

Glossary

The glossary defines terms used throughout the environmental impact statement. If a term's definition(s) is associated with a particular species, management direction, or originates from a specific source, the source is cited or applicable direction is referenced with the following bracketed abbreviations:

[GBCS] Grizzly Bear Conservation Strategy for the Northern Continental Divide Ecosystem (draft 2013, final in progress). These glossary terms are only applicable to the zones addressed in the NCDE Grizzly Bear Conservation Strategy and not to other portions of the amendment forest's associated forest plans.

[NCDE Food/Wildlife Attractant Storage Orders] one or more special orders related to occupancy and use restrictions for the Northern Continental Divide Ecosystem for grizzly bears

[LCAS] Lynx Conservation and Assessment Strategy 2013

[NWCG] National Wildfire Coordinating Group 2013

NOTE: For glossary terms associated with Northern Rockies Lynx Management Direction (2007) see the draft revised forest plan appendix F—NRLMD Record of Decision.

activity area a land area affected by a management activity to which soil quality standards are applied. An activity area must be feasible to monitor and includes harvest units within timber sale areas, prescribed burn areas, grazing areas or pastures within range allotments, riparian areas, recreation areas, and alpine areas. Temporary roads, skid trails, and landings are considered to be part of an activity area.

adaptive management the general framework encompassing the three phases of planning: assessment, plan development, and monitoring (36 Code of Federal Regulations (CFR) 219.5). This framework supports decision-making that meets management objectives while simultaneously accruing information to improve future management by adjusting the plan or plan implementation. Adaptive management is a structured, cyclical process for planning and decision-making in the face of uncertainty and changing conditions with feedback from monitoring, which includes using the planning process to actively test assumptions, track relevant conditions over time, and measure management effectiveness.

administrative site a location or facility constructed for use primarily by government employees to facilitate the administration and management of public lands. Examples on National Forest Service lands include, but are not limited to, ranger stations, warehouses, and guard stations. [GBCS]

administrative use a generic term for authorized agency activity. Specifically, in the portion of the Northern Continental Divide Ecosystem (NCDE) for grizzly bears mapped as the primary conservation area, motorized use of roads closed to the public is permitted for federal agency personnel or personnel authorized to perform duties by appropriate agency officials, as long as it does not exceed either 6 trips (3 round trips) per week OR one 30-day unlimited use period during the non-denning season (see also **non-denning season**). [GBCS]

animal unit month the amount of dry forage required by one mature cow of approximately 1,000 pounds or its equivalent, for one month, based on a forage allowance of 26 pounds per day.

attractant a nourishing substance, which includes human food or drink (canned, solid or liquid), livestock feed (except baled or cubed hay without additives), pet food, and garbage. [NCDE Food/Wildlife Attractant Storage Order]

baseline the environmental conditions at a specific point in time. The baseline for the NCDE is defined as December 31, 2011, as modified by exceptions specified in the standards or guidelines, and by changes that were evaluated and found to be acceptable through the Endangered Species Act Section 7 consultation with USFWS while the grizzly bear was listed as Threatened. The baseline will be updated to reflect such changes. [GBCS]

bear management subunit an area of a bear management unit, in the portion of the NCDE for grizzly bears mapped as the primary conservation area, representing the approximate size of an average annual female grizzly bear home range (e.g., 31–68 mi² (Mace and Roberts 2012)). [GBCS]

bear management unit an area about 400 mi², in the portion of the NCDE for grizzly bears mapped as the primary conservation area, that meets yearlong habitat needs of both male and female grizzly bears. [GBCS]

best management practice (BMP) the method(s), measure(s), or practice(s) selected by an agency to meet its nonpoint source control needs. BMPs include but are not limited to structural and nonstructural controls and operation and maintenance procedures. BMPs can be applied before, during, and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters (36 CFR 219.19).

biodiversity the variety and abundance of plants, animals, and other living organisms as well as the ecosystem processes, functions and structures that sustain them. Biodiversity includes the relative complexity of species and communities across the landscape at a variety of scales, connected in such a way that provides for the genetic diversity to sustain a species over the long term.

biological assessment a document prepared by a federal agency for the purpose of identifying any endangered or threatened species that is likely to be affected by an agency action. A biological assessment document facilitates compliance with the Endangered Species Act. The federal agency, in consultation with the Secretary of Interior, must ensure that any action authorized, funded, or carried out by a federal agency is not likely to jeopardize the continued existence of any endangered or threatened species, or result in the destruction or adverse modification of its habitat.

