

Appendix M

Glossary

M. Glossary

M.1 Terms and Phrases

1002 Area – Refers to a portion of the Coastal Plain of the Arctic National Wildlife Refuge (Refuge, Arctic Refuge), identified in Section 1002 of the Alaska National Interest Lands Conservation Act (ANILCA) of 1980. Section 1002 of ANILCA further requires that studies be performed within in the designated area to provide information to Congress such as a comprehensive and continuing inventory and assessment of the fish and wildlife resources, and an analysis of the impacts of oil and gas exploration, development, and production.

17(b) easement – Rights reserved to the United States for easements on or over Alaska Native corporation land. These rights are reserved under 17(b) of the Alaska Native Claims Settlement Act (ANCSA) when the Bureau of Land Management (BLM) conveys land to a Native corporation. These 17(b) easements may be 1) road or trail easements providing access over private Native corporation land to public lands, including waterways, marine coastline, and airports; 2) site easements, including temporary camping areas, trailheads, and vehicle or boat parking and unloading; and 3) other uses, including utility lines or the fulfillment of international treaty obligations.

Action – A management option that could be taken to address an issue. Actions are pieces of an alternative.

Administrative activities – Any activities conducted for the Refuge by Refuge staff.

Administrative record – The “paper trail” that documents an agency’s decision making process and forms the basis for the agency’s decision. It includes all materials directly or indirectly considered by persons involved in the decision making process, including opinions or information considered but rejected. The administrative record helps future managers understand the evolution of the issue(s) and how decisions were reached and made.

Aeolian – Eroded material produced, carried by, or deposited by the wind.

Air operator – Blanket term for both “air-taxi” and “air transporter” (see *Air taxi services* and *Air transporter services*).

Air quality-related value – Pertaining to protection of a resource identified by a Federal land manager that may be adversely impacted by air quality changes in an area. Examples of resources include visibility or a specific scenic, cultural, physical, geologic, biological, ecological, or recreational resource.

Air-taxi services – A commercial service provider authorized by special use permit to provide a specific type of air service. Air taxis provide services for all types of visitors, including general hunters. They provide transportation services based on travel time and/or distance. Hunters are incidental to their air-taxi business, and hunters are charged the same rate as other clients (river rafters, backpackers, etc.). Air-taxis may also be licensed as transporters and vice versa (see *Air transporter services*).

Air transporter services – A commercial service provider authorized by special use permit to provide a specific type of air service. Air transporters are licensed through the State of Alaska according to 12 AAC 75.145. Air transporters are used almost exclusively by general hunters. Air transporters offer fly-in services to hunters, and they directly target the business of hunters through advertisements. A fixed rate is paid by each client to the air transporter for all air transportation services needed, including that of gear and game meat. The air transporter is usually responsible for determining the hunting location. Air transporters may also be licensed as air-taxis and vice versa (see *Air taxi services*).

Alaska Friends groups – Formal groups of volunteers that are part of statewide associations of conservation and education groups, and a national network of independent, non-profit organizations.

Allocation system – Used for apportioning limited access among sector groups (see *Sector group*) once use is limited. Allocation systems are only applied if user demand exceeds the supply of recreation opportunities defined by a capacity (Whittaker and Shelby 2008) (see *Carrying capacity*).

Allotment (land ownership) – Private lands within the Refuge that are owned, or have been selected, by Alaska Natives as homesteads for themselves and their heirs per the Alaska Native Allotment Act of 1906 or the Alaska Native Vietnam Veterans Allotment Act of 1998.

Allotment (recreation management) – Within the context of recreation management, the apportionment of limited access among sector groups (Whittaker and Shelby 2008) [not to be confused with *Allotment-land ownership*].

Allowed – Activity, use, or facility is allowed under existing National Environmental Policy Act (NEPA) analysis, appropriate use findings, refuge compatibility determinations, and applicable laws and regulations of the Service, other Federal agencies, and the State of Alaska.

Alluvial – Silt, sand, clay, gravel, and other material deposited by flowing water.

Alluvial fan – A fan-shaped deposit of material formed where a fast-flowing stream slows and spreads out onto a flatter plain.

Alternatives – Different sets of objectives and strategies or means of achieving Refuge purposes and goals, helping fulfill the National Wildlife Refuge System (Refuge System) mission and resolving issues.

Anadromous fish – A fish or fish species that spends portions of its life cycle in both fresh and salt waters, entering freshwater from the sea to spawn. Includes the anadromous forms of Pacific trout and salmon of the genus *Oncorhynchus* (rainbow and cutthroat trout; Chinook, coho, sockeye, chum, and pink salmon), Arctic char, Dolly Varden, sheefish, smelts, lamprey, whitefish, and sturgeon.

Anthropogenic – Human influences on the environment.

Appropriate use – A proposed or existing use on a refuge that meets at least one of the following four conditions: 1) wildlife-dependent recreational use, as identified in the National Wildlife Refuge System Improvement Act; 2) contributes to fulfilling Refuge purpose(s), the Refuge System mission, or refuge management plan goals or objectives (approved after October 9, 1997, the date the Improvement Act was signed into law); 3) the take of fish and wildlife under State regulations; or 4) a use otherwise found appropriate as specified in 603 FW 1.11.

Aufeis – Ice that forms from groundwater flow during freezing temperatures.

Base camp – A base camp serves as a center of operations and overnight accommodations for people working in a remote part of the Refuge (e.g., Refuge staff, guides, and/or clients). A temporary base camp is generally removed within 48 hours, though some operations (such as Refuge field projects) have camps that can remain for extended periods. Base camps have the potential to cause lasting physical impacts, since they often consist of larger tents than do transient camps and, in limited cases, may use tent platforms or other rigid floors. The specific details of a base camp used by permitted operations on Refuge lands would be spelled out in the Refuge special use permit.

Baseline inventories – Initial surveys of plants, animals, or other elements of the biophysical environment that acquire information not previously collected. Baseline inventories evaluate current conditions and can be used for detecting changes occurring over time.

Batholith – A large irregular-shaped deposit of igneous rock formed from an intrusion of magma, often granite, and exposed by erosion of less erosion-resistant rocks.

Bedrock – Unbroken rock that is either exposed or lies beneath soil or rubble.

Big-game guide – A person who is licensed by the State of Alaska to provide services, equipment, or facilities to a big-game hunter in the field. A big-game guide accompanies or is present with, personally or through an assistant, the hunter in the field. Guides must have a special use permit to operate on a national wildlife refuge.

