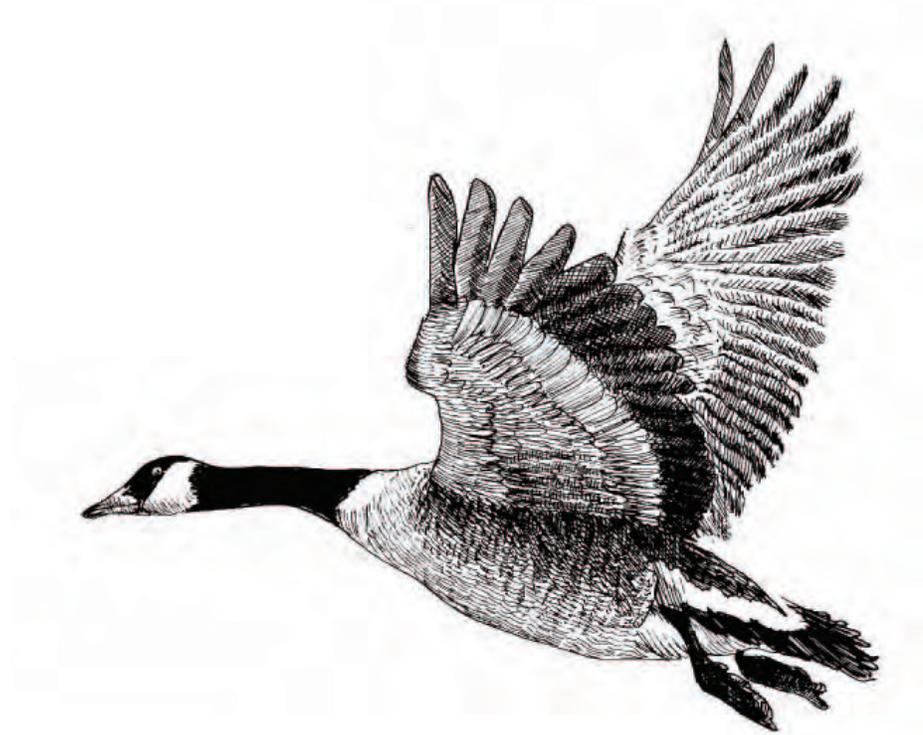


Glossary of Terms



Glossary of Terms

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 carried out within a framework of scientifically driven experiments to test predictions and assumptions inherent in 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.

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.

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

biological control, *also* **biocontrol**—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 (Service Manual 052 FW 1.12B). The Refuge System's focus is on indigenous 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.

biotic—Pertaining to life or living organisms; caused, produced by, or comprising living organisms.

borrow area—An area used to provide substrate for construction projects or other purposes.

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

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.

CCC—See Civilian Conservation Corps.

CCP—See comprehensive conservation plan.

Cervis—Pertaining to the deer family. Distinguished from Bovidae by the male's having solid, deciduous antlers (e.g., deer, caribou, moose, elk).

CFR—See Code of Federal Regulations.

Civilian Conservation Corps—Peacetime civilian "army" established by President Franklin D. Roosevelt to perform conservation activities from 1933–42. Activities included erosion control; firefighting; tree planting; habitat protection; stream improvement; and building of fire towers, roads, recreation facilities, and drainage systems.

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.

cm—Centimeter; equivalent to 0.39 inch.

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.

colony—Nests or breeding place of a group of birds such as herons or gulls occupying a limited area.

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 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 Service Manual 603 FW 3.6). A compatibility determination supports the selection of compatible uses and identified stipulations or limits necessary to ensure compatibility.

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 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.

conspecific—An individual belonging to the same species as another.

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.

coordination area—Wildlife management area made available to a state, by “(A) cooperative agreement between the United States Fish and Wildlife Service and the state fish and game agency pursuant to Section 4 of the Fish and Wildlife Coordination Act (16 U.S.C. 664); of (B) by long-term leases or agreements pursuant to the Bankhead–Jones Farm Tenant Act (50 Stat. 525; 7 U.S.C. 1010 et seq.).” States manage coordination areas, but they are part of the Refuge System. CCPs are not required for coordination areas.

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

coulee—A ravine or gully.

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

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).

cultural resource overview—Comprehensive document prepared for a field office that discusses, among other things, its prehistory and cultural history, the nature and extent of known cultural resources, previous research, management objectives, resource management conflicts or issues, and a general statement on how program objectives should be met and conflicts resolved. An overview should reference or incorporate information from a field office background or literature search described in Section VIII of the Cultural Resource Management Handbook (Service Manual 614 FW 1.7).

curtilage—An enclosed area immediately surrounding a house or development

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 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 trends.

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.

depredation—Taking of wildlife—including destruction of nests or dens, and eggs or young—by a predatory animal; damage inflicted on agricultural crops or ornamental plants by wildlife.

dike—A mound or dam used to impound surface water.

disturbance—Significant alteration of habitat structure or composition. May be natural (e.g., fire) or human-caused events (e.g., 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.

ecological diversity—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 (Service Manual 052 FW 1.12B).

ecological fit—Applies to how well an organism is suited to fulfill its role in the environment it is in.

ecological 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.

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.

ecotone—A transitional zone between two communities containing the characteristic species of each.

EIS—See environmental impact statement.

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 NEPA, 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 a FONSI (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.

environmental impact statement (EIS)—Detailed written statement required by section 102(2)(C) of NEPA, analyzing the environmental impacts of a proposed action, adverse effects of the project that cannot be avoided, alternative courses of action, short-term uses of the environment versus the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitment of resources (40 CFR 1508.11).

executive order (EO)—An order signed by the President of the United States or top executive of a country.

extinction—Complete disappearance of a species from the earth; no longer existing (Koford et al. 1994).

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.

finding of no significant impact (FONSI)—Document prepared in compliance with NEPA, supported by an EA, that briefly presents why a federal action will have no significant effects on the human environment and for which an environmental impact statement will not be prepared (40 CFR 1508.13).

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.

flowage easement—Agreement by which a landowner gives up or sells the right to impound, flood, and/or inundate his/her property with water. The term applies only to developed wetlands, which impound water in excess of the capacity of, or longer in duration than, that which would occur naturally.

FONSI—See *finding of no significant impact*.

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 percent 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 (Koford et al. 1994); the process of reducing the size and connectivity of habitat patches, making movement of individuals or genetic information between parcels difficult or impossible.

friends group—Any formal organization whose mission is to support the goals and purposes of its associated refuge and the Refuge System overall; “friends organizations” and cooperative and interpretive associations.

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

Garrison Diversion Project—A multi-faceted government project aimed at providing water from the Missouri River to various parts of North Dakota.

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 (i.e., points, lines and polygons) with nongeographic attributes such as species and age (Koford et al. 1994).

GIS—See geographic information system.

global positioning system (GPS)—System that, by using satellite telemetry, can pinpoint exact locations of places on the ground.

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

GPS—See global positioning system.

grassland block—Contiguous area of grassland without fragmentation.

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 (e.g., wildland fire) or human-caused events (e.g., timber harvest and disking).

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

herbivore—Animal feeding on plants.

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.

indicator species—Species of plant or animal that is assumed to be sensitive to habitat changes and represents the needs of a larger group of species.

integrated pest management (IPM)—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.

intermittently flooded—Substrate usually exposed, but surface water is present for variable periods without seasonal periodicity.

introduced species—Species present in an area due to intentional or unintentional escape, release, dissemination, or placement into an ecosystem as a result of human activity.

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

invasive plant—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. 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), an 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 U.S. and to public health.

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

IPM—See integrated pest management.

issue—Any unsettled matter that requires a management decision; e.g., 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 Service Manual 602 FW 1.5).

limited-interest refuge landowner—Owner of property that is covered by a refuge and/or flowage easement that is located within the approved acquisition boundary of a limited-interest national wildlife refuge.

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

lek—An area where certain species of birds (e.g., grouse) assemble for sexual display and courtship.

loam—Soil consisting of sand and clay loosely coherent, with admixture of organic matter or humus.

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

long-term protection—Mechanisms such as fee-title acquisition, conservation easements, or binding agreements with landowners that ensure land use and land management practices will remain compatible with maintenance of the species population at the site.

macrophyte—Plant, especially a marine plant, that is large enough to be visible to the naked eye.

maintenance management system (MMS)—National database that contains the unfunded maintenance needs of each refuge; projects include those required to maintain existing equipment and buildings, correct safety deficiencies for the implementation of approved plans, and meet goals, objectives, and legal mandates.

management alternatives—See *alternatives*.

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

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.

mid-seral stage forest—Forest of middle ages, usually characterized by a closed canopy and diameters of greater than or equal to 8 inches diameter at breast height.

migration—Regular extensive, seasonal movements of birds between their breeding regions and their wintering regions (Koford et al. 1994); 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, that is legally hunted including ducks, geese, woodcock, and rails.

mission—Succinct statement of purpose and/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.

mm—Millimeter; equivalent to 0.04 inch.

MMS—See maintenance management system.

moist soil management—A modern day practice of managing surface water levels in order to promote the production of wetland plants and invertebrates that are preferred foods for a variety of waterbirds.

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

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 National Wildlife 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—Sets the mission and the administrative policy for all refuges in the National Wildlife 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 migratory bird (NTMB), also Neotropical migrant—Bird species that breeds north of the United States/Mexico border and winters primarily south of this border.

nest success—Percentage of the total number of nests initiated in an area that successfully hatch at least one egg.

NOA—See notice of availability.

NOI—See notice of intent.

nongovernmental organization—Any group that is not composed of federal, state, tribal, county, city, town, local, or other governmental entities.

nonlethal fire—Rangeland fires in which vegetation structure and composition, 3 years following the fire, are similar to preburn conditions.

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. Long Lake NWR Complex falls into the “Prairie-Pothole Joint Venture.”

notice of availability (NOA)—Notice that documentation is available to the public on a federal action such as a comprehensive conservation plan. Published in the [Federal Register](#).

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

NTMB—See Neotropical migratory bird.

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.

overwater species—Nesting species such as diving ducks and many colonial-nesting birds that build nests within dense stands of water-dependent

plants, primarily cattail, or that build floating nests of vegetation that rest on the water.

palustrine—Of, or relating to vegetated wetlands traditionally called by such names as marsh, swamp, fen, bog, and prairie; as well as the small, shallow, permanent or intermittent water bodies often called ponds.

Partners for Wildlife Program—Voluntary habitat restoration program undertaken by the U.S. Fish and Wildlife Service in cooperation with other governmental agencies, public and private organizations, and private landowners to improve and protect fish and wildlife habitat on private lands while leaving the land in private ownership.

Partners in Flight (PIF)—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 (Koford et al. 1994).

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.

passerine—Bird that typically has feet adapted for perching; belonging to the order Passeriformes.

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

percolation—Passing or filtering through.

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

permanently flooded—Surface water is present throughout the year in all years.

PIF—See Partners in Flight.

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, i.e., ponderosa pine or bunchgrass.

prairie pothole—A glacially derived depressional wetland found in the northern Great Plains.

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

prescribed fire—Skillful application of fire to natural fuels under conditions such as weather, fuel moisture, and soil moisture that allow confinement of the fire to a predetermined area and produces the intensity of heat and rate of spread to accomplish planned benefits to one or more objectives of habitat management, wildlife management, or hazard reduction.

priority public use—See wildlife-dependent recreational use.

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; American 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 Service Manual 602 FW 1.5).

raptor—Carnivorous bird such as a hawk, a falcon, an eagle, or a vulture that feeds wholly or chiefly on meat taken by hunting or on carrion (dead carcasses).

recruitment rate—Regarding waterfowl, it is the number of young females in the fall population, divided by the number of adult females in the spring population.

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

refuge operations needs system (RONS)—National database that contains the unfunded operational needs of each refuge. Projects included are those required to carry out approved plans and meet goals, objectives, and legal mandates.

refuge purpose—See purpose of the refuge.

Refuge System—See National Wildlife Refuge System.

refuge use—Any activity on a refuge, except administrative or law enforcement activity, carried

out by or under the direction of an authorized Service employee.

resident species—Species inhabiting a given locality throughout the year; nonmigratory species.

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.

rhizome—A horizontal, underground stem that can send out both shoots and roots, rhizomes sometimes have thickened areas that store starch.

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.

RONS—See refuge operations needs system.

rough fish—Fish that is neither a sport fish nor an important food fish.

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

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

seasonally flooded—Surface water is present for extended periods in the growing season, but is absent by the end of the season in most years.

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

semipermanently flooded—Surface water is present throughout the growing season in most years.

seral stage—Any plant community whose plant composition is changing in a predictable way; characterized by a group of species or plant community that will eventually be replaced by

a different group of species or plant community, for example, an aspen community changing to a coniferous forest community.

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 (Charadrii) 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 Refuge 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 public through authorizations in Title 50 CFR or other public regulations (Refuge 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 population 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.

species of management interest—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 including white-tailed deer, furbearers such as American marten, important prey species including red-backed vole, or significant keystone species such as beaver.

species richness—Absolute number of species in an assemblage or community; the number of species in a given area (Koford et al. 1994).

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

stand density—Number of trees growing in a given area, usually expressed in terms of trees per acre.

stand diversity—Distribution of tree sizes, layers, and ages in a forest. Some stands are all one size (single-story), some are two-story, and some are a mix of trees of different ages and sized (multistory).

stand initiation—When land is occupied by trees following a stand-replacing disturbance. Also referred to as early successional, early seral, and regeneration.

state land—Public land, such as a state park or state wildlife management area, owned by a state.

step-down management plan—Plan that provides the details necessary to implement management strategies identified in the comprehensive conservation plan (Draft 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 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.

tamegrass—Commercially cultured grasses genetically selected for desired characteristics.

tame species—See dense nesting cover.

taxonomy—The theories and techniques of naming, describing, and classifying organisms; the study of the relationships of taxa, including positional changes that do not involve changes in the names of taxa.

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

threatened species, federal—Species listed under the Endangered Species Act of 1973, as amended, that are likely to become endangered within the foreseeable future throughout all or a significant portion of their range.

threatened species, state—Plant or animal species likely to become endangered in a particular state within the near future if factors contributing to population decline or habitat degradation or loss continue.

transpiration—Loss of water vapor from land plants into the atmosphere, causing movement of water through the plant from the soil to the atmosphere via roots, shoot and leaves.

travel corridor—Landscape feature that facilitates the biologically effective transport of animals between larger patches of habitat dedicated to conservation functions. Such corridors may facilitate several kinds of traffic including frequent foraging movement, seasonal migration, or the once in a lifetime dispersal of juvenile animals. These are transition habitats and need not contain all the habitat elements required for long-term survival or reproduction of its migrants.

trophic system—Made up of organisms that occupy various trophic levels (i.e., the position an organism occupies in a food chain).

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 state lines. 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.

understory reinitiation—When a second generation of trees is established under an older, typically seral, overstory. Also referred to as mid-successional, mid-seral, and young forest.

upland—Dry ground; other than wetlands.

U.S. Fish and Wildlife Service (Service, USFWS, FWS)—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 comprised 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.

waders, also 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.

water control structure—An artificial structure that allows for the manipulation of surface water levels.

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

waterfowl production area (WPA)—Prairie wetland with associated upland that is managed to provide nesting areas for waterfowl, which is owned in fee title by the Service. These lands are purchased from willing sellers with funds from Duck Stamp sales. They are open to public hunting, fishing, and trapping according to state and federal regulations.

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 untrammelled 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 on the “untrammelled” 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 (Hendee 1990).

wildfire—Free-burning fire requiring a suppression response; all fire other than prescribed fire that occurs on wildlands (Service Manual 621 FW 1.7).

wildland fire—Every wildland fire is either a wildfire or a prescribed fire (Service Manual 621 FW 1.3).

wildlife corridor—Landscape feature that facilitates the biologically effective transport of animals between larger patches of habitat dedicated to conservation functions. Such corridors may facilitate several kinds of traffic, including frequent foraging movement, seasonal migration, or the once in a lifetime dispersal of juvenile animals. These are transition habitats and need not contain all the habitat elements required for long-term survival or reproduction of its migrants.

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 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.

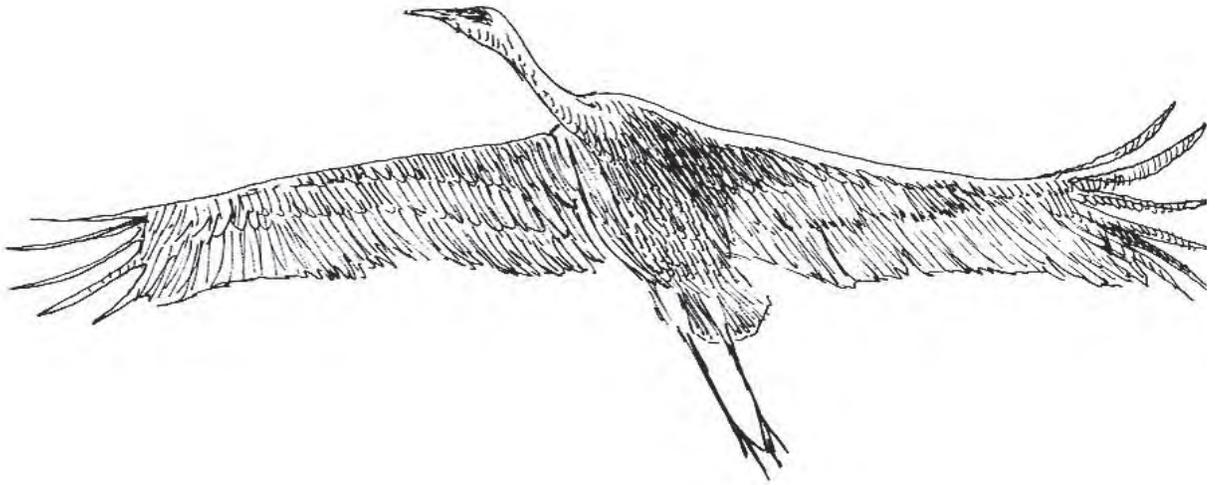
WMD—See wetland management district.

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

WPA—See waterfowl production area.

xeric—Of, characterized by, or adapted to an extremely dry habitat.

Appendices



Appendix A

Compatibility Determinations

Refuge Name

Long Lake National Wildlife Refuge Complex

Establishing and Acquisition Authority

Long Lake National Wildlife Refuge Complex
Executive Order 5808, February 25, 1932
Migratory Bird Conservation Act 45 Stat 1222

Refuge Purpose

“...as a refuge and breeding ground for migratory birds and other wildlife...” Executive Order 5808, dated February 25, 1932.

“...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.” U.S. code of federal regulations (USC) 715d (Migratory Bird Conservation Act.)

Refuge Name

Florence Lake National Wildlife Refuge

Establishing and Acquisition Authority

Florence Lake National Wildlife Refuge
Executive Order 8119, May 10, 1939
Migratory Bird Conservation Act 45 Stat 1222

Refuge Purposes

“...as a refuge and breeding ground for migratory birds and other wildlife...” Executive Order 8119, dated May 10, 1939.

“...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.” USC 715d (Migratory Bird Conservation Act.)

Refuge Name

Slade National Wildlife Refuge

Establishing and Acquisition Authority

Slade National Wildlife Refuge
Donation, 1940
Migratory Bird Conservation Act 45 Stat 1222

Refuge Purposes

“...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds.” USC 715d (Migratory Bird Conservation Act.)

Refuge Name

Long Lake Wetland Management District

Establishing and Acquisition Authority

Migratory Bird Hunting Stamp Act 16 U.S.C. 718(c) “...as waterfowl production areas subject to all provisions of the Migratory Bird Conservation Act ...except the inviolate sanctuary provisions...”

