

# Glossary

**abiotic**—Pertaining to nonliving things.

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

**adaptive management**—Rigorous application of management, research, and monitoring to gain information and experience necessary to assess and change management activities; a process that uses feedback from research, monitoring, and evaluation of management actions to support or change 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 a management plan. Analysis of results helps managers figure out whether current management should continue as is or whether it should be modified to achieve desired conditions.

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

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

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

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

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

**Beckwith and Quin Dam**—An instream water control structure located within the Cokeville Meadows Refuge boundary.

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

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

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

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

**biota**—Animals and plants of a given region.

**biotic**—Pertaining to life or living organisms.

**BLM**—See Bureau of Land Management.

**BQ Dam**—See Beckwith and Quin Dam.

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

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

**Bureau of Land Management**—A Federal agency under the executive branch of government.

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

**CCP**—See comprehensive conservation plan.

**CFR**—See Code of Federal Regulations.

**cfs**—An abbreviation for cubic feet per second, a measurement of water flow.

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

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

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

**compatible use**—Wildlife-dependent recreational use or any other use of a refuge that, in the sound professional judgment of the director of the U.S. Fish and Wildlife Service, will not materially interfere with or detract from the fulfillment of the mission of the Refuge System or the purposes of the refuge (“Draft U.S. Fish and Wildlife Service Manual” 603 FW 3.6). A compatibility determination supports the choice of compatible uses and identified stipulations or limits necessary to make sure that there is 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 U.S. Fish and Wildlife Service Manual” 602 FW 1.5).

**concern**—See issue.

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

**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 to accomplish a public purpose authorized by Federal statute and substantial involvement between the Service and the recipient is anticipated.

**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 name all exposed physical manifestation of cultural resources (class III).

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

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

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

**demography**—Quantitative analysis of population structure and trend.

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

**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 or her property.

**ecosystem**—Dynamic and interrelating complex of plant and animal communities and their associated nonliving environment; a biological community, 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.

**education and visitor services**—A division of the U.S. Fish and Wildlife Service.

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

**Endangered Species Act (1973), as amended**—A law that required all Federal agencies to carry out programs for the conservation of threatened and endangered species.

**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 part of its range.

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

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

**environmental assessment (EA)**—Concise public document, prepared in compliance with the National Environmental Policy Act of 1969, that briefly discusses the purpose and need for an action and alternatives to such action, and provides sufficient evidence and analysis of changes to figure out whether to prepare an environmental impact statement or finding of no significant impact (40 CFR 1508.9).

**environmental education**—Education aimed at producing a citizenry that is knowledgeable about 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.

**ESA**—See Endangered Species Act (1973), as amended.

**EVS**—See education and visitor services.

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

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

**°F**—See Fahrenheit.

**Fahrenheit**—A measurement of temperature.

**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 the rights to a tract of land.

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

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

**flora**—All the plant species of an area.

**FMP**— See “fire management plan.”

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

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

**GIS**—See geographic information system.

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

**GPS**—Global Positioning System.

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

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

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

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

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

**herbivore**—Animal feeding on plants.

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

**HGM**—See hydrogeomorphic method.

**hydrogeomorphic method**—An interdisciplinary science that focuses on the interaction and linkage of hydrologic processes with landforms or earth materials and the interaction of geomorphic processes with surface and subsurface water in temporal and spatial dimensions.

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

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

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

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

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

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

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

**IPM**—See integrated pest management.

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

**lek**—A physical area where males of a certain animal species gather to show their prowess and compete for females before or during the mating season.

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

**management alternatives**—See alternatives.

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

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

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

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

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

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

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

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

**mission**—Succinct statement of purpose or reason for being.

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

**monotypic**—Having only one type or representative.

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

**National Environmental Policy Act of 1969**—Required all agencies including the Service to examine the environmental effects of their actions, incorporate environmental information, and use public participation in the planning and implementation of all actions. Required Federal agencies to integrate this act with other planning needs and prepare proper documents to facilitate better environmental decisionmaking (40 CFR 1500).

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

**National Wildlife Refuge System**—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 Administration Act of 1966**—Defined the National Wildlife Refuge System and authorized the Secretary of the Interior to allow any use of a refuge, provided such use is compatible with the major purposes for which the refuge was established.

**Native species**—Species that, other than as a result of an introduction, historically occurred or now occur in that ecosystem.

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

**NEPA**—See the National Environmental Policy Act of 1969.

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

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

**North American Waterfowl Management Plan**—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 made up of individuals; corporations; conservation organizations; and local, State, provincial, and Federal agencies drawn together by common conservation objectives. The Souris River Basin refuges are included in the “Prairie Pothole Joint Venture.”

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

**noxious weed, also invasive plant**—Any living stage (including seeds and reproductive parts) of a parasitic or other plant of a kind that is of foreign origin (new to or not widely prevalent in the United States) and can directly or indirectly injure crops, other useful plants, livestock, poultry, other interests of agriculture, including irrigation, navigation, fish and wildlife resources, or public health. According to the Federal Noxious Weed Act (PL 93-639), a noxious weed (invasive plant) is one that causes disease or has adverse effects on humans or the human environment and, therefore, is detrimental to the agriculture and commerce of the United States and to public health.

**NWR**—See national wildlife refuge.

**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 reachable, time-specific, and measurable.

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

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

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

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

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

**planning team leader**—Typically a professional planner or natural resource specialist knowledgeable of the needs 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 needs.

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

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

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

**potentiometric surface**—A hypothetical surface representing the level to which ground water would rise if not trapped in a confined aquifer.

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

**prescribed fire**—A wildland fire originating from a planned ignition to meet specific objectives identified in a written, approved, prescribed fire plan for which NEPA requirements (where applicable) have been met before ignition.

**priority public use**—See wildlife-dependent recreational use.

**pristine**—Typical of original conditions.

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

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

**private organization**—Any nongovernment organization.

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

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

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

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

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

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

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

**refuge purpose**—See purpose of the refuge.

**Refuge System**—See National Wildlife Refuge System.

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

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

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

**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 parts are directly or indirectly attributed to the influence of water; or relating to a river; specifically applied to ecology, “riparian” describes the land immediately adjoining and directly influenced by streams. For example, riparian vegetation includes all plant life growing on the land adjoining a stream and directly influenced by the stream.

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

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

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

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

**shorebird**—Any of a suborder of birds such as a plover or a snipe that frequent the seashore or mudflat 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 needs of the National Wildlife Refuge System Administration Act of 1966 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 or 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 (“National Wildlife Refuge System Manual” 5 RM 17.6).

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

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

**stepdown management plan**—Plan that provides the details necessary to carry out management strategies identified in the comprehensive conservation plan (“Draft U.S. Fish and Wildlife Service Manual” 602 FW 1.5).

**strategy**—Specific action, tool, or technique or combination of actions, tools, and techniques used to meet unit objectives (“Draft U.S. Fish and Wildlife Service Manual” 602 FW 1.5).

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

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

**surficial**—Relating to or occurring on the surface.

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

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

**trust species**—See trust resource.

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

**upland**—Dry ground; other than wetlands.

**USDA**—See U.S. Department of Agriculture.

**U.S. Department of Agriculture**—A Federal agency under the executive branch of government.

**U.S. Fish and Wildlife Service**—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 made up of more than 530 national wildlife refuges and thousands of waterfowl production areas. It also runs 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**—Federal agency whose mission is to provide reliable scientific information to describe and understand the earth; reduce 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.

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

**Wage Grade**—Pay rate schedule for certain Federal positions.

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

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

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

**WGFD**—See Wyoming Game and Fish Department.

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

**wildland fire**—A general term describing any non-structure fire that occurs in the wildland. There are two types of wildland fire—wildfire and prescribed fire.

**wildlife-dependent recreational use**—Use of a refuge involving hunting, fishing, wildlife observation and photography, or environmental education and interpretation. These are the six priority public uses of the Refuge System as established in the National Wildlife Refuge System Administration Act of 1966, 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.

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

**Wyoming Game and Fish Department**—A government department of the State of Wyoming.

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

# Appendix A

## *Draft Compatibility Determinations*

### **A.1 REFUGE INFORMATION**

#### **Refuge Name and Location**

Cokeville Meadows National Wildlife Refuge, Lincoln County, near Cokeville, Wyoming.

#### **Date Established**

October 12, 1993

#### **Establishing and Acquisition Authorities**

Emergency Wetlands Resources Act of 1986 (16 U.S.C. § 3901(b))

Consolidated Farm and Rural Development Act (7 U.S.C. § 2002)

Migratory Bird Conservation Act (16 U.S.C. § 715d)

### **A.2 REFUGE PURPOSES**

- "... for the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ..." 16 U.S.C. § 3901(b) (Emergency Wetlands Resources Act of 1986)
- "... for conservation purposes ..." 7 U.S.C. § 2002 (Consolidated Farm and Rural Development Act)
- "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." 16 U.S.C. § 715d (Migratory Bird Conservation Act)
- "to preserve and protect wetland riparian habitat for its migratory waterfowl and other migratory bird values; for resident big game, small game, furbearers and upland gamebirds; for public educational and interpretive values; and for public recreational values" (USFWS 1990).

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#### **National Wildlife Refuge System Mission:**

*The mission of the National Wildlife Refuge System is "to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans"*

### **A.3 DESCRIPTION OF USES**

The following uses are evaluated for compatibility within the refuge.

## Cooperative Farming

### Description of Use

Cooperative farming is the term used for cropping activities done by a third party on lands that we own in fee title or controls through a conservation easement. This activity is usually done on a short-term basis (3–4 years or less) to provide an optimal seedbed for establishment of native grasses and forbs or other desirable planted cover for wildlife. Cooperative farming on certain tracts can provide a fall food source for migratory waterfowl or a winter food source for resident wildlife. A farmer acts under authority of a cooperative farming agreement or special use permit issued by the project leader or refuge manager. Terms of the agreement make sure that the farmer follows all current Service and refuge restrictions.

Cooperative farming activities are generally limited to areas of former cropland or poor quality stands of tame or cool-season invasive grasses. Service policies do not allow tilling or cropping of highly erodible soils without an approved USDA Natural Resources Conservation Service conservation plan. Generally, farmed areas (before reseeding to more desirable plant species) would not cover more than 50 percent of the tract. Areas at the refuge that are planted for food plots would be limited to the size needed to provide sufficient food for the targeted wildlife species.

### Availability of Resources

Staff time is available for development and administration of cooperative farming agreements. Most of the needed fieldwork to prepare and plan for this use would be done as part of routine grassland or upland management duties. The decision to use a cooperating farmer would occur as part of the overall strategy for managing and within a refuge. The added time needed to coordinate issuance of the special use permit or cooperative farming agreement and oversight of the permit or agreement is relatively minor and within the refuge's resources. In addition, the use of a cooperating farmer would free up Service employees who would otherwise have to conduct the farming operation. In most cases, farmers conduct cooperative farming operations on Service lands on a share basis rather than for a fee. We typically receive our share as:

- harvested grain used for other management purposes such as standing grain left for wildlife food,
- added work such as the control of invasive plants, cultivation, or added seedbed preparation, or
- supplies such as herbicide or grass seed to be used on the same tract of land.

We deposit any fees or cash income related to the farming into the Refuge Revenue Sharing Account. We receive fair market value consideration from cooperating farmers, but the generation of income is a secondary consideration when developing the terms and conditions of a special use permit or cooperative farming agreement. To lessen any appearance of favoritism or impropriety, managers follow "Refuge Manual" procedures for establishing rental rates and cooperator choice.

### Anticipated Effects of This Use

Cooperative farming to prepare suitable seedbeds for planting better cover and habitat would result in short-term disturbances and long-term help to both resident and migratory wildlife using the refuge. Short-term effects include disturbance and displacement of wildlife typical of any noisy heavy equipment operation, and the loss of poor quality cover while the tract is farmed. Wildlife may use farmed areas as added food sources during the farming period.

There would be long-term help because of the establishment of diverse or more desirable habitat for nesting, escape cover, perching, or noncrop feeding activities. The resulting habitat would generally improve conditions for most of the species negatively affected by the short period of farming activity.

There would be no negative effects on cultural resources or threatened and endangered species.

## Public Review and Comment

This compatibility determination was prepared concurrently with the draft CCP and EA for the refuge. Public review and comment will be achieved concurrently with the public review and comment period for the draft CCP and EA.

## Determination

Cooperative farming is a compatible use with the following stipulations.

## Stipulations Necessary to Make Sure That There is Compatibility

- Monitor vegetation and wildlife to assess the effects of cooperative farming as a management tool.
- Require general and special conditions for each permit to make sure that there is consistency with management objectives.
- Restrict the use of vehicles and motorized equipment to the minimum necessary to conduct operations to meet management objectives.
- Restrict farming permittees to use approved chemicals that are less detrimental to wildlife and the environment.

