

Appendix H: Glossary

Adaptation: Adjustment in natural or human systems to a new or changing environment. Adaptation to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. Various types of adaptation can be distinguished, including anticipatory and reactive adaptation, private and public adaptation, and autonomous and planned adaptation.

Adaptive Management: The rigorous application of management, research, and monitoring to gain information and experience necessary to assess and modify management activities. A process that uses feedback from refuge research and monitoring and evaluation of management actions to support or modify objectives and strategies at all planning levels (FWS, 602 FW1 1.6).

Alternatives: Different sets of objectives and strategies or means of achieving refuge purposes and goals, helping fulfill the National Wildlife Refuge System mission, and resolving issues (FWS, 602 FW1 1.6).

Appropriate Use: A proposed or existing use on a refuge that meets at least one of the following four conditions (FWS, 603 FW1 1.6):

- The use is a wildlife-dependent recreational use as identified in the Fish and Wildlife Improvement Act of 1978.
- The use contributes to fulfilling the refuge purpose(s), the National Wildlife Refuge System mission, or goals or objectives described in a refuge management plan approved after October 9, 1997, the date the National Wildlife Refuge System Improvement Act of 1997 was signed into law.
- The use involves the take of fish and wildlife under state regulations.
- The use has been found to be appropriate as specified in section 1.11.

Approved Acquisition Boundary: A project boundary that the Director of the U.S. Fish and Wildlife Service approves upon completion of the planning and environmental compliance process. An approved acquisition boundary only designates those lands that the Service has authority to acquire and/or manage through various agreements. Approval of an acquisition boundary does not grant the Service jurisdiction or control over lands within the boundary, and it does not make lands within the refuge boundary part of the National Wildlife Refuge System. Lands do not become part of the Refuge System until they are purchased or are placed under an agreement that provides for management as part of the refuge system.

Biological Control: The use of organisms or viruses to control weeds or other pests.

Biological Diversity: The variety of life, including the variety of living organisms, the genetic differences among them, and the communities in which they occur (FWS, 602 FW1 1.6).

Biological Integrity: Biotic composition, structure, and functioning at the genetic, organism, and community levels consistent with natural conditions, including the natural biological processes that shape genomes, organisms, and communities (FWS, 602 FW1 1.6).

Candidate Species: Plants and animals for which the U.S. Fish and Wildlife Service has sufficient information on their biological status and threats to propose them as endangered or threatened under the Endangered Species Act, but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

Carbon Sequestration: The uptake and storage of carbon. Trees and plants, for example, absorb carbon dioxide, release the oxygen, and store the carbon. Fossil fuels were at one time biomass and continue to store the carbon until burned.

Climate Change: Climate change refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). Climate change may result from 1) natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun; 2) natural processes within the climate system (e.g., changes in ocean circulation); 3) human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, desertification, etc.).

Code of Federal Regulations (CFR): The codification of the general and permanent rules published in the *Federal Register* by the departments and agencies of the Federal Government. It is divided into 50 titles that represent broad areas subject to federal regulation. The 50 subject matter titles contain one or more individual volumes, which are updated once each calendar year, on a staggered basis.

Council on Environmental Quality (CEQ): An Executive Office of the President whose members are appointed by the President. CEQ recommends national policies to promote the improvement of the quality of the environment.

Compatible Use: A proposed or existing wildlife-dependent recreational use or any other use of a national wildlife refuge that, based on sound professional judgment, will not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purposes of the national wildlife refuge (FWS, 603 FW 2 2.6).

Compatibility Determination (CD): A written determination signed and dated by the Refuge Manager and the U.S. Fish and Wildlife Service Regional Chief signifying that a proposed or existing use of a national wildlife refuge is a compatible use or is not a compatible use. The director of the Service makes this delegation through the Regional Director (FWS, 603 FW 2 2.6).

Comprehensive Conservation Plan (CCP): A document that describes the desired future conditions of a refuge or planning unit and provides long-range guidance and management direction to achieve the purposes of the refuge; helps fulfill the mission of the Refuge System; maintains and, where appropriate, restores the ecological integrity of each refuge and the National Wildlife Refuge System; helps achieve the goals of the National Wilderness Preservation System; and meets other mandates (FWS, 602 FW1 1.6).

Consumptive Use: Use of a refuge resource that removes the resource from the refuge (e.g., killing an animal to eat, catching and keeping fish, harvesting berries or plants, or removal of mineral or other specimens).