Migratory Bird Conservation Act 16 U.S.C. 715d “...for any other management purposes, for migratory birds.”

Consolidated Farm and Rural Development Act 7 U.S.C. 1924 “...for conservation purposes”

Consolidated Farm and Rural Development Act 7 U.S.C. 2002 “...for conservation purposes”

Refuge Purposes

Long Lake WMD was established “...to assure the long-term viability of the breeding waterfowl population and production through the acquisition and management of WPAs, while considering the needs of other migratory birds, threatened and endangered species and other wildlife.” (The purpose statement was developed for all Region 6 districts in June 2004)

National Wildlife Refuge System Mission

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 fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

1. DESCRIPTION OF PROPOSED USE:

Farming, Grazing, and Haying

Continue upland management activities such as farming, grazing, and haying that are conducted under cooperative farming or SUP by private individuals. Currently, these economic uses are used as tools to manage habitat for wildlife.

Approximately 1,100 acres of uplands are farmed each year. Farming is conducted for the sole purpose of grassland restoration. The refuge complex targets restoration of natives on 300–400 acres annually by planting native grass on fields that are currently degraded tamegrass and/or farmed fields. Grazing by cattle is used as a grassland and wetland management tool. Grazing was employed on 827 acres in 2005. Approximately 20–30 percent of the upland acres in the refuge complex could potentially be grazed annually, primarily targeting the early season, April 1–June 15 to reduce invading cool-season exotic species. Occasionally, grazing is also employed as a management treatment outside the seasonal window to address some other management issue. Grazing is also used to open shorelines in certain areas, which, in absence of treatment, are closed stands of dense emergent vegetation. Haying is sporadically used as a grassland management tool. It is used to control invasive plants, prepare areas for upland restoration, treat litter accumulation and/or the ratio of live to dead plants in a stand, and prepare areas for prescribed burns.

The CCP proposes to continue grassland restoration activities throughout the refuge complex. Farming will subsequently be reduced as native grass seeding activities throughout the refuge complex are completed. Cooperative farming activities are employed only on previously farmed uplands. Farming allows the refuge to establish seedbeds relatively free of noxious plants, maximizing the likelihood that grassland restoration will be successful. Crops that may be used during farming include, but are not limited to, corn, soybeans, grain millet, hay millet, winter wheat, barley, and spring wheat.

The CCP proposes to use grazing as a management tool for wetland and upland habitats. Specific acreages have not been identified in the CCP because habitat conditions within wetland and upland areas can change dramatically on a yearly basis due to precipitation and temperatures. An adaptive approach will be used when prescribing grazing treatments for refuge complex habitats.

Availability of Resources

The resources necessary to administer haying, grazing, and farming programs at existing levels are sufficient at current staffing and budgetary levels. Haying, grazing, and farming programs are generally conducted through SUPs or cooperative farming agreements minimizing staff time and refuge assets to complete work. In order to restore native grass and forbs on degraded tamegrass and farmed fields as outlined in this CCP, the refuge complex will require additional funds to purchase seed annually (until the tame grass and farmed fields are converted).

Anticipated Impacts of the Use

Over a 5-year period, grazing has been conducted on approximately 1,000 acres annually. While annual acreages have not been specified in the CCP, it is expected that future grazing in the refuge complex will increase to address management issues with primary cool-season invasive species (e.g., smooth brome, Kentucky bluegrass). Additionally, habitat requirements of a diverse mix of target bird species requires that habitat be provided in high (> 8 inches), medium (4–8 inches [10–20 centimeters]), and low (< 4 inches

[10 centimeters]) visual obstruction categories. In order to provide these grassland habitats, habitat manipulation, through a variety of means including grazing, haying, and stand reestablishment through reseeding is required. Farming acres will likely remain at or near the current level of 1,100 acres farmed annually for 8–10 years. They will then be reduced as previously farmed and tamegrass uplands are converted to native grass. Approximately 300–400 acres of native grass are targeted to be seeded annually. Haying is used sporadically to address specific grass stand issues throughout the refuge complex and this use is not anticipated to change.

Without management, wetland and upland habitat conditions will deteriorate due to long periods of rest. Cool-season invasive species will likely increase and infest additional areas without the use of spring grazing. While all these activities disturb habitat and wildlife in the short-term, long-term habitat and wildlife benefits outweigh these disturbances. Farming causes decreases in wildlife habitat availability; however, habitat conditions will improve following grassland restoration activities.

The anticipated effect on target bird species, and other species which have similar habitat needs, is a positive effect on their habitats and subsequently their populations.

No cultural resources will be impacted. No impact to endangered species should occur.

Determination

The use of haying, grazing, and farming as habitat management tools is compatible.

Stipulations Necessary to Ensure Compatibility

- Monitor vegetation and wildlife to assess the effects of the management tools.
- Require general and special conditions for each permit to ensure consistency with management objectives.
- Restrict farming permittees to a list of approved chemicals that are less detrimental to wildlife and the environment.
- Restrict haying to commence after August 1 to avoid disturbance to nesting birds (unless the refuge manager deems it necessary to hay earlier to control invasive plants or restore grasslands).

Justification

To maintain and enhance the habitat for migratory birds and other wildlife, some habitat manipulation needs to occur. Upland and wetland habitat conditions will deteriorate without the use of a full range of management tools. Migratory bird habitat and ecological diversity will decrease as habitat suitability declines. Habitat will degrade and meet the requirements of fewer migratory bird species on an annual basis as quality and condition deteriorate. Exotic and invasive plant species will increase and habitat diversity will decrease if management practices did not continue throughout the refuge complex.

Mandatory 15-year reevaluation date: September 2021

2. DESCRIPTION OF PROPOSED USE:

Provide opportunities for environmental education and interpretation.

Environmental education consists of activities conducted by refuge staff, volunteers, and teachers. Interpretation occurs in less formal activities with refuge staff, volunteers or through exhibits, educational trunks, signs, programs, and brochures. Currently, environmental education and interpretation activities are conducted at the Long Lake NWR office and occasionally on Slade NWR and select WPAs in the districts, and at various off-site locations where activities and/or programs are presented.

The recent staff addition of an outdoor recreation planner and proximity to a population of over 100,000 provides potential to expand substantially environmental education and interpretation programs at the refuge complex. The CCP proposes to continue with current uses as well as improve environmental education and interpretation for all visitors. The following are facility and program improvements described in the CCP

- Conduct two theme-related events, one in spring, one in fall to interpret the migration of birds.
- Construct observation tower overlooking the unit II marsh.

- Develop an accessible trail from stone buildings to observation tower.
- Upgrade facilities at Slade NWR and focus on wildlife-oriented activities at Lake Isabel Recreation Area.
- Enhance and upgrade the Small PWA interpretive trail.
- Update and improve refuge signs.
- Update existing brochures to the Service graphic standards.
- Rehabilitate historic stone buildings into an environmental education and interpretation center.
- Develop an on-site shorebird tour/activity as one potential theme and develop others for educators and school groups.
- Continue to conduct teacher workshops with a central theme of wildlife and habitats.
- Increase contact with students, on- and off-site, to develop and enhance an understanding and appreciation of wildlife and their habitats.
- Continue public outreach through various events and compatible wildlife-dependent recreation opportunities.

Availability of Resources

Implementing new facilities outlined in the CCP is closely tied to funding requests in the form of refuge operation needs system (RONS) and maintenance management system (MMS) projects. Existing programs such as current refuge signs and brochures can be updated with available resources.

Anticipated Impacts of Use

Minimal disturbances to wildlife and wildlife habitat will result from these uses at the current and proposed levels. Adverse impacts are minimized through careful timing and placement of activities. Some disturbance to wildlife will occur in areas frequented by visitors. There will be some minor damage to vegetation, littering, and increased maintenance will be necessary. Location and time limitations placed on environmental education and interpretation activities will ensure that this activity will have only minor impacts on wildlife and will not detract from the primary purposes of the various units of the refuge complex.

No cultural resources will be impacted. No impact to endangered species should occur.

Determination

Environmental education and interpretation are compatible public uses.

Stipulations Necessary to Ensure Compatibility

- Allow environmental education and interpretation only in designated areas or under the guidance of refuge staff, a volunteer, or a trained teacher to ensure minimal disturbance to wildlife, minimal damage to vegetation, and minimal conflicts between groups.
- Annually review environmental education and interpretation activities to ensure these activities are compatible.

Justification

Based on biological impacts described in the EA and the draft CCP, staff determined that environmental education and interpretation within the refuge complex will not materially interfere with, or detract from, the purposes for which this refuge complex was established.

Environmental education and interpretation are priority public uses listed in the Improvement Act. By facilitating environmental education, refuge visitors will gain knowledge and an appreciation of fish, wildlife, and their habitats, which will lead to increased public awareness and stewardship of natural resources. Increased appreciation for natural resources will support and complement the Service's actions in achieving the purposes of the refuge and the mission of the Refuge System.

Mandatory 15-year reevaluation date: September 2021

3. DESCRIPTION OF PROPOSED USE: WILDLIFE OBSERVATION AND WILDLIFE PHOTOGRAPHY

Provide opportunities that support wildlife-dependent recreation.

Wildlife observation and wildlife photography are facilitated by an auto tour route, one hiking trail and two wildlife observation pullouts.

The CCP proposes to continue previously stated uses and add the following to improve wildlife observation and wildlife photography:

- Designate and develop auto tour route.
- Identify exceptional wildlife viewing opportunities and improve viewing access through placement of portable blinds.
- Designate and develop an interpretive hiking trail and an observation deck.

Availability of Resources

Implementing new facilities outlined in the CCP is closely tied to funding requests in the form of RONS and MMS projects. Existing programs such as current refuge signs and brochures can be updated with available resources.

Determination

Wildlife observation and wildlife photography are compatible uses.

Stipulations necessary to Ensure Compatibility

- Restrict vehicles to designated roads and trails.
- Monitor use, regulate access, and maintain necessary facilities to prevent habitat degradation and minimize wildlife disturbance.

Justification

Based on the anticipated biological impacts, it is determined that wildlife observation and wildlife photography on the refuge complex will not interfere with the habitat goals and objectives or purposes for which it was established.

Wildlife observation and wildlife photography are priority public uses listed in the Improvement Act. By facilitating these uses, visitors will gain knowledge and an appreciation of fish and wildlife which will lead to increased public stewardship of wildlife and their habitats. Increased public stewardship will support and complement the Service's actions in achieving the purposes of the refuge complex and the mission of the refuge system.

Mandatory 15-year reevaluation date: September 2021

4. DESCRIPTION OF USE: RECREATIONAL FISHING

Continue to provide for recreational fishing at designated fishing areas in accordance with state regulations and expand programs to refuge and WPA areas where fish currently exist.

The primary game fish found in the refuge complex are northern pike, walleye, and perch. Designated fishing areas on Long Lake NWR include Long Lake Creek and shore fishing access sites of unit 1. Boating is allowed only on Long Lake Creek and the period of use is May 1 through September 30. Boats are restricted to 25 horsepower. YMCAWPA and Adams WPA have the same fishery resources as Long Lake NWR because these waterfowl production areas are directly connected to the watershed.

Slade NWR and several waterfowl production areas, located in conjunction with large permanent wetlands, may have fishery resources which are not currently used. The CCP calls for an inventory of these areas and establishment of compatible fishery programs where they are found.

Fishing visitation is dependent on success, which is greatly influenced by weather cycles. Generally, fishing is good during wet cycles and poor during extended dry periods due to the marginal nature of the wetlands and lakes involved (shallow depths and harsh winters which subject wetlands of marginal depths to frequent winterkill of fish resources).

Availability of Resources

The current fishing program is administered using available resources. The CCP calls for the establishment of new fishing programs where game fish populations currently exist and where fishing activity can be provided in a manner, which is compatible with other objectives. Sufficient resources are available to maintain the existing recreational fishing program. When fishing programs are expanded to new areas, the refuge complex will need an increased law enforcement presence through additional law enforcement staffing and/or cooperative agreements for law enforcement coverage through the NDGF.

Anticipated Impacts of Use

Fishing and other human activities cause disturbance to wildlife. Restricting fishing to designated fishing areas minimizes the disturbance to migratory birds and other wildlife. In areas of relatively low use by migratory birds, such as large permanent lakes, fishing programs can provide recreation and have relatively little effect on other refuge complex objectives and programs.

Determination

Recreational fishing is compatible.

Stipulations Necessary to Ensure Compatibility

- Require that fishing follow state and federal regulations.
- Confine fishing to designated fishing areas.
- Phase out the use of lead sinkers and lures over a 5-year period, as these present ingestion dangers for migratory birds.
- Monitor existing use to ensure that facilities are adequate and disturbance to wildlife continues to be minimal.
- Employ a “no wake zone” that includes all waters within 500 feet of the shoreline or emergent marsh areas, and/or restrict horsepower on boats used in confined areas and areas of limited depth, such as Long Lake Creek.

Justification

Based on the biological impacts addressed above and in the EA, it is determined that recreational fishing will not materially interfere with the habitat goals and objectives or purposes for refuge establishment.

Fishing is a priority public use as listed in the Improvement Act.

Mandatory 15-year Reevaluation Date: September 2021

5. DESCRIPTION OF USE: RECREATIONAL HUNTING

Continue to provide recreational hunting and expand programs in refuge and waterfowl production areas where programs can be provided in a compatible manner.

Allow continued recreational hunting of deer, ring-necked pheasant, sharp-tailed grouse, Hungarian partridge, on Long Lake NWR.

The CCP calls for staff to evaluate and expand the Long Lake hunting program to include fox and coyote and waterfowl on designated portions of the refuge where compatible and with restrictions necessary to ensure that the activity does not materially interfere with the purposes of the refuge and/or the attainment of other refuge objectives.

Allow continued hunting of deer on Slade NWR.

The CCP calls for staff to evaluate and expand the Slade hunting program to include ring-necked pheasant, sharp-tailed grouse, Hungarian partridge, fox and coyote, where compatible and with restrictions necessary to ensure that the activity does not materially interfere with the purposes of the refuge and/or the attainment of other refuge objectives.

The CCP calls for staff to evaluate and provide deer, ring-necked pheasant, sharp-tailed grouse, Hungarian partridge, fox and coyote hunting at Florence Lake NWR where compatible and with restrictions necessary

to ensure that the activity does not materially interfere with the purposes of the refuge and/or the attainment of other refuge objectives.

Continue to provide the hunting programs on waterfowl production areas as prescribed by legislation. The CCP calls for staff to evaluate and provide expanded access for boats in areas where their use augments fishing and hunting programs and can be provided in a compatible manner.

Availability of Resources

Sufficient resources are available to maintain the existing recreational hunting program. When the hunting programs are expanded, the refuge complex will need to pursue additional law enforcement coverage through additional law enforcement staffing and/or cooperative agreements for law enforcement coverage through the NDGF.

Anticipated Impacts of Use

Some wildlife disturbance will occur during recreational hunting activities at the various units of the refuge complex. Less than 5 percent of Long Lake NWR will be evaluated for hunting of migratory birds. This will ensure that adequate area remains undisturbed for the benefit of migratory birds. Approximately 15 percent of Long Lake NWR is closed to all hunting.

All hunting on Long Lake NWR and Slade NWR is seasonally scheduled so that it will not interfere with migratory birds' use of these refuges. This ensures adequate resting areas for migratory species during the fall migration.

Winter hunting for fox and coyote on refuge units (Long Lake NWR, Slade NWR, and Florence Lake NWR) administered by the refuge complex is proposed by the CCP. Fox are primary nest predators and coyote have resulted in depredation complaints from neighboring landowners and resulted in the employment of USDA agents for control during each of the past 5 years. Hunting for these species after the waters have frozen will allow for population reductions at a time in the season when there will be little or no disturbance to most migratory birds. While any population reduction during the winter will be temporary, the opportunity provided by coyote and fox hunting will increase recreational opportunity and holds potential to reduce annual surplus of these species which have presented localized predation and depredation issues associated with these refuges. Hunting of fox and coyote is a recreational opportunity, which was approved by legislation on the 78 WPAs and one WDA managed by the refuge complex.

Other public use activities will be minimally impacted by the recreational hunting program changes proposed by the CCP.

Restricting vehicle use to designated purposes, times, and established roads, trails, and parking lots protects habitats from damage and minimizes disturbance to wildlife. Closed areas around residences and the headquarters area provide safety zones and reduce conflicts between hunters and visitors. Restrictions on the timing of seasons and areas open to hunting ensure that the proposed hunting activities do not materially interfere with the purposes of the refuge and/or the attainment of Refuge System objectives.

Determination

Recreational hunting is compatible.

Stipulations Necessary to Ensure Compatibility

- Require the use of nontoxic shot, in accordance with current regulations for migratory bird and upland game hunting.
- Limit use of motorized vehicles to designated parking areas, access trails, and public roads.
- Prohibit all-terrain vehicles (ATVs).
- Prohibit camping, overnight use, and fires.
- Require that hunting be conducted in accordance with federal and state regulations.
- Develop hunting programs with appropriate timing and area restrictions to avoid conflicts with other

objectives (i.e. late season; upland gamebirds; winter; fox and coyote: upland areas distant from water roosting/loafing areas; waterfowl: etc.).

- Promote sound hunting practices for hunter safety and quality experiences.

Justification

Hunting on national wildlife refuges was identified as a priority public use in the Improvement Act. Hunting is a legitimate wildlife management tool that can be used to manage populations. Hunting harvests a small percentage of the renewable resources, which is in accordance with wildlife objectives and principles.

Based on the biological impacts anticipated above and in the EA, it is determined that recreational hunting at the refuge complex will not materially interfere with or detract from the purposes for which this refuge complex was established or the goals and objectives of the Refuge System.

Mandatory 15-year Reevaluation Date: September 2021

6. DESCRIPTION OF USE: RECREATIONAL TRAPPING AND PREDATOR MANAGEMENT

Provide for recreational trapping on lands in the refuge complex along with spring predator trapping to improve upland nesting bird success in the refuge complex

Recreational trapping on refuges administered by the refuge complex is authorized through issuance of SUPs to trappers who are interested in removing surplus and problem animals as agents of management. The district's waterfowl production areas are legally open to trapping according to state regulations as per their establishing legislation and the federal code of regulations. In addition, the refuge complex plans to pursue partnerships to affect predator control on select areas (waterfowl production areas and surrounding private lands where permission is obtained) where nesting success rates of waterfowl are suppressed due to high predation rates as described in the CCP.

Availability of Resources:

Currently there is sufficient funding and staffing to manage the recreational trapping and spring predator trapping in the refuge complex at existing levels. When the trapping programs are expanded as is called for in this CCP, the refuge complex will need to pursue additional law enforcement coverage through additional law enforcement staffing and/or cooperative agreements for law enforcement coverage through the NDGF. In addition, to administer a spring predator trapping program, additional biological science staff for monitoring of predator populations and upland bird production will be required. These needs are listed in the station's RONS list in appendix N. Staff will pursue partnerships to provide labor and funding assistance from various public and private organizations to manage predator populations in order to achieve acceptable nest success rates for waterfowl and other ground nesting migratory birds in select areas.