## Justification

Habitat conditions would deteriorate without the use of a full range of management tools. Migratory bird habitat and ecological diversity would decrease as habitat suitability declined. Invasive plant species would increase and habitat diversity would decrease if farming practices did not continue at the refuges. To support and enhance habitat for migratory birds and other wildlife, habitat manipulation such as farming needs to occur.

## Mandatory 10-Year Reevaluation Date: 2023

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## Prescribed Haying and Grazing

### Description of Use

We propose to issue special use permits to manage various refuge land tracts cooperatively to improve habitat conditions and help migratory and resident wildlife species. To accomplish this, we would allow permittees to cut meadow hay and complete prescriptive grazing of wet meadow, wetland, and upland areas on specified portions of refuge tracts to support healthy and vigorous vegetative stands on Cokeville Meadows National Wildlife Refuge. In return, the cooperators would complete habitat improvement projects on the tracts including irrigating wet meadows a control of noxious weeds, fence repair or replacement, tract cleanup, seeding native vegetation, and other mutually agreed-on projects.

Cooperative management of refuge tracts, including haying and grazing, is not one of the priority public uses of refuge lands. However, the occasional haying or grazing, particularly of wet meadow habitat, is an important habitat management technique that supports the health and vigor of the vegetation in these areas.

Haying and prescriptive grazing would occur on refuge-owned tracts on areas designated by our refuge manager and specifically outlined in each special use permit. These tracts are located within the refuge acquisition boundary in Townships 22, 23, and 24 North and Range 119 and 120 West. These areas provide a mosaic of habitats including wet meadows and cattail or bulrush sloughs that provide nesting and migratory habitat for many duck species, Canada

geese, greater sandhill cranes, white-faced ibis, snowy egret, long-billed curlew, black tern, great blue heron, American bittern, black-crowned night-heron, and many other marsh and shorebirds and raptors.

The special use permits would allow permittees to complete operations on the tracts between specified periods during the calendar year. Irrigation activities generally take place between March and July, haying of meadow grasses is generally conducted in mid-to-late August, and prescriptive (usually short-term, intensive) grazing would be conducted primarily in the fall but occasionally in the early spring or in some circumstances during the winter dormant season. Meadow grass haying would not be permitted before August 1st to prevent destruction of ground nesting migratory bird nests. Cooperators must provide their own agricultural equipment to complete operations. Standard agricultural equipment and techniques are permitted. Permittee may complete work himself or contract labor.

## Availability of Resources

Refuge resources required for administering and managing special use permits include staff time to conduct site reviews before and throughout the growing season, cooperator meetings and coordination, administrative time to complete pesticide use permits or reports and special use permit or compatibility determination, and enforcement. Refuge tracts are located within Cokeville Meadows National Wildlife Refuge, a satellite refuge of Seedskadee Refuge, about a 1.5 hour drive away. Meetings with each cooperator would be conducted a minimum of two times each season and are often in conjunction with site visits. General coordination with cooperators, including phone calls and incidental meetings, occur on a regular basis and may total eight or more hours each year per permit. Research for writing and editing the special use permits and associated Compatibility Determination take about four to six hours. These staff costs are estimated to total about \$700 per permit. Direct fuel, telephone, and miscellaneous supplies are estimated to total about \$100 per permit.

General maintenance and repairs of refuge equipment such as irrigation systems, pumps, and ditches are the responsibility of the permittees and result in no direct costs to the refuge. Major repairs (outside of normal wear and tear) or replacement of equipment, such as irrigation systems or pumps, is the responsibility of the refuge and can result in a wide range of expenses depending on the nature of the repair or purchase. Furthermore, we do not expect that refuge staff will be increased to handle these activities in the future. The most cost-efficient way for us to support irrigation equipment, other infrastructure, water rights, and to improve habitat for wildlife on refuge lands now is through haying and grazing operations. Revenue generated by the uses outlined in each permit directly help habitat and wildlife management of the tracts.

## Anticipated Effects of This Use

Haying would result in short-term disturbances to wildlife and long-term help to wet meadows and uplands and the wildlife species that use these grasslands. Short-term changes would include disturbance and displacement of wildlife typical of any noisy heavy equipment operation. Cutting and removal of standing grass would result in the short-term loss (late summer to midsummer the following year) of habitat for those species requiring taller grass for feeding and perching. We would typically schedule prescribed haying after August 1st to avoid changes to most nesting birds.

Long-term help would accrue because of the increased vigor of regrown grasses or the establishment of highly desirable native grass and forbs species, which would improve habitat conditions for the same species affected by the short-term removal of cover. Long-term negative effects may occur to some resident wildlife species such as sage-grouse, which may lose overwinter habitat in hayed areas. Strict time constraints and limiting grass stands to no more than 50 percent being hayed at any one time would limit the anticipated effects on these species.

Grazing by domestic livestock has the short-term effect of removing some or much of the standing vegetation from a tract of grassland. Properly prescribed, the effect of this vegetation removal increases the vigor of the grassland, stimulates growth of desired species of grass and forbs, and reduces the abundance of targeted species such as cool-season invasive plants, noxious weeds and other invasive plants, and cattails. Grazing in the spring may cause the loss of some bird nests because of trampling, and may cause some birds not to nest in grazed areas. Prescribed grazing is usually of short duration with the result of enhanced, more diverse, and vigorous grassland habitats. Grazing livestock may create a minor and temporary disturbance to wildlife, but generally does no harm. Grazing on public wildlife lands can create an aesthetic issue of concern for some people, including visitors, who do not understand grassland or upland management. There is a slight potential for conflict between the visiting public and the livestock or the permittee, particularly during fall hunting seasons. To remove any appearance of favoritism or impropriety, managers

follow “Refuge Manual” procedures for cooperator or permittee choice. There would be no negative effects on cultural resources or threatened and endangered species.

## Public Review and Comment

This compatibility determination was prepared concurrently with the draft CCP and EA for the refuge. Public review and comment will be achieved concurrently with the public review and comment period for the draft CCP and EA.

## Determination

Prescribed haying and grazing is a compatible use with the following stipulations.

## Stipulations Necessary to Make Sure That There is Compatibility

Permittees would comply with all stipulations in the special use permits. The following conditions will be included in each permit (more conditions may be added to each permit):

- The Cooperator agrees that grazing and haying activities must be conducted according to the conditions and rates specified by this permit. Any changes in the agreement must be made by an addendum, which is attached to and becomes part of the agreement.
- Capital improvements to facilities (fences and irrigation system) would become the property of the U.S. Fish and Wildlife Service unless specifically stated otherwise.
- The Cooperator and a Service representative would meet before, during, and at the conclusion of this permit to assess habitat conditions and other work completed under this special use permit. Duration of grazing on the tract may be shortened, or lengthened, at the discretion of the refuge manager to maximize help to vegetation and meet this goal. Corresponding changes would be made in rental fee computation.
- We must have a pesticide use proposal completed and approved before the application of any chemicals for crop production. The Cooperator would follow the directions on the label and our recommendations when applying any herbicides or pesticides. Cooperator must provide correct records of chemical, including acreages and application rates, used on the tract.
- Changes in the deduction rates, custom services, or termination date would be by an addendum, which is attached to and becomes part of the agreement.
- The cooperator is subjected to the same restrictions, terms, and agreements about land and water management as that of the U.S. Fish and Wildlife Service.
- Haying of irrigated meadow areas would not be permitted until after August 1 each year to prevent destruction of ground nesting migratory bird nests.

## Justification

The proposed use would not materially interfere with or detract from the refuge or Refuge System purposes and mission. Haying and prescriptive grazing operations in sedge or grass communities would support or improve the health and vigor of vegetation and keep the area as open wet meadows or grasslands for use by sandhill cranes, shorebirds, ducks, geese and other marsh species. Haying and grazing operations would be rotated from year to year to maximize revitalization of meadow grasses and other vegetation throughout the tract. Continuing the irrigation of hay meadows and lowland pastures would provide foraging, nesting, or resting areas for geese, ducks, cranes, sage-grouse, and other migratory birds. Other species that would be directly helped include deer, elk, pronghorn, and amphibian species. Without irrigation, most of the area would convert to dryland grasses and shrubs. Continued use of the water supply would keep valid water rights for the refuge, which would be needed for future wetland management and development.

Cokeville Meadows National Wildlife Refuge is managed by Seedskafee National Wildlife Refuge, which is about 90 miles away. Only one full-time staff position is now allocated to manage lands at Cokeville Meadows National Wildlife Refuge. The use of cooperative farmers is instrumental in conducting habitat management projects for wildlife.

## **Mandatory 10-Year Reevaluation Date: 2023**

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# **Hunting**

## **Description of Use**

Cokeville Meadows National Wildlife Refuge was established in 1993. Hunting occurred on this private property before refuge establishment and hunting has not been authorized to occur on the refuge since establishment.

Hunting is one of the six legislated wildlife-dependent, priority public uses of the National Wildlife Refuge System. Hunting would occur within designated hunting areas on the refuge during refuge hunting seasons that are within Wyoming Game and Fish Department-established hunting seasons. Hunting would be subject to Federal, State and refuge-specific regulations.

Because Cokeville Meadows National Wildlife Refuge is a newer refuge, the exact number of users is unknown. Based on hunting that occurs on the adjacent private and public lands, we would anticipate up to 50 people and 20 vehicles to use the public hunting area each day of the weekend during the peak of elk and deer season. We expect approximately 15 people and 8 vehicles on a weekday during the peak of elk and deer season. We anticipate up to 300 more user-days per year for all other species hunted.

Hunting could occur throughout the refuge area acquired to date. As more areas are acquired they would be evaluated to figure out their suitability for this activity. Access is limited because of ongoing refuge acquisition. The current lack of access would necessitate hiking to many hunting areas on the refuge. As refuge acquisition is completed, more access could be provided.

Hunting would occur during designated refuge hunting seasons that are within Wyoming Game and Fish Department-established hunting seasons. Hunting would be subject to Federal, State and refuge-specific regulations and occur within designated hunting areas on the refuge. Camping and use of all-terrain vehicles would not be allowed. Tree stands or blinds would be removed daily by the hunter.

Hunting is proposed to offer the public recreational opportunities that are identified as the priority wildlife-dependent public uses of the National Wildlife Refuge System.

## **Availability of Resources**

The hunting program would be reviewed yearly, and necessary changes would be incorporated accordingly. Law enforcement would consist of random hunting license and bag limit checks as well as aggressive investigation and prosecution of flagrant offenses. A first and second year emphasis would be placed on hunter compliance through educational efforts with a progressively higher emphasis placed on enforcement in subsequent years. Operational and maintenance costs to conduct the Cokeville Meadows National Wildlife Refuge hunt are not yet projected with the bulk of those costs budgeted toward infrastructure and enforcement work-hours. Some overtime can be anticipated, with more hours worked by collateral law enforcement and full-time officers. Local budget costs may be defrayed in part by our regional law enforcement officer overtime budget. Added costs are anticipated for signs, brochures, parking lots and access points, which would be constructed and reviewed.

## Anticipated Effects of This Use

### ***Biological Conflicts***

The proposed hunting would cause few biological conflicts with other wildlife species. Some disturbance of other animals is unavoidable when people are on the refuge and when they are using firearms. However, most of the current and potential refuge lands were, or are, open for private or public hunting, and are open to the public for hiking, birdwatching and similar activities now. Public hunting on refuge lands would not change the situation much unless hunting pressure increases markedly. If that happens, we would take measures—such as having a permit system or allowing hunting only on certain days of the week—to reduce the number of hunters.

Refuge staff would make every effort to maximize protection of endangered species and other nontarget wildlife.

High-visibility law enforcement activities, as well as covert operations, would be conducted to dissuade hunters from affecting wildlife other than the target species. Special Refuge Regulations would be, in effect, to reduce disturbance and to protect flora and fauna in the area.

### ***Public Use Conflicts***

No conflicts of consequence are expected between sport anglers and big game, upland game, or small game hunters. Overlap of hunting area usage between sport anglers, migratory bird hunters, and big game hunters may occur, but is expected to be minimal because of the dissimilar nature of these activities and the areas of the refuge where these activities may be expected to occur.

The demand for nonconsumptive wildlife-oriented use on Cokeville Meadows National Wildlife Refuge continues to grow. Conflicts between hunters and nonconsumptive users may occur. Providing nonconsumptive users access to wildlife viewing areas as described in this plan, notifications of when users are entering a hunting area and even closing a hunting area to nonconsumptive users if proper would reduce conflicts. In addition, restrictions on hunting methods and restrictions on hunting near designated public use facilities and trails should aid in reducing potential conflicts between hunters and nonconsumptive users. Should serious conflicts arise, considerations would be given to changes in time and space scheduling or zoning. Decisions would be based on minimizing changes to various user groups, and best management practices for wildlife.

Cokeville Meadows National Wildlife Refuge area has been a popular hunting area for many years. The refuge hunting program is designed to provide for the use of refuge lands within a framework designed to protect wildlife populations and provide for public safety. The continuance of these traditional uses has been widely supported by the public both before and after the establishment of the refuge. It is expected that this support would continue.