Bioacoustics – A branch of science concerned with the production of sound by, and its effects on, living organisms.

Biological diversity – The variety of life and its processes, including the variety of living organisms, the genetic differences among them, and communities and ecosystems in which they occur.

Biological integrity – Biotic composition, structure, and functioning at genetic, organism, and community levels comparable with historic conditions, including the natural biological processes that shape genomes, organisms, and communities.

Biotic – Relating to living organisms.

Borough – A legally established geographic entity in Alaska, which the Census Bureau treats as statistically equivalent to a county in other states.

Calcareous – Containing calcium carbonate.

Carrying capacity – Within the context of recreation management, a broad term that refers to any visitor overuse or conflict issue. Recreation managers generally prefer the term *Visitor use capacity*, because it provides a more focused definition (Whittaker and Shelby 2008) (see *Desired conditions, and Visitor use capacity*).

Chert – Rock consisting of microcrystalline quartz.

Colluvial – Material that has accumulated at the base of a slope such as talus, avalanche debris, gravel, and soil moved by soil creep and frost action.

Commercial air operator – A commercial service provider authorized by special use permit to provide either air-taxi or air transporter services (see *Air-taxi* and *Air transporter service*).

Commercial guide – A commercial guide is an individual or business who is compensated, in exchange for the service of guiding clients on the Refuge for recreational, hunting, or fishing activities. Commercial guides are required to have a Refuge-issued special use permit, or be employed by a business that has a special use permit, prior to conducting activities on the Refuge.

Commercially-supported – Activities or users that are either guided, taxied, or transported by a commercial permittee of the Refuge onto Refuge lands or waters.

Compatibility determination – A written determination signed and dated by the Refuge manager and regional chief signifying that a proposed or existing use of a national wildlife refuge is a compatible use or is not a compatible use.

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 Refuge System mission or the purposes of the national wildlife refuge.

Competitively awarded refuge permit – special use permits are issued competitively when a limited number of permits are available. Currently only hunting guide permits are issued competitively. The competitive process requires applicants to submit a detailed application, which includes a description of personal qualifications and an operations plan. The Refuge manager reviews all applications and selects the most qualified applicant. The number of permits awarded is limited to the number of exclusive guide use areas available.

Comprehensive Conservation Plan – 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 Refuge System; helps achieve the goals of the National Wilderness Preservation System; and meets other mandates.

Comprehensive River Management Plan (CRMP) – A step-down plan that describes the existing resource conditions of a river included in the National Wild and Scenic Rivers System. The CRMP includes a detailed description of the river’s outstandingly remarkable values (ORVs); addresses development of lands and facilities; defines the goals and desired conditions for protecting river values; addresses user capacities; addresses water quality issues and instreamflow requirements; reflects a collaborative approach with all stakeholders; identifies regulatory authorities of other governmental agencies that assist in protecting river values; and includes a monitoring strategy to maintain desired conditions (Wild and Scenic Rivers Act 16 U.S.C. 1271-1287).

Conglomerate – Rock consisting of pebbles or gravel embedded in finer cementing material.

Conservation system unit – Any unit in Alaska of the National Park System, National Wildlife Refuge System, National Wild and Scenic Rivers Systems, National Trails System, National Wilderness Preservation System, or a National Forest Monument, including existing units, units established, designated, or expanded by or under ANILCA, additions to such units, and any such unit established, designated, or expanded hereafter.

Controlled Use Area – Areas of Alaska defined in State fish and wildlife harvest regulations, (passed by the State of Alaska Board of Game) that have specifically designated rules about methods of access, methods of taking animals, or other provisions. For example, some areas are closed to the use of motorized vehicles for hunting or transportation of hunters, their hunting gear, and/or parts of game. Other areas are restricted to bow hunting only.

Conveyance document – Federal government documents that transfer land title to individuals, Alaska Native corporations, and the State of Alaska. An Interim Conveyance transfers title to unsurveyed land to Alaska Native corporations. A Tentative Approval transfers title to the State of Alaska prior to survey of the land. A Patent or Land Patent conveys legal title from the United States to surveyed land and/or mineral resources.

Conveyed lands – Legally owned lands. Under criteria established by the Alaska Native Claims Settlement Act (ANCSA) (Public Law [PL]92-203) in 1971, Native corporations were able to obtain legal title to certain public lands by first selecting them.

Cretaceous – A geologic Period within the Mesozoic Era between 140 million and 65 million years ago. The Cretaceous was a period of development of dinosaurs, flowering plants and modern insects. The Period ended and the Cenozoic Era began with the K-T extinction event, probably caused by a massive asteroid strike in the Yucatán Peninsula of Mexico. The event was marked by widespread extinctions of numerous species on Earth including dinosaurs, pterosaurs and large marine reptiles.

Critical habitat – A specific geographic area(s) that is essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery.

Crustacean – A subphylum of (mostly) aquatic invertebrates related to insects with a body segmented in three parts: the head, thorax and abdomen. Crustacea includes such species as shrimp, brine shrimp, lobsters, crayfish, krill, copepods, amphipods, and barnacles.

Cultural resources – The remains of sites, structures, or objects used by humans in the past—historic or prehistoric. More recently referred to as heritage resources.

Customary and traditional use – The Federal Subsistence Board decides which communities or areas have customarily and traditionally used a species. Each wildlife management unit lists these customary and traditional use determinations, along with season and bag limits. When there is a positive determination for a specific community or area(s), only residents of those communities and areas have a Federal Subsistence priority for that species in that unit and are eligible to hunt or trap under the Federal regulations.

Deltaic fan – An alluvial fan located in the delta or outlet of a river.

Designated wilderness area – An area designated in legislation and administered as part of the National Wilderness Preservation System (see *Wilderness*).

Desired conditions – Within the context of recreation management, “desired conditions” are the physical, biological, or experiential qualities determined by managers to be important for the perpetuation, enhancement, or restoration of recreational opportunities. Desired conditions are most likely to be preserved when managers: 1) identify clear condition objectives, 2) monitor conditions, 3) identify condition thresholds, and 4) pre-determine management actions to prevent thresholds from being violated (Cole 2004) (see *Carrying capacity*, and *Visitor use capacity*).

Desired future conditions – Within the context of planning, “desired future conditions” is the future management direction of the Refuge that is focused on achieving the Refuge purposes, legislative, and policy mandates. Articulating desired conditions helps management set the Refuge on the proper trajectory to achieve its management vision.

Disperse – In biology, dispersion refers to the movement of young or newborn organisms away from their natal area.