Anticipated Impacts of the Use:

Trapping removes individual animals from wildlife populations, which temporarily reduces predator populations up to and during the nesting season. Spring predator trapping increases the nesting success of upland nesting birds. There will be direct mortality of target animals, some vegetation trampling by personnel, and some minor increase in general wildlife disturbance in trapping areas due to human and vehicular traffic. There is the possibility of injury to nontarget wildlife that are caught in traps such as an occasional rabbit, domestic dogs and feral cats. Refuge complex staff anticipates that the combination of recreational trapping and predator management, which targets specific areas of high densities of waterfowl and low recruitment, caused primarily by high nest predation rates, will result in higher, more acceptable recruitment rates for waterfowl and other upland nesting birds. Recreational trapping and predator management activities are anticipated to yield less damage to refuge complex infrastructure (i.e., roads, dikes, WCS) and fewer domestic livestock depredation complaints from neighbors of the three refuges.

Determination:

Recreational trapping and predator management is compatible.

Stipulations Necessary to Ensure Compatibility:

- Trapping will be conducted in a manner that will remove only targeted species or species removed for public health and safety concerns.

- Recreational trapping will occur within regular state seasons and will not conflict with other public uses.
- Trapping for predators outside of regular season will be coordinated with the NDGF.
- Detailed trapping records will be maintained for refuge and staff trappers.
- No trapping will take place in areas of high public use areas unless done for health and safety reasons.
- No exposed bait will be placed near traps that might attract eagles or other raptors.
- Traps must be monitored at a minimum of every 24 hours.
- Nest Success will be monitored in areas targeted for predator removal to determine the program's effectiveness and the need for the following year's trapping (trapping will be conducted only when nest success falls below 30 percent).

Justification:

Recreational trapping removes excess individuals from targeted wildlife populations, provides recreational opportunity, and offers economic and wise use of surplus and renewable wildlife resources. Predator management will benefit upland nesting birds, including many species of waterfowl when predator populations are reduced during the nesting season. Combined recreational trapping and predator management activities reduce populations of specific species that depredate livestock, damage infrastructure, and/or suppress nest success of waterfowl and ground-nesting birds. These management activities augment the refuge complex's ability to efficiently and effectively accomplish primary resource objectives. Long-term negative effects to these predator populations will not occur as trapping activities cannot feasibly remove enough animals to permanently impact these populations.

Mandatory 15-year Re-evaluation Date: September 2021

7. DESCRIPTION OF USE: RESEARCH

Continue to provide opportunities for research.

The refuge complex receives periodic requests to conduct scientific research. Some requests are specific to Service lands administered by the refuge complex, and others are part of a larger landscape-level project that requires authorization from multiple refuge field stations. In addition, the refuge complex often partners with other agencies and/or private partners to conduct field research and/or studies that advance the attainment of primary refuge goals and objectives.

Recently, as more and more health threats arise (e.g., West Nile virus, CWD, avian influenza) research may be essential to prevent, or at least manage, disease outbreaks. Access to researchers and/or partners may be mandated in order to monitor and assess the prevalence, transmission, control, and specific characteristics of these and other potential threats to human health. In some cases, refuge complex staff may become involved in the research and/or monitoring. In other cases, government personnel from another agency may take the lead in developing and following standard operating procedures, reducing the role of refuge staff. Coordination, however, will remain paramount to assure that any operation minimizes the impact to trust resources and their habitats to the extent possible.

In general, those proposals that involve multiple refuge field stations are coordinated by the DWG and approval is issued as a letter of authorization. Proposals which are specific to lands administered by the refuge complex are reviewed and either authorized with a letter (if studies are simple, shorter than 1 year, and only require access) or an SUP (if studies are more complex, will take longer than 1 year, and have potential to disturb, stress, or remove vegetation or individuals of a wildlife population). Those operations essential to maintaining human health and safety will be coordinated through an approved disease contingency plan. These threats are an exception to the normal process of authorizing and approving research on lands in the refuge complex.

Absent those situations which involve emerging threats to human health and safety and which will be addressed in a separate disease contingency plan, priority will be given to research proposals that support the refuge complex's purposes, goals, and objectives. This will include, for example, studies that contribute to the enhancement, protection, use, preservation and management of native refuge complex wildlife

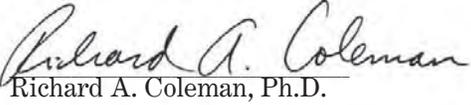
activities can have on the Service's ability to achieve refuge complex purposes, sufficient restrictions will be placed on the researcher to ensure that disturbance is kept to a minimum. This program as described is determined to be compatible.

Mandatory 15-year Re-evaluation Date: September 2021

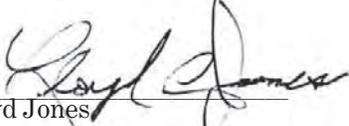
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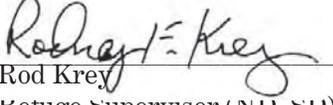
 8/4/06
Date
Paul Van Ningen
Project Leader
Long Lake National Wildlife Refuge Complex, ND

APPROVED

 8/9/06
Date
Richard A. Coleman, Ph.D.
Assistant Regional Director
National Wildlife Refuge System
U.S. Fish and Wildlife Service, Region 6, CO

REVIEWED

 8/4/06
Date
Lloyd Jones
Regional Compatibility Coordinator
U.S. Fish and Wildlife Service, Region 6, ND

 8/4/06
Date
Rod Krey
Refuge Supervisor (ND, SD)
U.S. Fish and Wildlife Service, Region 6, CO

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. 460l-4 through 460l-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 its 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: _____.

Note: See page 164 of this document for the approval signatures for this approved programmatic compatibility determination.

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

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. 460l-4 through 460l-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:

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:

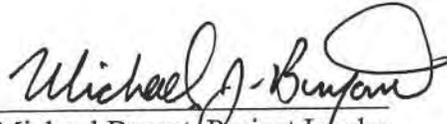
10 years from the date of APPROVAL signature

Enter date: _____

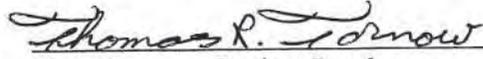
Note: See page 164 of this document for the approval signatures for this approved programmatic compatibility determination.

Signatures:

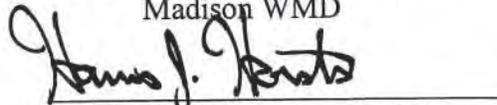
Submitted:


Michael Bryant, Project Leader
Lake Andes WMD

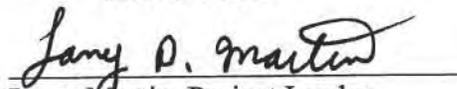
3/10/2005
Date


Tom Tornow, Project Leader
Madison WMD

3-10-05
Date


Harris Holstad, Project Leader
Huron WMD

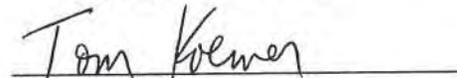
3-10-05
Date


Larry Martin, Project Leader
Waubay WMD

3-10-05
Date


Gene Williams, Project Leader
Sand Lake WMD

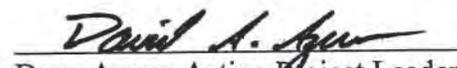
3-10-05
Date


Tom Koerner, Project Leader
Laareek NWR

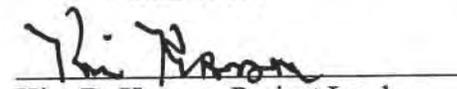
3-10-05
Date


Jack Lalor, Acting Project Leader
Tewaukon WMD

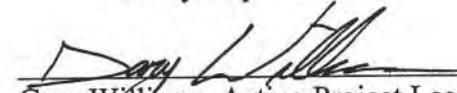
4/26/05
Date


Dave Azure, Acting Project Leader
Kulm WMD

3-10-05
Date


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

3/10/05
Date


Gary Williams, Acting Project Leader
Audubon WMD

3/10/05
Date

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

Theodore W. Gutzke
 Tedd Gutzke, Project Leader
 J Clark Salven WMD
 Date 3/10/2005

[Signature]
 Roger Hollevoet, Project Leader
 Devils Lake WMD
 Date 3/10/05

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

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

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

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

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

Review: Lloyd Jones
 Lloyd Jones
 Regional Compatibility Coordinator
 Date 4.27.05

Shane Bunker
3/28/05
Rodney F. Krey
 Rodney Krey / Ref. Sup
 Date 4/22/05

Approval: Ronald D. Shupe
 Ronald D. Shupe, Region 6
 Acting Chief of Refuges
 Date 4/21/05

**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. 460l-4 through 460l-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)

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“...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 resource 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: _____

populations and their habitats, and will include cultural resources. Research applicants will submit a proposal that outlines: 1) objectives of the study; 2) justification for the study; 3) detailed methodology and schedule; 4) potential impacts on refuge complex wildlife and/or habitat, including disturbance (short- and long-term), injury, or mortality; 5) personnel required; 6) costs to the refuge complex, if any, and; 7) end products (i.e. reports, publications). Research proposals will be reviewed by refuge complex staff, the regional office branch of refuge biology and others, as appropriate. Evaluation criteria will include, but not be limited to, the following:

- Research that will contribute to priority management activities will have higher priority than other requests.
- Research that will conflict with higher priority research, monitoring, or management programs may not be granted.
- Research projects that can be done off-site, are less likely to be approved.
- Research which causes undue disturbance or is intrusive, will likely not be granted. Level and type of disturbance will be carefully weighed when evaluating a request.
- Research evaluation will determine if any effort has been made to minimize disturbance through study design, including considering adjusting location, timing, scope, number of permittees, study methods, number of study sites, etc.
- Refuge complex staff may deny proposal when it is impossible for the refuge complex to monitor researcher activity.
- The length of the project will be considered and agreed upon before approval. Projects will not be open-ended, and will be reviewed annually (at a minimum).

Availability of Resources:

Direct costs to administer research activities are primarily in the form of staff time and transportation. It is estimated that current staff is adequate to manage small and short-term research projects. Proposals will only be accepted if funding and personnel are available to adequately monitor all research activities.

Anticipated Impacts of Use:

Minimal impact to wildlife and habitats in the refuge complex will be expected with research studies. Some level of disturbance is expected with all research activities since most researchers will be entering areas that are normally closed to the public and may be collecting samples or handling wildlife. SUP conditions will include special conditions to ensure that impact to wildlife and habitats are kept to a minimum.

Determination:

Research is compatible.

Stipulations Necessary to Ensure Compatibility:

- If the proposed research methods would impact or potentially impact refuge complex resources (habitat or wildlife), it must be demonstrated that the research is necessary (i.e. critical to survival of a species, will enhance restoration activities of native species, will help in control of invasive species or provide valuable information that will guide future refuge complex activities), and the researcher must identify the issues in advance of the impact.
- Highly intrusive or manipulative research is generally not permitted in order to protect native wildlife populations and habitats in which they live.
- Research that does not involve birds will be conducted outside of the breeding season of avian species in all possible circumstances.
- Project leader can suspend/modify conditions/ terminate on-refuge research that is already permitted and in progress, should unacceptable impacts or issues arise or be noted.

Justification:

Research projects will contribute to the enhancement, protection, use, preservation, and management of native refuge complex wildlife populations and their habitats. In view of the potential impacts research

Signatures:

<u>Submitted:</u> <u>Michael J. Bryant</u> Michael Bryant, Project Leader Lake Andes WMD	<u>3/10/2005</u> Date
<u>Thomas H. Tornow</u> Tom Tornow, Project Leader Madison WMD	<u>3-10-05</u> Date
<u>Harris J. Hoistad</u> Harris Hoistad, Project Leader Huron WMD	<u>3-10-05</u> Date
<u>Larry O. Martin</u> Larry Martin, Project Leader Waubay WMD	<u>3-10-05</u> Date
<u>Gene Williams</u> Gene Williams, Project Leader Sand Lake WMD	<u>3-10-05</u> Date
<u>Tom Koerner</u> Tom Koerner, Project Leader Lacreek NWR	<u>3-10-05</u> Date
<u>Jack Lalor</u> Jack Lalor, Acting Project Leader Tewaukon WMD	<u>4/26/05</u> Date
<u>Dave Azure</u> Dave Azure, Acting Project Leader Kulm WMD	<u>3-10-05</u> Date
<u>Kim D. Hanson</u> Kim D. Hanson, Project Leader Arrowwood WMD Chase Lake WMD Valley City WMD	<u>3/10/05</u> Date
<u>Gary Williams</u> Gary Williams, Acting Project Leader Audubon WMD	<u>3/10/05</u> Date

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

Theodore W. Gutzke
 Tedd Gutzke, Project Leader
 Clark Salyer WMD
 Date 3/10/2005

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

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

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

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

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

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

Review:

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

Steve Bunn
 4/28/05

Rodney F. Krey
 Rodney F. Krey
 Refuge Supervisor
 Date 4/28/05

Approval:

Ronald D. Shupe
 Ronald D. Shupe, Region 6
 Acting Chief of Refuges
 Date 3/15/2005

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:

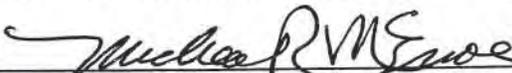
The U.S. Fish and Wildlife Service (Service) is soliciting public comments on whether to allow buried waterlines to provide for livestock watering on Service Grassland Easements in North and South Dakota. The activity will cause minor and temporary disturbance to the grassland area. Restoration will 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)



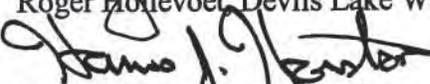
 Mick Erickson, Chase Lake Wetland Management District (Signature) 8/17/04 (Date)



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



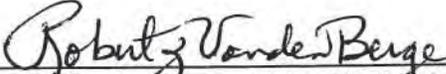
 Roger Hollevoet, Devils Lake Wetland Management District (Signature) 8/17/04 (Date)



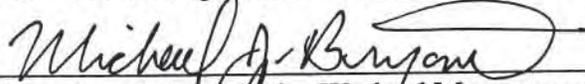
 Harris Hoistad, Huron Wetland Management District (Signature) 8-17-04 (Date)



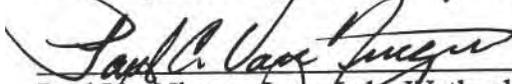
 Lee Albright, J. Clark Salyer Wetland Management District (Signature) 8-17-04 (Date)



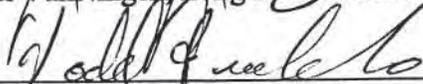
 Bob VandenBerge, Kulm Wetland Management District (Signature) 8/17/04 (Date)



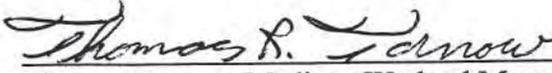
 Mike Bryant, Lake Andes Wetland Management District (Signature) 8/17/04 (Date)



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



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



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

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

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

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

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

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

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

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

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

ENVIRONMENTAL EVALUATION CHECKLIST
Refuges and Wildlife
Region 6

Project Description: Buried waterlines for livestock watering on grassland easements in North and South Dakota

Submitted by: Wetland Managers on 16
 Districts _____

EFFECTS

	Short Term	Long Term	Magnitude
Wetlands	Y	N	- Minor
Uplands	Y	N	+ Minor
T & E Candidate Species	N	N	0
Other Wildlife	N	N	0
Cultural Resources	N	N	0
Water Quality	N	N	0
Water Quantity (conserve= + deplete = -)	N	N	0
Air Quality	N	N	0
Socio-Economic	N	N	0
Compatible?	Y	Y	
Cumulative Impacts	Y	N	- Minor

Y=Yes; N=No; +=Beneficial; -=Detrimental; 0=None

Decision

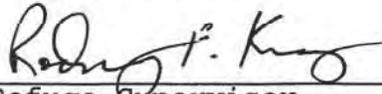
X Project is categorically excluded from NEPA documentation

Start environmental assessment (EA)

BY 16 Wetland Managers, signatures on CD
 Project Leader

Date

Concur


 Refuge Supervisor

8/15/24
 Date

Appendix C

Planning Team and Contributors

This document is the result of extensive, collaborative, and enthusiastic efforts by members of the planning team.

<i>Team Member</i>	<i>Position</i>	<i>Work Unit</i>
Natoma Buskness	<i>former</i> deputy project leader	Chase Lake NWR, Woodworth, ND
Bernardo Garza	fish and wildlife biologist, planning team leader	USFWS, Region 6, Division of Planning, Lakewood, CO
Cheryl Jacobs	biological science technician	Long Lake NWR Complex, Moffit, ND
Gregg Knutsen	refuge biologist	Long Lake NWR Complex, Moffit, ND
Lynda Knutsen	outdoor recreation planner	Long Lake NWR Complex, Moffit, ND
Randy Kreil	wildlife division chief	NDGF, Bismarck, ND
Rachel Laubhan	wildlife biologist	USFWS, Northern Prairie Wildlife Research Center, Jamestown, ND
Murray Laubhan	research wildlife biologist	USGS, Northern Prairie Wildlife Research Center, Jamestown, ND
Adam Misztal	fish and wildlife biologist, <i>former</i> planning team leader	USFWS, Region 6, Colorado Field Office, Lakewood, CO
Richard Schroeder	ecologist	USGS – Biological Resources Division, Fort Collins, CO
Cindy Souders	outdoor recreation planner	USFWS, Region 6, Division of Education and Visitor Services Lakewood, CO
Meg Van Ness	regional archaeologist	USFWS, Region 6, Lakewood, CO
Paul Van Ningen	project leader	Long Lake NWR Complex, Moffit, ND

Valuable support to the planning team was also provided by the individuals listed below.

<i>Name</i>	<i>Position</i>	<i>Work Unit</i>
Ned Euliss, Jr	research wildlife biologist	USGS, Northern Prairie Wildlife Research Center, Jamestown, ND
Robert Gleason	research wildlife biologist	USGS, Northern Prairie Wildlife Research Center, Jamestown, ND
Chuck Loesch	wildlife biologist	USFWS, HAPET Office, Bismarck, ND
Linda Kelly	chief, branch of comprehensive conservation planning	USFWS, Region 6, Division of Planning, Lakewood, CO
Neal Neimuth	wildlife biologist	USFWS, HAPET Office, Bismarck, ND
Ron Reynolds	project leader	USFWS, HAPET Office, Bismarck, ND

Additionally, the following Service staff from Region 6 provided valuable input on earlier drafts of this document.

<i>Name</i>	<i>Position</i>
Bob Barrett	deputy refuge supervisor, ND/SD
Rick Coleman	assistant regional director
Shane Delgrosso	fire management officer
Jeff Dion	fire management officer/ Arrowwood NWR complex
John Esperance	chief of land protection planning branch
Sheri Fetherman	chief of education and visitor services
Pete Finley	ROS/pilot
Galen Green	fire ecologist
Toni Griffin	refuge planner
Todd King	maintenance worker
Laura King	refuge planner
Wayne King	regional biologist

Rod Krey	refuge supervisor, ND/SD
Tyrell Lauckner	maintenance worker
Michael Spratt	chief, division of refuge planning
Jason Wagner	supervisory range technician
Wendy Wollmuth	administrative officer
Harvey Wittmier	chief, division of realty

Appendix D

Key Legislation and Policies

This appendix briefly describes the guidance for the Refuge System and other policies and key legislation that guide the management of the refuge complex.

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. (Improvement Act.)

GOALS

- To fulfill our statutory duty to achieve refuge purpose(s) and further the 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, inter-jurisdictional 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.
- To 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 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, American Indian tribes, organizations, industry, and the 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.

LEGAL AND POLICY GUIDANCE

Management actions on national wildlife refuges 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 7169 (1935)—Establishes Sand Lake National Wildlife Refuge “... as a refuge and breeding ground for migratory birds and other wild life... to effectuate further the purposes of the Migratory Bird Conservation Act....”

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 flood plains.