### ***Administrative Conflicts***

At this time, little administrative conflicts are anticipated. Existing refuge staff would be used to administer the hunting program. Our refuge manager would set station priorities to assure that required support staff is adequate. As this hunt program evolves over the years, refuge-specific regulations, systems of control to limit number of hunters, and fee costs may occur or change at the refuge manager's discretion.

Some research activities may extend into the fall and would be separated from hunting areas when possible.

Fall maintenance activities that occur during hunting seasons may include prescribed burns, maintenance of fences, gates, signs, water control structures, and roads. These activities can be managed so that they will not interfere with hunting opportunity while allowing needed work to be accomplished.

Waterfowl surveys, water level checking, and other habitat surveys may occur during hunting seasons.

Safety briefings for staff and researchers working in hunting areas would make them aware of hunting times and locations. Approved hunter safety vests and hats must be worn by all non-law enforcement operation persons working in areas open to hunting season activities.

Haying and grazing practices do occur on the refuge and in the hunting area for management purposes. Permittees would be made aware of the conflicts that may occur during the hunting season.

## **Public Review and Comment**

This compatibility determination was prepared concurrently with the draft CCP and EA for the refuge. Public review and comment will be achieved concurrently with the public review and comment period for the draft CCP and EA.

## **Determination**

Hunting is a compatible use with the following stipulations.

## **Stipulations Necessary to Make Sure That There is Compatibility**

Stipulations for the hunting program would be made available in the refuge's hunting brochure.

## **Justification**

Hunting is a traditional and legislated wildlife-dependent, priority public use. Use would be properly managed in cooperation with the Wyoming Game and Fish Department. Hunting at the refuge is a legitimate and necessary wildlife management tool that can be used to keep wild animal populations at healthy levels.

Allowing hunting on the refuge would be consistent with established refuge goals. Hunting is 1 of the 6 wildlife-dependent public uses that are to be supported within units of the National Wildlife Refuge System when compatible. This use is not expected to conflict with any proposed habitat management or reclamation projects on the refuge provided the refuge uses closures as necessary to protect public safety and to allow habitat management actions.

## **Mandatory 15-Year Reevaluation Date: 2028**

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# **Fishing**

## **Description of Use**

Cokeville Meadows National Wildlife Refuge was established in 1993. Fishing occurred on this private property before refuge establishment and fishing has not been authorized to occur on the refuge since establishment.

Fishing is 1 of the 6 legislated wildlife-dependent, priority public uses of the National Wildlife Refuge System. Fishing would occur within designated fishing areas on the refuge throughout the year, within Wyoming Game and Fish Department and established fishing seasons. Fishing would be subject to Federal, State and refuge-specific regulations.

Because Cokeville Meadows National Wildlife Refuge is a newer refuge, the exact number of users is unknown. Based on fishing that occurs on the adjacent private and public lands, we would anticipate up to 20 people and 8 vehicles to use the public hunting area each day of the weekend during the peak of fishing season. We expect approximately 8 people and 4 vehicles on a weekday during the summer months.

Fishing activities include shore or bank fishing and fishing from a boat or canoe. Fishing at Cokeville Meadows National Wildlife Refuge would occur only on the Bear River, wetland and wet meadow pools are closed to public fishing access.

Fishing would be in compliance to Federal, State (Wyoming Game and Fish Department), and refuge-specific regulations and occur within designated fishing areas on the Bear River that are in refuge boundaries. Ice fishing is not permitted on the refuge. As more areas are acquired they would be evaluated to figure out their suitability for this activity. Access is limited because of ongoing refuge acquisition. Access to the refuge for this activity would be

achieved through walking or by nonmotorized boats. As refuge acquisition is completed, more access could be provided. Camping, littering, fires and use of all-terrain vehicles would not be allowed.

Fishing is proposed to offer the public recreation opportunities that are identified as the priority wildlife-dependent public uses of the National Wildlife Refuge System.

## **Availability of Resources**

The fishing program would be reviewed yearly, and necessary changes would be incorporated accordingly. Law enforcement would consist of random fishing license and creel limit checks as well as aggressive investigation and prosecution of flagrant offenses. A first and second year emphasis would be placed on fishing compliance through educational efforts with a progressively higher emphasis placed on enforcement in subsequent years. Operational and maintenance costs to conduct the Cokeville Meadows National Wildlife Refuge fishing program are not yet projected with the bulk of those costs budgeted toward infrastructure and law enforcement hours. Some overtime can be anticipated, with more hours worked by collateral law enforcement and full-time officers. Local budget costs may be defrayed in part by our regional law enforcement officer overtime budget. Added costs are anticipated for signs, brochures, parking lots and access points, which would be constructed and reviewed.

## **Anticipated Effects of This Use**

### ***Biological Conflicts***

The proposed fishing would cause few biological conflicts with other wildlife species. Some disturbance of other animals is unavoidable when people are recreational fishing on the refuge. However, most of the current and potential refuge lands were, or are, open for private or public fishing, and are open to the public for hiking, birdwatching and similar activities now. Birds or mammals feeding or resting may be disturbed by anglers fishing from the bank. Public fishing on refuge lands would not change the situation much unless fishing pressure increases markedly. If that happens, we would take measures—such as having a permit system or allowing fishing only on certain days of the week—to reduce the number of anglers. Refuge staff would make every effort to maximize protection of endangered species and other nontarget wildlife.

High-visibility law enforcement activities, as well as covert operations, would be conducted to dissuade anglers from affecting wildlife other than the target species. Special Refuge Regulations would be, in effect, to reduce disturbance and to protect flora and fauna in the area.

### ***Public Use Conflicts***

No conflicts of consequence are expected between sport anglers, big game and upland or small game hunters. Overlap of recreational activities between sportfishing, migratory bird hunters, and big game hunters may occur, but is expected to be minimal because of the dissimilar nature of these activities and the areas of the refuge where these activities may be expected to occur.

The demand for nonconsumptive wildlife-oriented use on Cokeville Meadows National Wildlife Refuge continues to grow. Conflicts between fishing and nonconsumptive users may occur. Providing nonconsumptive users access to wildlife viewing areas as described in this plan, notifications of when users are entering a fishing area and even closing a fishing area to nonconsumptive users if proper would reduce conflicts. Should serious conflicts arise, considerations would be given to changes in time and space scheduling or zoning. Decisions would be based on minimizing changes to various used groups, and best management practices for wildlife.

Cokeville Meadows National Wildlife Refuge area has been a popular fishing area for many years. Our fishing program is designed to provide for the use of refuge lands within a framework designed to protect wildlife populations and provide for public safety. The continuance of these traditional uses has been widely supported by the public both before and after the establishment of the refuge. It is expected that this support would continue.

### ***Administrative Conflicts***

At this time, little administrative conflicts are anticipated. Existing refuge staff would be used to administer recreational fishing activities. Our refuge manager would set station priorities to assure that required support staff is adequate. As recreational fishing evolves over the years, refuge-specific regulations, access limitations, fees may occur or change at the refuge manager's discretion.

Some research activities may occur during the peck fishing months and into the fall and would be separated from fishing areas when possible.

Maintenance activities that occur during fishing seasons may include prescribed burns, maintenance of fences, gates, signs, water control structures, and roads. These activities can be managed so that they will not interfere with fishing opportunity while allowing needed work to be accomplished.

Waterfowl surveys, water level checking, and other habitat surveys may occur during fishing seasons.

Haying and grazing practices do occur on the refuge along the Bear River for management purposes. Permittees would be made aware of the conflicts that mat occur during the hunting season

### **Public Review and Comment**

This compatibility determination was prepared concurrently with the draft CCP and EA for the refuge. Public review and comment will be achieved concurrently with the public review and comment period for the draft CCP and EA.

### **Determination**

Fishing is a compatible use with the following stipulations.

### **Stipulations Necessary to Make Sure That There is Compatibility**

- The designated areas (Bear River) for fishing may need stabilization to prevent erosion before being opened and or to curb erosion after use of these areas has begun.
- Enforcement would be conducted to help curb illegal fires, disorderly conduct and littering, also commercial guiding would not be permitted on the refuge.
- Enforcement would also help to make sure that there is that fishing regulations are observed, reduce creation of unauthorized trails and serve as a direct contact to the fishing public.
- Public meetings with local fishing clubs and interested parties would also be required to reinforce refuge regulations. If these measures do not curb unauthorized activities, other measures would be carried out to control activities and anglers.
- Law enforcement patrol of public use areas should reduce the above-mentioned types of violations.

### **Justification**

The National Wildlife Refuge System Improvement Act identifies six legitimate and proper uses of wildlife refuges: hunting, fishing, wildlife observation, photography, interpretation, environmental education. These priority public uses are dependent on healthy wildlife populations. Where these uses are found to be compatible, they are to receive enhanced consideration over other uses in planning and management.

According to the Improvement Act, fishing is a wildlife-oriented activity that provides substantial recreational opportunities to the public (USFWS 1992). Fishing is a traditional form of outdoor recreation.

These activities would not materially interfere with or detract from the mission of the National Wildlife Refuge System or the purposes for which the refuge was established. This use is not expected to conflict with any proposed

habitat management or reclamation projects on the refuge provided we use closures as necessary to protect public safety and to allow for habitat management actions.

## **Mandatory 15-Year Reevaluation Date: 2028**

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# **Trapping**

## **Description of Use**

Trapping is not a priority wildlife-dependent public use of the National Wildlife Refuge System as defined by the Improvement Act. Trapping would occur in and around locations where wildlife (such as beaver or muskrat) are hampering efforts to achieve refuge land and water management objectives. Typically, along roads, levees, and water control structures. Trapping may occur around refuge buildings where wildlife becomes a nuisance. Trapping would be used, at the refuge manager's discretion, whenever necessary to remove nuisance wildlife that is hampering efforts to achieve refuge land and water management objectives. Trapping could occur whenever a problem arises. Live trapping and relocation is the first preference when dealing with nuisance animals. If lethal trapping is necessary it would occur during Wyoming furbearer season if possible, but may occur at other times if necessary to meet refuge management objectives.

The use would occur whenever necessary and at the discretion of the refuge manager through issuance of a special use permit to a qualified trapper or trappers. Trapping would be used only in specific locations to remove wildlife hampering refuge management objectives. This work would be done by Service employees or through contract with qualified individuals. Animals would be relocated to other outlying fee-title properties or to other sites with willing landowners and suitable habitat. The use of snares on the refuge is prohibited. The approved trapping methods are qualified under State regulation as to trap size and types of allowable sets to protect nontarget species, and provide for the safe use of the area by others. Some furbearers cause damage to dikes and water control structures through burrowing and, in the case of beavers, through dam building or associated flooding. Trapping is used as a management tool to remove wildlife hampering refuge management activities.

## **Availability of Resources**

Sufficient staff exists to issue the required permits, and oversee this periodic use. Facilities and staff are available to provide access, support roads, parking lots, and secondary access roads.

## **Anticipated Effects of This Use**

The refuge was established to provide for the needs of migratory birds and other wildlife. Trapping does not adversely affect our ability to fulfill this purpose, and is employed as a tool to help accomplish refuge management objectives. National wildlife refuges are managed first and foremost for wildlife (USFWS 2001). However, the focus is on wildlife populations not individuals (USFWS 1992). Trapping causes mortality of individual animals, but at Cokeville Meadows National Wildlife Refuge its use is limited to instances where wildlife are hampering refuge management objectives, and it does not threaten the perpetuation of wildlife populations.

Trapping would be done in support of refuge management objectives and is expected to improve or help support habitats of many wildlife species. Any lethal trapping would cause mortality of targeted species and, in some cases, is likely to cause mortality of nontargeted species. In either case, mortality of individuals is not expected to affect wildlife populations adversely on the refuge. Trapping is expected to help refuge habitats in those areas where wildlife (such as beaver and muskrat) are hampering refuge management objectives. The use occurs at the discretion of the refuge manager and is limited to specific locations and times when problems occur.

Periodic trapping to remove nuisance wildlife is not expected to adversely affect wildlife populations that occur on the refuge and would likely help to support the biological integrity, diversity, and environmental health of the refuge.

Trapping is not expected to affect other refuge uses or public safety adversely, and cumulative effects are not anticipated.

## Public Review and Comment

This compatibility determination was prepared concurrently with the draft CCP and EA for the refuge. Public review and comment will be achieved concurrently with the public review and comment period for the draft CCP and EA.

## Determination

Trapping is a compatible use with the following stipulations.

## Stipulations Necessary to Make Sure That There is Compatibility

- Trapping is only permitted via a special use permit issued by the refuge manager.
- Permittee must adhere to all special conditions listed in the special use permit.
- Whenever possible, trapping would be done in compliance with WGFD regulations.
- When necessary the permittee would provide a map and report in writing, on the number, age, and sex of animal taken and numbers of trapping days and nights. Report and maps would be provided to our refuge office after completion of trapping.
- Failure to comply with any terms of the special use permit or other refuge regulations may result in revocation of the permit.