Displaced visitor – A visitor driven from a particular destination due to changed conditions or management actions. The term “displaced visitor” within the context of protected wilderness areas has typically implied those visitors who cease to visit a place because of an increase in human use and evidence of human impact. Another kind of visitor displacement may occur when management actions intended to benefit pristine conditions have the unintended consequence of displacing visitors who value freedom and a lack of regulations more than solitude or natural condition, and thus choose to go elsewhere or stay home (Hall and Cole 2002).

Dolomite – Rocks consisting largely of calcium magnesium carbonate.

Easement – A legal interest in land owned by another (i.e., a non-possessory property interest) that entitles the holder of the easement to limited use of the land.

Ecoregion – A distinct area defined by environmental conditions, climate, landforms, soil characteristics, and vegetation.

Ecosystem – A biological community together with its environment, functioning as a unit.

Ecotone – Transition area between two adjacent but different patches of landscape, such as forest and grassland. It may be narrow or wide, and it may be local such as the zone between a meadow and forest, or regional as in the transition between forest and grassland ecosystems.

Eligible and suitable rivers – Rivers that are preserved for possessing outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values.

Endangered species – The Endangered Species Act (1973) protects both threatened and endangered species. Any species that is in danger of extinction throughout all or a significant portion of its range.

Environmental education – Curriculum-based learning programs that may or may not occur in a traditional educational setting that aim to teach people about the natural world and, particularly, about ways in which ecosystems work (see *Information, Interpretation, and Outreach*).

Environmental health – Composition, structure, and functioning of soil, water, air, and other abiotic features comparable with historic conditions, including the natural abiotic processes that shape the environment.

Environmental Impact Statement (EIS) – Serves as an action-forcing device to insure that the policies and goals defined in NEPA are infused into the ongoing programs and actions of the Federal government. It provides full and fair discussion of significant environmental impacts and informs decision makers and the public of the reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment.

Environmental justice – The fair treatment and meaningful involvement of all people, regardless of natural origin or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socio-economic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and/or commercial operations or the execution of Federal, State, local, and/or tribal programs and policies. Executive Order 12898 directs Federal agencies to achieve environmental justice as part of their missions by identifying and addressing disproportionately high adverse effects of agency programs, policies, and activities, on minority and low-income populations.

Ephemeral – Short-lived, transient, or lasting only a limited time.

Epoch – A subdivision of the geologic timescale based on rock layering. Higher subdivisions are periods, eras and eons.

Era – A subdivision of the geologic timescale based on rock layering. Higher subdivisions are eons and lower subdivisions are periods and epochs.

Erosion – The geologic process by which rock, sand, gravel, or soil are worn away or moved by the action of water, wind, and glaciers.

Estuarine – An adjective for organisms found in an estuary. An estuary is an enclosed coastal body of water with one or more streams flowing into it.

Experience dimension – Within the context of recreation management, the environmental, social, and psychological conditions available to visitors. Examples include the opportunity to experience natural conditions, adventure, challenge, self-reliance, exploration, discovery, solitude, and freedom from unnecessary managerial presence.

Faulted – An adjective meaning to undergo faulting. A fault is a break or planar fracture in a continuous body of rock accompanied by movement along the plane of the fracture. A fault line is the surface trace line of the fault.

Federally qualified subsistence user – A rural Alaska resident qualified to harvest wildlife or fish on Federal public lands or waters in accordance with the annual Federal Subsistence management regulations for harvest of wildlife or fish [not to be confused with *Local user*].

Fire Management Plan (FMP) – A step-down plan that identifies and integrates all wildland fire management and related activities within the context of approved land and/or resource management plans. It defines a program to manage wildland fires (wildfire, prescribed fire, and wildland fire use). The plan is supplemented by operational plans, including but not limited to preparedness plans, preplanned dispatch plans, and prevention plans. FMPs assure that wildland fire management goals and components are coordinated (NWCG 2008).

Fishery enhancement – Improvement in fish populations thru habitat improvement of stocking.

Fishery restoration – The reestablishment of fish populations in a stream or lake, generally through restocking.

Fluvial – Processes related to, produced by, or occurring in a river or stream.

Folded – Where a stack or originally flat or horizontal surfaces of rock are bent or curved by geologic processes.

Formal trails – Intentionally planned and developed trails established to provide recreational access to roadless areas and to protect resources by concentrating visitor traffic on resistant tread surfaces to avoid trail braiding, erosion, etc., or to minimize threats to natural conditions (spread of invasive species, disturbance of sensitive habitats, etc.) (Monz et al. 2009).

Formation – A geologic formation consisting of a number of rock strata with similar properties.

Frontcountry (or front country) – Outdoor areas that are easily accessible by vehicle and mostly visited by day users. Frontcountry locations tend to be more crowded and attract a wider range of visitors than backcountry (Leave No Trace 2011).

Frost boils – Upwelling of soil that occur through the action of permafrost or frost heaving.

Fry – A juvenile fish that has fully absorbed the yolk sac and may consume food.

Game Management Unit (GMU) – A geographic division made by the Alaska Department of Fish and Game for the management of fish and wildlife in the State. Different GMUs have different hunting and fishing seasons, harvest limits, and other harvest regulations.

Gateway communities – Refers to communities with long-term residencies that act as transportation hubs for entry and/or exit to the Refuge. Examples include Arctic Village, Coldfoot, and Kaktovik.

Gelifluction lobes – Surface structure where soil rolls up or folds on itself when moving downhill.

General fishing visitor – General fishers are Refuge visitors engaged in fishing under the State of Alaska fishing regulations. The terms “general fishing visitor” or “general fisher” are preferable to “sport fisher” due to differing Federal and state definitions of the term “subsistence” (see *Federally qualified subsistence user*).

General hunting visitor – Refuge visitors engaged in hunting under the State of Alaska hunting regulations. The terms “general hunting visitor” or “general hunter” are preferable to “sport hunter” due to differing Federal and state definitions of the term “subsistence” (see *Federally qualified subsistence user*).

Genetics – The molecular structure and function of genes as related to the hereditary variation in organisms.

Geographic Information System (GIS) – A system of software to analyze, store, and display location data.

Glacial moraine – A ridge or mound of boulders, gravel, sand, and clay that was deposited by a glacier.

Glacial-fluvial – Material eroded by a glacier and moved or deposited by a stream or river.

Glacier – A large continuous mass of ice formed from snow accumulation over many centuries and millennia and slowly moving downhill in a valley or outward as in continental glaciers.

