4-26-05
Madison WMD

Harris Hoistad, Project Leader — Date: 4-26-05
Huron WMD

Larry Martin, Project Leader — Date: 26 april 2005
Waubay Complex

Gene Williams, Project Leader — Date: 4-26-05
Sand Lake Complex

Tom Koerner, Project Leader — Date: 4-26-05
LaCreek Complex

Jack Lalor, Acting Project Leader — Date: 4/26/05
Tewaukon Complex

Dave Azure, Acting Project Leader — Date: 4/26/05
Kulm WMD

Kim D. Hanson, Project Leader — Date: 4/26/05
Arrowwood NWR
Chase Lake WMD
Valley City WMD

Gary Williams, Acting Project Leader — Date 4/26/05
Audubon Complex

Paul Van Ningen, Project Leader — Date 4/26/05
Long Lake Complex

Tedd Gutzke, Project Leader — Date April 26, 2005
J Clark Salyer Complex

Roger Hollevoet, Project Leader — Date 4/26/05
Devils Lake Complex

Fred G. Giese, Project Leader — Date 04/26/05
Des Lacs NWR
Lostwood WMD
Crosby WMD

Dean Knauer, Project Leader — Date 4-27-05
Upper Souris NWR

Review:

Lloyd Jones — Date 4.27.05
Regional Compatibility Coordinator

Rod Krey — Date 4/28/05
Refuge Supervisor, ND-SD

Approval: _____ _____
Ronald D. Shupe, Region 6 Date May 15, 2005
Acting Chief of Refuges

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