biological evaluation a document, or portion of a document, prepared by the Forest Service to review programs or activities to determine how an action might affect a species listed by the U.S. Fish and Wildlife Service as a threatened, endangered, proposed, or candidate species; or a species listed by the Regional Forester as a species of conservation concern on a particular national forest. If the threatened, endangered, or proposed species will be addressed in a biological assessment then the species would not be addressed in a biological evaluation.

biophysical settings a grouping of potential vegetation types based on broad climatic and site conditions, such as temperature and moisture gradients. See also **potential vegetation types**.

board foot a unit of measurement represented by a board one foot square and one inch thick.

boneyard an established site that is used repeatedly by a grazing permittee for disposing of entire animal carcasses.

boreal forest (lynx) a forest type to which lynx and snowshoe hares are strongly associated. The predominant vegetation of boreal forest is conifer trees, primarily species of spruce (*Picea* spp.) and fir (*Abies* spp.). At the landscape scale within each region, natural and human-caused disturbance processes (e.g., fire, wind, insect infestations and forest management) influence the spatial and temporal distribution of lynx populations by affecting the distribution of good habitat for snowshoe hares. (USFWS Critical Habitat Final Rule 2009)

broadcast burn a management treatment where a prescribed fire is allowed to burn over a designated area within well-defined boundaries. A broadcast burn is used for reduction of fuel hazard, as a resource management treatment, or both.

candidate species a status (1) for U.S. Fish and Wildlife Service candidate species, a species for which the U.S. Fish and Wildlife Service possesses sufficient information on vulnerability and threats to support a proposal to list as endangered or threatened, but for which no proposed rule has yet been published by the U.S. Fish and Wildlife Service; (2) for National Marine Fisheries Service candidate species, a species that is: (i) the subject of a petition to list and for which the National Marine Fisheries Service has determined that listing may be warranted, pursuant to section 4(b)(3)(A) of the Endangered Species Act (16 United States Code (U.S.C.) 1533(b)(3)(A)), or (ii) not the subject of a petition but for which the National Marine Fisheries Service has announced in the Federal Register the initiation of a status review

canopy the forest cover of branches and foliage formed by tree crowns.

canopy base height the lowest height above the ground at which there is a sufficient amount of canopy fuel to propagate fire vertically into the canopy; canopy base height is an effective value that incorporates ladder fuels such as shrubs and understory trees.

canopy fuel the live and dead foliage, live and dead branches, and lichen of trees and tall shrubs that lie above the surface fuels.

capability the potential of an area of land and/or water to produce resources, supply goods and services, and allow resource uses under a specified set of management practices and at a given level of management intensity. Capability depends upon current conditions and site conditions (climate, slope, landform, soils, and geology), as well as the application of management practices (silviculture systems, or protection from fires, insects, and disease).

capacity (of developed recreation sites within the NCDE primary conservation area) the number of sites available in a campground; or the number of rooms available for lodging (as a commercial rental); or the number of cabins, bunkhouses or recreation residences available for overnight use (managed under a special use permit). [GBCS]

carbon pool an area that contains an accumulation of carbon or carbon-bearing compounds or having the potential to accumulate such substances. May include live and dead material, soil material, and harvested wood products.

carbon stock the amount or quantity contained in the inventory of a carbon pool.

clearcut a harvest technique: (1) a stand in which essentially all trees have been removed in one operation. *Note:* depending on management objectives, a clearcut may or may not have reserve trees left to attain goals other than regeneration. (2). A regeneration or harvest method that removes essentially all trees in a stand (synonym is clearcutting). See also **regeneration method**.

climate change adaptation an adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. This adaptation includes initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects. Adaptation strategies include the following: building resistance to climate-related stressors; increasing ecosystem resilience by minimizing the severity of climate change impacts, reducing the vulnerability and/or increasing the adaptive capacity of ecosystem elements; facilitating ecological transitions in response to changing environmental conditions.

climax the final stage of succession in a plant community. A relatively stable condition where plant species on the site are able to perpetuate themselves indefinitely.

closed canopy structural stage see **stem exclusion structural stage**

coarse woody debris a piece or pieces of larger sized dead woody material (e.g., dead boles, limbs, and large root masses) on the ground or in streams. Minimum size to be defined as “coarse” is generally 3 inches diameter.

cohort a group of trees developing after a single disturbance, commonly consisting of trees of similar age, although it can include a considerable range of tree ages of seedling origin and trees that predate the disturbance

commercial thinning a treatment that selectively removes trees large enough to be sold as products, such as sawlogs, poles or fence posts, from an overstocked stand. This treatment is usually carried out to improve the health and growth rate of the remaining crop trees, or to reduce fire hazard.