Goal – Descriptive, open-ended, and often broad statement of desired future conditions that conveys a purpose but does not define measurable units.

Granite – A coarse-grain igneous rock composed of quartz, feldspar and other minerals.

Graywacke – A dark-gray, coarse grained sandstone containing fragments of rock and cemented with clay.

Guide – A commercial service provider that is compensated in exchange for guiding clients on the Refuge for recreational, hunting, or fishing activities. Guides are required to have a special use permit, or to be employed by a business that has a special use permit, prior to conducting activities on the Refuge (see *Commercial guide* and *Commercially-supported*).

Hunting guide use areas – There are 16 geographically separate exclusive hunting guide use areas on Arctic Refuge, for which permits are awarded through a competitive process. Only one hunting guide is authorized to operate in each area.

Ice wedge – Narrow, vertical ice mass that is 3–4 meters (10 to 13 feet) wide at the ground surface, and extends as much as 10 meters (33 feet) into the ground. They begin with soil cracking due to intense cold and thermal contraction. The cracks accumulate meltwater in the summer, which later freezes. As this process continues over many years, ice wedges grow thicker. Ice wedges usually appear in a polygonal pattern known as ice wedge polygons.

Igneous rock (basalt and breccia) – Rock produced of a volcanic origin. Basalt is a dark, dense rock produced from lava of a columnar structure, whereas breccia is composed of angular fragments of older rocks melded together.

Impacted – Recreation managers denote any area with undesirable visitor-related change in resources that would likely, if managed for recovery, return to natural condition within a defined, short-term period as *impacted*. The standard recovery time for this classification is one year, or one season cycle (Lawhon 2010) [not to be confused with *Impaired*].

Impaired – Recreation ecologists classify areas with undesirable visitor-related changes in resources that would likely, if managed for recovery, not return to natural condition until decades have passed, as *impaired* (J. L. Marion, Unit Leader of Virginia Tech Field Station, Patuxent Wildlife Research Center, USGS, pers. comm.) [not to be confused with *Impacted*].

Indicator thresholds – A specified condition that, when reached, triggers an action. For example, a level could be set for a survey result for a species that, when exceeded, would trigger protective action for that species, e.g., by adjusting harvest levels or restricting human disturbance to the species' breeding area.

Informal trails – Visitor-created trails that can contribute substantially greater impacts to protected area resources than formal trails (Monz et al. 2009) (see *Formal trails*).

Information – Differs from environmental education in that there is no curriculum; it's not necessarily part of a comprehensive program and can be a discreet offering; the subject matter is not restricted to a topic of the natural world but may, for example, inform the public about an upcoming management action or event (see also *Outreach* and *Environmental Education*).

Inholding – A privately owned parcel of land within the boundaries of public lands of the United States, especially within a national park, forest, or wildlife refuge.

Integrated Cultural Resources Management Plan (ICRMP) – An Integrated Cultural Resources Management Plan is a step-down plan that will assist Refuge staff in meeting legal requirements to protect and manage the cultural resources of the Refuge. It provides a ready reference to cultural resource laws and regulations, the Service Manual, and the Cultural Resource Management Handbook. The ICRMP outlines a program for implementing Section 110 of the National Historic Preservation Act and Section 14 of the Archaeological Resources Protection Act requirements to determine the nature and extent of cultural resources on the

Refuge and evaluate them for eligibility to the National Register of Historic Places. ICRMPs identify funding needs and possible timetables for completion of identified work.

Intensity of Impact – Refers to the severity of an impact of an action. The range of impacts includes: No effect, Negligible, Minor, Moderate, and Major (see Chapter 5 for more detail).

Interpretation – The goal of interpretive services is to increase the public’s enjoyment and understanding of the Refuge, to provide audiences with opportunities to make personal connections to the Refuge, and to allow each person to care about the place on his or her own terms. Interpreters do this by helping audiences discover the meanings and significances associated with the Refuge (see *Environmental education, Information, and Outreach*).

Invasive species – Alien or non-native species whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

Inventory and Monitoring Plan (I&M) – A written plan that outlines all facets of a natural resources inventory and monitoring program for a unit of the National Wildlife Refuge System. The I&M Plan includes methods for identifying species of plants, animals, and selected invertebrates that are present, and for conducting monitoring efforts on selected species and habitats. The I&M Plan also addresses prioritization of biological inventory and monitoring efforts, and lists cooperators.

Issue – Any unsettled matter that requires a management decision (e.g., an initiative, opportunity, resource management problem, threat to the resources of the unit, conflict in uses, public concern, or the presence of an undesirable resource condition).

Landbird – Bird species that principally use terrestrial habitats throughout the year. This diverse group includes raptors (hawks, eagles, falcons, and owls), grouse and ptarmigan, woodpeckers, flycatchers, jays and ravens, chickadees, thrushes, wagtails and pipits, warblers, sparrows, and finches, among other species.

Leave No Trace – Principles of outdoor recreation designed to minimize effects on the natural environment and other visitors. These principles are: (1) plan ahead and prepare, (2) travel and camp on durable surfaces, (3) dispose of waste properly, (4) leave what you find, (5) minimize campfire impacts, (6) respect wildlife, and (7) be considerate of other visitors (Leave-no-Trace 2004).

LexisNexis database – LexisNexis is a company that provides database services and electronic research for professionals in the legal, corporate, government, law enforcement, risk management, accounting, and academic markets. LexisNexis maintains a database of billions of searchable documents and records from more than 45,000 legal, news, and business sources worldwide.

Life history – In biology, life history refers to the reproductive characteristics of plants and animals but may also be used to reference diet, habitat needs, and behavior.

Limestone – A sedimentary rock consisting primarily of calcium carbonate (CaCO₃) formed from the skeletons of marine microorganisms and coral but may also contain chert, clay, silt, and sand.

Lisburne Group - A sedimentary layer of carbonate rock (dolomite, limestone) in Northern Alaska deposited in the Paleozoic Era 345 to 280 million years ago (Hanks et al. 1997).

Lithic – Sedimentary or volcanic rock containing large fragmented quantities of other rock.

Local user – A local user is a rural resident who relies upon the Refuge for a range of subsistence activities but may not be a federally-qualified subsistence user based on customary and traditional patterns of use in the area.

Loess – Silt, loam, or sand deposited by wind.

Management categories – These are five categories used to describe management levels throughout the Alaska refuges: Intensive, Moderate, Minimal, Wilderness, and Wild River. A management category is used to define the level of human activity and development that is appropriate for a specific area of a refuge. A management category is a set of management directions applied to an area based on its resources and existing and potential activities or uses. These categories have been adopted and applied to accomplish refuge purposes and achieve management goals (see Chapter 3 for more detail).