Cultural Resource Inventory: A professionally conducted study designed to locate and evaluate evidence of cultural resources present within a defined geographic area. Inventories

may involve various levels, including background literature search, comprehensive field examination to identify all exposed physical manifestations of cultural resources, or sample inventory to project site distribution and density over a larger area. Evaluation of identified cultural resources to determine eligibility for the National Register of Historic Places follows the criteria found in 36 CFR 60.4.

Cultural Resources: “Those parts of the physical environment—natural and built—that have cultural value to some kind of sociocultural group . . . [and] those non-material human social institutions . . .” Cultural resources include historic sites, archeological sites and associated artifacts, sacred sites, traditional cultural properties, cultural items (human remains, funerary objects, sacred objects, and objects of cultural patrimony), and buildings and structures.

Easement: A privilege or right that is held by one person or other entity in land owned by another.

Ecological Integrity: The integration of biological integrity, natural biological diversity, and environmental health; the replication of natural conditions (FWS, 602 FW1 1.6).

Ecosystem: A biological community together with its environment, functioning as a unit. For administrative purposes, 53 ecosystems covering the United States and its possessions have been designated. These ecosystems generally correspond with watershed boundaries, and their sizes and ecological complexity vary (FWS, 602 FW1 1.6).

Effects (Impacts): Effects include:

- Direct effects, which are caused by the action and occur at the same time and place.
- Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.
- Cumulative effects, which result from past, present, and reasonably foreseeable future actions that, collectively, become significant over time.

Effects and impacts as used in these regulations are synonymous. Effects includes ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions that may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial (40 CFR 1508.8).

Endangered Species: Any species of plant or animal defined through the Endangered Species Act as being in danger of extinction throughout all or a significant portion of its range and published in the *Federal Register*.

Endangered Species Act (ESA): Through federal action and by encouraging the establishment of state programs, the Endangered Species Act of 1973 provided for the conservation of ecosystems upon which threatened and endangered species of fish, wildlife, and plants depend. The Act authorizes the determination and listing of species as endangered and threatened;

prohibits unauthorized taking, possession, sale, and transport of endangered species; provides authority to acquire land for the conservation of listed species, using land and water conservation funds; authorizes establishment of cooperative agreements and grants-in-aid to states that establish and maintain active and adequate programs for endangered and threatened wildlife and plants; authorizes the assessment of civil and criminal penalties for violating the Act or regulations; and authorizes the payment of rewards to anyone furnishing information leading to arrest and conviction for any violation of the Act or any regulation issued thereunder.

Section 7 of the Endangered Species Act requires federal agencies to insure that any action authorized, funded, or carried out by them is not likely to jeopardize the continued existence of listed species or modify their critical habitat.

Environmental Action Statement (EAS): The decision document for an environmental assessment for the U.S. Fish and Wildlife Service. The EAS will consist of a one-page document indicating the proposal, the Service decision, references to supporting documents (if any), and a signature block. The purposes of the EAS are to establish a process for internal review of National Environmental Policy Act-related decision documents and to provide an appropriate administrative record of NEPA-related decisions at all management levels of the Service (FWS, 550 FW3 3.3 C).

Environmental Analysis: The process associated with preparing documents such as environmental assessments and environmental impact statements and the decision whether to prepare an environmental impact statement. It is an analysis of alternative actions and their predictable short-term and long-term effects, which include physical, biological, economic, and social factors and their interactions.

Environmental Assessment (EA): A systematic analysis to determine if proposed actions would result in a significant effect on the quality of the environment.

Environmental Consequences: The scientific and analytic basis for the comparison of alternatives. The environmental impacts of the alternatives including the proposed action, any adverse environmental effects that cannot be avoided should the proposal be implemented, the relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitments of resources that would be involved in the proposal should it be implemented (40 CFR 1502.16).

Environmental Health: Abiotic composition, structure, and functioning of the environment consistent with natural conditions, including the natural abiotic processes that shape the environment (FWS, 602 FW1 1.6).

Environmental Impact Statement (EIS): A detailed written statement, required by section 102(2)(C) of the National Environmental Policy Act, analyzing the environmental impacts of a proposed action, adverse effects of the project that cannot be avoided, alternative courses of action, short-term uses of the environment versus the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitment of resources (40 CFR 1508.11).

Environmental Justice: The fair treatment and meaningful involvement of all people in the development, implementation, and enforcement of environmental laws regardless of race, color, national origin, or income.

Extirpation: The local extinction of a species that is no longer found in a locality or country but exists elsewhere in the world.