commercial use/activity a use or activity on National Forest System lands (a) where an entry or participation fee is charged, or (b) where the primary purpose is the sale of a good or service, and in either case, regardless of whether the use or activity is intended to produce a profit (36 CFR 251.51).

condition class a function of the degree of departure of an area from historical fire regimes, resulting from alterations of key ecosystem components such as species composition, structural stage, stand age, and canopy closure.

connectivity the ecological conditions that exist at several spatial and temporal scales that provides landscape linkages that permit the exchange of flow, sediments, and nutrients; the daily and seasonal movements of animals within home ranges; the dispersal and genetic interchange between populations; and the long distance range shifts of species, such as in response to climate change (36 CFR 219.19). Connectivity needs vary by species. For example, bull trout are able to move upstream to spawn as long as there is not a barrier to connectivity, such as a dam.

conservation the protection, preservation, management, or restoration of natural environments, ecological communities, and species.

consumptive water use the act of removing water from an available supply and utilizing it in a manner that it is not returned to a waterbody.

cover the elements of the environment used by an animal for hiding. Cover varies depending upon the species or the time of year and may include a variety of vegetation types as well as topography. The amount and quality of cover needed depends on the animal's size, mobility, and reluctance or willingness to venture into relatively open areas.

cover type the vegetation composition of an area, described by the dominant plant species. See also **forest type**.

critical habitat (for a threatened or endangered species) (1) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of the Endangered Species Act (ESA) (16 United States Code (USC) 1533), on which are found those physical or biological features (a) essential to the conservation of the species, and (b) which may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the ESA (16 USC 1533), upon a determination by the Secretary that such areas are essential for the conservation of the species. ESA, sec. 3 (5)(A), (16 USC 1532 (3)(5)(A)). Critical habitat is designated through rulemaking by the Secretary of the Interior or Commerce. ESA, sec. 4 (a)(3) and (b)(2) (16 USC 1533 (a)(3) and (b)(2)).

crown the part of a tree or other woody plant bearing live branches and foliage.

culmination of mean annual increment of growth see **mean annual increment of growth**

d.b.h. see **diameter breast height**

decision document a record of decision, decision notice, or decision memo (36 CFR 220.3).

dedicated skid trail a pathway used repeated, and only, to move logs or trees from the stump to a landing, where they are processed and loaded onto trucks.

deferred trail maintenance the backlog of trails in need of maintenance.

demographic connectivity area an area intended to allow female grizzly bear occupancy and potential dispersal beyond the NCDE to other recovery areas. [GBCS]

den emergence time period the spring-time period when a grizzly bear emerges from its den and remains in the vicinity before moving to lower elevations. The den emergence time period occurs at the beginning of the non-denning season. Females with cubs usually emerge later and spend more time (a few days to a few weeks) near the den after emergence, than do male bears. [GBCS]

denning habitat (lynx) the environment lynx use when giving birth and rearing kittens until they are mobile. The most common component is large amounts of coarse woody debris to provide escape and thermal cover for kittens. Denning habitat must be within daily travel distance of winter snowshoe hare habitat. The typical maximum daily distance for females is about three to six miles. Denning habitat includes mature and old growth forests with plenty of coarse woody debris. It can also include young regenerating forests with piles of coarse woody debris, or areas where down trees are jack-strawed (piled one on top of the other). [LCAS]

denning season the typical time period, within the NCDE, during which most grizzly bears are hibernating in dens. There are no restrictions on motorized use related to grizzly bears during the denning season, which occurs [GBCS]:

- west side of the Continental Divide: from 1 December through 31 March.
- east of the Continental Divide: from 1 December through 15 April.

density (stand) the number of trees growing in a given area usually expressed in terms of trees per acre.

designated area an area or feature identified and managed to maintain its unique special character or purpose; some categories of designated areas may be designated only by statute and some categories may be established administratively in the land management planning process or by other administrative processes of the federal executive branch; examples of statutorily designated areas are national heritage areas, national recreational areas, national scenic trails, wild and scenic rivers, wilderness areas, and wilderness study areas; examples of administratively designated areas are experimental forests, research natural areas, scenic byways, botanical areas, and significant caves.

designated over-the-snow route a course managed under permit or agreement or by the agency, where use is encouraged, either by on-the ground marking or by publication in brochures, recreation opportunity guides or maps (other than travel maps), or in electronic media produced or approved by the agency. The routes identified in outfitter and guide permits are designated by definition; groomed routes also are designated by definition.

diameter breast height/d.b.h. the diameter of a tree measured 4.5 feet above the ground on the uphill side of the tree, or diameter of a log measured 4.5 feet from the large end of the log.