Executive Order 12996, Management and General Public Use of the Refuge System (1996)—Defines the mission, purpose, and priority public uses of the 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 nonfederal, 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 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 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 nonfederal 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 E

Public Involvement

The Service began the pre-planning process in November 2003. In January 2004, the Service contacted state and tribal representatives to invite them to participate in the planning process for the refuge complex's CCP. A planning team comprised of Service personnel from the refuge complex and the regional office, as well as of NDGF personnel (appendix C), was developed during the kickoff meeting in February 2004.

A Notice of Intent was published in the *Federal Register* on May 21, 2004. Five public open-house meetings were held from 7:00 to 9:00 p.m. during consecutive nights from March 29–April 2, 2004 at Steele (Community Center), Tappen (City Hall), Hazelton (Public School cafeteria), Wing (Senior Center), and Bismarck (NDGF headquarters), respectively. Notification of dates and times of the public open houses was distributed through press releases.

Attendance at these public meetings was sparse, with no more than 10 persons attending them, all together. Those who attended provided both written and oral comments. They were informed that comprehensive planning was an open process and they could submit their comments at any time and by any means (e.g., letter, telephone, internet) up until the time the CCP was final. Additional written comments were received by the planning team via mail.

Over the course of pre-planning and scoping, the planning team collected available information about the resources of the refuge complex and the surrounding areas. This information is summarized under chapter 3: Refuge Resources and Description.

Many of the public comments from the open houses and issue workbooks were general comments for all units of the refuge complex being managed as part of the Refuge System.

Draft issues and qualities lists, as well as the vision and goals for the refuge complex were developed during a workshop held in the Service's Bismarck office in late September 2004.

The planning team developed four alternatives. An assessment of each alternative's impacts (conducted between March and August 2005) guided the team in choosing the one that would best fulfill the purposes, vision and goals for the refuge complex. Once they

identified the preferred alternative (proposed action), the planning team developed the objectives, strategies and rationales for each of the goals of the refuge complex. These are listed in chapter 4: Management Direction.

The team released the draft CCP/EA for a 30-day public comment period on July 10, 2006. During this public comment period, they held a public meeting at the refuge complex headquarters (July 12, 2006, from 12:00 p.m. until 8:00 p.m.) A announcement of this meeting and the release of the draft CCP/EA for public comment was published in the *Federal Register* on July 10, 2006 (Vol. 71, No. 131, pages 38892-38893), as well as in local media. No members of the public attended the public meeting.

The public comment period closed on August 10, 2006. One printed letter and an email message were the only comments received from the public. The following summarizes those two comments and the planning team's responses.

Comment—Alternative C of the draft CCP/EA is the best alternative because is good for furbearer management and for wildlife in general.

Response—The management scheme described under alternative C of the draft CCP/EA would indeed be good for furbearer management and wildlife in general. However, the refuge complex staff determined that the preferred alternative (alternative D) is the best alternative to fulfill the legislated purposes of *all* the units of the refuge complex as well as all the goals set out by the refuge complex staff.

Comment 2—The Service has strayed far from its own policy, which dictates that *fish and wildlife come first*” in the Refuge System. Refuges allow activities that are detrimental to wildlife, including hunting, fishing, trapping, motor boating, and jet skiing—often in the absence of thorough and accurate biological data on the species inhabiting and migrating through the refuge.

While the Improvement Act establishes hunting as a priority use, it also requires refuges to conduct rigorous scientific research on the status of refuge wildlife populations and use this information to guide refuge planning.

Wildlife trapping is *not* included as a “priority use” in the Improvement Act and therefore does not carry the same weight as the six priority public uses. The staff at the refuge complex should help to restore this public land system to its original purpose of providing a refuge and breeding place for migratory birds, other wild birds, game animals, and fur-bearing animals.

Response—The Service agrees, in words and actions, with the commenter that “fish and wildlife come first” on all units of the Refuge System. But the Improvement Act goes even further by recognizing that wildlife-dependent recreation activities—including hunting, fishing, wildlife observation and photography, and environmental education and interpretation—are legitimate public uses. Therefore, refuge staffs throughout the Refuge System devote significant amounts of time ensuring that public uses do not conflict with wildlife and habitat preservation goals.

Although the refuge complex staff spends a considerable amount of time monitoring refuge species, it has limited funding and/or staffing to assess fully the health and population levels of every species (including furbearers and predators) that occupies the lands of the complex.

As noted by the commenter, trapping is not a priority public use. It is, however, an important tool in reducing the populations of predators that disrupt the nest success rate of waterfowl and other birds. There are many other problems associated with furbearers, including the damage they cause to infrastructure on the complex (e.g., beaver works at water control structures, holes in dikes and roads excavated by minks and muskrats) and their predation upon adjacent landowner’s livestock (i.e., coyotes). These problems are fully documented in chapter 4 (predator management sub-goal) of the CCP.

Habitat fragmentation and population protection exacerbates problems specifically when it comes to predator and furbearer populations. The CCP attempts to address these issues through increased habitat protection and management, as well as through management of predators and furbearing mammals. The CCP addresses a number of strategies, some of which are nonlethal and aversion methods. It also addresses the need for lethal control of certain predators and furbearers in the most cost efficient, least disruptive, and most controlled manner. The problems encountered by management associated

with predators and furbearers are reasons for actively managing their populations.

Population control methods for predatory and furbearing mammals are limited due to their varied characteristics (nocturnal, primarily water abode, seclusion, etc.). Nonlethal and aversion methods provide only a limited amount of relief from high population levels. Trapping is often the only effective method of reducing populations of predators and other furbearers, as many species are secretive and either not susceptible to traditional hunting methods, or traditional hunting is not an effective method of keeping their populations at acceptable levels (population levels that do not promote the management problems discussed above).

Trapping is not a recreational program that is open and/or available to the general public on the refuges of the complex. The project leader issues only a limited number of trapping permits to qualified trappers who will aid in the complex’s goals.

Trappers target specific individual animals and/or populations which present management issues. The project leader further restricts trapping to specific periods when the activity can be efficient and not interfere with other recreational or management activities. Trapping for recreational purposes is permitted on Long Lake WMD in accordance with its establishing legislation and state laws regulating this method of wildlife management.

The bald eagle represents the only potential conflict with a threatened and endangered species; however, there is limited overlap between the seasons of eagle migration and predator/ furbearer management activities. Eagles are also visual predators—they are attracted by sight to prey. By limiting sets to nonexposed visual baits (primarily during their migration periods through the refuge complex) there is essentially no risk to capture nontarget threatened and endangered species (e.g., bald eagles).

MAILING LIST

A mailing list was developed for this CCP. It includes the following:

Dr. George Linz, USDA/National Wildlife Research Center, Great Plains Field Station

Federal Agencies

U.S. Fish & Wildlife Service

National Wetlands Research Center Great Plains Field Station

U.S. Department of Agriculture

USDA Animal and Plant Health Inspection Service Wildlife Services

Natural Resources Conservation Service
Steel Service Center
Bismarck Service Center
Linton Service Center

State Officials

Randy Kreil, chief, Wildlife Division, NDGF

State Agencies

North Dakota Game and Fish Department

Local Agencies

Burleigh County Commissioners
Emmons County Commissioners
Kidder County Commissioners

Organizations, Businesses and Civic Groups

Delta Waterfowl Foundation
Ducks Unlimited Great Plains Regional Office
Bismarck Mandan Bird Club
Audubon Society North Dakota Office
WHSRN
Dakota Zoo
American Bird Conservancy
National Wild Turkey Federation

Steele Birding Drives
Driscoll Wildlife Club
Hazelton Lions Club
Nodak Sportsman Club
Bismarck Mandan Reel & Recreation
Emmons County Wildlife Club
Robinson Wildlife Club
Tuttle Wildlife Club
Wilton Sportsmans Club
Wing Wildlife Club
Lewis & Clark Sportsmen Club

Universities and Colleges

Bismarck State College
Kidder County North Dakota State University
Extension
North Dakota State University Extension,
Southwest District Director
Emmons County North Dakota State University
Extension

Individuals

77 Private individuals

Appendix F

Long Lake National Wildlife Refuge Complex Fee-title Tract Prioritization

CRITERIA FOR HIGH PRIORITY TRACTS

- H1.) ≥ 80 breeding duck pairs per square mile (mean density for entire tract) and a minimum of 40 upland acres
- H2.) ≥ 320 acres in total size, with ≥ 100 upland acres
- H3.) ≥ 80 acres native prairie
- H4.) Resource of concern designation (e.g., Piping Plover Critical Habitat, suitable Dakota skipper habitat).

CRITERIA FOR MODERATE PRIORITY TRACTS

- M1.) Between 20 and 79 breeding duck pairs per square mile (mean density for entire tract) and a minimum of 40 upland acres.
- M2.) Between 160 and 319 acres in total size, with ≥ 50 upland acres.
- M3.) Between 25 and 79 acres of native prairie
- M4.) Tract lies entirely within a Type I Grassland Bird Conservation Area (core) and has ≥ 40 upland acres.

CRITERIA FOR LOW PRIORITY TRACTS

- L1.) All remaining tracts.

HIGH PRIORITY¹

National wildlife refuge or waterfowl production area	County	Qualifying Criteria
Rath/Wonnenburg	Burleigh	H1, H2, H3, H4
Long Lake	Burleigh/Kidder	H2, H3, H4
Schiermeister	Emmons	H2, H3, H4
Sisco-Fallgatter	Emmons	H1, H2, H3
Almer	Kidder	H1, H3
Bechold	Kidder	H2, H3
Braun	Kidder	H1, H3
Crimmins	Burleigh	H2, H3
East Lost Lake	Burleigh	H2, H3

National wildlife refuge or waterfowl production area	County	Qualifying Criteria
Florence Lake	Burleigh	H2, H3
Goldsmith	Kidder	H2, H3
Monroe	Burleigh	H2, H3
Rachel/Hoff	Burleigh	H1, H4
Ryberg/Wonnenburg	Burleigh	H1, H3
Slade	Kidder	H2, H3
Victor	Burleigh	H1, H2
Whitman	Kidder	H2, H3
Adams	Burleigh	H3
Albright	Kidder	H2
Basaraba	Burleigh	H2
BLM #1e3	Burleigh	H4
BLM #1f	Burleigh	H4
BLM #1g	Burleigh	H4
BLM #1h	Burleigh	H4
BLM #1i	Burleigh	H4
BLM #5	Kidder	H4
BLM #6	Kidder	H4
BLM #7	Kidder	H4
Clizbe	Burleigh	H1
Kleppe Lang	Kidder	H4
Kurtz	Emmons	H3
McKenzie	Burleigh	H1

National wildlife refuge or waterfowl production area	County	Qualifying Criteria
N. Crimmins	Burleigh	H1
Oswald	Burleigh	H3
PDL/Trusty	Burleigh	H1
Rohrich/Walther/Weiszhaar	Emmons	H2
Thorstad	Burleigh	H1
Vogel	Kidder	H2
Wahl	Kidder	H3

MODERATE PRIORITY¹

National wildlife refuge or waterfowl production area	County	Qualifying Criteria
Bernhardt	Burleigh	M2, M3, M4
Personius	Kidder	M1, M2, M4
Bertsch Morrison	Kidder	M2, M4
Kleppe East	Kidder	M3, M4
Martin	Kidder	M3, M4
Nelson	Kidder	M2, M4
Nuestal Whitman	Kidder	M2, M4
Rohrback	Burleigh	M3, M4
Schatz	Emmons	M1, M3
Schauer	Burleigh	M2, M4
Thacker	Kidder	M3, M4
Uhde	Burleigh	M3, M4
Berg Gellner	Burleigh	M3

Foell	Emmons	M3
Guthmiller	Kidder	M2
Morrison	Kidder	M3
PDL 1c	Kidder	M3
Seventh Day Adventist	Burleigh	M2
Small	Burleigh	M2
YMCA	Burleigh	M2

LOW PRIORITY

National wildlife refuge or waterfowl production areas	County
BLM #1	Burleigh
BLM #3	Kidder
BLM #4	Kidder
Bryan/Mohler	Burleigh
Delzer	Emmons
Gaub Hoots	Kidder
Goose Lake	Emmons
Haak	Emmons
Haid	Burleigh
Kleppe West	Kidder
Leno	Burleigh
Mattern	Emmons
Mayer	Kidder
North Dakota	Burleigh

Project #	Station*	Project Title	Cost Estimate First Year Need (1000s)	Recurring Annual Need (1000s)
96026	LNL WMD	Enhance visitor services/outreach in the district by developing essential promotional/informational guides.	\$58	\$4
98012	LNL WMD	Conduct habitat/wildlife use surveys to guide management decisions.	\$44	\$10
98007	LNL WMD	Determine population status of emphasis species by conducting systematic district survey.	\$75	\$30
98008	LNL WMD	Conduct annual survey of colonial-nesting bird colonies in the district to develop population information.	\$37	\$15
96034	LNL WMD	Improve transport logistics for managing wpas by purchasing a transport truck with tilt trailer.	\$97	\$5
96020	LNL WMD	Increase prairie management capability by providing fencing and water development.	\$227	\$25
96021	LNL WMD	Enhance mixed-grass prairie management capability by providing essential real property improvements.	\$121	\$121
98013	LNL WMD	Conduct refuge complex-wide qualitative and quantitative floristic survey/documentation.	\$34	\$7
96033	LNL WMD	Support easement enforcement by obtaining easement tract photos.	\$24	\$3
96010	LNL WMD	Support management and administration of WPAs and easements by acquiring aerial photo coverage.	\$68	\$3
96008	LNL WMD	Conduct cultural resource inventories to assist in identification and preservation of significant resources.	\$59	0
96045	LNL WMD	Provide user-friendly public use facilities and program focus through enhanced fabrication capability.	\$106	\$33
98011	LNL WMD	Support priority public uses on select WPAs by developing access approaches, lanes and parking areas.	\$81	\$10
98009	LNL WMD	Strategically increase waterfowl recruitment by managing district islands, peninsulas, and barrier areas.	\$57	\$13
96009	LNL WMD	Address universal hunting access issues by providing accessible blind.	\$76	\$10
98003	LNL WMD	Protect service water rights—initiate study on effects of pivot ground water withdrawal on surface wetlands.	\$123	\$10
96042	LNL WMD	Address enforcement and management problems on identified WPAs through benchmark establishment.	\$65	0
96016	LNL WMD	Address waterfowl production limiting factors by placing nesting culverts on targeted WPAs.	\$103	\$10

PDL 1	Kidder
PDL 1a	Kidder
PDL 1b	Burleigh
PDL 1d	Kidder
Pleiness	Kidder
Schmidt	Kidder
Silvernagel	Emmons
Slovarp	Burleigh
Stark	Kidder

'Application of any single criteria can qualify a tract as HIGH or MODERATE priority.

Appendix G

Species List

Below is a list of resident and migrant wildlife species found on or adjacent to Long Lake NWR, as well as a list of plant species mentioned in this document.

This list includes all mammals, fish, and herpetofauna expected to occur on Long Lake NWR based on refuge files, unpublished systematic survey data, and other relevant literature and data that pertain to south-central North Dakota. Bird species listed in this appendix are based on the Long Lake NWR Bird List (May 2002), as well as additional information from refuge files (June 2002–May 2006).

Taxonomic order follows Banks et al. (1987; mammals, fish, amphibians, reptiles) and the Check-list of North American Birds (7th ed., 46th supplement; American Ornithologists' Union 2005).

WILDLIFE

Class Amphibia

Order Caudata

Tiger salamander (*Ambystoma tigrinum*)

Order Anura

Great Plains toad (*Bufo cognatus*)

Canadian toad (*Bufo hemiophrys*)

Woodhouse's toad (*Bufo woodhousei*)

Chorus frog (*Pseudacris triseriata*)

Northern leopard frog (*Rana pipiens*)

Plains spadefoot toad (*Scaphiopus bombifrons*)

Wood frog (*Rana sylvatica*)

Class Reptilia

Order Testudines

Common snapping turtle (*Chelydra serpentina*)

Western painted turtle (*Chrysemys picta*)

Order Squamata

Northern red-bellied snake (*Storeria occipitomaculata*)

Plains garter snake (*Thamnophis radix*)

Smooth green snake (*Opheodrys vernalis*)

Bullsnake (*Pituophis catenifer*)

Western hognose snake (*Heterodon nasicus*)

Common garter snake (*Thamnophis sirtalis*)

Class Aves

Order Anseriformes

Greater white-fronted goose (*Anser albifrons*)

Snow goose (*Chen caerulescens*)

Ross's goose (*Chen rossii*)

Cackling goose (*Branta hutchinsii*)

Canada goose (*Branta canadensis*) – **B**

Brant (*Branta bernicla*) – **A**

Trumpeter swan (*Cygnus buccinator*)

Tundra swan (*Cygnus columbianus*)

Wood duck (*Aix sponsa*) – **B**

Gadwall (*Anas strepera*) – **B**

Eurasian Wigeon (*Anas penelope*) – **A**

American Wigeon (*Anas americana*) – **B**

American black duck (*Anas rubripes*)

Mallard (*Anas platyrhynchos*) – **B**

Blue-winged teal (*Anas discors*) – **B**

Cinnamon teal (*Anas cyanoptera*)

Northern shoveler (*Anas clypeata*) – **B**

Northern pintail (*Anas acuta*) – **B**

Gargany (*Anas querquedula*) – **A**

Green-winged teal (*Anas crecca*) – **B**

Canvasback (*Aythya valisineria*) – **B**

Redhead (*Aythya Americana*) – **B**

Ring-necked duck (*Aythya collaris*) – **B**

Greater scaup (*Aythya marila*)

Lesser scaup (*Aythya affinis*) – **B**

Common eider (*Somateria mollissima*) – **A**

Harlequin duck (*Histrionicus histrionicus*) – **A**

Surf scoter (*Melanitta perspicillata*) – **A**

White-winged scoter (*Melanitta fusca*)

Black scoter (*Melanitta nigra*) – **A**

Long-tailed duck (*Clangula hyemalis*) – **A**

Bufflehead (*Bucephala albeola*) – **B**

Common goldeneye (*Bucephala clangula*)

Barrow's goldeneye (*Bucephala islandica*) – **A**

Hooded merganser (*Lophodytes cucullatus*) – **B**

Common merganser (*Mergus merganser*)

Red-breasted merganser (*Mergus serrator*)

Ruddy duck (*Oxyura jamaicensis*) – **B**

Order Galliformes

Gray partridge (*Perdix perdix*) – **I, B**

Ring-necked pheasant (*Phasianus colchicus*) – **I, B**
 Sharp-tailed grouse (*Tympanuchus phasianellus*) – **B**
 Greater-prairie chicken (*Tympanuchus cupido*)
 Wild turkey (*Meleagris gallopavo*) – **I, B**

Order Gaviiformes

Common loon (*Gavia immer*)

Order Podicipediformes

Pied-billed grebe (*Podylimbus podiceps*) – **B**
 Horned grebe (*Podiceps auritus*) – **B**
 Red-necked grebe (*Podiceps grisegena*) – **B**
 Eared grebe (*Podiceps nigricollis*) – **B**
 Western grebe (*Aechmophorus occidentalis*) – **B**
 Clark's grebe (*Aechmophorus clarkii*) – **B**

Order Pelicaniformes

American white pelican (*Pelecanus erythrocephalus*)
 Double-crested cormorant (*Phalacrocorax auritus*) – **B**
 Anhinga (*Anhinga anhinga*) – **A**