Finding of No Significant Impact (FONSI): A document prepared in compliance with the National Environmental Policy Act and supported by an environmental assessment that briefly presents why a federal action will have no significant effects on the human environment and for which an Environmental Impact Statement will not be prepared (40 CFR 1508.13).

Global Warming: Global warming is an average increase in the temperature of the atmosphere near the Earth's surface and in the troposphere, which can contribute to changes in global climate patterns. Global warming can occur from a variety of causes, both natural and human induced. In common usage, "global warming" often refers to the warming that can occur as a result of increased emissions of greenhouse gases from human activities.

Goal: A descriptive, open-ended, and often broad statement of desired future conditions that conveys purposes but does not define measurable units (FWS, 602 FW1 1.6).

Greenhouse Gas (GHG): Any gas that absorbs infrared radiation in the atmosphere. Greenhouse gases include, but are not limited to, water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), ozone (O₃), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

Habitat: The physical and biological resources required by an organism for its survival and reproduction; these requirements are species-specific. Food and cover are major components of habitat and must extend beyond the requirements of the individual to include a sufficient area capable of supporting a viable population.

Incompatible: Any use (recreational or nonrecreational) of a refuge that, in the sound professional judgment of the Director of the U.S. Fish and Wildlife Service, will materially interfere with or detract from the fulfillment of the mission of the National Wildlife Refuge System or the purposes of the refuge. Incompatible uses are not allowed to occur on Service areas.

Indicator: In effects analysis, a way for measuring effects from management alternatives on a particular resource or issue.

Interjurisdictional Fish: Fish that occur in waters under the jurisdiction of one or more states, for which there is an interstate fishery management plan or which migrates between the waters under the jurisdiction of two or more states bordering on the Great Lakes.

Invasive Species: Invasive species are organisms that are introduced into a non-native ecosystem and that cause, or are likely to cause, harm to the economy, environment, or human health.

Inventory: Accepted biological methods to determine the presence, relative abundance, and/or distribution of species (FWS, 702 FW2 2.6).

Issue: Any unsettled matter that requires a management decision—that is, a U.S. Fish and Wildlife 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 (FWS, 602 FW1 1.6).

Major Federal Action: Includes action with effects that may be major and that are potentially subject to federal control and responsibility. “Major” reinforces but does not have a meaning independent of significantly. “Actions” include new and continuing activities. Federal actions include adoption of official policy, formal plans, programs, and approval of specific projects (40 CFR 1508.18).

Memorandum of Understanding or Agreement (MOU or MOA): A legal document outlining the terms and details of an agreement between parties (often U.S. Fish and Wildlife Service and a state natural resource agency), including each party’s requirements and responsibilities. It sets forth the basic principles and guidelines under which the parties will work together to accomplish their goals. A memorandum of understanding or agreement are generally recognized as binding, even if no legal claim could be based on the rights and obligations laid down in them.

Migratory Birds: Birds that follow a seasonal movement from their breeding grounds to their wintering grounds. Waterfowl, shorebirds, raptors, and songbirds are all migratory birds.

Monitoring: Accepted biological methods to determine the status and/or demographics of species over time (FWS, 702 FW2 2.6).

National Environmental Policy Act (NEPA): This act, promulgated in 1969, requires all federal agencies to disclose the environmental effects of their actions, incorporate environmental information, and use public participation in the planning and implementation of all actions. Federal agencies must integrate NEPA with other planning requirements and must prepare appropriate NEPA documents to facilitate better environmental decisionmaking (40 CFR 1500). The law also established the Council on Environmental Quality to implement the law and to monitor compliance with the law.

National Wilderness Preservation System: A network of federally owned areas designated by Congress as wilderness and managed by one of four federal agencies: the U.S. Fish and Wildlife Service, Bureau of Land Management, National Park Service, or the U.S. Forest Service. Includes over 600 areas and more than 105 million acres. The National Wildlife Refuge System includes over 20 million acres of wilderness in more than 60 refuges (FWS, 610 FW1 1.9).

National Wildlife Refuge (NWR, Refuge): A designated area of land, water, or an interest in land or water within the National Wildlife Refuge System, but does not include Coordination Areas. A complete listing of all units of the Refuge System is located in the current Report of Lands Under Control of the U.S. Fish and Wildlife Service (FWS, 602 FW1 1.6).

National Wildlife Refuge System (NWRS, Refuge System): All lands, waters, and interests therein administered by the U.S. Fish and Wildlife Service as wildlife refuges, wildlife ranges, wildlife management areas, waterfowl production areas, and other areas for the protection and conservation of fish, wildlife, and plant resources.