## Justification

In view of the above and with the stipulations described before, trapping would not materially interfere with or detract from the National Wildlife Refuge System mission or purposes of the refuge. Trapping is a tool used to control nuisance wildlife and help fulfill refuge management objectives. Its use is regulated and at the discretion of the refuge manager. It is not expected to adversely affect wildlife populations or their habitats, or conflict with other refuge uses.

## Mandatory 10-Year Reevaluation Date: 2023

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# Wildlife Observation and Photography

## Description of Use

This use would provide opportunities that support wildlife-dependent recreation. Wildlife observation and photography would be allowed on most of the refuge year-round. This CCP proposes to continue the above uses and add the following to improve wildlife observation and photography: update and improve refuge signs and create brochures to our graphic standards. Most of the refuge would be open for wildlife observation and photography. Their supporting use would be controlled and regulated through the publication of refuge factsheets and brochures and through information posted at the kiosks. Wildlife observation and photography are two of the six wildlife-dependent, priority public uses specified in the Improvement Act. These uses and their supporting access-related uses can be allowed at the refuge without interfering with the migratory bird resource.

Wildlife observation and photography are major visitor services at the refuge. The beauty and uniqueness of the area combined with the abundance of various bird and mammal species draw a variety of visitors each year. We would continue to support and enhance opportunities related to wildlife observation and photography. Supporting uses to help visitors in wildlife observation and photography are vehicle access, foot access (including hiking trails), and nonmotorized boat. Passenger vehicles, motorcycles and bicycles would be restricted to county and other public roads. Snowmobiles are not permitted on refuge roads and are restricted to county roads. ATV's are not allowed on refuge roads and must be licensed for highway use to be able to use county roads.

Nonmotorized boat access is allowed on the Bear River. Sailing is not permitted.

Horses, mules, llamas, and other animals used for riding or packing are not permitted on the refuge. We would update and improve refuge signs and brochures, develop an auto tour route, update kiosks and interpretive panels, and add an interpretive kiosk, and investigate the development of accessible habitat specific wildlife-viewing and photography areas, infrastructure or trails.

## **Availability of Resources**

Facilities and staff are available to provide access, support roads, parking lots, secondary access roads, and signage. Supporting the public use facilities is part of routine management duties and staff and money is available. Kiosks and interpretive trail signs may be added to improve visitor information, but are not necessary to support the use.

## **Anticipated Effects of This Use**

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

At this time there are no anticipated long-term effects on the refuge.

The cumulative disturbance caused by wildlife observation and photography and all other public uses occurring on the refuge is not expected to adversely affect fish and wildlife populations or their habitats. Several factors including suitable site conditions, presence of facilities, access limitations, and seasonal restrictions or other regulations tend to concentrate uses. At any one time, much of the refuge is unaffected by these uses and is free of disturbance.

Wildlife observation and photography are not expected to affect other refuge uses or public safety adversely. As public use levels on Cokeville Meadows National Wildlife Refuge expand across time, unanticipated conflicts between user groups may occur. Our visitor services programs would be adjusted as needed to remove or reduce each problem and provide a quality wildlife-dependent recreational opportunity, which includes promoting public safety. Experience on many national wildlife refuges has proven that time and space zoning (for example, establishment of separate use areas, use periods, and restrictions on the number of users) is an effective tool in eliminating conflicts between user groups. Overall, the cumulative effect of wildlife observation and photography on other wildlife-dependent recreation or public safety at Cokeville Meadows National Wildlife Refuge is expected to be minor.

## **Public Review and Comment**

This compatibility determination was prepared concurrently with the draft CCP and EA for the refuge. Public review and comment will be achieved concurrently with the public review and comment period for the draft CCP and EA.

## **Determination**

Wildlife observation and photography are compatible uses with the following stipulations.

## Stipulations Necessary to Make Sure That There is Compatibility

- Our refuge manager would check use patterns and densities and make adjustments in timing, location, and duration as needed to limit disturbance.
- Use would be directed to public use facilities (both existing and in the future), which are not in or near sensitive areas. Trail layout and design would continue to make sure that there is adequate adjacent cover for wildlife and avoid sensitive wildlife areas or habitat.
- Interpretive signs would include messages on minimizing disturbance to wildlife. Certain modes of access such as motorized vehicles would be limited to designated roads and parking lots.
- Stipulations about the public use program would be made available in published refuge brochures. Dates, closed areas, and other information would be specified.
- We would restrict vehicles to designated roads and trails and check vehicle use for wildlife disturbance and law enforcement violations and would also watch use, regulate access, and support necessary facilities to prevent habitat degradation and reduce wildlife disturbance.

## Justification

The Improvement Act identifies six legitimate and proper uses of wildlife refuges: hunting, fishing, wildlife observation, photography, interpretation, environmental education. These priority public uses are dependent on healthy wildlife populations. Where these uses are found to be compatible, they are to receive enhanced consideration over other uses in planning and management.

Wildlife observation and photography are wildlife-oriented activities that provide substantial recreational opportunities to the public (USFWS, 1992 and USFWS, 1997). Wildlife observation and photography are traditional forms of outdoor recreation.

These activities would not materially interfere with or detract from the mission of the National Wildlife Refuge System or the purposes for which the refuge was established. This use is not expected to conflict with any proposed habitat management or reclamation projects on the refuge provided we use closures as necessary to protect public safety and to allow for habitat management actions.

## Mandatory 15-Year Reevaluation Date: 2028

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# Environmental Education and Interpretation

## Description of Use

Environmental education and interpretation are both defined as wildlife-dependent recreational uses under the Improvement Act. These programs have been opportunistic as time and staff allows. School group participation in environmental education is severely limited because of available staff and distance from communities. A few organized groups request tours and talks during the spring and summer months. Interpretation is limited to information panels at the visitor contact station, three standalone panels, and kiosks. In addition, the refuge does not have an auto tour route and has limited interpretation along designated trails. The CCP proposes to continue with the above uses, and add the following to improve environmental education and interpretation.

Hire a seasonal technician to develop and carry out interpretive programs, update and improve refuge signs and refuge trails identification, develop and interpret an auto tour route, and update existing kiosks, interpretive panels, and add an interpretive kiosk.

## Availability of Resources

Money for these activities is provided solely from annual operation and maintenance budgets. Resources are stretched to continue providing environmental education and interpretation at the refuge. Installing new facilities outlined in the CCP is closely tied to money requests in the form of refuge operation needs system and maintenance management system projects. Existing programs such as current refuge directional signs and developing brochures can be updated with available resources.

## Anticipated Effects of This Use

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

At this time there are no anticipated long-term effects on the refuge.

The cumulative disturbance caused by environmental education and interpretation and all other public uses occurring on the refuge is not expected to adversely affect fish and wildlife populations or their habitats. Several factors including suitable site conditions, presence of facilities, access limitations, and seasonal restrictions or other regulations tend to concentrate uses. Environmental education and interpretation are not expected to affect public safety adversely. As public use levels on Cokeville Meadows National Wildlife Refuge expand across time, unanticipated conflicts between user groups may occur. Our visitor services programs would be adjusted as needed to remove or reduce each problem and provide a quality wildlife-dependent recreational opportunity, which includes promoting public safety. Experience on many national wildlife refuges has proven that time and space zoning (for example, establishment of separate use areas, use periods, and restrictions on the number of users) is an effective tool in eliminating conflicts between user groups. Overall, the cumulative effect of wildlife observation and photography on other wildlife-dependent recreation or public safety at Cokeville Meadows National Wildlife Refuge is expected to be minor.

## Public Review and Comment

This compatibility determination was prepared concurrently with the draft CCP and EA for the refuge. Public review and comment will be achieved concurrently with the public review and comment period for the draft CCP and EA.

## Determination

Environmental education and interpretation are a compatible uses with the following stipulations.

## Stipulations Necessary to Make Sure That There is Compatibility

- Visitors participating in environmental education and Interpretation programs would follow all refuge regulations. On-site activities should be held where minimal changes would occur.
- Our refuge manager would watch use patterns and densities and make adjustments in timing, location, and duration as needed to limit disturbance. Use would be directed to public use facilities (both existing and in the future), which are not in or near sensitive areas.
- Trail layout and design would continue to make sure that there is adequate adjacent cover for wildlife and avoid sensitive wildlife areas or habitat.
- Interpretive signs would include messages on minimizing disturbance to wildlife.
- Certain modes of access such as motorized vehicles would be limited to designated roads and parking lots.

- Stipulations about the public use program would be made available in published refuge brochures. Dates, closed areas, and other information would be specified.
- We would restrict vehicles to designated roads and trails and watch vehicle use for wildlife disturbance and law enforcement violations and would also watch use, regulate access, and support necessary facilities to prevent habitat degradation and reduce wildlife disturbance.

## Justification

One of the secondary goals of the National Wildlife Refuge System is to provide opportunities for the public to develop an understanding and appreciation for wildlife when it is found compatible with other goals. The above uses are identified as priority visitor services in the National Wildlife Refuge System Improvement Act and would help meet the above secondary goal with only minimal conflicts.

Environmental education and interpretation are used to encourage an understanding in citizens of all ages to act responsibly in protecting wildlife and its habitat. These are tools used in building land ethics, developing support for the refuge, and decreasing wildlife violations.

Environmental education at the refuge is incidental to other programs because there is only one full-time staff to conduct these activities. However, the program is important and provides visitors with an awareness of refuge-specific issues such as wetland ecology, migratory bird management, and issues relating to the entire National Wildlife Refuge System.

Based on anticipated biological effects and on the EA, it is found that environmental education and interpretation on the refuge would not interfere with refuge habitat goals and objectives or the purposes for which it was established. Limits to access and monitoring can help mitigate any adverse effects.

## Mandatory 15-Year Reevaluation Date: 2028

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## Research

### Description of Use

We receive requests to conduct scientific research on the refuge every year. Priority would be given to studies that contribute to the enhancement, protection, preservation, and management of the refuge's native plant, fish, and wildlife populations and their habitats. Research applicants must submit a proposal that outlines (1) objectives of the study; (2) justification for the study; (3) detailed study methods and schedule; and (4) potential effects on refuge wildlife and habitat, including disturbance (short and long term), injury, or mortality. This includes a description of measures the researcher would take to reduce disturbances or changes; (5) staff required and their qualifications or experience; (6) status of necessary permits (scientific collecting permits, endangered species permits); (7) costs to refuge and refuge staff time requested, if any; and (8) anticipated progress reports and end products (such as reports or publications). Refuge staff or others, as proper, would review research proposals and issues special use permits if approved. Evaluation criteria would include, but not be limited to, the following:

- Research that would contribute to specific refuge management issues would be given higher priority over other requests.
- Research that would conflict with other ongoing research, monitoring, or management programs would not be approved.
- Research projects that can be conducted off of the refuge are less likely to be approved.

- Research that causes undue disturbance or is intrusive would likely not be approved. The degree and type of disturbance would be carefully weighed when evaluating a research request.
- Research evaluation would decide if any effort has been made to reduce disturbance through study design, including adjusting location, timing scope, number of permittees, study methods, and number of study sites.
- If staff or logistics make it impossible for us to watch researcher activity in a sensitive area, this may be reason to deny the request, depending on the specific circumstances.
- The length of the project would be considered and agreed on before approval. Projects would be reviewed annually. We have an active land acquisition program. If newly acquired property includes areas of research interest, the same special use permit process and evaluation criteria described above would be followed.

## Availability of Resources

Adequate money and staff exist to manage for a limited amount of research at the Cokeville Meadows National Wildlife Refuge. As always, discretionary use of staff time would be weighed through a cost-benefit analysis. It is anticipated that approximately \$2,000 per year would be required to administer and manage these research activities. Administration would include, but not be limited to, evaluation of applications, management of permits, and oversight of research projects.

## Anticipated Effects of This Use

Some degree of disturbance is expected with all research activities because most researchers would be entering areas that are seasonally closed or conducting research in remote areas of the refuge that have limited visitation by the public, and some research requires collection of samples or handling of wildlife. However, minimal effects on refuge wildlife and habitats is expected with research studies because special use permits would include conditions to make sure that effects to wildlife and habitats are kept to a minimum.

## Public Review and Comment

This compatibility determination was prepared concurrently with the draft CCP and EA for the refuge. Public review and comment will be achieved concurrently with the public review and comment period for the draft CCP and EA.

## Determination

Research is a compatible use with the following stipulations.