disturbance an event that alters the structure, composition, or function of terrestrial or aquatic habitats; any relatively discrete event in time that disrupts ecosystem, watershed, community, or species population structure and/or function and changes resources, substrate availability, or the physical environment. Natural disturbances include, among others, drought, floods, wind, fires, wildlife grazing, and insects and pathogens; human-caused disturbances include actions such as timber harvest, livestock grazing, roads, and the introduction of exotic species.

disturbance regime a description of the characteristic types of disturbance on a given landscape; the frequency, severity, size, and distribution of these characteristic disturbance types, and their interactions. The natural pattern of periodic disturbances, such as fire or flooding

disturbance/displacement the repeated avoidance of humans by a species by shifting its habitat use in space or time.

driver (ecology) see **ecosystem driver**

duff the partially decayed organic matter on the forest floor.

early-seral/successional stage (forest) the earliest stage in the sequence of plant communities that develop after a stand replacing disturbance, such as fire or regeneration harvest. On the forested communities of the Flathead National Forest, this stage typically occurs in the period from 1 to 30 or 40 years after the disturbance, and is dominated by grass, forbs, shrubs, and seedling/sapling sized trees.

ecological and social characteristics (of recommended wilderness areas) the factors that provide the basis for suitability for inclusion into the National Wilderness Preservation System. These factors are identified for each recommended wilderness area and can be found in appendix 4, Wilderness characteristics are *natural quality, undeveloped, unconfined or primitive recreation or solitude and other features of value*. Oftentimes, the ecological characteristics are discussed in terms of *natural quality* and *undeveloped* and can be represented by landscapes where evidence of human disturbance is not readily apparent or the intactness of an ecosystem. Social characteristics can be discussed in terms of *solitude* or *unconfined or primitive recreation* and often represented by remote, quiet landscapes where recreation activities such as hiking, climbing, fishing and hunting are predominant. Both the ecological and social characteristics can have *other features of value* such as a cave system (ecological) or cultural resources (social).

ecological condition the biological and physical environment that can affect the diversity of plant and animal communities, the persistence of native species, and the productive capacity of ecological systems; ecological conditions include habitat and other influences on species and the environment; examples of ecological conditions include the abundance and distribution of aquatic and terrestrial habitats, connectivity, roads and other structural developments, human uses, and invasive species.

ecological integrity the quality or condition of an ecosystem when its dominant ecological characteristics (for example, composition, structure, function, connectivity, and species composition and diversity) occur within the natural range of variation and can withstand and recover from most perturbations imposed by natural environmental dynamics or human influence. The quality of a natural unmanaged or managed ecosystem in which the natural ecological processes are sustained, with genetic, species and ecosystem diversity assured for the future.

ecological sustainability see **sustainability**

ecosystem (36 CFR 219.19) a spatially explicit, relatively homogeneous unit of the Earth that includes all interacting organisms and elements of the abiotic environment within its boundaries. An ecosystem is commonly described in terms of its:

- **composition:** the biological elements within the different levels of biological organization, from genes and species to communities and ecosystems.
- **structure:** the organization and physical arrangement of biological elements such as, snags and down woody debris, vertical and horizontal distribution of vegetation, stream habitat complexity, landscape pattern, and connectivity.
- **function:** ecological processes that sustain composition and structure, such as energy flow, nutrient cycling and retention, soil development and retention, predation and herbivory, and natural disturbances such as wind, fire, and floods.
- **connectivity:** see **connectivity**

ecosystem driver a natural or human-induced factor that directly or indirectly causes a change in an ecosystem. Examples include climate change, fire events, invasive species and flooding.

ecosystem resilience see **resilience**

ecosystem service the benefit(s) people obtain from an ecosystem, including: (1) provisioning services, such as clean air and fresh water, energy, fuel, forage, fiber, and minerals; (2) regulating services, such as long-term storage of carbon; climate regulation; water filtration, purification,

and storage; soil stabilization; flood control; and disease regulation; (3) supporting services, such as pollination, seed dispersal, soil formation, and nutrient cycling; and (4) cultural services, such as educational, aesthetic, spiritual and cultural heritage values, recreational experiences and tourism opportunities.

ecosystem stressor a factor that may directly or indirectly degrade or impair ecosystem composition, structure or ecological process in a manner that may impair its ecological integrity, such as an invasive species, loss of connectivity, or the disruption of a natural disturbance regime.