National Wildlife Refuge System Improvement Act of 1997 (Improvement Act): Sets the mission and administrative policy for all refuges in the National Wildlife Refuge System. Clearly defines a unifying mission for the Refuge System; establishes the legitimacy and

appropriateness of the six priority public uses (hunting, fishing, wildlife observation and photography, and environmental education and interpretation); establishes a formal process for determining compatibility; establishes the responsibilities of the Secretary of the Interior for managing and protecting the Refuge System; and requires a Comprehensive Conservation Plan for each refuge by the year 2012. This Act amended portions of the Refuge Recreation Act and National Wildlife Refuge System Administration Act of 1966.

Native Species: A species, subspecies, or distinct population that occurs within its natural range or natural zone of potential dispersal (i.e., the geographic area the species occupies naturally or would occupy in the absence of direct or indirect human activity or an environmental catastrophe).

No-Action Alternative: In the context of a Comprehensive Conservation Plan, this refers to the current management direction. With this alternative, no change from the current CCP would be implemented.

Non-consumptive Uses: Recreational activities (e.g., hiking, photography, and wildlife observation) that do not involve the taking or catching of fish, wildlife, or other natural resources.

Non-native Species: A species, subspecies, or distinct population that has been introduced by humans (intentionally or unintentionally) outside its natural range or natural zone of potential dispersal.

Objective: A concise statement of what we want to achieve, how much we want to achieve, when and where we want to achieve it, and who is responsible for the work. Objectives derive from goals and provide the basis for determining strategies, monitoring refuge accomplishments, and evaluating the success of strategies. Objectives are to be attainable, time-specific, and measurable (FWS, 602 FW1 1.6).

Ozone (O₃): Ozone, the triatomic form of oxygen (O₃), is a gaseous atmospheric constituent. In the troposphere, it is created both naturally and by photochemical reactions involving gases resulting from human activities (photochemical smog). In high concentrations, tropospheric ozone can be harmful to a wide range of living organisms. Tropospheric ozone acts as a greenhouse gas. In the stratosphere, ozone is created by the interaction between solar ultraviolet radiation and molecular oxygen (O₂). Stratospheric ozone plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric ozone, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet (UV) B radiation.

Planning Area: The area upon which the planning effort will focus. A planning area may include lands outside existing planning unit boundaries currently studied for inclusion in the National Wildlife Refuge System and/or partnership planning efforts. It also may include watersheds or ecosystems outside of our jurisdiction that affect the planning unit. At a minimum, the planning area includes all lands within the authorized boundary of the refuge (FWS, 602 FW1 1.6).

Planning Team: A planning team is interdisciplinary in membership and function. A team generally consist of a Planning Team Leader, Refuge Manager, staff biologists, a state natural resource agency representative, and other appropriate program specialists (e.g., social scientist, ecologist, recreation specialist). Other federal and Tribal natural resource agencies may also be asked to provide team members, as appropriate. The planning team prepares the

Comprehensive Conservation Plan and appropriate National Environmental Policy Act documentation (FWS, 602 FW1 1.6).

Prescribed Burning: Controlled application of fire to the landscape that allows the fire to be confined to a predetermined area while producing the intensity of heat and rate of spread required to achieve planned management objectives.

Preferred Alternative: A proposed action in the National Environmental Policy Act document for the Comprehensive Conservation Plan identifying the alternative that the U.S. Fish and Wildlife Service believes best achieves planning unit purposes, vision, and goals; helps fulfill the National Wildlife Refuge System mission; maintains and, where appropriate, restores the ecological integrity of each refuge and the Refuge System; addresses the significant issues and mandates; and is consistent with principles of sound fish and wildlife management.

Priority Public Uses: Six uses authorized by the National Wildlife Refuge System Improvement Act of 1997 to have priority and are found to be compatible with the refuge purposes. This includes hunting, fishing, wildlife observation and photography, and environmental education and interpretation.

Proposed Action: In the context of a Comprehensive Conservation Plan, this is the same as the Preferred Alternative.

Public Involvement: A process that offers affected and interested individuals and organizations opportunities to become informed about, and to express their opinions on, U.S. Fish and Wildlife Service actions and policies. In the process, these public views are studied thoroughly and are thoughtfully considered in shaping decisions for refuge management.

Purposes of the Refuge: The purposes specified in or derived from the law, proclamation, executive order, agreement, public land order, donation document, or administrative memorandum establishing, authorizing, or expanding a refuge, refuge unit, or refuge subunit. For refuges that encompass congressionally designated wilderness, the purposes of the Wilderness Act are additional purposes of the refuge (FWS, 602 FW1 1.6).