## Stipulations Necessary to Make Sure That There is Compatibility

- Extremely sensitive wildlife habitat areas and wildlife species would be provided sufficient protection from disturbance by limiting proposed research activities in these areas.
- All refuge rules and regulations must be followed unless otherwise exempted by refuge management.
- Our staff would use the criteria for evaluating a research proposal, as outlined above under “Description of Use” when determining whether to approve a proposed study on the refuge. If proposed research methods are evaluated and found to have potential effects on refuge resources (habitat or wildlife), it must be shown that the research is necessary for refuge resource conservation management.
- Measures to reduce potential effects would need to be developed and included as part of the study design. In addition, these measures would be listed as conditions on the special use permit.
- Our staff would watch research activities for compliance with conditions of the special use permit. At any time, refuge staff may accompany the researchers to figure out potential effects. Staff may decide that



# Appendix B

## *Intra-Service Section 7 Biological Evaluation*

### INTRA-SERVICE SECTION 7 BIOLOGICAL EVALUATION FORM

**Originating Persons:** Tom Koerner

**Telephone Numbers:** (307) 875-2187 x 16

**Date:** June 28, 2013

**I. Region:** 6

**II. Service Activity (Program):** Refuges & Wildlife, Cokeville Meadows National Wildlife Refuge

**III. Pertinent Species and Habitat:**

A. Listed species and/or their critical habitat within the action area:

Black-footed ferret, *Mustela nigripes* (listed endangered)

Ute ladies' - tresses orchid, *Spiranthes diluvialis* (listed threatened)

There is no federally designated critical habitat on the action area (Seedskaadee NWR)

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

No proposed species

C. Candidate species within the action area:

Yellow-billed cuckoo, *Coccyzus americanus*

Greater Sage-grouse, *Centrocercus urophasianus*

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

**IV. Geographic area or station name and action:**

Station: Cokeville Meadows Wildlife Refuge (Bear River basin in southwestern Wyoming)

Action: Approve and implement the Draft Comprehensive Conservation Plan



E. Ecoregion Number and Name: Cokeville Meadows NWR is located within the Service's Region 6, Mountain-Prairie Region, and specifically in the Bear River Ecosystem (Bear River Basin)

F. County and State: Lincoln County, Wyoming

G. Section, township, and range:

Cokeville Meadows NWR includes parts or all of Sections 4, 5, 6, & 7, Township 22 North, Range 119 West; Sections 6, 7, 8, 9, 16, 17, 18, 20, 29, 31 & 32, Township 23 North, Range 119 West; Sections 31, 32 & 33, Township 24 North, Range 119 West; Section 1 Township 22 North, Range 120 West; Sections 10, 25, 35 & 36, Township 23 North, Range 120 West; Sections 22, 23, 26, 35 & 36, Township 24 North, Range 120 West.

H. Distance & direction to nearest town: Cokeville Meadows NWR is approximately 10 miles south of Cokeville, WY

I. Species/habitat occurrence:

**Black-footed ferret:** The Refuge lies within the historical range of this listed species, however it has never been documented. The Refuge has very limited white-tailed prairie dog colonies. At present it is unknown what is the prairie dog density at the Refuge. It is unlikely that a large enough population of prairie dogs exists to support black-footed ferrets.

**Ute ladies-tresses orchid:** While the Refuge lies in between areas known to have populations of this listed species (Colorado and Montana), there are no known populations of this species on the Refuge. An orchid survey, within suitable orchid habitat, performed during the blooming period of this species in the Refuge (2000) failed to locate this plant within the Refuge.

**Greater Sage-grouse:** The Greater Sage-grouse is a candidate species that occupies the refuge from Mid-Summer through late to early winter. In Mid-Summer adults with young broods come to the refuge in search of their early life cycle needs. They winter on adjacent private and Federal (BLM) big sagebrush stands.

**Yellow-billed Cuckoo:** The Yellow-billed Cuckoo is a candidate species that has not been documented on the refuge. The refuge lies within the historical range of this species. The cuckoo relies on riparian habitat types which include cottonwoods with a shrub understory. A limited amount of this habitat is found within Cokeville Meadows National Wildlife Refuge.

## VI Description of proposed action

See attached draft Comprehensive Conservation Plan and Environmental Assessment.

VII Determination of effects:

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

black-footed ferret: Implementing the CCP “May Affect but Not Likely to Adversely Affect” this mammal. The continued preservation and management of Service lands for the benefit of wildlife species, including white-tailed prairie dogs which are a primary prey species, should preserve an opportunity for this species to return in the future. This species is considered endangered and is protected both federally and by the state. Implementation of the actions listed in the Comprehensive Conservation Plan should not have negative effects to the habitats and/or prey species of this federally listed species.

Ute ladies’-tresses orchid: Implementing the CCP “May Affect but Not Likely to Adversely Affect” this plant species. It has never been found on the Refuge despite an orchid-specific survey (2000) within suitable habitats. If this species is found in the Refuge in the future, the Service will establish and enforce measures to protect this listed plant and its habitats. Implementation of the actions listed in the Comprehensive Conservation Plan should not have negative effects to the habitats of this federally listed species.

Greater Sage-grouse: Implementing the CCP will have “No Affect” on this candidate species. The continued preservation and management of Service lands for the benefit of wildlife species, including sagebrush obligates such as greater sage grouse, will provide more opportunities to preserve existing habitat and restore habitat in the future.

Yellow-billed Cuckoo: Implementing the CCP will have “No Affect” on this candidate species. The continued preservation and management of Service lands for the benefit of wildlife species, including species requiring woody riparian habitat, will provide more opportunities to preserve existing habitat and restore habitat in the future. This species relies on healthy riparian habitats and actions listed in the CCP will work to improve the habitat conditions.

There is no federally designated critical habitat on the action area (Cokeville Meadows NWR) and there is no need to propose designating critical habitat within the Refuge at this time.

A. Explanation of actions to be implemented to reduce adverse effects:

See attached draft Comprehensive Conservation Plan and Environmental Assessment.

VIII Effect determination and response requested: [\* = optional]

A. Listed species/designated critical habitat:

Determination

no effect/no adverse modification

Response requested

\_\_\_\_\_ \*Concurrence

(species: NONE)

may affect, but is not likely to adversely affect species/adversely modify critical habitat (species: black-footed ferret, Ute ladies'-tresses orchid)

\_\_\_\_\_ Concurrence

likely to jeopardize the continued existence of species and adversely modify or destroy their critical habitat (NONE)

\_\_\_\_\_ Formal Consultation

B. Proposed species/proposed critical habitat: NONE

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

C. Candidate Species:

Determination

Response requested

no effect (species: Greater sage grouse and yellow billed cuckoo)

\_\_\_\_\_ \*Concurrence

likely to jeopardize candidate species (species: NONE)

\_\_\_\_\_ Conference

\_\_\_\_\_  
Tom Koerner, Project Leader,  
Cokeville Meadows National Wildlife Refuge

\_\_\_\_\_  
Date

IX Reviewing ESO Evaluation:

- A. Concurrence \_\_\_\_\_
- B. Formal Consultation required: \_\_\_\_\_
- C. Conference required: \_\_\_\_\_
- D. Informal conference required: \_\_\_\_\_
- E. Remarks:

Nonconcurrency \_\_\_\_\_

\_\_\_\_\_  
Mark Sattelberg  
Wyoming Field Supervisor, U.S. Fish & Wildlife Service

\_\_\_\_\_  
Date



# Appendix C

## *Public Involvement*

A notice of intent to prepare the draft CCP and EA was published in the Federal Register on November 5, 2009. We compiled a mailing list of more than 80 names during preplanning. The list includes private citizens; local, regional, and State government representatives and legislators; other Federal agencies; and interested organizations. Public scoping began immediately after publication of the notice of intent and was announced through news releases and issuance of the first planning update to the mailing list.

The planning update provided information on the history of the refuge and the CCP process, along with an invitation and schedule to upcoming public open houses to be held throughout the planning area. Each planning update included a comment form to give the public an opportunity to provide written comments. Emails were also accepted at the Seedskaadee National Wildlife Refuge Complex's email address: [seedskaadee@fws.gov](mailto:seedskaadee@fws.gov).

Open houses were announced to local newspapers and radio stations. Flyers were posted, and announcements were made via email and at meetings of local organizations.

Two public open houses were held in local communities in the refuge area including Cokeville and Kemmerer, Wyoming, November 17–18, 2007. At the meetings informational posters, maps, and handouts, along with a power point presentation provided a history of the Refuge System, orientation to the planning area, and an overview of the CCP and NEPA processes. The draft vision statement developed for the refuge was also presented at the open houses. Service staff was available to answer questions on a variety of topics about refuge management and the CCP process. Attendees were encouraged to ask questions and offer comments. Verbal comments were recorded and each attendee was given a comment form to submit thoughts or questions in writing. The turnout was high at the Cokeville meeting, with 50–55 people attending and turnout was low at the Kemmerer meeting.

All written comments were due December 31, 2009. Several comments were received during the scoping effort. Input obtained from public meetings, letters, emails, and comment forms was considered in developing the draft CCP. These comments identified biological, social, and economic concerns about refuge management.

The planning team's response to public comments will be completed before final approval of the CCP. The mailing list for the CCP and EA follows.

### **C.1 FEDERAL OFFICIALS**

U.S. Representative Cynthia Lummis, Washington, DC  
U.S. Senator John Barrasso, Washington, DC  
U.S. Senator Mike Enzi, Washington, DC

### **C.2 FEDERAL AGENCIES**

BLM, Kemmerer, Wyoming  
BLM, Rock Springs, Wyoming  
National Park Service, Fossil Butte National Monument, Kemmerer, Wyoming  
USDA National Resources Conservation Service, Cokeville, Wyoming  
USDA Forest Service, Kemmerer, Wyoming  
USGS, Bozeman, Montana

## C.3 TRIBES

Assiniboine and Sioux Tribes of Fort Peck, Poplar, Montana  
Cheyenne River Sioux Tribe, Eagle Butte, South Dakota  
Crow Creek Sioux Tribal Council, Fort Thompson, South Dakota  
Eastern Shoshone Business Council, Fort Washakie, South Dakota  
Lower Brule Sioux Tribal Council, Lower Brule, South Dakota  
Northern Arapaho Business Committee, Fort Washakie, Wyoming  
Northern Cheyenne Tribal Council, Lame Deer, Montana  
Northwestern Band of Shoshoni Nation of Utah, Brigham City, Utah  
Oglala Sioux Tribal Council, Pine Ridge, South Dakota  
Rosebud Sioux Tribal Council, Rosebud, South Dakota  
Santee Sioux Tribal Council, Niobrara, Nebraska  
Standing Rock Sioux Tribal Council, Fort Yates, North Dakota

## C.4 STATE OFFICIALS

Governor Dave Freudenthal, Cheyenne, Wyoming  
Representative Kathy Davison, Kemmerer, Wyoming  
Representative Allen M. Jaggi, Lyman, Wyoming  
Representative Robert M. McKim, Afton, Wyoming  
Representative Owen Petersen, Mountain View, Wyoming  
Representative Jim Roscoe, Wilson, Wyoming  
Wyoming State Senator Stan Cooper, Kemmerer, Wyoming  
Wyoming State Senator Dan Dockstader, Afton, Wyoming

Idaho Department of Fish and Game, Boise, Idaho  
State Historic Preservation Office, Cheyenne, Wyoming  
State Historic Preservation Office, Laramie, Wyoming  
Utah Division of Wildlife Resources, Ogden, Utah  
WGFD, Cheyenne, Wyoming  
WGFD, Cokeville, Wyoming  
WGFD, Green River, Wyoming  
WGFD, Jackson, Wyoming  
WGFD, Lander, Wyoming  
WGFD, Pinedale, Wyoming

Board of County Commissioners, Lincoln County, Kemmerer, Wyoming  
City of Afton, Wyoming  
City of Cokeville, Wyoming  
City of Evanston, Wyoming  
City of Kemmerer, Wyoming  
City of Montpelier, Idaho  
Green River Chamber of Commerce, Green River, Wyoming  
Lincoln County Planning Office, Kemmerer, Wyoming  
Lincoln County Weed and Pest, Afton, Wyoming  
Randolph City Office, Randolph, Utah

## C.7 LOCAL BUSINESSES

Hideout Motel, Cokeville, Wyoming

## C.8 ORGANIZATIONS

American Bird Conservancy, Mountain Green, Utah  
 Audubon Public Policy Office, Washington, DC  
 Audubon Wyoming, Laramie, Wyoming  
 The Conservation Fund, Jackson, Wyoming  
 Defenders of Wildlife, Washington, DC  
 Ducks Unlimited, Fort Collins, Colorado  
 Hawkwatch International, Salt Lake City, Utah  
 International Crane Foundation, Baradood, Wisconsin  
 International Migratory Bird Day, Boulder, Wyoming  
 Mule Deer Foundation, Salt Lake City, Utah  
 National Trappers Association, Bedford, Indiana  
 National Wildlife Refuge Association, Washington, DC  
 The Nature Conservancy, Evanston, Wyoming  
 North American Pronghorn Foundation, Rawlins, Wyoming  
 Rocky Mountain Elk Foundation, Missoula, Montana  
 Trout Unlimited, Logan, Utah  
 Water for Wildlife Foundation, Lander, Wyoming  
 The Wildlife Society, Bethesda, Maryland  
 Wyoming Native Plant Society, Laramie, Wyoming  
 Wyoming Outdoor Council, Lander, Wyoming  
 Wyoming Stock Growers Association, Cheyenne, Wyoming  
 Wyoming Wildlife Federation, Cheyenne, Wyoming  
 Wyoming Wildlife Federation, Lander, Wyoming

Bear Lake County Library, Montpelier, Idaho  
 Cokeville Public Library, Cokeville, Wyoming  
 Lincoln County Library, Kemmerer, Wyoming  
 Star Valley Branch Library, Cokeville, Wyoming  
 Uinta County Library, Evanston, Wyoming

## C.10 UNIVERSITIES AND SCHOOLS

University Wyoming, Laramie, Wyoming  
 Utah State University, Logan, Utah  
 Western Wyoming Community College, Rock Springs, Wyoming

## C.11 MEDIA

Green River Star, Green River, Wyoming  
 Kemmerer Gazette, Kemmerer, Wyoming  
 The News Examiner, Montpelier, Idaho  
 Rocket Miner Newspaper, Rock Springs, Wyoming  
 Uinta County Herald News, Evanston, Wyoming

## **C.12 INDIVIDUALS**

12 private individuals

# Appendix D

## *Key Legislation and Policy*

This appendix briefly describes the guidance for the Refuge System and other key legislation and policies that guide management of the Cokeville Meadows National Wildlife Refuge.