Management emergencies – Actions not authorized on the Refuge or in specific management categories may be allowed for situations or events that threaten human health or safety, or that make the action necessary to meet legal mandates

Marine – Pertaining to the ocean and adjacent waters with saline or brackish water.

Marine Protected Area (MPA) – Any area of the marine environment that has been reserved by Federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein (Executive Order 13158).

Master Memorandum of Understanding – A statement of cooperation about a specific or general topic between two (or more) parties. It is used to clarify the roles and responsibilities of each party in a shared situation of interest. In the U.S. Fish and Wildlife Service, it is normally used in situations when there is no exchange of funds or property among the cooperators. A master memorandum of understanding is general and more of an umbrella or overarching agreement that is often supplemented by more specific memoranda of understanding about specific topics or projects. See Appendix B for an example of a master memorandum of understanding.

May be allowed – Activity, use, or facility may be allowed subject to site-specific NEPA analysis, an appropriate use finding (when required), a specific refuge compatibility determination (when required), and compliance with all applicable laws and regulations of the Service, other Federal agencies, and the State of Alaska.

May be authorized – Activity, use, or facility may only be allowed with a required special use permit or other authorization.

Mesozoic – The Era on the geologic timeline encompassing the age of the dinosaurs 250 million to 65 million years ago

Metamorphic rock – Rock transformed by heat or pressure that caused significant physical and chemical changes.

Migratory – Moving from place to place daily or seasonally.

Migratory bird – Any species or family of birds that live, reproduce, or migrate within or across international borders at some point during their annual life cycle.

Minimum requirement – The least intrusive tool, equipment, device, force, regulation, technique, or practice (as determined by an MRA) necessary to achieve a Refuge management activity objective in wilderness.

Minimum Requirement Analysis (MRA) – A decision making process, documented in writing, used to determine if proposed Refuge management activities conducted in wilderness are necessary to administer the area as wilderness and to accomplish the purposes of the Refuge, including Wilderness Act purposes. If the activities are necessary, the MRA also describes how to minimize resultant impacts. In Alaska, MRAs are not required for proposed Refuge management activities and commercial services in Wilderness Study Areas (WSAs), recommended wilderness, or proposed wilderness.

Mitigation – A process for reducing impacts on the environment outlined in NEPA, which includes: (1) avoiding the impact altogether by not taking a certain action or parts of an action; (2) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (3) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action, and/or (5) compensating for the impact by replacing or providing substitute resources or environments (40 CFR Part 1508.20).

Moraine - A ridge or mound of boulders, gravel, sand, and clay that was deposited by a glacier.

Natal – The location where an organism was born or hatched.

National Register of Historic Places – The official list of the Nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Park Service's National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources.

Native allotment – Private lands in the Refuge that are owned, or have been selected, by Alaska Natives under the Alaska Native Allotment Act of 1906 or the Alaska Native Vietnam Veterans Allotment Act of 1998.

Native corporation lands – Private lands in the Refuge that have been conveyed by the United States to Alaska Native village and regional corporations pursuant to the terms and conditions of the Alaska Native Claims Settlement Act and its amendments.

Native species – With respect to a particular ecosystem, a species that—other than as a result of an introduction—historically occurred or currently occurs in that ecosystem.

Natural condition – An undeveloped area exhibits natural condition to the degree that it retains its primeval character and influence while remaining substantially free from the effects of modern civilization. It is affected primarily by the forces of nature instead of the imprint of man and looks natural to the average visitor.

Natural diversity – The total range and variety of living organisms found in biological systems.

Natural quiet – Natural, non-human-caused sounds that occur in the Refuge.

Nearshore – Refers to that area near the shore of an ocean, lake, or river.

Non-commercial user – A non-commercial user is a local rural resident or a visitor not relying on commercial guides, air operations, or any other commercial services during a stay on the Refuge. In non-commercial activities, there is no compensation paid to an individual, group, or organization for the service of conducting, leading, or guiding. A person conducting non-commercial activities cannot profit from activities, in any way, and cannot participate in advertising for profit. Managers currently have no way to consistently document non-commercial use of the Refuge.

Non-competitively awarded refuge permit – Special use permits are issued for activities that do not require management limits. In other words, anyone who applies and meets the minimum standards will receive a permit.

Non-guided visitor – May be commercially supported through air-taxi or transporter services but is not accompanied by a guide in the field. Also referred to as an “unguided” visitor.

Not allowed – Activity, use, or facility is not allowed.

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 should be attainable, time-specific, and measurable.

Outreach – Generally encompasses environmental education and information services (see *Environmental education, Information, and Interpretation*).

Outstandingly Remarkable Values (ORVs) – The following values are intended to set minimum thresholds to establish ORVs and are illustrative but not all-inclusive. If utilized in an agency’s planning process, these criteria may be modified to make them more meaningful in the area of comparison, and additional criteria may be included. The values are: scenery, recreation, geology, fish, wildlife, prehistory, history, and other values.

Outwash terraces – A raised bench of boulders, gravel, sand, or soil deposited by meltwater from a glacier.

Packraft – A lightweight, backpackable, inflatable raft, making more available many rivers and streams that were once unfloatable due to low water or lack of access. The use of

packrafts has the potential to disperse visitation across a broader swath of the Refuge, which has its own unique set of inherent risks.

Paleozoic – An Era in the geologic timescale prior to the Mesozoic that spanned from 543 to 252 million years ago. The Paleozoic ended with the Permian-Triassic extinction event, the largest mass extinction in Earth’s history.

Peat – An accumulation of partially decayed plant matter found primarily in wetlands, bogs, and muskegs.

Per capita – Per person, such as per capita income, which is total income divided by the total population.

Permittee – An individual whose activities are authorized by a special use permit. The categories, descriptions, and general restrictions are:

- Commercial air operations permittees provide two types of air transportation services offered on Arctic Refuge: air-taxi and air transporters (refer to *Air-taxi services* and *Air transporter services*). Depending on the season, licenses possessed, and rates charged, air-taxis and air transporters may interchange their services; air-taxis may offer transporter services and transporters may offer air-taxi services.
- Commercial big-game hunting permittees are subject to the permit conditions detailed in their competitive prospectus application. Each hunting guide is limited to a specific geographic area within the Refuge and restricted to a specified number of hunting clients.
- Commercial recreation permittees and their employees (guides) are subject to standardized group size limits and other special conditions. Guided recreational activities include river floating, hiking, polar bear viewing, mushing, and fishing. Commercial guided recreation client numbers are included within reported recreational visitation numbers.
- Miscellaneous activities permits include those issued to individuals engaged in activities conducted by organized entities, such as service organizations, but are not profit-oriented.
- Scientific research permits and their work crew group size totals are evaluated on an individual basis to minimize overall impact to the Refuge.