Record of Decision (ROD): A concise public record of a decision prepared by the federal agency, pursuant to National Environmental Policy Act, that contains a statement of the decision, identification of all alternatives considered, identification of the environmentally preferable alternative, a statement whether all practical means to avoid or minimize environmental harm from the alternative selected have been adopted (and if not, why they were not), and a summary of monitoring and enforcement where applicable for any mitigation (40 CFR 1505.2).

Resident Species: A nonmigratory species inhabiting a given locality throughout the year. Examples include white-tailed deer, muskrat, raccoon, mink, and fox.

Scoping: A process for determining the scope of issues to be addressed by a Comprehensive Conservation Plan and for identifying the significant issues. Involved in the scoping process are federal, state, and local agencies; private organizations; and individuals.

Shorebird: Long-legged birds, also known as waders, belonging to the order Charadriiformes that use shallow wetlands and mud flats for foraging and nesting.

Significant Issue: A significant issue is typically: within Service jurisdiction, suggests different actions or alternatives, and will influence the decision (FWS, 602 FW3 3.4 3b).

Species: A distinctive kind of plant or animal having distinguishable characteristics, and that can interbreed and produce young. A category of biological classification.

Sound Professional Judgment: A finding, determination, or decision that is consistent with principles of sound fish and wildlife management and administration, available science and resources, and adherence to the requirements of the National Wildlife Refuge System Administration Act and other applicable laws.

Stakeholder: A person or group who has an interest in activities within the Planning Area.

Step-down Management Plan: A plan that provides specific guidance on management subjects (e.g., habitat, public use, fire, safety) or groups of related subjects. It describes strategies and implementation schedules for meeting Comprehensive Conservation Plan goals and objectives (FWS, 602 FW1 1.6).

Strategic Habitat Conservation (SHC): A structured, science-driven approach for making efficient, transparent decisions about where and how to expend Service resources for species, or groups of species, that are limited by the amount or quality of habitat. It is an adaptive management framework integrating planning, design, delivery, and evaluation.

Strategy: A specific action, tool or technique, or combination of actions, tools, and techniques used to meet unit objectives (FWS, 602 FW 1.6).

Threatened Species: Those plant or animal species likely to become endangered species throughout all of or a significant portion of their range within the foreseeable future. A plant or animal identified and defined in accordance with the Endangered Species Act of 1973 and published in the *Federal Register*.

Vision Statement: A concise statement of what the planning unit should be or hope to do, based primarily upon the National Wildlife Refuge System mission, specific refuge purposes, and other mandates. The vision statement for the refuge should be tied to the mission of the Refuge System; the purpose(s) of the refuge; the maintenance or restoration of the ecological integrity of each refuge and the Refuge System; and other mandates (FWS, 602 FW1 1.6).

Waterfowl: A group of birds that include ducks, geese, and swans (belonging to the order Anseriformes).

Waterfowl Production Area (WPA): Prairie wetlands with associated uplands managed to provide nesting areas for waterfowl and owned in fee title by the U.S. Fish and Wildlife Service. These lands are purchased from willing sellers with funds from Federal Duck Stamp sales. They are open to public hunting, fishing, and trapping according to state and federal regulations.

Watershed: The entire land area that collects and drains water into a river/stream or river/stream system.

Wetland: A wetland is 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. For the purposes of this classification a wetland must have one or more of the following three attributes: 1) at

least periodically, the land supports predominantly hydrophytes; 2) the substrate is predominantly undrained hydric soil; and 3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year (Cowardin et al., 1979).

Wetland Management District (WMD): An area covering several counties that acquires (with Federal Duck Stamp funds), restores, and manages prairie wetland habitat critical to waterfowl and other wetland birds.

Wildlife-Dependent Recreational Use: A 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 National Wildlife Refuge System as established in the National Wildlife Refuge System Administration Act, as amended. Wildlife-dependent recreational uses, other than the six priority public uses, are those that depend on the presence of wildlife. These other uses will also be considered in the preparation of refuge Comprehensive Conservation Plans; however, the six priority public uses always will take precedence (FWS, 602 FW1 1.6).

Wildlife Diversity: A measure of the number of wildlife species in an area and their relative abundance.

Waterbirds: This general category includes all birds that inhabit lakes, marshes, streams and other wetlands at some point during the year. The group includes all waterfowl, such as ducks, geese, and swans and other birds such as loons, rails, cranes, herons, egrets, ibis, cormorants, pelicans, shorebirds, and passerines that nest and rely on wetland vegetation.