Order Ciconiiformes

American bittern (*Botaurus lentiginosus*) – **B**
 Least bittern (*Ixobrychus exilis*)
 Great blue heron (*Ardea Herodias*)
 Great egret (*Ardea alba*) – **B**
 Snowy egret (*Egretta thula*) – **B**
 Little blue heron (*Egretta caerulea*)
 Tri-colored heron (*Egretta tricolor*) – **A, B**
 Cattle egret (*Bubulcus ibis*) – **B**
 Green heron (*Boturides striatus*)
 Black-crowned night-heron (*Nycticorax nycticorax*) – **B**
 Yellow-crowned night-heron (*Nyctanassa violaceus*)
 White ibis (*Eudocimus albus*) – **A**
 White-faced ibis (*Plegadis chihi*) – **B**
 Turkey vulture (*Cathartes aura*)

Order Falconiformes

Osprey (*Pandion haliaetus*)
 Bald eagle (*Haliaeetus leucocephalus*) – **T**
 Northern harrier (*Circus cyaneus*) – **B**
 Sharp-shinned hawk (*Accipiter striatus*)
 Cooper's hawk (*Accipiter cooperii*) – **B**
 Northern goshawk (*Accipiter gentilis*)
 Red-shouldered hawk (*Buteo lineatus*) – **A**
 Broad-winged hawk (*Buteo platypterus*)
 Swainson's hawk (*Buteo swainsoni*) – **B**
 Red-tailed hawk (*Buteo jamaicensis*) – **B**
 Ferruginous hawk (*Buteo regalis*) – **B**
 Rough-legged hawk (*Buteo lagopus*)
 Golden eagle (*Aquila chrysaetos*)

American kestrel (*Falco sparverius*) – **B**
 Merlin (*Falco columbarius*)
 Gyrfalcon (*Falco rusticolus*)
 Peregrine falcon (*Falco peregrinus*)
 Prairie falcon (*Falco mexicanus*)

Order Gruiformes

Yellow rail (*Coturnicops noveboracensis*) – **B**
 Virginia rail (*Rallus limicola*) – **B**
 Sora (*Porzana carolina*) – **B**
 American coot (*Fulica Americana*) – **B**
 Sandhill crane (*Grus canadensis*)
 Whooping crane (*Grus americana*) – **E**

Order Charadriiformes

Black-bellied plover (*Pluvialis squatarola*)
 American golden-plover (*Pluvialis dominica*)
 Snowy plover (*Charadrius alexandrius*) – **A, B**
 Semipalmated plover (*Charadrius semipalmatus*)
 Piping plover (*Charadrius melodus*) – **T, B**
 Killdeer (*Charadrius vociferous*) – **B**
 Black-necked stilt (*Himantopus mexicanus*) – **A, B**
 American avocet (*Recurvirostra americana*) – **B**
 Greater yellowlegs (*Tringa melanoleuca*)
 Lesser yellowlegs (*Tringa flavipes*)
 Solitary sandpiper (*Tringa solitaria*)
 Willet (*Catoptrophorus semipalmatus*) – **B**
 Spotted sandpiper (*Actitis macularia*) – **B**
 Upland sandpiper (*Bartamia longicauda*) – **B**
 Whimbrel (*Numenius phaeopus*) – **A**
 Long-billed curlew (*Numenius americanus*)
 Hudsonian godwit (*Limosa haemastica*)
 Marbled godwit (*Limosa fedoa*) – **B**
 Ruddy turnstone (*Arenaria interpes*)
 Red knot (*Calidris canutus*)
 Sanderling (*Calidris alba*)
 Semipalmated sandpiper (*Calidris pusilla*)
 Western sandpiper (*Calidris mauri*)
 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*)
 Buff-breasted sandpiper (*Tryngites subruficollis*)
 Short-billed dowitcher (*Limnodromus griseus*)
 Long-billed dowitcher (*Limnodromus scolopaceus*)
 Wilson's snipe (*Gallinago delicata*) – **B**
 American woodcock (*Scolopax minor*)
 Wilson's phalarope (*Phalaropus tricolor*) – **B**
 Red-necked phalarope (*Phalaropus lobatus*)
 Red phalarope (*Phalaropus fulicaria*) – **A**
 Parasitic jaeger (*Stercorarius parasiticus*) – **A**

Long-tailed jaeger (*Stercorarius longicaudus*) – **A**
 Franklin's gull (*Larus pipixcan*) – **B**
 Bonaparte's gull (*Larus philadelphia*)
 Mew gull (*Larus canus*) – **A**
 Ring-billed gull (*Larus delawarensis*) – **B**
 California gull (*Larus californicus*) – **B**
 Herring gull (*Larus argentatus*)
 Thayer's gull (*Larus thayeri*) – **A**
 Lesser black-backed gull (*Larus fuscus*)
 Glaucous-winged gull (*Larus glaucescens*) – **A**
 Glaucous gull (*Larus hyperboreus*) – **A**
 Great black-backed gull (*Larus marinus*) – **A**
 Sabine's gull (*Xema sabini*) – **A**
 Black-legged kittiwake (*Rissa tridactyla*) – **A**
 Caspian tern (*Sterna caspia*)
 Common tern (*Sterna hirundo*) – **B**
 Arctic tern (*Sterna paradisaea*) – **A**
 Forster's tern (*Sterna forsteri*) – **B**
 Least tern (*Sterna antillarum*) – **E**
 Black tern (*Sterna niger*) – **B**

Order Columbiformes

Rock pigeon (*Columba livia*) – **I, B**
 Eurasian collared-dove (*Streptopelia decaocto*) – **I**
 Mourning dove (*Zenaida macroura*) – **B**

Order Cuculiformes

Black-billed cuckoo (*Coccyzus erythrophthalmus*) – **B**
 Yellow-billed cuckoo (*Coccyzus americanus*)

Order Strigiformes

Barn owl (*Tyto alba*) – **A**
 Eastern screech owl (*Otus asio*)
 Great horned owl (*Bubo virginianus*) – **B**
 Snowy owl (*Nyctea scandiaca*)
 Northern hawk-owl (*Surnia ulula*) – **A**
 Burrowing owl (*Athene cunicularia*)
 Long-eared owl (*Asio otus*)
 Short-eared owl (*Asio flammeus*) – **B**
 Northern saw-whet owl (*Aegolius acadicus*)

Order Caprimulgiformes

Common nighthawk (*Chordeiles minor*) – **B**
 Whip-poor-will (*Caprimulgus vociferous*)

Order Apodiformes

Chimney swift (*Chaetura pelagica*)
 Ruby-throated hummingbird (*Archilochus colubris*)

Order Coraciiformes

Belted kingfisher (*Ceryle alcyon*)

Order Piciformes

Lewis' woodpecker (*Melanerpes lewis*) – **A**
 Red-headed woodpecker (*Melanerpes*

erythrocephalus) – **B**
 Red-bellied woodpecker (*Melanerpes carolinus*)
 Yellow-bellied sapsucker (*Sphyrapicus varius*)
 Downy woodpecker (*Picoides pubescens*) – **B**
 Hairy woodpecker (*Picoides villosus*) – **B**
 Northern flicker (*Colaptes auratus*) – **B**

Order Passeriformes

Olive-sided flycatcher (*Contopus cooperi*)
 Eastern wood-pewee (*Contopus virens*)
 Yellow-bellied flycatcher (*Empidonax flaviventris*)
 Alder flycatcher (*Empidonax alnorum*)
 Willow flycatcher (*Empidonax traillii*) – **B**
 Least flycatcher (*Empidonax minimus*) – **B**
 Eastern phoebe (*Saynoris phoebe*) – **B**
 Say's phoebe (*Saynoris saya*) – **B**
 Great crested flycatcher (*Myiarchus crinitus*)
 Western kingbird (*Tyrannus verticalis*) – **B**
 Eastern kingbird (*Tyrannus forficatus*) – **B**
 Loggerhead shrike (*Lanius ludovicianus*) – **B**
 Northern shrike (*Lanius excubitor*)
 Yellow-throated vireo (*Vireo flavifrons*)
 Blue-headed vireo (*Vireo solitarius*)
 Warbling vireo (*Vireo gilvus*) – **B**
 Philadelphia vireo (*Vireo philadelphicus*)
 Red-eyed vireo (*Vireo olivaceus*)
 Blue jay (*Cyanocitta cristata*)
 Black-billed magpie (*Pica hudsonia*) – **B**
 American crow (*Corvus brachyrhynchos*) – **B**
 Common raven (*Corvus corax*)
 Horned lark (*Eremophila alpestris*) – **B**
 Purple martin (*Progne subis*) – **B**
 Tree swallow (*Tachycineta bicolor*) – **B**
 Violet-green swallow (*Tachycineta thalassina*) – **A**
 Northern rough-winged swallow (*Stelgidopteryx serripennis*) – **B**
 Bank swallow (*Riparia riparia*) – **B**
 Cliff swallow (*Petrochelidon pyrrhonota*) – **B**
 Barn swallow (*Hirundo rustica*) – **B**
 Black-capped chickadee (*Poecile atricappila*) – **B**
 Red-breasted nuthatch (*Sitta canadensis*)
 White-breasted nuthatch (*Sitta carolinensis*) – **B**
 Brown creeper (*Certhia americana*)
 House wren (*Troglodytes aedon*) – **B**
 Winter wren (*Troglodytes troglodytes*)
 Sedge wren (*Cistothorus platensis*) – **B**
 Marsh wren (*Cistothorus palustris*) – **B**
 Golden-crowned kinglet (*Regulus satrapa*)
 Ruby-crowned kinglet (*Regulus calendula*)
 Eastern bluebird (*Sialia sialis*)
 Mountain bluebird (*Sialia currucoides*)
 Townsend's solitaire (*Myadestes townsendi*)
 Veery (*Catharus fuscescens*)

- Gray-cheeked thrush (*Catharus minimus*)
 Swainson's thrush (*Catharus ustulatus*)
 Hermit thrush (*Catharus guttatus*)
 American robin (*Turdus migratorius*) – **B**
 Gray catbird (*Dumetella carolinensis*) – **B**
 Northern mockingbird (*Mimus polyglottos*)
 Brown thrasher (*Toostoma rufum*) – **B**
 European starling (*Sturnus vulgaris*) – **I, B**
 American pipit (*Anthus rubescens*)
 Sprague's pipit (*Anthus spragueii*) – **B**
 Bohemian waxwing (*Bombycilla garrulous*)
 Cedar waxwing (*Bombycilla cedrorum*) – **B**
 Tennessee warbler (*Vermivora peregrina*)
 Orange-crowned warbler (*Vermivora celata*)
 Nashville warbler (*Vermivora ruficapilla*)
 Yellow warbler (*Dendroica petechia*) – **B**
 Chestnut-sided warbler (*Dendroica pensylvanica*)
 Magnolia warbler (*Dendroica magnolia*)
 Cape may warbler (*Dendroica tigrina*)
 Yellow-rumped warbler (*Dendroica coronata*)
 Black-throated green warbler (*Dendroica virens*)
 Blackburnian warbler (*Dendroica fusca*)
 Prairie warbler (*Dendroica discolor*) – **A**
 Palm warbler (*Dendroica palmarum*)
 Bay-breasted warbler (*Dendroica castanea*)
 Blackpoll warbler (*Dendroica striata*)
 Black-and-white warbler (*Mniotilta varia*)
 American redstart (*Setophaga ruticilla*)
 Prothonotary warbler (*Protonotaria citrea*) – **A**
 Ovenbird (*Seiurus aurocapillus*)
 Northern waterthrush (*Seiurus noveboracensis*)
 Connecticut warbler (*Oporornis agilis*)
 Mourning warbler (*Oporornis philadelphia*)
 MacGillivray's warbler (*Oporornis tolmiei*)
 Common yellowthroat (*Geothlypis trichas*) – **B**
 Wilson's warbler (*Wilsonia pusilla*)
 Canada warbler (*Wilsonia Canadensis*)
 Yellow-breasted chat (*Icteria virens*)
 Scarlet tanager (*Piranga olivacea*)
 Spotted towhee (*Pipilo maculatus*)
 Eastern towhee (*Pipilo erythrophthalmus*)
 American tree sparrow (*Spizella arborea*)
 Chipping sparrow (*Spizella passerina*) – **B**
 Clay-colored sparrow (*Spizella pallida*) – **B**
 Field sparrow (*Spizella pusilla*)
 Vesper sparrow (*Pooecetes gramineus*) – **B**
 Lark sparrow (*Chondestes grammacus*) – **B**
 Lark bunting (*Calamospiza melanocorys*) – **B**
 Savannah sparrow (*Passerculus sandwichensis*) – **B**
 Grasshopper sparrow (*Ammodramus savannarum*) – **B**
 Baird's sparrow (*Ammodramus bairdii*) – **B**
 Henslow's sparrow (*Ammodramus henslowii*) – **B**
 Le Conte's sparrow (*Ammodramus leconteii*) – **B**
 Nelson's sharp-tailed sparrow (*Ammodramus nelsoni*) – **B**
 Fox sparrow (*Passerelia iliaca*)
 Song sparrow (*Melospiza melodia*) – **B**
 Lincoln 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*)
 McCown's longspur (*Calcarius mccownii*)
 Lapland longspur (*Calcarius lapponicus*)
 Smith's longspur (*Calcarius pictus*)
 Chestnut-collared longspur (*Calcarius ornatus*) – **B**
 Snow bunting (*Plectrophenax nivalis*)
 Northern cardinal (*Cardinalis cardinalis*) – **A**
 Rose-breasted grosbeak (*Pheucticus ludovicianus*)
 Black-headed grosbeak (*Pheucticus melanocephalus*)
 Blue grosbeak (*Guiraca caerulea*)
 Lazuli bunting (*Passerina amoena*)
 Indigo bunting (*Passerina ciris*)
 Dickcissel (*Spiza Americana*) – **B**
 Bobolink (*Dolichonyx oryzivorus*) – **B**
 Red-winged blackbird (*Agelaius phoeniceus*) – **B**
 Eastern meadowlark (*Sturnella magna*) – **A**
 Western meadowlark (*Sturnella neglecta*) – **B**
 Yellow-headed blackbird (*Xanthocephalus xanthocephalus*) – **B**
 Rusty blackbird (*Euphagus carolinus*)
 Brewer's blackbird (*Euphagus cyanocephalus*) – **B**
 Common grackle (*Quiscalus quiscula*) – **B**
 Great-tailed grackle (*Quiscalus mexicanus*) – **A**
 Brown-headed cowbird (*Molothrus ater*) – **B**
 Orchard oriole (*Icterus spurius*) – **B**
 Bullock's oriole (*Icterus bullockii*)
 Baltimore oriole (*Icterus galbula*) – **B**
 Pine grosbeak (*Pinicola enucleator*)
 Purple finch (*Carpodacus purpureus*)
 House finch (*Carpodacus mexicanus*)
 Red crossbill (*Loxia curvirostra*)
 White-winged crossbill (*Loxia leucoptera*)
 Common redpoll (*Carduelis flammaea*)
 Hoary redpoll (*Carduelis hornemanni*)
 Pine siskin (*Carduelis pinus*)
 American goldfinch (*Carduelis tristis*) – **B**
 Evening grosbeak (*Coccothraustes vespertinus*)
 House sparrow (*Passer domesticus*) – **I, B**

Class Mammalia**Order Insectivora**

Northern short-tailed shrew (*Blarina brevicauda*)
 Masked shrew (*Sorex cinereus*)
 Arctic shrew (*Sorex arcticus*)

Order Chiroptera

Little brown bat (*Myotis lucifugus*)

Order Carnivora

Coyote (*Canis latrans*)
 Red fox (*Vulpes vulpes*)
 Raccoon (*Procyon lotor*)
 Long-tailed weasel (*Mustela frenata*)
 Least weasel (*Mustela nivalis*)
 Mink (*Mustela vison*)
 Badger (*Taxidea taxus*)
 Striped skunk (*Mephitis mephitis*)

Order Artiodactyla

White-tailed deer (*Odocoileus virginianus*)
 Mule deer (*Odocoileus hemionus*)
 Pronghorn (*Antilocapra americana*)

Order Rodentia

Fox squirrel (*Sciurus niger*)
 Franklin's ground squirrel (*Spermophilus franklinii*)
 Richardson's ground squirrel (*Spermophilus richardsonii*)
 Thirteen-lined ground squirrel (*Spermophilus tridecemlineatus*)
 Northern pocket gopher (*Thomomys talpoides*)
 Beaver (*Castor canadensis*)
 Northern grasshopper mouse (*Onychomys leucogaster*)
 White-footed mouse (*Peromyscus leucopus*)
 Deer mouse (*Peromyscus maniculatus*)
 Western harvest mouse (*Reithrodontomys megalotis*)
 Meadow vole (*Microtus pennsylvanicus*)
 Muskrat (*Ondatra zibethicus*)
 House mouse (*Mus musculus*)
 Norway rat (*Rattus norvegicus*)
 Meadow jumping mouse (*Zapus hudsonius*)
 Porcupine (*Erethizon dorsatum*)

Order Lagomorpha

Eastern cottontail (*Sylvilagus floridanus*)
 Nuttall's cottontail (*Sylvilagus nuttallii*)
 White-tailed jackrabbit (*Lepus townsendii*)

Class Osteichthyes**Order Salmoniformes**

Northern pike (*Esox lucius*)

Order Cypriniformes

Common carp (*Cyprinus carpio*)
 Fathead minnow (*Pimephales promelas*)
 White sucker (*Catostomus commersoni*)

Order Siluriformes

Black bullhead (*Ameiurus melas*)

Order Perciformes

Yellow perch (*Perca flavescens*)
 Walleye (*Stizostedion vitreum*)

PLANTS¹

Absinth wormwood (*Artemisia absinthium*) - **I**
 Alfalfa (*Medicago sativa*) - **I**
 American Plum (*Prunus Americana*)
 Aspen (*Populus* spp.)
 Barley
 Beans
 Beggarticks (*Bidens* spp.)
 Big Bluestem (*Andropogon gerardii*)
 Blacksamson Echinacea (*Echinacea angustifolia*)
 Blanket Flower (*Gaillardia aristata*)
 Blue Gram (*Bouteloua gracilis*)
 Breadroot Scurfpea (*Psoralea esculenta*)
 Buffaloberry (*Shepherdia argentea*)
 Bulrush (*Schoenoplectus* spp.)
 Burreed (*Sparganium* spp.)
 Canada Thistle (*Cirsium arvense*) - **I**
 Caragana (*Caragana arborescens*) - **I**
 Cattail (*Typha* spp.)
 Chokecherry (*Prunus virginiana*)
 Clubmoss (*Lycopodium* spp.)
 Common Bladderwort (*Utricularia vulgaris*)
 Common Reed (*Phragmites australis*)
 Common Spikerush (*Eleocharis palustris*)
 Common Yarrow (*Achillea millefolium*)
 Coontail (*Ceratophyllum demersum*)
 Corn
 Cosmopolitan Bulrush (*Schoenoplectus maritimus*)
 Cottonwood (*Populus deltoids*)
 Crested Wheatgrass (*Agropyron cristatum*) - **I**
 Curlyleaf Pondweed (*Potamogeton crispus*) - **I**
 Dotted Blazing Star (*Liatrix punctata*)
 Duckweed (*Lemna* spp.)
 Durum Wheat
 Eurasian Watermilfoil (*Myriophyllum spicatum*) - **I**
 Fendler Threeawn (*Aristida purpurea*)
 Field Pennycress (*Thlaspi arvense*) - **I**

Flatspine Stickseed (*Lappula occidentalis*)
 Flax
 Foxtail Barley (*Hordeum jubatum*)
 Goldenrod (*Solidago* spp.)
 Green Ash (*Fraxinus pennsylvanica*)
 Green Foxtail (*Setaria viridis*) - **I**
 Green Needlegrass (*Stipa viridula*)
 Groundplum Milkvetch (*Astragalus crassicaarpus*)
 Hoary Puccoon (*Lithospermum canescens*)
 Inland Saltgrass (*Distichlis spicata*)
 Intermediate Wheatgrass (*Agropyron intermedium*) - **I**
 Juneberry (*Amelanchier alnifolia*)
 Kentucky Bluegrass (*Poa pratensis*) - **I**
 Lead Plant (*Amorpha canescens*)
 Leafy Spurge (*Euphorbia esula*) - **I**
 Lichens (*Lycopodium* spp.)
 Little Bluestem (*Schizachyrium scoparium*)
 Lotus Milkvetch (*Astragalus lotiflorus*)
 Narrowleaf Goosefoot (*Chenopodium leptophyllum*)
 Needle-and-Thread (*Stipa comata*)
 Needleleaf Sedge (*Carex eleocharis*)
 Nuttall's Alkaligrass (*Puccinellia nuttalliana*)
 Oats
 Pasture Sage (*Artemisia ludoviciana*)
 Pinto Beans
 Porcupine Grass (*Stipa spartea*)
 Potato
 Prairie Coneflower (*Ratibida columnifera*)
 Prairie Cordgrass (*Spartina pectinata*)
 Prairie Junegrass (*Koeleria macrantha*)
 Prairie Sagewort (*Artemisia frigida*)
 Prairie Sandreed (*Calamovilfa longifolia*)
 Prairie Smoke (*Geum triflorum*)
 Prairie Wild Rose (*Rosa arkansana*)
 Purple Coneflower (*Echinacea angustifolia*)
 Purple Loosestrife (*Lythrum salicaria*) - **I**
 Reed Canary Grass (*Phalaris arundinacea*)
 Rushes (*Juncus* spp.)
 Russian Olive (*Elaeagnus angustifolia*) - **I**
 Sago Pondweed (*Potamogeton pectinatus*)
 Salt Cedar (*Tamarix ramosissima*) - **I**
 Sandberg's Bluegrass (*Poa juncifolia*)
 Scarlet Beeblossom (*Gaura coccinea*)
 Seaside Arrowgrass (*Triglochin maritime*)
 Sedges (*Carex* spp.)
 Siberian Elm (*Ulmus pumila*) - **I**
 Sideoats Grama (*Bouteloua curtipendula*)
 Silverberry (*Elaeagnus commutate*)
 Silverleaf Scurfpea (*Psoralea argophylla*)
 Slender Wheatgrass (*Agropyron caninum*)
 Sloughgrass (*Beckmannia syzigachne*)
 Smartweed (*Polygonum* spp.)