Pingos – A conical hill of earth-covered ice found in the Arctic and subarctic that can reach up to 70 meters (230 feet) in height. Formed as water under artesian pressure within or below permafrost causes the ground to buckle upwards.

Piscivorous – Commonly used to describe fish or other animals that prey on fish.

Pleistocene – An epoch of the Cenozoic Era that occurred from 2.588 million to 12,000 years before present. The end of the Pleistocene was marked by the retreat of the last continental glaciers in North America and Europe-Asia.

Policy – A framework that provides for the effective accomplishment of an agency’s or organization’s work and a process for making good management decisions that reflect organizational history and mission. Over time, policies must evolve to address new and changing uses, issues, and opportunities. The Service Manual is the set of policies under which the U.S. Fish and Wildlife Service operates.

Polygons – Begins with cracking of the ground due to intense cold and thermal contraction. The cracks accumulate meltwater in the summer, which later freezes. As this process continues, ice wedges form in the cracks and grow thicker. Polygons refer to the polygonal surface pattern that forms as ice wedges develop and intersect, forming a network of three- to six-sided polygon shapes on the ground surface. The visible surface pattern is a result of soil being pushed up or slumping above the ice wedges. Polygons can be a few meters to over 100 meters in diameter.

Primeval character – A term from the Wilderness Act of 1964 that is not defined in law or policy. “Primeval” is similar to “ancient” or “primitive” and refers to something existing at or from a very early time. As used in this Plan, an area with “primeval character” is largely absent of the indications or effects of modern civilization.

Public Land Order (PLO) – An order creating, affecting, modifying, or canceling a withdrawal or reservation by the Secretary of the Interior pursuant to powers of the President delegated to the Secretary by Executive orders 9146 of April 24, 1942, or 9337 of April 24, 1943.

Public use – Any use of the Refuge by local rural residents or by visitors (including recreational and general hunting and fishing visitors). The term “user” includes both visitors and local and/or federally-qualified rural residents engaged in subsistence activities; in contrast, the term “visitor” are limited to recreational and general hunting and fishing users.

Public Use Natural Areas (PUNA) - The purposes of public use natural areas are to preserve significant natural areas for public use and to preserve these areas essentially unmodified by human activity for future use (U.S. Fish and Wildlife Service 1988.).

Quartz – A crystal composed of silicon and oxygen (SiO₂). Quartz is the second most abundant crystal on Earth after feldspar and the primary component of sand.

Quaternary – The most recent of the three periods of the Cenozoic Era in the geologic timescale. The Quaternary spans the time from 2.588 million years ago to the present and is the period in which human species have existed.

Recommended wilderness – An area of the Refuge System that the Director of the Service has recommended to the Secretary (through the Assistant Secretary for Fish, Wildlife, and Parks) for inclusion in the National Wilderness Preservation System.

Record of decision (ROD) – The formal decision document, which is recorded for the public in cases requiring environmental impact statements. The record, which may be integrated into any other record prepared by the agency, shall: (1) state what the decision was; (2) identify all alternatives considered by the agency in reaching its decision, specifying the alternative or alternatives which were considered to be environmentally preferable; (3) state whether all

practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not. A monitoring and enforcement program shall be adopted and summarized where applicable for any mitigation.

Recreational visitor – A visitor of the Refuge who engages in recreational activities other than general hunting and fishing is considered a recreational visitor (may include non-federally-qualified local or non-local individuals engaged in traditional activities, such as berry picking). For consistency, the term “recreational visitor” is preferable to “recreationist.”

Refuge lands – Federal lands within the external boundary of the Arctic National Wildlife Refuge that are managed by the U.S. Fish and Wildlife Service.

Refuge management activity – An activity conducted by the Service or a Service-authorized agent to fulfill one or more purposes of the Refuge or the National Wildlife Refuge System mission. Service authorized agents include contractors, cooperating agencies, cooperating associations, Refuge support groups, and volunteers.

Refuge permit – A special use permit issued by the Refuge Manager that authorizes on-Refuge activities conducted by non-Refuge staff. Permits are required for scientific research, commercial activities (such as recreational guiding, big-game hunt guiding, and commercial videography), and other miscellaneous activities conducted by organized groups. Permitted uses have been deemed compatible with Refuge purposes, are found to not have a significant impact on subsistence activities, and are regulated in such a way that permit holders have specialized responsibilities to the Refuge.

Refuge staff – Arctic Refuge employees, as well as any other agents of the Federal government, who are conducting work for the Refuge to achieve the Refuge mission. Such activities do not require a special use permit and may be contracted or performed by agency partners.

Region of comparison (ROC) – A term used in Wild and Scenic River Reviews. A region of comparison is used to assess a river’s outstandingly remarkable value(s) relative to a regional or national scale. The area, region, or scale of comparison is not fixed and should serve as a basis for meaningful comparative analysis; it may vary depending on the value being considered. Typically, a “region” is an administrative unit (such as a national wildlife refuge), a portion of a State (such as the North Slope of Alaska), or an appropriately scaled ecological, physical, or hydrological unit (e.g., an ecoregion or a watershed).

Research Natural Area (RNA) – The purpose of research natural areas is to preserve examples of all major ecosystem types in the country, to provide opportunities for research and education, and to preserve a full range of genetic and behavioral diversity in native plants and animals (U.S. Fish and Wildlife Service 1988).

Resident – Organisms that do not migrate from the general area or habitat in which they were born or hatched.

Resident fish – Fish that do not migrate to the ocean but complete their entire life cycle in fresh water.

Riparian – A riparian zone or riparian area is the interface between land and a river or stream. Plant habitats and communities along the river margins and banks are called riparian vegetation

RS 2477 right-of-way – Revised Statute 2477 (RS 2477) is a section in the Mining Act of 1866 that states, “*The right-of-way for the construction of highways over public lands, not reserved for public uses, is hereby granted.*” RS 2477 was repealed by the Federal Land Policy and Management Act of 1976, subject to valid existing claims. Assertion and identification of potential rights-of-way does not establish the validity of these claims nor the public’s right to use them. The validity of all RS 2477 rights-of-way will be determined on a case-by-case basis, either through the courts or by other legally binding document.