The mission of the Refuge System is to administer a national network of lands and waters for the conservation, management, and where proper, 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)

### **D.1 GOALS OF THE NATIONAL WILDLIFE REFUGE SYSTEM**

- Conserve a variety of fish, wildlife, and plants and their habitats, including species that are endangered or threatened with becoming endangered.
- Develop and support a network of habitats for migratory birds, anadromous and interjurisdictional fish, and marine mammal populations that is strategically distributed and carefully managed to meet important life history needs of these species across their ranges.
- Conserve those ecosystems, plant communities, wetlands of national or international significance, and landscapes and seascapes that are unique, rare, declining, or underrepresented in existing protection efforts.
- Provide and enhance opportunities to take part in compatible wildlife-dependent recreation (hunting, fishing, wildlife observation and photography, and environmental education and interpretation).
- Foster understanding and instill appreciation of the diversity and interconnectedness of fish, wildlife, and plants and their habitats.

### **D.2 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 quality habitat and without fish and wildlife, traditional uses of refuges cannot be sustained. The Refuge System will continue to conserve and enhance the quality and diversity of fish and wildlife habitat within refuges.
- **Partnerships**—America’s sportsmen and women were the first partners who insisted on protecting valuable wildlife habitat within wildlife refuges. Conservation partnerships with other Federal agencies, State agencies, tribes, organizations, industry, and the 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 take part in decisions about acquisition and management of our national wildlife refuges.

## D.3 LEGAL AND POLICY GUIDANCE

Management actions on national wildlife refuges are circumscribed by many mandates including laws and Executive orders. Regulations that affect refuge management the most are listed in alphabetical order below.

**American Indian Religious Freedom Act (1978)**—Directed agencies to consult with native traditional religious leaders to figure out proper policy changes necessary to protect and preserve Native American religious cultural rights and practices.

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

**Antiquities Act (1906)**—Authorized 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)**—Directed the preservation of historic and archaeological data in Federal construction projects.

**Archaeological Resources Protection Act (1979)**, as amended—Protected 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)**—Required federally owned, leased, or financed buildings and facilities to be accessible to persons with disabilities.

**Clean Water Act (1977)**—Required consultation with the U.S. Army Corps of Engineers (404 permits) for major wetland modifications. Section 404—Authorized the Secretary of the Army, acting through the Chief of Engineers, to issue permits, after notice and opportunity for public hearing, for discharge of dredged or fill material into navigable waters of the United States, including wetlands, at specified disposal sites. Required choice of disposal sites be in accordance with guidelines developed by the Administrator of the Environmental Protection Agency in conjunction with the Secretary of the Army. Stated that the Administrator can prohibit or restrict use of any defined area as a disposal site whenever she or he decides, after notice and opportunity for public hearings, that discharge of such materials into such areas will have an unacceptable adverse effect on municipal water supplies, shellfish beds, fishery areas, wildlife, or recreational areas.

**Consolidated Farm and Rural Development Act (1961)**—amended January 23, 2004: provides loans for soil and water conservation and protection, water treatment and many other agricultural related activities.

**Dingell–Johnson Act (1950)**—Authorized the Secretary of the Interior to provide financial help for State fish restoration and management plans and projects. Financed by excise taxes paid by manufacturers of rods, reels, and other fishing tackle. Known as the Federal Aid in Sport Fish Restoration Act.

**Emergency Wetlands Resources Act (1986)**—Promoted wetland conservation for the public benefit to help fulfill international obligations in various migratory bird treaties and conventions. Authorized the buying of wetlands with Land and Water Conservation Fund monies.

**Endangered Species Act (1973)**, as amended—Required all Federal agencies to carry out programs for the conservation of threatened and endangered species.

**Environmental Education Act of 1990**—Established the Office of Environmental Education within the Environmental Protection Agency to develop and administer a Federal environmental education program. Responsibilities of the office include developing and supporting programs to improve understanding of the natural and developed environment and the relationships between humans and their environment, supporting the dissemination of educational materials, developing and supporting training programs and environmental education seminars, managing a Federal grant program, and administering an environmental internship and fellowship program. Required the office to develop and support environmental programs in consultation with other Federal natural resource management agencies including the Service.

**Executive Order 11644, Use of Off-road Vehicles on Public Lands (1972)**—Provided policy and procedures for regulating off-road vehicles.

**Executive Order 11988, Floodplain Management (1977)**—Required Federal agencies to provide leadership and take action to reduce the risk of flood loss, reduce the effect of floods on human safety, and preserve the natural and beneficial values served by the floodplains. Prevented Federal agencies from contributing to the “adverse impacts associated with occupancy and modification of floodplains” and the “direct or indirect support of floodplain development.” In the course of fulfilling their respective authorities, Federal agencies “shall take action to reduce the risk of flood loss, to reduce the effect of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains.”

**Executive Order 11990, Protection of Wetlands (1977)**—Directed Federal agencies to (1) reduce destruction, loss, or degradation of wetlands, and (2) preserve and enhance the natural and beneficial values of wetlands when a practical alternative exists.

**Executive Order 12996, Management and General Public Use of the National Wildlife Refuge System (1996)**— Defined the mission, purpose, and priority public uses of the Refuge System; presented four principles to guide management of the Refuge System.

**Executive Order 13007, Indian Sacred Sites (1996)**—Directed 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 proper, support the confidentiality of sacred sites.

**Executive Order 13443, Facilitation of Hunting Heritage and Wildlife Conservation (2007)**—Directed Federal agencies that have programs and activities that have a measurable effect on public land management, outdoor recreation, and wildlife management, including the U.S. Department of the Interior and the U.S. Department of Agriculture, to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat.

**Federal Noxious Weed Act (1990)**—Required 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)**—Required the preservation of evidence of the Government’s organization, functions, policies, decisions, operations, and activities, as well as basic historical and other information.

**Federal Water Pollution Control Act of 1972**—Required any applicant for a Federal license or permit to conduct any activity that may result in a discharge into navigable waters to obtain a certification from the State in which the discharge originates or will originate, or, if proper, from the interstate water pollution control agency having jurisdiction over navigable waters at the point where the discharge originates or will originate, that the discharge will comply with applicable effluent limitations and water quality standards. Required that a certification obtained for construction of any facility must also pertain to subsequent operation of the facility.

**Fish and Wildlife Act (1956)**—Directed the Secretary of the Interior to develop the policies and procedures necessary for carrying out fish and wildlife laws and to research and report on fish and wildlife matters. Established the U.S. Fish and Wildlife Service within the U.S. Department of the Interior, as well as the positions of Assistant Secretary for Fish and Wildlife and Director of the Service.

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

**Fish and Wildlife Improvement Act of 1978**—Improved the administration of fish and wildlife programs and amends several earlier laws including the Refuge Recreation Act, the National Wildlife Refuge System Administration Act of 1966, and the Fish and Wildlife Act of 1956. Authorized the Secretary to accept gifts and bequests of real and personal property on behalf of the United States. Authorized the use of volunteers for Service projects and appropriations to carry out volunteer programs.

**Historic Sites, Buildings and Antiquities Act (1935)**, known as the Historic Sites Act, as amended (1965)—Declared a national policy to preserve historic sites and objects of national significance, including those located at refuges and districts. Provided procedures for designation, acquisition, administration, and protection of such sites and for designation of national historic and natural landmarks.

**Land and Water Conservation Fund Act of 1965**—Provided money from leasing bonuses, production royalties, and rental revenues for offshore oil, gas, and sulfur extraction to the Bureau of Land Management, the USDA Forest Service, the U.S. Fish and Wildlife Service, and State and local agencies for purchase of lands for parks, open space, and outdoor recreation.

**Migratory Bird Conservation Act (1929)**—Established 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)**—Authorized the opening of part of a refuge to waterfowl hunting.

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

**Mineral Leasing Act (1920)**, as amended—Authorized and governed leasing of public lands for development of deposits of coal, oil, gas and other hydrocarbons, sulfur, phosphate, potassium and sodium. Section 185 provided for granting of rights-of-way over Federal lands for pipelines.

**National Environmental Policy Act of 1969**—Required all agencies including the Service to examine the environmental effects of their actions, incorporate environmental information, and use public participation in the planning and implementation of all actions. Required Federal agencies to integrate this act with other planning needs and prepare proper documents to facilitate better environmental decisionmaking (40 CFR 1500).

**National Historic Preservation Act of 1966**, as amended—Established 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 of 1966**—Defined the National Wildlife Refuge System and authorized the Secretary of the Interior to allow 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**—Set the mission and administrative policy for all refuges in the National Wildlife Refuge System. Mandated comprehensive conservation planning for all units of the Refuge System. This act amended portions of the Refuge Recreation Act and National Wildlife Refuge System Administration Act of 1966.

**National Wildlife Refuge System Volunteer and Community Partnership Enhancement Act of 1998**—Encouraged the use of volunteers to help the Service in the management of refuges within the Refuge System. Facilitated partnerships between the Refuge System and non-Federal entities to promote public awareness of the resources of the Refuge System and public participation in the conservation of those resources. Encouraged donations and other contributions by persons and organizations to the Refuge System.

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

**North American Wetlands Conservation Act (1989)**— Provided for the conservation of North American wetland ecosystems, waterfowl and other migratory birds, fish, and wildlife that depend on such habitats.

**Pittman–Robertson Act (1937)**—Taxed the purchase of ammunition and firearms and earmarks the proceeds to be distributed to the States for wildlife restoration. Known as the Federal Aid in Wildlife Restoration Act or P–R Act.

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

**Refuge Revenue Sharing Act, section 401 (1935)**—Provided for payments to counties in lieu of taxes using revenues derived from the sale of products from refuges.

**Refuge Trespass Act of June 28, 1906**—Provided the first Federal protection for wildlife at national wildlife refuges. Made it unlawful to hunt, trap, capture, willfully disturb, or kill any bird or wild animal, or take or destroy the eggs of any such birds, on any lands of the United States set apart or reserved as refuges or breeding grounds for such birds or animals by any law, proclamation, or Executive order, except under rules and regulations of the Secretary. Protected Government property on such lands.

**Rehabilitation Act (1973)**—Required programmatic accessibility in addition to physical accessibility for all facilities and programs paid for by the Federal Government to make sure that any person could take part in any program.

**Salt Cedar and Russian Olive Control Demonstration Act (2006)**—Furthered the purposes of the Reclamation Projects Authorization and Adjustment Act of 1992 by directing the Secretary of the Interior, acting through the Commissioner of Reclamation, to carry out an assessment and demonstration program to control saltcedar and Russian olive trees and for other purposes.

**Transfer of Certain Real Property for Wildlife Conservation Purposes Act of 1948**—Provided that, on determination by the Administrator of the General Services Administration, real property no longer needed by a Federal agency can be transferred without reimbursement to the Secretary of the Interior if the land has particular value for migratory birds or to a State agency for other wildlife conservation purposes.

**U.S. Department of the Interior Order Number 3226 (2001)**—Directed bureaus and offices of the Department to analyze the potential effects on climate change when undertaking long-range planning, setting priorities for scientific research, and making major decisions about use of resources.

**Volunteer and Community Partnership Enhancement Act (1998)**—Encouraged the use of volunteers to help in the management of refuges within the Refuge System. Facilitated partnerships between the Refuge System and non-Federal entities to promote public awareness of the resources of the Refuge System and public participation in the conservation of the resources and encouraged donations and other contributions.

**Wilderness Act of 1964**—Directed the Secretary of the Interior, within 10 years, to review every roadless area of 5,000 or more acres and every roadless island (regardless of size) within the Refuge System and National Park Service for inclusion in the National Wilderness Preservation System.