Smooth Brome (*Bromus inermis*) - **I**
 Softstem Bulrush (*Schoenoplectus validus*)
 Spiny Phlox (*Phlox hoodii*)
 Spring Wheat
 Stiffstem Flax (*Linum rigidum*)
 Sugar Beets
 Sunflower
 Sun Sedge (*Carex heliophila*)
 Sweet Clover (*Melilotus* spp.) - **I**
 Switchgrass (*Panicum virgatum*)
 Tall Wheatgrass (*Agropyron elongatum*) - **I**
 Tarragon (*Artemisia dracuncululus*)
 Threadleaf Sedge (*Carex filifolia*)
 Three-square Bulrush (*Schoenoplectus americanus*)
 Tule Bulrush (*Schoenoplectus acutus*)
 Western Snowberry (*Symphoricarpos occidentalis*)
 Western Wheatgrass (*Agropyron smithii*)
 White Milkwort (*Polygala alba*)
 White Prairieclover (*Dalea candida*)
 White Sagebrush (*Artemisia ludoviciana*)
 Woolly Plantain (*Plantago patagonica*)

¹Scientific names are not listed for domestic agricultural species.

B = denotes a strong evidence of nesting for a bird species

A = a bird species that has been seen once or only a few times and the refuge is outside of its normal range

I = bird or plant species not native to North America

T = a bird species classified as federally threatened

E = a bird species classified as federally endangered

Appendix H

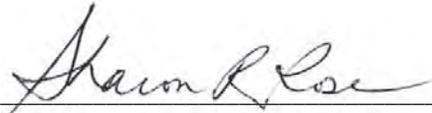
Environmental Compliance

Environmental Action Statement

U.S. Fish and Wildlife Service, Region 6
Lakewood, Colorado

Within the spirit and intent of the Council on Environmental Quality's regulations for carrying out the National Environmental Policy Act and other statutes, orders, and policies that protect fish and wildlife resources, I have established the following administrative record.

I have determined that the action of implementing the *Comprehensive Conservation Plan for Long Lake National Wildlife Refuge Complex* is found not to have significant environmental effects, as determined by the attached "Finding of No Significant Impact" and the environmental assessment as found with the draft comprehensive conservation plan.



J. Mitch King
Regional Director
U.S. Fish and Wildlife Service, Region 6
Lakewood, CO

9/15/2006

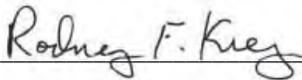
Date



Richard A. Coleman, Ph.D.
Assistant Regional Director
National Wildlife Refuge System
U.S. Fish and Wildlife Service, Region 6
Lakewood, CO

9/11/06

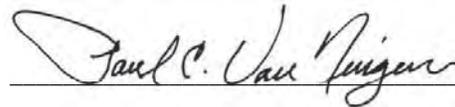
Date



Rod Krey
Refuge Program Supervisor (ND, SD)
U.S. Fish and Wildlife Service, Region 6
Lakewood, CO

8/23/06

Date



Paul Van Ningen
Project Leader
Long Lake National Wildlife Refuge Complex
Moffit, ND

8/23/06

Date

Finding of No Significant Impact

U.S. Fish and Wildlife Service, Region 6
Lakewood, Colorado

Fulfill the comprehensive conservation plan for Long Lake National Wildlife Refuge Complex

Four management alternatives for the Long Lake National Wildlife Refuge Complex were assessed as to their effectiveness in achieving the refuge complex's purposes and their impact on the human environment. Alternative A, the "no-action" alternative, would continue current management. Alternative B, "natural processes management," would focus on a return to more natural wetland and upland habitats and habitat functions through removal of water control structures and intensive reseeding to native plant communities. Alternative C, "single wildlife group-level intensive management," would promote intensive upland and wetland management. Management objectives for particular tracts would be based on fulfilling the life needs of either one wildlife taxonomic group or of closely related wildlife taxonomic groups.

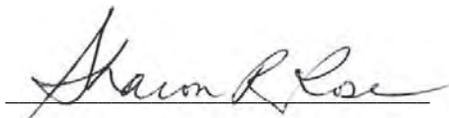
Alternative D, "target species group-level modified management" (the proposed action), would allow for intensive upland and wetland management where warranted in the complex. Management objectives for particular tracts would be based on fulfilling the life needs of a group of target (indicator) species, which would consist of members of various closely related wildlife taxonomic groups. Based on this assessment and comments received, I have selected alternative D as the preferred alternative for implementation.

The preferred alternative was selected because it best meets the purposes for which the Long Lake National Wildlife Refuge Complex was established and is preferable to the "no-action" alternative in light of physical, biological, economic, and social factors. The preferred alternative will continue to provide public access for wildlife-dependent recreation, environmental education, and interpretation.

I find that the preferred alternative is not a major federal action that would significantly affect the quality of the human environment within the meaning of Section 102(2)(C) of the National Environmental Policy Act of 1969. Accordingly, the preparation of an environmental impact statement on the proposed action is not required.

The following is a summary of anticipated environmental effects from carrying out the preferred alternative:

- The preferred alternative will not adversely impact endangered or threatened species or their habitat.
- The preferred alternative will not adversely impact archaeological or historical resources.
- The preferred alternative will not adversely impact wetlands nor does the plan call for structures that could be damaged by, or that would significantly influence, the movement of floodwater.
- The preferred alternative will not have a disproportionately high or adverse human health or environmental effect on minority or low-income populations.
- The state has been notified and given the opportunity to review the CCP and associated EA.



9/15/2006

J. Mitch King
Regional Director
U.S. Fish and Wildlife Service
Region 6
Lakewood, CO

Date

Appendix I

Long Lake National Wildlife Refuge Complex

Upland Plant Associations

- Based on ≥50 percent canopy cover dominance, unless otherwise specified
- Modified from Grant et al. 2004

SHRUB AND TREE TYPES

low shrub (generally <1.5 meters tall)

- 11 snowberry dense (other low shrub species total 0–25 percent); *other plants few or none*
- 12 snowberry (and other low shrub spp.); remainder mostly NATIVE grass-forb types
- 13 snowberry (and other low shrub spp.); remainder mostly Kentucky bluegrass
- 14 snowberry (and other low shrub spp.); remainder mostly smooth brome (or quackgrass)
- 15 silverberry; add modifier 15[2] = NATIVE grass-forb, 15[3] = KY bluegrass, 15[4] = brome (or quack)
- 18 meadowsweet; add modifier as above 18[2], 18[3], or 18[4]

tall shrub/tree (generally ≥1.5 meters tall)

- 21 chokecherry, buffaloberry, hawthorn, willow
- 23 exotic shrub: caraganna, Russian olive, Siberian elm
- 33 shade-tolerant woodland tree: green ash, box elder, elm

NATIVE GRASS-FORB AND FORB TYPES (>95 PERCENT DOMINANCE BY NATIVE HERBACEOUS PLANTS, INCLUDING FORBS)^{A, B}

- 41 dry cool season (sedges, green needlegrass, needle-and-thread, wheatgrass spp., prairie junegrass, forbs)
- 42 dry warm season (little bluestem, prairie sandreed, blue gramma, frobs)
- 43 mesic cool-warm mix (big bluestem, switchgrass, porcupine grass, prairie dropseed, forbs)
- 47 cactus
- 48 clubmoss

EXOTIC AND INVADED NATIVE GRASS-FORB TYPES^{A, B}

- 51 Kentucky bluegrass >95 percent (or >50 percent if mixed with other nonnatives)
- 52 Kentucky bluegrass and NATIVE grass-forbs, *KY bluegrass 50–95 percent*
- 53 NATIVE grass-forbs and Kentucky bluegrass, *KY bluegrass 5–50 percent*
- 61 smooth brome (or quackgrass) >95 percent (or >50 percent if mixed with other nonnatives)
- 62 smooth brome (or quackgrass) and NATIVE grass-forbs, *brome 50–95 percent*
- 63 NATIVE grass-forbs and smooth brome (or quackgrass), *brome 5–50 percent*
- 71 crested wheatgrass >95 percent (or >50 percent if mixed with other nonnatives)
- 72 crested wheatgrass and NATIVE grass-forbs, *crested wheatgrass 50–95 percent*
- 73 NATIVE grass-forbs and crested wheatgrass, *crested wheatgrass 5–50 percent*
- 98 tall exotic legume: sweetclover or alfalfa

INVASIVE PLANT TYPES

- 81 leafy spruce
- 85 Canada thistle
- 87 wormwood
- 88 other invasive plants (user-defined)

OTHER

99 other – user defined

91 barren/unvegetated (e.g., rock, anthill, bare soil); dead, horizontal/flattened litter layer only

00 wetland vegetation (e.g., wet-meadow or shallow marsh plants)

^aPrairie rose is considered a native forb with respect to these categories.

^bFor any of the below categories, if the native forb composition is >50 percent, add a “9” as a modifier (e.g., 41 = 419)

^{**}in the event of an apparent 50:50 mix of Kentucky bluegrass and smooth brome – consider as code **61**

Appendix J

Tier II Dakota Skipper Habitat Suitability Criteria

(Murphy 2005)

Definition of a Tier II Tract:

Service tract with ≥ 80 acres of native prairie and that does not meet Tier I criteria (i.e., *Service tract where a Dakota skipper has been documented, or a Service tract having native prairie that covers ≥ 10 contiguous acres and that is < 1 mile from where the Dakota skipper has been documented*), except that a given tract is exempted if floristic surveys suggest the habitat is unsuitable for the Dakota skipper (see below regarding minimum floristics criteria for Tier II).

Floristic Surveys:

Vegetation composition on native prairie areas should be quantitatively examined, at least on a coarse level, to assess suitability of a tract for Dakota skippers. Such assessments need not be intensive, species-level botanical investigations. Frequency methods such as belt transects (Grant et al. 2004) or canopy cover methods (Daubenmire 1959) that focus simply on plant species groups of management concern for Dakota skipper are efficient and sufficient. Ideally, a general floristic assessment will serve multiple inventory or monitoring purposes. The following are minimum criteria for Dakota skipper habitat in dry-mesic mixed-grass prairie types where they potentially occur.

DRY-MESIC MIXED-GRASS PRAIRIE (E.G., ROLLING TO HILLY MORaine AND OUTWASH SITES; APPLIES TO MOST POTENTIAL SKIPPER HABITAT IN NORTH DAKOTA)

The following could be particularly negative for the skipper if dominant or co-dominant throughout an area: broad-leaved introduced grasses (e.g., smooth brome, quackgrass); low shrubs (e.g., western snowberry, silverberry); invasive plants (e.g., leafy spurge). Below are conservative criteria for determining whether a northern mixed-grass prairie might be suitable for the Dakota skipper, based on an expert Lepidopterist's subjective view of possibly suitable versus clearly unsuitable prairie management units at Lostwood NWR in North Dakota. These criteria assume that herbaceous (grass-forb) vegetation dominated by native species includes native forbs important to Dakota skipper as nectar sources (e.g., purple coneflower, harebell, and purple prairie clover), as well as abundant larval food plants (e.g., little bluestem). These broad criteria should be refined as species-habitat data become available from across the Dakota skipper's range.

Criteria for characterizing dry-mesic mixed-grass prairie as *possibly suitable* for the Dakota skipper:

1. average > 50 percent occurrence by native herbaceous plant groups (types 41, 42, and 43 in Grant et al. [2004]; or by native herbaceous plants mixed with lesser amounts of Kentucky bluegrass; type 53);
2. average < 20 percent occurrence by smooth brome-dominated and invasive plant-dominated types (types 61, 62, and 80s, collectively);
- 3) average < 30 percent occurrence by low shrub-dominated types (types 11-18).

Other Habitat Suitability Criteria

A possible alternative for initially assessing and classifying tracts is to use "habitat classification" mapping data collected on the ground for use with RLGIS (version 3.0, HAPET, Bismarck, ND). For dry-mesic mixed-grass prairie, for example, the following RLGIS habitat subclasses might characterize dry-mesic mixed-grass prairie as possibly suitable for Dakota skipper:

1. average > 50 percent occurrence comprised by two grass-forb subclasses: " > 95 percent native grasses/forbs," and "native/nonnative mix with natives dominant (> 50 percent)."
2. average < 20 percent occurrence by smooth brome-dominated and invasive plant-dominated types: "smooth brome monotype [> 95 percent]" plus any invasive plant subclass.
3. average < 30 percent occurrence by two low shrub-dominated types: "snowberry [> 25 percent]" and "silverberry [> 25 percent]."

Definition of a Tier II Tract:

Service tract with ≥ 80 acres of native prairie and that does not meet Tier I criteria (i.e., *Service tract where a Dakota skipper has been documented, or a Service tract having native prairie that covers ≥ 10 contiguous acres and that is < 1 mile from where the Dakota skipper has been documented*), except that a given tract is exempted if floristic surveys suggest the habitat is unsuitable for the Dakota skipper (see below regarding minimum floristics criteria for Tier II).

Floristic Surveys:

Vegetation composition on native prairie areas should be quantitatively examined, at least on a coarse level, to assess suitability of a tract for Dakota skippers. Such assessments need not be intensive, species-level botanical investigations. Frequency methods such as belt transects (Grant et al. 2004) or canopy cover methods (Daubenmire 1959) that focus simply on plant species groups of management concern for Dakota skipper are efficient and sufficient. Ideally, a general floristic assessment will serve multiple inventory or monitoring purposes. The following are minimum criteria for Dakota skipper habitat in dry-mesic mixed-grass prairie types where they potentially occur.

DRY-MESIC MIXED-GRASS PRAIRIE (E.G., ROLLING TO HILLY MORaine AND OUTWASH SITES; APPLIES TO MOST POTENTIAL SKIPPER HABITAT IN NORTH DAKOTA)

The following could be particularly negative for the skipper if dominant or co-dominant throughout an area: broad-leaved introduced grasses (e.g., smooth brome, quackgrass); low shrubs (e.g., western snowberry, silverberry); invasive plants (e.g., leafy spurge). Below are conservative criteria for determining whether a northern mixed-grass prairie might be suitable for the Dakota skipper, based on an expert Lepidopterist’s subjective view of possibly suitable versus clearly unsuitable prairie management units at Lostwood NWR in North Dakota. These criteria assume that herbaceous (grass-forb) vegetation dominated by native species includes native forbs important to Dakota skipper as nectar sources (e.g., purple coneflower, harebell, and purple prairie clover), as well as abundant larval food plants (e.g., little bluestem). These broad criteria should be refined as species-habitat data become available from across the Dakota skipper’s range.

Criteria for characterizing dry-mesic mixed-grass prairie as *possibly suitable* for the Dakota skipper:

1. average > 50 percent occurrence by native herbaceous plant groups (types 41, 42, and 43 in Grant et al. [2004]; or by native herbaceous plants mixed with lesser amounts of Kentucky bluegrass; type 53);
2. average < 20 percent occurrence by smooth brome-dominated and invasive plant-dominated types (types 61, 62, and 80s, collectively);
- 3) average < 30 percent occurrence by low shrub-dominated types (types 11-18).

Other Habitat Suitability Criteria

A possible alternative for initially assessing and classifying tracts is to use “habitat classification” mapping data collected on the ground for use with RLGIS (version 3.0, HAPET, Bismarck, ND). For dry-mesic mixed-grass prairie, for example, the following RLGIS habitat subclasses might characterize dry-mesic mixed-grass prairie as possibly suitable for Dakota skipper:

1. average > 50 percent occurrence comprised by two grass-forb subclasses: “ > 95 percent native grasses/forbs,” and “native/nonnative mix with natives dominant (> 50 percent).”
2. average < 20 percent occurrence by smooth brome-dominated and invasive plant-dominated types: “smooth brome monotype [> 95 percent]” plus any invasive plant subclass.
3. average < 30 percent occurrence by two low shrub-dominated types: “snowberry [> 25 percent]” and “silverberry [> 25 percent].”

Appendix K

North Dakota Species of Conservation Priority

Below is a list of the wildlife species (e.g., birds, mammals, reptiles, amphibians, fish) which are listed as North Dakota Species of Conservation Priority (Hagen et al. 2005) that are known or expected to occur on Service lands within the refuge complex. North Dakota “Species of Conservation Concern” are separated into three different categories (levels 1, 2, and 3), giving priority to species which need conservation the most.