Rulemaking – A process through which a government agency establishes new Federal regulations. Rulemaking follows an established process that includes publishing a notice of the proposed rule and the issues concerned in the Federal Register, followed by a period of public comment, publication of the draft rule incorporating and responding to public comment, and, finally, publication of the final rule.

Rural resident – Rural means any community or area of Alaska determined by the Federal Subsistence Board to qualify as such. Only residents of communities or areas that the Board has determined to be rural are eligible for the subsistence priority. Resident means any person who has their primary permanent home for the previous 12 months within Alaska, and whenever absent from this primary permanent home, has the intention of returning to it.

Sandstone – A sedimentary rock composed of sand and cemented together by silica, calcium carbonate, iron oxide, or clay.

Schist – A crystalline metamorphic rock characterized as foliated whereby the mineral grains easily split off into flakes or slabs.

Sealing certificates – When a species is required by game regulation to have a locking tag (seal) attached to a skin or skull, an individual authorized by the Alaska Department of Fish and Game attaches the seal and collects information about the biological conditions under which the animal was taken, measures the specimen, retains specific portions of the animal for biological information, and records all this information on a sealing form or sealing certificate.

Seasonal round – Annual cycle of subsistence activities undertaken by a group of people.

Sedimentary – The accumulation of sediment, mineral, and organic material deposited through the action of water, ice, or wind.

Selected Lands – Selected lands are public lands identified by an Alaska Native regional or village corporation pursuant to Sections 11 and 12 of the Alaska Native Claims Settlement Act (ANCSA) and Sections 201 and 401 of the Alaska Land Transfer Acceleration Act for conveyance to the corporation to meet its land entitlement as determined by Section 14 of ANCSA.

Shale – Rock formed from the deposit of clay and often laminated and capable of being split or divided easily.

Significant issue – A problem, conflict, or opportunity we will address in our plan. A significant issue is a component of an alternative. A range of actions are developed for each significant issue.

Site-hardening – A process of sustained impact, which can lead to eventual impairment, due to concentrated visitor use in areas managed for natural conditions. The term is frequently applied in situations where a previously vegetated area is transitioning to a non-vegetated, permanent or semi-permanent site, but it can apply to areas with naturally non-vegetated conditions where the surface (soil or rocky cobble) is compacted, thus retaining evidence of previous use in areas managed for natural conditions.

Socio-cultural – Of, relating to, or involving a combination of social and cultural factors.

Socioeconomic – Pertaining to, or signifying the combination or interaction of, social and economic factors.

Solitude – Wilderness solitude is a state of mind—a mental freedom that emerges from settings where visitors experience nature essentially free of the reminders of society, its inventions, and conventions. Privacy and isolation are important components, but solitude also is enhanced by the absence of distractions, such as large groups, mechanization, unnatural noise and light, unnecessary managerial presence (such as signs), and other modern artifacts.

Sonar – A technique using underwater sound propagation to count fish.

Special use permit - A permit issued by the Refuge manager, sometimes referred to as a Refuge permit, that authorizes on-Refuge activities conducted by non-Refuge staff. Permits are required for scientific research, commercial activities (such as recreational guiding, big-game hunt guiding, and commercial videography), cabins, tent platforms, and other miscellaneous activities conducted by organized groups. Permitted uses have been deemed compatible with Refuge purposes, are found to not have a significant impact on subsistence activities, and are regulated in such a way that permit holders have specialized responsibilities to the Refuge (see *Competitively awarded and Non-competitively awarded refuge permits*).

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.

Stone stripes – Relating to the arrangement of stone, primarily on slope, by the action of frost heaving or permafrost action.

Strategy – A specific action, tool, technique, or combination of actions, tools, and techniques used to meet an objective.

Stratified – Eroded material deposited in layers or beds.

Subsistence use area – Area or region utilized by an individual, groups of individuals, community, village, or cultural groups for subsistence use and harvest of resources.

Subsistence user – A Refuge user engaged in subsistence activities who is a federally-qualified rural resident.

Subsistence – Harvesting of plants and wildlife for food, clothing, and shelter. The attainment of most of one's material needs (e.g., food and clothing materials) from wild animals and plants.

Supplemental values – Within a wilderness review, the Service documents values not specifically required for an area to qualify as wilderness, but that add additional information about the qualities of the area being reviewed. Examples of supplemental values include ecological, geological, or other features of scientific, educational, scenic, or historic value.

Taxonomic – The science of classifying, naming, describing and identifying organisms.

Thermokarst – Land-surface configuration that results from the melting of ground ice in a region underlain by permafrost. Areas with large amounts of ice may have pits, valleys, and hummocks that are formed when the ice melts and the ground settles unevenly. The size and form of the features depends on the nature and extent of the ice.

Threatened species – The Endangered Species Act (1973) protects both threatened and endangered species. A threatened species is a plant or animal that is likely to become an endangered species throughout all or a significant portion of its range within the foreseeable future.

Tidal pumping – The strong pump-like movement of marine water by tidal action into and out of lagoons with narrow openings.

Traditional knowledge – An intimate understanding by indigenous peoples of their environment, which is grounded in a long-term relationship with the surrounding land, ocean, rivers, ice, and resources. This understanding includes knowledge of the anatomy, biology, and distribution of resources; animal behavior; seasons, weather, and climate; hydrology, sea ice, and currents; how ecosystems function; and the relationship between the environment and the local culture.

Tributary – A stream that flows into another stream.

Unconsolidated – Eroded material that has not been compacted or turned into rock.

Unguided visitor – May be commercially supported through air-taxi or transporter services but is not accompanied by a guide in the field. Also referred to as “non-guided” visitor.

Untrammeled – A key descriptor of wilderness in the Wilderness Act, untrammeled refers to the freedom of a landscape from the human intent to permanently intervene, alter, control, or manipulate natural conditions or processes.

User capacity – A term specifying the amount and kind of use beyond which physical, biological, or social resource impacts exceed established standards for desired conditions (i.e., beyond which impacts and related use levels become unacceptable). Land managers identify user capacity to preserve desired physical, biological, and experiential conditions. Managers

must establish user capacity for any rivers designated by Congress for inclusion in the National Wild and Scenic River System (see *Carrying capacity*, and *Desired conditions*).

Visitor – Refers to recreational and general hunting and fishing users (See *Public Use*).