# Appendix E

## *Preparers and Contributors*

This document is the result of the extensive, collaborative, and enthusiastic efforts by the members of the Cokeville Meadows Refuge planning team below. Many others contributed insight and support.

### **Core Planning Team**

<i>Team Member</i>	<i>Position</i>	<i>Work Unit</i>
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### **Added Planning Team Members**

<i>Team Member</i>	<i>Position</i>	<i>Work Unit</i>
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### **Contributors**

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# Appendix F

## *Species List*

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### Birds

The following bird species are known or suspected to occur at Cokeville Meadows Refuge, Lincoln County, Wyoming. This list is not all inclusive. A thorough inventory has yet to be carried out.

#### Ducks, Geese, and Swans

snow goose *Chen caerulescens*  
Ross's goose *Chen rossii*  
Canada goose *Branta canadensis*  
trumpeter swan *Cygnus buccinator*  
tundra swan *Cygnus columbianus*  
gadwall *Anas strepera*  
American wigeon *Anas americana*  
mallard *Anas platyrhynchos*  
blue-winged teal *Anas discors*  
cinnamon teal *Anas cyanoptera*  
northern shoveler *Anas clypeata*  
northern pintail *Anas acuta*  
green-winged teal *Anas crecca*  
canvasback *Aythya valisineria*  
redhead *Aythya americana*  
ring-necked duck *Aythya collaris*  
greater scaup *Aythya marila*  
lesser scaup *Aythya affinis*  
bufflehead *Bucephala albeola*  
common goldeneye *Bucephala clangula*  
Barrow's goldeneye *Bucephala islandica*  
hooded merganser *Lophodytes cucullatus*  
common merganser *Mergus merganser*  
red-breasted merganser *Mergus serrator*  
ruddy duck *Oxyura jamaicensis*

#### Partridges, Grouse, Turkeys

greater sage-grouse *Centrocercus urophasianus*

#### Loons

common loon *Gavia immer*

#### Grebes

pied-billed grebe *Podilymbus podiceps*  
horned grebe *Podiceps auritus*  
red-necked grebe *Podiceps grisegena*  
eared grebe *Podiceps nigricollis*  
western grebe *Aechmophorus occidentalis*  
Clark's grebe *Aechmophorus clarkii*

#### Cormorants

double-crested cormorant *Phalacrocorax auritus*

#### Pelicans

American white pelican *Pelecanus erythrorhynchos*

#### Bitterns, Herons, and Egrets

American bittern *Botaurus lentiginosus*  
great blue heron *Ardea herodias*  
great egret *Ardea alba*  
snowy egret *Egretta thula*  
cattle egret *Bubulcus ibis*  
green heron *Butorides virescens*  
black-crowned night-heron *Nycticorax nycticorax*

#### Ibises and Spoonbills

white-faced ibis *Plegadis chihi*

#### New World Vultures

turkey vulture *Cathartes aura*

#### Hawks, Kites, and Eagles

osprey *Pandion haliaetus*  
bald eagle *Haliaeetus leucocephalus*  
northern harrier *Circus cyaneus*  
sharp-shinned hawk *Accipiter striatus*  
Cooper's hawk *Accipiter cooperii*  
northern goshawk *Accipiter gentilis*  
common black-hawk *Buteogallus anthracinus*  
Swainson's hawk *Buteo swainsoni*  
red-tailed hawk *Buteo jamaicensis*  
ferruginous hawk *Buteo regalis*  
rough-legged hawk *Buteo lagopus*  
golden eagle *Aquila chrysaetos*

#### Caracaras and Falcons

American kestrel *Falco sparverius*  
merlin *Falco columbarius*  
peregrine falcon *Falco peregrinus*

prairie falcon *Falco mexicanus*

#### **Rails, Gallinules, and Coots**

Virginia rail *Rallus limicola*

sora *Porzana carolina*

American coot *Fulica americana*

#### **Cranes**

sandhill crane *Grus canadensis*

whooping crane *Grus americana*

#### **Plovers**

black-bellied plover *Pluvialis squatarola*

American golden-plover *Pluvialis dominica*

snowy plover *Charadrius nivosus*

killdeer *Charadrius vociferus*

mountain plover *Charadrius montanus*

#### **Stilts and Avocets**

black-necked stilt *Himantopus mexicanus*

American avocet *Recurvirostra americana*

#### **Sandpipers and Phalaropes**

spotted sandpiper *Actitis macularius*

solitary sandpiper *Tringa solitaria*

greater yellowlegs *Tringa melanoleuca*

willet *Tringa semipalmata*

lesser yellowlegs *Tringa flavipes*

upland sandpiper *Bartramia longicauda*

long-billed curlew *Numenius americanus*

marbled godwit *Limosa fedoa*

red knot *Calidris canutus*

sanderling *Calidris alba*

semipalmated sandpiper *Calidris pusilla*

western sandpiper *Calidris mauri*

least sandpiper *Calidris minutilla*

Baird's sandpiper *Calidris bairdii*

pectoral sandpiper *Calidris melanotos*

stilt sandpiper *Calidris himantopus*

long-billed dowitcher *Limnodromus scolopaceus*

Wilson's snipe *Gallinago delicata*

common snipe *Gallinago gallinago*

American woodcock *Scolopax minor*

Wilson's phalarope *Phalaropus tricolor*

red-necked phalarope *Phalaropus lobatus*

#### **Gulls and Terns**

Bonaparte's gull *Chroicocephalus philadelphia*

Franklin's gull *Leucophaeus pipixcan*

ring-billed gull *Larus delawarensis*

California gull *Larus californicus*

herring gull *Larus argentatus*

Caspian tern *Hydroprogne caspia*

black tern *Chlidonias niger*

common tern *Sterna hirundo*

Forster's tern *Sterna forsteri*

#### **Pigeons and Doves**

rock pigeon *Columba livia* (Introduced)

Eurasian collared-dove *Streptopelia decaocto* (Introduced)

white-winged dove *Zenaida asiatica*

mourning dove *Zenaida macroura*

#### **Cuckoos, Roadrunners, and Anis**

yellow-billed cuckoo *Coccyzus americanus*

#### **Barn Owls**

barn owl *Tyto alba*

#### **Typical Owls**

western screech-owl *Megascops kennicottii*

great horned owl *Bubo virginianus*

snowy owl *Bubo scandiacus*

burrowing owl *Athene cunicularia*

long-eared owl *Asio otus*

short-eared owl *Asio flammeus*

#### **Nighthawks and Nightjars**

common nighthawk *Chordeiles minor*

common poorwill *Phalaenoptilus nuttallii*

#### **Swifts**

white-throated swift *Aeronautes saxatalis*

#### **Hummingbirds**

calliope hummingbird *Stellula calliope*

broad-tailed hummingbird *Selasphorus platycercus*

rufous hummingbird *Selasphorus rufus*

#### **Kingfishers**

belted kingfisher *Megaceryle alcyon*

#### **Woodpeckers**

Lewis's woodpecker *Melanerpes lewis*

red-headed woodpecker *Melanerpes erythrocephalus*

red-naped sapsucker *Sphyrapicus nuchalis*

downy woodpecker *Picoides pubescens*

hairy woodpecker *Picoides villosus*

American three-toed woodpecker *Picoides dorsalis*

northern flicker *Colaptes auratus*

#### **Tyrant Flycatchers**

olive-sided flycatcher *Contopus cooperi*

western wood-pewee *Contopus sordidulus*

willow flycatcher *Empidonax traillii*

least flycatcher *Empidonax minimus*

Hammond's flycatcher *Empidonax hammondii*

gray flycatcher *Empidonax wrightii*

dusky flycatcher *Empidonax oberholseri*

Cordilleran flycatcher *Empidonax occidentalis*

Say's phoebe *Sayornis saya*

ash-throated flycatcher *Myiarchus cinerascens*  
 Cassin's kingbird *Tyrannus vociferans*  
 western kingbird *Tyrannus verticalis*  
 eastern kingbird *Tyrannus tyrannus*  
 scissor-tailed flycatcher *Tyrannus forficatus*

### Shrikes

loggerhead shrike *Lanius ludovicianus*  
 northern shrike *Lanius excubitor*

### Vireos

plumbeous vireo *Vireo plumbeus*  
 blue-headed vireo *Vireo solitarius*  
 warbling vireo *Vireo gilvus*  
 red-eyed vireo *Vireo olivaceus*

### Crows and Magpies

black-billed magpie *Pica hudsonia*  
 American crow *Corvus brachyrhynchos*  
 common raven *Corvus corax*

### Larks

horned lark *Eremophila alpestris*

### Swallows

tree swallow *Tachycineta bicolor*  
 violet-green swallow *Tachycineta thalassina*  
 northern rough-winged swallow *Stelgidopteryx serripennis*  
 bank swallow *Riparia riparia*  
 cliff swallow *Petrochelidon pyrrhonota*  
 barn swallow *Hirundo rustica*

### Titmice and Chickadees

black-capped chickadee *Poecile atricapillus*  
 mountain chickadee *Poecile gambeli*

### Nuthatches

red-breasted nuthatch *Sitta canadensis*  
 white-breasted nuthatch *Sitta carolinensis*

### Creepers

brown creeper *Certhia americana*

### Wrens

rock wren *Salpinctes obsoletus*  
 Bewick's wren *Thryomanes bewickii*  
 house wren *Troglodytes aedon*  
 winter wren *Troglodytes hiemalis*  
 marsh wren *Cistothorus palustris*

### Old World Warblers and Gnatcatchers

blue-gray gnatcatcher *Polioptila caerulea*

### Dippers

American dipper *Cinclus mexicanus*

### Kinglets

golden-crowned kinglet *Regulus satrapa*  
 ruby-crowned kinglet *Regulus calendula*

### Thrushes

mountain bluebird *Sialia currucoides*  
 Townsend's solitaire *Myadestes townsendi*  
 veery *Catharus fuscescens*  
 Swainson's thrush *Catharus ustulatus*  
 hermit thrush *Catharus guttatus*  
 American robin *Turdus migratorius*

### Mimic Thrushes

gray catbird *Dumetella carolinensis*  
 northern mockingbird *Mimus polyglottos*  
 sage thrasher *Oreoscoptes montanus*

### Starlings

European starling *Sturnus vulgaris*

### Wagtails and Pipits

American pipit *Anthus rubescens*  
 Sprague's pipit *Anthus spragueii*

### Waxwings

Bohemian waxwing *Bombycilla garrulus*  
 cedar waxwing *Bombycilla cedrorum*

### Longspurs and Buntings

Lapland longspur *Calcarius lapponicus*  
 McCown's longspur *Rhynchophanes mccownii*  
 snow bunting *Plectrophenax nivalis*

### Wood Warblers

ovenbird *Seiurus aurocapilla*  
 black-and-white warbler *Mniotilta varia*  
 Tennessee warbler *Oreothlypis peregrina*  
 orange-crowned warbler *Oreothlypis celata*  
 Nashville warbler *Oreothlypis ruficapilla*  
 Virginia's warbler *Oreothlypis virginiae*  
 MacGillivray's warbler *Geothlypis tolmiei*  
 common yellowthroat *Geothlypis trichas*  
 hooded warbler *Setophaga citrine*  
 American redstart *Setophaga ruticilla*  
 magnolia warbler *Setophaga magnolia*  
 Blackburnian warbler *Setophaga fusca*  
 yellow warbler *Setophaga petechia*  
 chestnut-sided warbler *Setophaga pensylvanica*  
 black-throated blue warbler *Setophaga caerulescens*  
 yellow-rumped warbler *Setophaga coronata*  
 black-throated gray warbler *Setophaga nigrescens*  
 Townsend's warbler *Setophaga townsendi*

Wilson's warbler *Cardellina pusilla*  
yellow-breasted chat *Icteria virens*

**Sparrows and Towhees**

green-tailed towhee *Pipilo chlorurus*  
American tree sparrow *Spizella arborea*  
chipping sparrow *Spizella passerina*  
Brewer's sparrow *Spizella breweri*  
vesper sparrow *Poocetes gramineus*  
lark sparrow *Chondestes grammacus*  
sage sparrow *Amphispiza belli*  
lark bunting *Calamospiza melanocorys*  
Savannah sparrow *Passerculus sandwichensis*  
grasshopper sparrow *Ammodramus savannarum*  
fox sparrow *Passerelia iliaca*  
song sparrow *Melospiza melodia*  
Lincoln's sparrow *Melospiza lincolni*  
white-crowned sparrow *Zonotrichia leucophrys*  
dark-eyed junco *Junco hyemalis*

**Tanagers**

western tanager *Piranga ludoviciana*

**Cardinals, Grosbeaks, and Allies**

black-headed grosbeak *Pheucticus melanocephalus*

lazuli bunting *Passerina amoena*

**Blackbirds and Orioles**

red-winged blackbird *Agelaius phoeniceus*  
western meadowlark *Sturnella neglecta*  
yellow-headed blackbird *Xanthocephalus xanthocephalus*  
Brewer's blackbird *Euphagus cyanocephalus*  
common grackle *Quiscalus quiscula*  
brown-headed cowbird *Molothrus ater*  
Bullock's oriole *Icterus bullockii*

**Finches**

gray-crowned rosy-finch *Leucosticte tephrocotis*  
black rosy-finch *Leucosticte atrata*  
Cassin's finch *Carpodacus cassinii*  
house finch *Carpodacus mexicanus*  
red crossbill *Loxia curvirostra*  
common redpoll *Acanthis flammea*  
pine siskin *Spinus pinus*  
American goldfinch *Spinus tristis*  
evening grosbeak *Coccothraustes vespertinus*

**Old World Sparrows**

house sparrow *Passer domesticus* (introduce)

## Reptiles, Amphibians, Fish, and Freshwater Mussels

The following reptile, amphibian, fish, and freshwater mussel species are known or suspected to occur at Cokeville Meadows Refuge, Lincoln County, Wyoming. This list is not all inclusive. A thorough inventory has yet to be carried out.