LEVEL 1 (24 OF 29 SPECIES)

horned grebe
American white pelican
American bittern
Swainson’s hawk
ferruginous hawk
yellow rail
willet
upland sandpiper
long-billed curlew
marbled godwit
Wilson’s phalarope
Franklin’s gull
black tern
black-billed cuckoo
Sprague’s pipit
grasshopper sparrow
Baird’s sparrow
Nelson’s sharp-tailed sparrow
lark bunting
chestnut-colored longspur
Canadian toad
plains spadefoot toad
smooth green snake
western hognose snake

LEVEL 2 (23 OF 41 SPECIES)

northern pintail
canvasback
redhead
northern harrier
golden eagle
bald eagle
prairie falcon
sharp-tailed grouse
greater-prairie chicken¹
piping plover
American avocet
least tern
short-eared owl

burrowing owl
red-headed woodpecker
loggerhead shrike
sedge wren
dickcissel
Le Conte’s sparrow
bobolink
common snapping turtle
northern red-bellied snake
Richardson’s ground squirrel

LEVEL 3 (4 OF 30 SPECIES)

whooping crane
peregrine falcon
McCown’s longspur¹
Arctic shrew

¹The historical range of these species included parts of the refuge complex and they have been documented on Service lands within the refuge complex, but it is not likely that they presently occur on Service lands within the refuge complex.

Appendix L

Secondary (Target) Species

SWANS, DUCKS AND GEESE

greater white-fronted goose (DW, UW)¹

snow goose (DW, UW)

Ross' goose (DW, UW)

Canada goose² (DW, UW)

cackling goose (DW, UW)

Tundra swan (DW, UW)

gadwall (DW, UW)

wood duck (UW)

American wigeon (DW, UW)

blue-winged teal (DW, UW, NP, OC)

northern shoveler (DW, UW, NP, OC)

northern pintail (DW, UW, NP, OC)

green-winged teal (DW, UW)

canvasback (DW, UW)

ring-necked duck (DW, UW)

lesser scaup (DW, UW, NP, OC)

bufflehead (DW, UW)

common goldeneye (DW, UW)

hooded merganser (DW, UW)

common merganser (DW, UW)

ruddy duck (DW, UW)

GALLINACEOUS BIRDS

ring-necked pheasant (DW, UW, NP, OC, WV)

GREBES

pied-billed grebe (DW, UW)

horned grebe (DW, UW)

red-necked grebe (UW)

eared grebe (DW, UW)

Clark's grebe (DW, UW)

PELICANS

American white pelican (DW, UW)

CORMORANTS

double-crested cormorant (DW, UW)

HERONS AND EGRETS

great blue heron (DW, UW)

great egret (DW, UW)

snowy egret (DW, UW)

cattle egret (DW, UW)

black-crowned night-heron (DW, UW)

IBISES

white-faced ibis (DW, UW)

HAWKS AND EAGLES

bald eagle (DW, UW)

Swainson's hawk (NP, OC, WV)

red-tailed hawk (NP, OC, WV)

ferruginous hawk (NP, OC, WV)

rough-legged hawk (NP, OC, WV)

golden eagle (NP, OC, WV)

FALCONS

American kestrel (NP, OC, WV)

Merlin (NP, OC, WV)

peregrine falcon (DW, UW, NP, OC, WV)

prairie falcon (NP, OC, WV)

RAILS

Virginia rail (DW, UW)

sora (DW, UW)

American coot (DW, UW)

CRANES

whooping crane (DW, UW)

PLOVERS

semipalmated plover (DW, UW)

killdeer (DW, UW)

SANDPIPERS AND PHALAROPES

greater yellowlegs (DW, UW)

lesser yellowlegs (DW, UW)

willet (DW, UW)

spotted sandpiper (DW, UW)

sanderling (DW, UW)

semipalmated sandpiper (DW, UW)

least sandpiper (DW, UW)

white-rumped sandpiper (DW, UW)

pectoral sandpiper (DW, UW)

stilt sandpiper (DW, UW)

short-billed dowitcher (DW, UW)

long-billed dowitcher (DW, UW)

Wilson's snipe (DW, UW)

red-necked phalarope (DW, UW)

GULLS AND TERNS

ring-billed gull (DW, UW)

California gull (DW, UW)

herring gull (DW, UW)

common tern (DW, UW)

Forster's tern (DW, UW)

DOVES

mourning dove (NP, OC, WV)

TYPICAL OWLS

snowy owl (NP, OC, WV)
short-eared owl (NP, OC, WV)

NIGHT JARS

common nighthawk (NP, OC, WV)

TYRANT FLYCATCHERS

Say's phoebe (NP, OC, WV)
western kingbird (NP, OC, WV)
eastern kingbird (NP, OC, WV)

SHRIKES

loggerhead shrike (NP, OC, WV)
northern shrike (NP, OC, WV)

MAGPIES

black-billed magpie (NP, OC, WV)

LARKS

horned lark (NP, OC, WV)

SWALLOWS

tree swallow (DW, UW, NP, OC, WV)
northern rough-winged swallow (DW, UW)
Bank's swallow (DW, UW, NP, OC, WV)
Cliff's swallow (NP, OC, WV)
barn swallow (NP, OC, WV)

WRENS

sedge wren (DW, UW, NP, OC, WV)
marsh wren (DW, UW)

THRUSHES

mountain bluebird (NP, OC, WV)

WAGTAILS AND PIPITS

American pipit (DW, UW)
Sprague's pipit (NP, OC, WV)

WOOD WARBLERS

common yellowthroat (DW, UW, NP, OC, WV)

SPARROWS

American tree sparrow (NP, OC, WV)
clay-colored sparrow (NP, OC, WV)
field sparrow (NP, OC, WV)
vesper sparrow (NP, OC, WV)
lark bunting (NP, OC, WV)
Savannah sparrow (NP, OC, WV)
Baird's sparrow (NP, OC, WV)
Le Conte's sparrow (DW, UW, NP, OC, WV)
Nelson's sharp-tailed sparrow (DW, UW, NP, OC, WV)
swamp sparrow (DW, UW)
lapland longspur (NP, OC, WV)
snow bunting (NP, OC, WV)

CARDINALS, GROSBEAKS AND ALLIES

Dickcissel (NP, OC, WV)

BLACKBIRDS AND ORIOLES

red-winged blackbird (DW, UW, NP, OC, WV)
yellow-headed blackbird (DW, UW, NP, OC, WV)
Brewer's blackbird (DW, UW, NP, OC, WV)
common grackle (DW, UW, NP, OC, WV)

'Indicates the habitat type(s) that will most often be used by each species on lands in the refuge complex if this CCP's biological objectives are met (DW = developed wetlands; UW = undeveloped wetlands; NP = native prairie; OC = old cropland; WV = planted and exotic woody vegetation).

?Species names in **bold** indicate those that presently nest on lands in the refuge complex.

Appendix M

Long Lake National Wildlife Refuge Complex Habitat Cover Type (Subclass) List

Habitat cover types used when classifying vegetative cover on all fee-title lands in the complex between 2003 and 2006. All cover types were mapped at 0.25 acres, except leafy spurge and wetland areas that were mapped at any size.

System¹	Subsystem²	Subclass³	NVCS⁴
Grass	Natural	Native grasses/forbs >95%	V HD V A 5 N
Grass	Planted	Native grasses/forbs >95%	V HD V A 5 C
Grass	Natural	Native/nonnative mix, natives >50%	V HD V A 5 N
Grass	Planted	Native/nonnative mix, natives >50%	V HD V A 5 C
Grass	Natural	Nonnative/native mix, nonnatives >50%	V HD V A 5 N
Grass	Planted	Nonnative/native mix, nonnatives >50%	V HD V A 5 C
Grass	Natural	Nonnative grasses/forbs >95%	V HD V A 5 N
Grass	Natural	Smooth brome monotype	V HD V A 5 N c
Grass	Natural	Crested wheatgrass monotype	V HD V A 5 N f
Grass	Planted	Introduced cools season grasses and legumes (DNC)	V HD V A 5 C a
Grass	Natural	Other invasive plants or undesirable plants ≥ 50%	—
Grass	Natural	Absinth wormwood ≥ 50%	V HD V A 5 N b
Grass	Natural	Canada thistle ≥ 50%	V HD V A 5 N b
Grass	Natural	Leafy spurge ≥ 50%	V HD V B 2 N a
Shrub	Natural	Silverberry >25%	V SD III B 2 N a
Shrub	Natural	Western snowberry >25%	V SD III B 2 N a
Shrub	Natural	Narrow-leaved meadowsweet >25%	—
Shrub	Natural	Other low deciduous shrubs >25%	—
Shrub	Natural	Unknown low deciduous shrub(s) >25%	—
Shrub	Planted	Unknown low deciduous shrub(s) >25%	—
Shrub	Natural	Buffaloberry >25%	V SD III B 2 N a
Shrub	Natural	Chokecherry, juneberry, hawthorn association >25%	V SD III B 2 N a
Shrub	Natural	Caragana >25%	V SD III B 2 N a
Shrub	Planted	Caragana >25%	V SD III B 2 C
Shrub	Natural	Rocky mountain juniper >25%	V SD III A 3 N a
Shrub	Natural	Russian olive >25%	V SD III A 4 N b
Shrub	Planted	Russian olive >25%	V SD III B 2 C
Shrub	Natural	Willow >25%	V SD III B 2 N c
Shrub	Planted	Other nonnative shrubs, lilac, etc >25%	V SD III B 2 C
Shrub	Natural	Other tall deciduous shrubs >25%	—
Shrub	Planted	Other tall deciduous shrubs >25%	—
Shrub	Natural	Other tall evergreen shrubs >25%	—
Shrub	Planted	Other tall evergreen shrubs >25%	—
Shrub	Natural	Unknown tall deciduous shrub(s) >25%	—
Shrub	Planted	Unknown tall deciduous shrub(s) >25%	—
Shrub	Natural	Unknown tall evergreen shrub(s) >25%	—
Shrub	Planted	Unknown tall evergreen shrub(s) >25%	—
Woodland	Natural	Cottonwood between 25% and 60%	V TD II B 2 N a
Woodland	Planted	Cottonwood between 25% and 60%	V TD II B 2 C
Woodland	Natural	Deciduous tree(s) between 25% and 60%	V TD II B 2 N a
Woodland	Planted	Deciduous tree(s) between 25% and 60%	V TD II B 2 C

System¹	Subsystem²	Subclass³	NVCS⁴
Woodland	Natural	<i>Dead tree(s) between 25% and 60%</i>	—
Woodland	Planted	<i>Dead tree(s) between 25% and 60%</i>	—
Woodland	Natural	<i>Elm, ash, hackberry association between 25% and 60%</i>	V TD II B 2 N a
Woodland	Planted	<i>Elm, ash, hackberry association between 25% and 60%</i>	V TD II B 2 C
Woodland	Natural	<i>Evergreen tree(s) between 25% and 60%</i>	—
Woodland	Planted	<i>Evergreen tree(s) between 25% and 60%</i>	—
Woodland	Natural	<i>Green ash, box elder, elm association between 25% and 60%</i>	V TD II B 2 N a
Woodland	Planted	<i>Green ash, box elder, elm association between 25% and 60%</i>	V TD II B 2 C
Woodland	Planted	<i>Mix of trees and tall shrubs between 25% and 60%</i>	—
Woodland	Natural	<i>Mixed evergreen and deciduous trees between 25% and 60%</i>	V TD II C 3 N a
Woodland	Planted	<i>Mixed evergreen and deciduous trees between 25% and 60%</i>	V TD II C 3 C
Woodland	Natural	<i>Other deciduous trees between 25% and 60%</i>	—
Woodland	Planted	<i>Other deciduous trees between 25% and 60%</i>	—
Woodland	Natural	<i>Other evergreen trees between 25% and 60%</i>	—
Woodland	Planted	<i>Other evergreen trees between 25% and 60%</i>	—
Woodland	Natural	<i>Unknown deciduous tree(s) between 25% and 60%</i>	—
Woodland	Planted	<i>Unknown deciduous tree(s) between 25% and 60%</i>	—
Woodland	Natural	<i>Unknown evergreen tree(s) between 25% and 60%</i>	—
Woodland	Planted	<i>Unknown evergreen tree(s) between 25% and 60%</i>	—
Forest	Natural	<i>Cottonwood >60%</i>	V TD I B 2 N a
Forest	Planted	<i>Cottonwood >60%</i>	V TD I B 2 C
Forest	Natural	<i>Deciduous tree(s) >60%</i>	V TD I B 2 N a
Forest	Planted	<i>Deciduous tree(s) >60%</i>	V TD I B 2 C
Forest	Natural	<i>Dead tree(s) >60%</i>	—
Forest	Planted	<i>Dead tree(s) >60%</i>	—
Forest	Natural	<i>Elm, ash, hackberry association >60%</i>	V TD I B 2 N a
Forest	Planted	<i>Elm, ash, hackberry association >60%</i>	V TD I B 2 C
Forest	Natural	<i>Evergreen tree(s) >60%</i>	—
Forest	Planted	<i>Evergreen tree(s) >60%</i>	—
Forest	Natural	<i>Green ash, box elder, elm association >60%</i>	V TD I B 2 N a
Forest	Planted	<i>Green ash, box elder, elm association >60%</i>	V TD I B 2 C
Forest	Planted	<i>Mixed evergreen and deciduous trees >60%</i>	V TD I C 3 C
Forest	Planted	<i>Mix of trees and tall shrubs >60%</i>	—
Forest	Natural	<i>Other deciduous trees >60%</i>	—
Forest	Planted	<i>Other deciduous trees >60%</i>	—
Forest	Natural	<i>Other evergreen trees >60%</i>	—
Forest	Planted	<i>Other evergreen trees >60%</i>	—
Forest	Natural	<i>Unknown deciduous tree(s) >60%</i>	—
Forest	Planted	<i>Unknown deciduous tree(s) >60%</i>	—
Forest	Natural	<i>Unknown evergreen tree(s) >60%</i>	—
Forest	Planted	<i>Unknown evergreen tree(s) >60%</i>	—
Crop	Planted	<i>Bare soil crop field</i>	V HD V D 2 C
Crop	Planted	<i>Fallow crop field</i>	V HD V D 2 C
Crop	Planted	<i>Row crop</i>	V HD V D 2 C
Crop	Planted	<i>Small grain crop</i>	V HD V D 2 C
Wetland	—	<i>Lake</i>	—
Wetland	—	<i>Riverine wetland</i>	—
Wetland	—	<i>Semipermanent wetland</i>	—
Wetland	—	<i>Seasonal wetland</i>	—
Wetland	—	<i>Temporary wetland</i>	—
Wetland	—	<i>Other wetland area</i>	—
Barren	—	<i>Bare soil</i>	—

System¹	Subsystem²	Subclass³	NVCS⁴
Barren	—	Beach - mud	—
Barren	—	Beach - gravel	—
Barren	—	Beach/sand bar	—
Barren	—	Blow-out	—
Barren	—	Headquarters/infrastructure	—
Barren	—	Paved road	—
Barren	—	Gravel road/trail	—
Barren	—	Gravel pit	—
Barren	—	Wildfire area	—

¹ System – General vegetation type category.

² Subsystem – Natural (naturally occurring vegetation) or planted (vegetation intentionally planted by humans).

³ Subclass – Most habitat cover types can be cross-walked into the National Vegetation Classification System.

⁴ NVCS – National Vegetation Classification System.

Appendix N

Refuge Operating Needs System

Tier 1 Projects					
Project #	Station ¹	Project Title	Cost Estimate First Year Need (1000s)	Personnel FTE	Recurring Annual Need (1000s)
96011	LNL NWR	Expand integrated pest management to biologically address invasive species control problems	\$128	1.0	\$63
96038	LNL NWR	Provide station support services addressing six priority public (outdoor recreation planner)	\$140	1.0	\$75
98019	LNL NWR	Provide station data analysis capability through technical support (GIS/ADP biologist)	\$154	1.0	\$89
96004	LNL NWR	Reduce resource losses to disease by enhancing monitoring and disease control (biological technician)	\$128	1.0	\$63
96043	LNL NWR	Protect refuge water rights by completing essential area capacity study/evaluation	\$164	—	\$10
96030	LNL NWR	Native prairie restoration through focused prescribed fire application (fire management officer)	\$154	1.0	\$89
98001	LNL WMD	Easement mapping and enforcement assistance to address mandates and resource protection needs (biologist)	\$128	1.0	\$63
96002	LNL WMD	Initiate essential resource inventory and accelerate adaptive management (biologist)	\$154	1.0	\$89
99001	LNL WMD	Address essential visitor safety and resource protection (law enforcement officer)	\$140	1.0	\$75
98025	LNL WMD	Enhance satellite refuge management capability (refuge manager)	\$140	1.0	\$75
99002	LNL WMD	Address essential administrative operations and functions (administrative assistant)	\$123	1.0	\$58
96015	LNL WMD	Develop water resources and wetland habitats across districts providing essential heavy equipment	\$159	—	\$10

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00002	SLD NWR	Develop essential refuge maintenance capability for Slade NWR (maintenance worker)	\$128	1.0	\$64
00001	SLD NWR	Convert Slade NWR tame grass to mixed-grass prairie	\$65	—	\$25
98014	SLD NWR	Monitor water supply and contaminant threats to Slade NWR due to adjacent irrigation pivot irrigation	\$71	—	\$25

¹LNL = Long Lake; SLD = Slade

Tier 2 Projects				
Project #	Station¹	Project Title	Cost Estimate First Year Need (1000s)	Recurring Annual Need (1000s)
00014	LNL NWR	Develop refuge low level water management capability by constructing outlet WCS	\$440	\$10
00012	LNL NWR	Develop water management capability by constructing unit 3 pumping station facility	\$290	\$15
00013	LNL NWR	Develop water management capability by constructing unit 2 pumping station facility	\$290	\$15
98029	LNL NWR	Create predator exclusion—convert pintail point to island	\$105	\$5
98028	LNL NWR	Create predator exclusion—convert east peninsula to island	\$126	\$2
00010	LNL NWR	Purchase aircraft to conduct aerial surveys of habitats and populations in the state	\$290	\$20
98018	LNL NWR	Develop moist-soil units to increase migratory bird support capability by constructing new levees	\$342	\$14
96000	LNL NWR	Develop dikes and wcss to increase freshwater wetland habitat.	\$442	\$15
96035	LNL NWR	Enhance refuge waterfowl recruitment by constructing secure long-term nesting islands.	\$200	\$20
96040	LNL NWR	Initiate drinking water monitoring program to meet agency and environmental mandates and public safety.	\$23	\$4
00005	LNL NWR	Provide refuge complex fire program mission support identified in approved fire management plan.	\$205	\$30
00006	LNL NWR	Acquire GIS computer, software, and digital data to support station decisions and planning.	\$88	\$13
96039	LNL NWR	Support essential fire protection and fire program activities by providing a hydrant water supply.	\$26	\$2
96001	LNL NWR	Address watershed management needs by improving water management facilities.	\$320	\$40
96029	LNL NWR	Enhance seasonal support of refuge mission by providing temporary quarters.	\$132	\$7
03000	LNL NWR	Provide law enforcement officer to achieve full deployment needs of full time officers.	\$142	\$71
00008	LNL NWR	Locate all real property developments with global position coordinates for database tracking.	\$26	\$1