Visitor services – Agency programs and activities that promote and support quality wildlife-dependent and other recreational experiences to people who visit the Refuge. Visitor services specialists design programs, provide information about these programs, and monitor public participation and recreational impacts. Visitor services can also include volunteer programs, community outreach, environmental education programs, strategic communication, partnerships, and issuing special use permits.

Visitor use – Any use of the Refuge by recreational, general hunting, and general fishing visitors. Subsistence users are not considered “visitors.”

Visitor use day – Each day, or portion thereof, a visitor spends on the Refuge. For example, one person who spends five days on the Refuge would be counted as one visitor and five visitor use days. A count of visitor use days more accurately depicts the total use of the Refuge than the number of visitors alone.

Visitor Use Management Plan (VUMP) – The Visitor Use Management Plan (VUMP) is a step-down plan that will develop visitor provisions that protect Arctic Refuge biophysical resources and wildlife, wilderness, and recreational values.

Visual resource management – Many public lands contain outstanding scenic landscapes. Visual resource management is a system for minimizing the visual impacts of surface-disturbing activities and maintaining scenic values for the future. The system involves inventorying scenic values, and then evaluating proposed activities to determine whether they conform with management objectives for the scenic values. Management objectives for scenic values are usually included in an agency planning document, such as a comprehensive conservation plan.

Volcanic – Material produced by a volcano, which is typically an opening or rupture in the Earth’s crust that allows hot magma, ash, and gases to escape.

Washeteria – A place in a village or community where visitors and residents can access water, laundry facilities, showers, etc.

Waterbird – Species that are dependent on aquatic habitats to complete portions of their lifecycle. This group includes loons, grebes, seabirds (shearwaters, puffins, murre, and guillemots), cranes, gulls, terns, and jaegers, among others. Waterfowl are not considered water birds.

Water quality – Factors and their interactions that affect the usability or non-usability of water, onsite and downstream. Major factors that affect water quality include temperature, turbidity, suspended sediment, conductivity, dissolved oxygen, pH, specific ions, discharge, contaminants, and fecal coliform.

Waterfowl – Refers to all species of ducks, geese, and swans in the family Anatidae.

Wild and scenic river corridor – Corridor boundaries must be established for any river included in the National Wild and Scenic Rivers System. A river corridor consists of the length of the inventoried, eligible, suitable, or designated river (or river segment) and its adjacent lands. In Alaska, river corridors average 640 acres per river mile, which is approximately one-half mile from each riverbank.

Wild character – A synonym for “wildness” (*see Wildness*).

Wild river – A river or section of a river, and related adjacent land area, designated as a “Wild River” under the Wild and Scenic Rivers Act of 1968. Wild rivers are defined by the act to be free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted, and representing vestiges of primitive America.

Wilderness character – Preserving “wilderness character” is a primary criterion for judging the appropriateness of proposed Refuge management activities and public use and enjoyment in wilderness. An area possesses wilderness character to the degree that it retains untrammelled, natural, and undeveloped conditions and provides opportunities for solitude or primitive and unconfined recreation. A combination of biophysical conditions, experiential opportunities, and symbolic meanings distinguish wilderness from other lands. The tangible and intangible aspects of wilderness include the natural, scenic condition of the land, the environments for native plants and animals, the watersheds and airsheds in a healthy condition, the encounters with natural night skies and soundscapes, and the notions of respect, restraint, and humility in our relationship with the land.

Wilderness characteristics – Qualities commonly associated with designated wilderness and other types of wildlands. These include biophysical elements (e.g., undeveloped conditions, natural appearances, free-functioning ecosystems, native flora and fauna), and experiential elements (e.g., opportunities for solitude, natural quiet, adventure, primitive and unconfined recreation).

Wilderness review – The process we use to determine if we should recommend Refuge System lands and waters to Congress for wilderness designation. The wilderness review process consists of three phases: inventory, study, and recommendation. The inventory is a broad look at the Refuge to identify lands and waters that meet the minimum criteria for wilderness. The study evaluates all values (ecological, recreational, cultural), resources (e.g., wildlife, water, vegetation, minerals, soils), and uses (management and public) within the Wilderness Study Area. The findings of the study determine whether or not we will recommend the area for designation as wilderness.

Wilderness Review Units – A term used in the 1988 Plan that is synonymous with Wilderness Study Area (*see Wilderness Study Area*).

Wilderness Stewardship Plan – A Wilderness Stewardship Plan is a step-down plan that guides the preservation, stewardship, and use of a particular wilderness area. It also provides detailed strategies and implementation schedules for meeting wilderness goals and objectives (as identified in the Refuge Comprehensive Conservation Plan) and for the preservation or restoration of cultural and natural resource values and conditions. The Wilderness Stewardship Plan contains indicators, standards, conditions, or thresholds that define adverse impacts on wilderness character and values and that will trigger stewardship actions to reduce

or prevent those impacts. Additionally, it describes ongoing and needed monitoring and research, appropriate and compatible uses, and Minimum Requirement Analyses (MRAs) for Refuge management activities and commercial services.

Wilderness Study Area (WSA) – An area we are considering for wilderness recommendation. We identify and establish WSAs through the inventory component of a wilderness review. WSAs include all areas that are still undergoing the review process, areas for which a final determination of suitability and recommendation for wilderness designation in the record of decision for the Comprehensive Conservation Plan is pending, and areas recommended for wilderness designation in a Final Plan and awaiting approval by the Service Director. We consider areas recommended by the Service Director “recommended wilderness.”

Wilderness values – Wilderness values are biophysical (e.g., ecosystems, scenery, and natural processes), psychological (e.g., opportunity for solitude or primitive and unconfined recreation), symbolic (e.g., national and natural remnants of American cultural and evolutionary heritage), and spiritual (e.g., sense of connection with nature and values beyond one’s self).

Wilderness – Land designated by Congress as a component of the National Wilderness Preservation System. For an area to be considered for Wilderness designation, it must be roadless and possess the characteristics required by Section 2(c) of the Wilderness Act of 1964 (see *Designated Wilderness Area*).

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 Refuge System as established in the National Wildlife Refuge System Administration Act of 1997, as amended. Wildlife-dependent recreational uses, other than the six priority public uses, are those that depend on the presence of wildlife. We also will consider these other uses in the preparation of a Refuge Comprehensive Conservation Plan; however, the six priority public uses always take precedence.

Wildness – An area exhibits wildness to the degree that the environment is untrammelled and free from the human intent to control natural processes.

Withdrawal – An action by the United States that restricts the use and disposal of Federal lands and/or minerals and holds them for a specific purpose or use by the United States.

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