**Amphibians**

tiger salamander *Ambystoma tigrinum*  
Great Basin spadefoot *Scaphiopus intermontanus*  
northern leopard frog *Rana pipiens*  
boreal chorus frog *Pseudacris triseriata*

**Reptiles**

Great Basin skink *Eumeces utahensis*  
northern sagebrush lizard *Sceloporus graciosus*  
greater short-horned lizard *Phrynosoma hernandesi*  
Great Basin gopher snake *Pituophis melanoleucas*  
wandering garter snake *Thamnophis elegans*  
valley garter snake *Thamnophis fitchi*

**Fish**

Bonneville cutthroat trout *Oncorhynchus utah*

mountain whitefish *Prosopium williamsoni*  
mottled sculpin *Cottus bairdi*  
Utah sucker *Catostomus ardens*  
common carp *Cyprinus carpio*  
Utah chub *Gila atraria*  
reidside shiner *Richardsonius balteatus*  
speckled dace *Rhinichthys osculus*  
bluehead sucker *Catostomus discobolus*  
yellow perch *Perca flavescens*

**Freshwater Mussels**

California floater *Anodonta californiensis*  
western pearlshell *Margaritifera falcata*

## Mammals

The following mammal species are known or suspected to occur at Cokeville Meadows Refuge, Lincoln County, Wyoming. This list is not all inclusive. A thorough inventory has yet to be carried out.

### **Order Insectivora—Insectivores**

#### Family Soricidae—Shrews

cinereus or masked shrew *Sorex cinereus*  
 Merriam's shrew *Sorex merriami*  
 dusky or montane shrew *Sorex monticolus*  
 American water shrew *Sorex palustris*  
 vagrant shrew *Sorex vagrans*

#### Family Vespertilionidae—Vesper Bats

long-eared myotis *Myotis evotis*  
 little Brown myotis *Myotis lucifugus*  
 long-legged myotis *Myotis volans*  
 silver-haired bat *Lasionycteris noctivagans*

#### Family Leporidae—Hares and Rabbits

pygmy pabbit *Brachylagus idahoensis*  
 desert cottontail *Sylvilagus audubonii*  
 black-tailed jackrabbit *Lepus californicus*  
 white-tailed jackrabbit *Lepus townsendii*

#### Family Sciuridae—Squirrels

least chipmunk *Neotamias minimus*  
 Uinta chipmunk *Neotamias umbrinus*  
 yellow-bellied marmot *Marmota flaviventris*  
 Uinta ground squirrel *Spermophilus armatus*  
 Wyoming ground squirrel *Spermophilus elegans*  
 golden-mantled ground squirrel *Spermophilus lateralis*  
 thirteen-lined ground squirrel *Spermophilus tridecemlineatus*  
 white-tailed prairie dog *Cynomys leucurus*

#### Family Geomyidae—Pocket Gophers

northern pocket gopher *Thomomys talpoides*  
 plains pocket gopher *Geomys bursarius*

#### Family Heteromyidae—Pocket Mice and Kangaroo Rats

Great Basin pocket mouse *Perognathus parvus*

#### Family Castoridae—Beavers

American beaver *Castor canadensis*

#### Family Muridae—Mice, Rats, and Voles

deer mouse *Peromyscus maniculatus*  
 bushy-tailed woodrat *Neotoma cinerea*

southern red-backed vole *Clethrionomys gapperi*  
 western heather vole *Phenacomys intermedius*  
 long-tailed vole *Microtus longicaudus*  
 montane vole *Microtus montanus*  
 meadow vole *Microtus pennsylvanicus*  
 sagebrush vole *Lemmiscus curtatus*  
 common muskrat *Ondatra zibethicus*

#### Family Zapodidae—Jumping Mice

Western jumping mouse *Zapus princeps*

#### Family Erethizontidae—New World Porcupines

North American porcupine *Erethizon dorsatum*

### **Order Carnivora—Carnivores**

#### Family Canidae—Dogs, Foxes, and Wolves

coyote *Canis latrans*  
 red fox *Vulpes vulpes*

#### Family Procyonidae—Raccoons, Ringtails, and Coatis

northern raccoon *Procyon lotor*

#### Family Mustelidae - Weasels, Otters, and Badgers

ermine or short-tailed weasel *Mustela erminea*  
 long-tailed weasel *Mustela frenata*  
 American mink *Mustela vison*  
 American badger *Taxidea taxus*  
 northern river otter *Lontra canadensis*

#### Family Mephitidae - Skunks

striped skunk *Mephitis mephitis*

#### Family Felidae - Cats

bobcat *Lynx rufus*

#### Family Cervidae - Deer

wapiti or elk *Cervus canadensis*  
 mule deer *Odocoileus hemionus*  
 white-tailed deer *Odocoileus virginianus*  
 moose *Alces alces*

#### Family Antilocapridae - Pronghorn

pronghorn *Antilocapra americana*

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## Plants

The following plant species are known or suspected as occurring at Cokeville Meadows Refuge, Lincoln County, Wyoming. This list is not all inclusive. A thorough inventory has yet to be carried out.

### **Narrow Riparian- or Riverfront-type Forest Corridors**

black cottonwood *Populus trichocarpa*  
narrowleaf cottonwood *Populus angustifolis*  
coyote willow *Salix exigua*  
Bebb willow *Salix bebbiana*

### **Semipermanent, Flooded Floodplain, Wetland Depressions**

cattail *Typha latifolia*  
hardstem bulrush *Schoenoplectus acutus*  
coontail *Ceratophyllum demersum*  
naiads *Najas* sp.  
pondweed *Potamogeton* sp.  
marsh buttercup *Ranunculus aquatilis*  
arrowhead *Sagittaria latifolia*  
sedges *Carex* sp.  
rushes *Juncus* sp.

### **Wet Meadow Sedge and Grass Communities**

meadow foxtail *Alopecurus partensis*  
arrowhead *Sagittaria latifolia*

sedges *Carex* sp.  
rushes *Juncus* sp.  
wheat grass *Apropyron* sp.  
saltgrass *Distichlis stricta*  
basin wild rye *Elymus cinereus*  
greasewood *Sarcobatus vermiculatus*  
nuttail alkali grass *Puccinellia airoides*  
alkali sacaton *Sporobolus airoides*  
alkali cordgrass *Spartina gracilis*

### **Upland Sagebrush or Grassland Communities**

Wyoming sagebrush *Artemisia tridentate spp wyomingensis*  
big sagebrush *Artemisia tridentate*  
thickspike wheatgrass *Agropyron dasystachyum*  
western wheatgrass *Agropyron smithii*  
needle and thread *Stipa comate*  
rabbit-brush *Chrysothamnus nauseosus*  
galletta grass *Hilaria rigida*  
bottlebrush squirreltail *Sitanion hystrix*  
bluegrasses *Poa* sp.

# Appendix G

## Collection of Shed Antlers, Finding of Appropriateness

### FINDING OF APPROPRIATENESS OF A REFUGE USE

Refuge Name: Cokeville Meadows National Wildlife Refuge

Use: Collection of shed antlers

This form is not required for wildlife-dependent recreational uses, take regulated by the State, or uses already described in a refuge CCP or step-down management plan approved after October 9, 1997.

Decision Criteria:	YES	NO
(a) Do we have jurisdiction over the use?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Does the use comply with applicable laws and regulations (Federal, State, tribal, and local)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) Is the use consistent with applicable Executive orders and Department and Service policies?	<input type="checkbox"/>	<input type="checkbox"/>
(d) Is the use consistent with public safety?	<input type="checkbox"/>	<input type="checkbox"/>
(e) Is the use consistent with goals and objectives in an approved management plan or other document?	<input type="checkbox"/>	<input type="checkbox"/>
(f) Has an earlier documented analysis not denied the use or is this the first time the use has been proposed?	<input type="checkbox"/>	<input type="checkbox"/>
(g) Is the use manageable within available budget and staff?	<input type="checkbox"/>	<input type="checkbox"/>
(h) Will this be manageable in the future within existing resources?	<input type="checkbox"/>	<input type="checkbox"/>
(i) Does the use contribute to the public's understanding and appreciation of the refuge's natural or cultural resources, or is the use beneficial to the refuge's natural or cultural resources?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(j) Can the use be accommodated without impairing existing wildlife-dependent recreational uses or reducing the potential to provide quality (see section 1.6D, 803 FW 1, for description), compatible, wildlife-dependent recreation into the future?	<input type="checkbox"/>	<input type="checkbox"/>

Where we do not have jurisdiction over the use ("no" to (a)), there is no need to evaluate it further as we cannot control the use. Uses that are illegal, inconsistent with existing policy, or unsafe ("no" to (b), (c), or (d)) may not be found appropriate. If the answer is "no" to any of the other questions above, we will **generally** not allow the use.

If indicated, the refuge manager has consulted with State fish and wildlife agencies. Yes  No

When the refuge manager finds the use appropriate based on sound professional judgment, the refuge manager must justify the use in writing on an attached sheet and obtain the refuge supervisor's concurrence.

Based on an overall assessment of these factors, my summary conclusion is that the proposed use is:

Not Appropriate

Appropriate

Refuge Manager: \_\_\_\_\_

Date: 06/28/2013

If found to be **Not Appropriate**, the refuge supervisor does not need to sign concurrence if the use is a new use.

If an existing use is found **Not Appropriate** outside the CCP process, the refuge supervisor must sign concurrence.

If found to be **Appropriate**, the refuge supervisor must sign concurrence.

Refuge Supervisor: \_\_\_\_\_

Date: \_\_\_\_\_

A compatibility determination is required before the use may be allowed.

FWS Form 3-2319  
02/06



# Appendix H

## *Predator Management Activities*



### United States Department of the Interior

#### FISH AND WILDLIFE SERVICE Mountain-Prairie Region



IN REPLY REFER TO:  
FWS/R6  
Mail Stop 60130

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

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

DEC 13 2011

#### Memorandum

To: Refuge Project Leaders, Region 6

From: ARD, NWRS/PFW, Region 6

Subject: Predator Management Activities on Region 6 Refuges

We recently received a request from the Wildlife Services program of USDA, Animal and Plant Health Inspection Service (APHIS) to conduct damage control operations directed at gray wolves on a Montana Refuge. Many refuges have dealt individually with Wildlife Services, or with state predator control agencies, and stockmen associations regarding coyote control, for a number of years.

The Refuge Supervisors collected data from refuges that had received requests for on-refuge predator management/animal damage control (hereinafter referred to as ADC) work and reviewed that information. While all responses seemed to be locally reasonable, our responses have not always been consistent across the Region.

Refuge Managers are responsible for authorizing or denying requests for third-party uses of the refuges they administer, and for complying with Service policies that govern authorization for refuge uses (e.g. compatibility). Within that framework, the following guidelines are provided to assist you in responding to requests from Wildlife Services or from state or local predator/animal damage control agencies/organizations:

1. Region 6 refuges will generally not allow "population management" activities on refuges. "Population management" activities are those where Wildlife Services or another ADC organization routinely/annually kills predators to reduce/control predator populations as a prophylactic measure. Population management in Region 6 is generally directed at coyotes.
2. Region 6 refuges generally will authorize Wildlife Services or state ADC agencies to target specific predators/family groups when it is determined that those specific animals are likely responsible for documented livestock depredation on neighboring/nearby lands. The level of documentation and evidence deemed appropriate is determined by the Refuge Manager. Wildlife Services may be asked to provide NEPA and Section 7 compliance documents, as appropriate.

3. Region 6 refuges will generally grant USDA Wildlife Service requests to enter refuges for non-lethal activities such as surveillance, live-trapping and marking or applying radio collars to predators.
4. Region 6 refuges will generally restrict any authorized lethal ADC activities to ground activities (e.g. trapping/shooting), and we will not authorize aerial gunning of predators on refuge lands.

Final decision authority for on-refuge predator management lies with the Refuge Manager/Project Leader. You are encouraged to discuss decisions outside the above guidelines with your Refuge Supervisor.

cc:  
Wayne King  
David Lucas

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