Project #	Station ¹	Project Title	Cost Estimate First Year Need (1000s)	Recurring Annual Need (1000s)
96036	LNL WMD	Mitigate low waterfowl recruitment in high pair zones by providing secure district nesting islands.	\$200	\$20
98002	LNL WMD	Provide logistical support for district habitat development by purchasing a semi-tractor/trailer.	\$162	\$10
98010	LNL WMD	Provide district (remote) logistical maintenance support capability by acquiring a maintenance vehicle.	\$54	\$5
98023	LNL WMD	Increase migratory bird resource support by developing levees on Adams WPA.	\$140	\$10
98026	LNL WMD	Develop consistent, reliable access to Guthmiller WPA to aid management and public use.	\$24	\$2
98027	LNL WMD	Develop consistent, reliable access to Sisco-Fallgaeter WPA to aid management and public use.	\$35	\$2
98020	LNL WMD	Increase snow goose issue awareness and increase harvest opportunity.	\$22	\$5
98021	LNL WMD	Increase migratory bird resource support by developing impoundment on Schiermeister WPA.	\$173	\$10
96031	LNL WMD	Address disease control (avian botulism) carcass disposal needs by providing mobile incinerator.	\$29	\$2
98022	LNL WMD	Increase migratory bird resource support by developing levees on Schauer WPA.	\$151	\$10
00011	SLD NWR	Provide equipment to address invasive species threat to refuge uplands.	\$66	\$13
00004	SLD NWR	Provide basic daily operations equipment.	\$381	\$20

¹LNL = Long Lake; SLD = Slade

Appendix O

Maintenance Management System

Station	Project Title	Cost Estimate (1000s)	SAMMS Work Order #
LNL WMD	Replace 10 miles of deteriorated WPA fence.	\$55	00105967
LNL WMD	Replace 10 miles of deteriorated WPA fence.	\$60	00105968
LNL WMD	Replace 10 miles of deteriorated WPA fence.	\$60	00105969
SLD NWR	Construct office/shop.	\$835	00110656
LNL NWR	Replace worn forklift.	\$50	00105920
LNL WMD	Replace 10 miles of deteriorated WPA fence.	\$60	00105970
LNL WMD	Replace 10 miles of deteriorated WPA fence.	\$60	00105971
LNL NWR	Provide refuge complex fire program mission support identified in approved fire management plan.	\$216	00123546
LNL NWR	Rehabilitate well and water lines to Q-14 and old office/temporary quarters.	\$35	00105922
FCL NWR	Replace 5 miles of Florence Lake NWR fence.	\$35	00105972
FCL NWR	Replace 5 miles of Florence Lake NWR fence.	\$30	00105973
FCL NWR	Replace 5 miles of Florence Lake NWR fence.	\$30	00105974
SLD NWR	Replace 5 miles of Slade NWR fence.	\$35	00105975
SLD NWR	Replace 5 miles of Slade NWR fence.	\$30	00105976
SLD NWR	Replace 5 miles of Slade NWR fence.	\$30	00105977
LNL NWR	Develop water management capability by constructing unit 3 pumping station facility.	\$303	00123562
LNL NWR	Replace 7.5 miles of Long Lake NWR fence.	\$46	00105979
LNL NWR	Develop water management capability by constructing unit 2 pumping station facility.	\$303	00123565
LNL NWR	Replace 7.5 miles of Long Lake NWR fence.	\$46	00105980
LNL NWR	Replace 7.5 miles of Long Lake NWR fence.	\$46	00105981
LNL NWR	Replace 7.5 miles of Long Lake NWR fence.	\$46	00105982
LNL WMD	Rehabilitate Small WPA interpretive foot trail.	\$60	00105984
LNL NWR	Repair quarters 140.	\$50	00105987
LNL WMD	Repair Rath WPA islands.	\$30	01114916
LNL WMD	Repair Sisco-Fallgaeter WPA island.	\$30	01114931
LNL WMD	Repair Thacker WPA island.	\$30	01114940
LNL WMD	Repair Almer WPA island.	\$30	01114946
LNL WMD	Repair PDL-1D WPA island.	\$30	01114951
LNL NWR	Repair Schauer WPA Islands.	\$30	01114959
LNL WMD	Repair Rath WPA 79-acre impoundment.	\$70	01114969
LNL NWR	Replace Polaris four wheeler.	\$6	01115411
LNL NWR	Replace Bombardier four wheeler.	\$6	01115481
LNL NWR	Replace 350HP airboat.	\$31	01115493
LNL NWR	Replace 350/400HP airboat.	\$25	01115503

Station	Project Title	Cost Estimate (1000s)	SAMMS Work Order #
LNL NWR	Replace grass drill.	\$16	01115538
LNL NWR	Replace no till grass drill.	\$16	01115550
LNL NWR	Replace water control pump.	\$30	01115696
LNL NWR	Replace power plant generator.	\$15	01115698
LNL NWR	Replace worn road grader.	\$190	01115707
LNL NWR	Replace worn Bobcat.	\$26	01115710
LNL NWR	Replace worn 1993 sickle bar mower.	\$5	01115717
LNL NWR	Replace incinerator.	\$10	01115722
LNL NWR	Replace JD rotary mower.	\$10	01115728
LNL NWR	Replace worn riding lawn mower.	\$15	01115745
LNL NWR	Replace worn garden tractor.	\$13	01115750
LNL NWR	Replace worn 1992 lawn tractor.	\$15	01115754
LNL NWR	Replace worn 1992 farm tractor.	\$85	01115755
LNL NWR	Replace Pulvi-Mulcher.	\$10	01115833
LNL NWR	Replace outdated worn fire equipment.	\$21	01115840
LNL NWR	Replace 52 pumper unit.	\$21	01115865
LNL NWR	Replace worn snowmobile.	\$6	01115874
LNL NWR	Replace implement sprayer.	\$8	01115876
LNL NWR	Replace pickup sprayer.	\$6	01115879
LNL NWR	Replace Cat dozer.	\$95	01115883
LNL NWR	Replace worn JD tractor.	\$25	01115887
LNL NWR	Replace JD tractor with loader (7710).	\$96	01115892
LNL NWR	Replace worn trailer.	\$11	01115897
LNL NWR	Replace worn trailer.	\$37	01115901
LNL NWR	Replace worn heavy equipment trailer.	\$37	01115903
LNL NWR	Replace worn wetliner.	0	01116088
LNL NWR	Replace worn Ford pickup.	\$31	01116093
LNL NWR	Replace worn Dodge 4X4 pickup.	\$31	01116095
LNL NWR	Replace worn maintenance truck.	\$37	01116098
LNL NWR	Replace dump truck.	\$93	01116114
LNL NWR	Replace semi-tractor.	\$81	01116115
LNL NWR	Replace Dodge pickup.	\$28	01116125
LNL NWR	Replace Dodge spray truck.	\$31	01116129
LNL NWR	Replace Chevy Tahoe.	\$31	01116166
LNL NWR	Replace Jeep Wrangler nest searching vehicle.	\$26	01116168
LNL NWR	Replace Jeep Wrangler nest searching vehicle.	\$26	01116171
LNL NWR	Replace 1993 Chevy Suburban.	\$34	01116174
LNL NWR	Replace Polaris Sportsman 500 four-wheeler.	\$6	01116208
LNL NWR	Replace worn snowblower.	\$8	01116230
LNL NWR	Replace outdated and worn implement disc.	\$7	01116236
LNL NWR	Replace obsolete cultivator.	\$7	01116240
LNL WMD	Construction Costs (Route 103-105, 2.1 mi, Parking lots 903-910)	\$1100	02120118

Station	Project Title	Cost Estimate (1000s)	SAMMS Work Order #
LNL WMD	Preliminary Engineering Costs (Route 103-105, 2.1 mi, Parking lots 903-910)	\$104	02120156
LNL WMD	Construction Costs (Route 100-102, 2.3Mi, Parking lots 900-902, 904)	\$1100	02120163
LNL NWR	Preliminary Engineering Costs - 5 roads, 5 parking areas (Routes 10, 11, 100-103, 900-903, 910; 10.2 mi)	0	02120191
LNL NWR	Construction Costs - 5 roads, 5 parking areas (Routes 10, 11, 100-103, 900-903, 910; 10.2 mi)	\$365	02120236
LNL WMD	Preliminary Engineering Costs (Route 100-102, 2.3mi, Parking lots 900-902, 904)	\$104	02120243
LNL WMD	Repair East Lost Lake Dam #2.	\$35	02120282
LNL NWR	Repair G-19a dam.	\$30	02120290
LNL NWR	Repair G-19 dam.	\$28	02120296
LNL NWR	Replace 2002 Dodge Pickup.	\$24	02120613
LNL NWR	Repair east courtyard rockwork.	\$40	03126846
LNL WMD	Construct kiosks.	\$113	03130765
LNL NWR	Replace unsafe maintenance shop.	\$420	03126912
LNL NWR	Construct vehicle cold storage shed.	\$144	03126915
LNL NWR	Replace 2003 Chevy pickup.	\$22	03127090
LNL NWR	Replace 2003 Chevy pickup.	\$22	03127091
LNL NWR	Replace 2003 Ford crew cab.	\$35	03127094
LNL NWR	Replace 2002 550 Ford fire truck (#275).	\$33	03127102
LNL NWR	Replace 2001 550 Ford fire pickup.	\$33	03127103
LNL NWR	Replace 2002 52 pumper unit.	\$21	03127104
LNL NWR	Replace Wishek 12' disk.	\$14	03127105
LNL NWR	Replace 2002 Polaris 4x4 Ranger.	\$8	03127107
LNL NWR	Replace 2002 Polaris 4X4 Ranger.	\$8	03127108
LNL NWR	Replace storage building.	\$256	04133791
LNL NWR	Repair/rehabilitate old refuge headquarters for use as visitor center.	\$275	04133795
LNL NWR	Replace red Honda ATV.	\$5	04133804
LNL NWR	Replace 2003 yellow Honda ATV.	\$5	04133806
LNL NWR	Replace Type 4 model 52 unit (frieghtliner).	\$44	04133815
LNL NWR	Replace 2003 Chevy crew cab.	\$24	04133818
LNL NWR	Replace freightliner truck used for water transport.	\$69	04133819
LNL NWR	Replace 2003 Honda ATV Rancher.	\$5	04133824
LNL NWR	Replace Zone LEO Chevy Tahoe.	0	05139499
LNL NWR	Repair Springwater NWR Dam.	\$235	05137382
LNL NWR	Replace heating system in headquarter office.	\$28	05138269
LNL NWR	Replace electrical and plumbing maintenance shop.	\$75	05138271
LNL NWR	Repair Sunburst low hazard dam.	\$26	05138274
LNL NWR	Replace 2004 JD Payloader.	\$105	05138304
LNL NWR	Replace zone LEO Chevy Tahoe.	\$34	05139498
LNL NWR	Rehab unit 2 marsh dike.	\$80	92105949

Station	Project Title	Cost Estimate (1000s)	SAMMS Work Order #
LNL NWR	Rehabilitate equipment storage freeze protection system.	\$60	93109662
LNL NWR	Rehabilitate public use area.	\$60	93105950
LNL NWR	Rehabilitate oil and paint storage building.	\$30	93105928
LNL NWR	Repair artesian well.	\$30	93105929
LNL NWR	Replace residence heating systems.	\$31	94105930
LNL NWR	Rehabilitate the “B” dike spillway.	\$35	94105951
LNL NWR	Repair access road to east peninsula.	\$150	94105953
LNL NWR	Replace worn transport trailer.	\$50	95105934
LNL NWR	Construct “D” dike.	\$1298	96109814
LNL NWR	Provide grassland management equipment building to increase longevity of service.	\$131	96123567
LNL WMD	Enhance visitor services/outreach by developing visitor contact station.	\$61	96123854
LNL NWR	Increase refuge mission support capability by expanding office space.	\$654	96110662
LNL NWR	Enhance refuge wildlife-oriented recreation opportunities by developing refuge interpretive trail.	\$179	96123851
LNL WMD	Provide fabrication shop facility.	\$111	96123547
LNL NWR	Replace flatbed/grain truck.	\$86	97105965
LNL NWR	Replace badly worn dump truck.	\$77	97105935
LNL NWR	Replace septic system.	\$30	97105936
LNL NWR	Repair sewage treatment system for office/headquarters facility.	\$35	97105937
LNL NWR	Replace sewer lines.	\$30	97105938
LNL NWR	Replace headquarters office/residence exterior sewer lines.	\$30	97105939
LNL NWR	Replace interior plumbing in residence #14 and temp quarters #16.	\$30	97105940
LNL NWR	Enhance visitor services through development visitor contact station.	\$90	98123853
LNL NWR	Replace large refuge recognition signs.	\$38	98105942
LNL NWR	Develop moist-soil units to increase migratory bird support capability by constructing new levees.	\$357	98123564
LNL WMD	Increase migratory bird resource support by developing levees on Adams WPA.	\$146	98123571
LNL NWR	Outlet/drawdown for Long Lake - phase I [p/d].	\$710	98110272
LNL NWR	Outlet/drawdown for Long Lake - phase II (c).	\$2088	98110543
LNL WMD	Develop consistent, reliable access to Sisco-Fallgaeter WPA to aid management and public use.	\$123	98123569
LNL NWR	Enhance public use facilities and promote visitation in conjunction with Lewis & Clark bicentennial.	\$64	99123622

*LNL = Long Lake; SLD = Slade; FCL = Florence Lake

Appendix P

Section 7 Consultation

INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM

Originating Persons: Paul Van Ningen
Gregg Knutsen

Telephone Number: (701) 387-4397

Date: July 12, 2006

1. Region: 6

2. Service Activity (Program): Refuges & Wildlife, Long Lake NWR Complex

3. Pertinent Species and Habitat:

1. Federally Listed Species and/or their critical habitat within or downstream from action area:

bald eagle, *Haliaeetus leucocephalus* (federally listed as threatened; delisting proposed)

whooping crane, *Grus americana* (federally listed: endangered)

piping plover, *Charadrius melodus*, (federally listed: threatened)

least tern, *Sterna antillarum*, (federally listed: endangered)

Critical Habitat: In 2002 the Service's Ecological Services Division designated eleven different tracts of land, of which at least portions are owned by the Service and administered by the complex, as Piping Plover Critical Habitat. These areas consist of Long Lake NWR, three Kidder County WPAs, and seven Burleigh County WPAs.

2. Proposed species and/or proposed critical habitat within the action area:

There are no known proposed species or critical habitat in Long Lake NWR Complex

C. Candidate species within or downstream from the action area :

Dakota skipper, *Hesperia dacotae*, candidate species within area of the complex

A. Include species/habitat occurrence on a map: see attachment

IV GEOGRAPHIC AREA OR STATION NAME AND ACTION:

Station: Long Lake National Wildlife Refuge Complex

Action: Issuance & Implementation of Comprehensive Conservation Plan for Long Lake NWR Complex

V LOCATION (MAP ATTACHED):

A. Ecoregion Number and Name: Long Lake NWR Complex is located within the Service's Region 6, Mountain-Prairie Region, and specifically in the Main Stem Missouri Ecosystem

F. Counties and State: Burleigh, Emmons, and Kidder counties, North Dakota

G. The Long Lake NWR Complex includes all sections within Burleigh, Emmons and Kidder Counties in North Dakota

A. Distance and direction to nearest town: The Long Lake NWR Complex headquarters is located in the southeastern area of Burleigh County, North Dakota, approximately 3 miles east of the town of Moffit, and approximately 40 miles southeast of the city of Bismarck.

B. Habitats and Occurrence of Federally listed and Candidate species:

Bald eagle: The bald eagle is a relatively common migrant during the spring and fall migrations. Observations of this species on the complex's refuges and WPAs can usually be tied to large concentrations of migrant waterfowl.

Whooping crane: Long Lake NWR is a key stopover site for this species that migrate through the Central Flyway to their breeding area in the Northwest Territories in the spring and their wintering area on Aransas NWR in the fall. Since 2000 there have been at least eight confirmed fall observations of whooping cranes using Long Lake NWR. Additionally, during recent years, this species has been documented on WPAs in the complex.

Piping plover: The piping plover breeds on the shoreline of the large, alkaline lakes that are common throughout the northeastern one-third of the complex.

Least tern: The endangered least tern has been documented on Long Lake NWR, but this is an anomaly, as the majority of this species' habitat use in North Dakota centers on the Missouri River.

Dakota skipper: This prairie-obligate species has not been documented in Burleigh, Emmons, or Kidder counties, but there is potential for it to occur on Service lands in these locations. Schiermeister WPA is the only tract of land in the complex with habitat characteristics that currently meet the requirements for this species.

VI DESCRIPTION OF PROPOSED ACTION

The proposed action is: development and implementation of a Comprehensive Conservation Plan to guide the management of the Long Lake NWR Complex for the next 15 years. Implementation of this Plan comprises implementation of all actions and activities to achieve the stated goals contained in the Plan that will ultimately lead to the fulfillment of the purposes for which Congress established all the units comprising the Long Lake NWR Complex and assist in the fulfillment of the goals of the National Wildlife Refuge System.

VII DETERMINATION OF EFFECTS:

A. Explanation of effects of the action on species and critical habitats in items III. A, B & C

Bald eagle: Implementing the CCP is not thought to have detrimental effects on this raptor. In fact, the continued preservation and management of complex lands for the benefit of wildlife species should enhance foraging sites for eagle use.

Whooping crane: Implementing the CCP is not thought to have detrimental effects on this migrant crane. In fact, the continued preservation and management of complex lands for the benefit of wildlife species should enhance loafing and resting sites for crane use.

Least tern: This species is a rare visitor to the complex. However, should this species wander through the complex, it is expected that implementation of the CCP would not have detrimental effects on habitats frequented by this species. Continued preservation and management of complex lands for the benefit of wildlife species should enhance sites for use by this tern species.

Piping plover: Implementing the CCP is not thought to have detrimental effects on this plover species. In fact, the continued preservation and management of complex lands, especially predator management and restrictions on certain public uses, for the benefit of this and other wildlife species should enhance nesting success as well as provide adequate loafing and resting sites for plover use.

There is already federally designated critical habitat on the action area (Long Lake NWR Complex) and the CCP does not find a need to propose designating further habitats as critical habitat within the complex at this time.

Dakota skipper: Implementing the CCP is not thought to have detrimental effects on this species. In fact, the continued preservation and management of these lands for the benefit of wildlife species (e.g., restoration of native vegetation) should enhance uplands for this insect.

C. Explanation of actions to be implemented to reduce adverse effects: None are necessary. All actions delineated in this CCP are thought to follow and be in accordance with provisions of protection and restoration plans for several species, as delineated by the Service and other Federal and state agencies. The complex staff is well acquainted with provisions that would be invoked and be put into effect to protect federally listed species and species of special concern from any public use or management action by refuge staff or visitors to the refuge.

VIII EFFECT DETERMINATION AND RESPONSE REQUESTED: [* = OPTIONAL]

A. Listed species/designated critical habitat:

Determination	Response Requested
no effect/no adverse modification (species: NONE)	_____ *Concurrence
may affect, but is not likely to adversely affect species/adversely modify critical habitat (species: NONE)	_____ Concurrence
likely to jeopardize the continued existence of species and adversely modify or destroy their critical habitat (species: NONE)	_____ Formal Consultation

A. Proposed species/proposed critical habitat: none at this time

Determination	Response Requested
no effect on proposed species/no adverse modification of proposed critical habitat (Species: NONE)	_____ *Concurrence
Is likely to jeopardize proposed species/ adversely modify proposed critical habitat (species: NONE)	_____ Conference

A. Candidate Species:

Determination	Response Requested
no effect is likely to jeopardize candidate species (species: NONE)	_____ *Concurrence

Paul C. Van Ningen

Paul Van Ningen
Project Leader
Long Lake National Wildlife Refuge Complex
Moffit, ND

7/13/06

Date

IX. Reviewing ESO Evaluation:

A. Concurrence _____

Nonconcurrency _____

B. Formal Consultation required: _____

C. Conference required: _____

D. Informal conference required: _____

E. Remarks: _____

Jeffery Towner

Jeffery Towner
North Dakota Field Supervisor
U.S. Fish & Wildlife Service

JULY 28, 2006

Date

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