emergency situation a circumstance on National Forest System (NFS) lands for which immediate implementation of all or part of a decision is necessary for relief from hazards threatening human health and safety or natural resources on those NFS or adjacent lands; or that would result in substantial loss of economic value to the Federal Government if implementation of the decision were delayed. (36 CFR 218.21) [GBCS]

endangered species a species that the Secretary of the Interior or the Secretary of Commerce has determined is in danger of extinction throughout all or a significant portion of its range. Endangered species are identified by the Secretary of the Interior in accordance with the 1973 Endangered Species Act. Endangered species are listed at 50 CFR sections 17.11, 17.12, and 224.101.

environmental document a written analysis that provides sufficient information for a responsible official to undertake an environmental review. Examples include: a categorical exclusion, an environmental assessment, and an environmental impact statement.

epidemic (outbreak) the rapid spread, growth, and development of pathogen or insect populations that affect large numbers of a host population throughout an area at the same time.

even-aged stand a stand of trees composed of a single age class (cohort). Usually trees in a single age class are within + 20 years of each other.

exotic species a plant or animal species in an areas where they do not occur naturally; a non-native species

expanded grizzly bear distribution zone the portion of the Helena National Forest outside of the NCDE where grizzly bears are considered to be present, as defined in the 2013 Biological Assessment for grizzly bears on the westside of the Helena National Forest.

fine fuel the fast-drying dead or live materials, generally characterized by a comparatively high surface area-to-volume ratio, which is defined as less than 0.25 inches in diameter and having a timelag of 1 hour or less. Fine fuels (grass, leaves, needles, etc.) ignite readily and are consumed rapidly by fire when dry. [NWCG]

fire control see **fire suppression**

fire exclusion the disruption of a characteristic pattern of fire intensity and occurrence (primarily through fire suppression).

fire hazard the potential fire behavior for a fuel type, regardless of the fuel type's weather-influenced fuel moisture content or its resistance to fireline construction. Fire behavior assessment is based on physical fuel characteristics, such as fuel arrangement, fuel load, condition of herbaceous vegetation, and presence of elevated fuels.

fire regime the role of fire in ecosystems and its interactions with dominant vegetation. The periodicity and pattern of naturally occurring fires in a particular area or vegetative type, described in terms of frequency, intensity (heat energy released), severity (ecological effect), seasonal timing, and aerial extent (Anderson 1982). The five natural fire regimes on the Flathead National Forest follow:

- **I:** 0 to 35 year frequency and low (surface fires most common) to mixed severity (less than 75 percent of the dominant overstory vegetation replaced);
- **II:** 0 to 35 year frequency and high (stand replacement) severity (greater than 75 percent of the dominant overstory vegetation replaced);
- **III:** 35 to 100+ year frequency and mixed severity (less than 75 percent of the dominant overstory vegetation replaced);
- **IV:** 35 to 100+ year frequency and high (stand replacement) severity (greater than 75 percent of the dominant overstory vegetation replaced);
- **V:** 200+ year frequency and high (stand replacement) severity.

fire risk the probability or chance of fire starting determined by the presence and activities of causative agents.

fire severity the ecological effect of the fire. As used in this Forest Plan, refers to the effect of the fire on the dominant vegetation, which are coniferous trees. Three levels of fire severity are recognized:

- **high severity:** greater than 75 percent of the dominant overstory vegetation (e.g., trees) are killed. Also referred to as stand-replacement fire.
- **moderate severity:** 35 to 75 percent of the dominant overstory vegetation (e.g., trees) are killed.
- **low severity:** less than 35 percent of dominant overstory vegetation (e.g., trees) are killed.

mixed severity fire a fire event, or an area, where a broad mix of low, moderate and high fire severity burn conditions occur.

fire suppression the work and activities connected with fire extinguishing operations, beginning with discovery and continuing until the fire is completely extinguished.

fire-adapted species a plant type that has evolutionary adaptations to survive and thrive in an ecosystem where fire is a primary driver, including tree species that are termed fire-tolerant as well as trees and other plant species that have a myriad of other types of adaptations. Some examples of adaptations are the serotinous cones of lodgepole pine (which open only when heated in a fire); fast early tree growth for rapid site domination; rhizomatous (below ground) root systems or root crowns; seeds with hard, fire resistant seed-coats; or very lightweight, wind-dispersed seed (see also **fire-tolerant species**).

fire-intolerant tree species a tree type that is susceptible to severe damage or mortality in a fire event. Characteristics typically include thin bark at maturity, crowns that retain lower branches (close to the ground), less protected buds and needles. For example, subalpine fir, grand fir and spruce are fire-intolerant species in the Flathead National Forest.

fire-tolerant tree species a tree type resistant to severe damage or mortality in a fire event. Characteristics include thick bark at maturity, readily self-pruning (i.e., lower branches are shed as the tree grows), and protected buds. Examples of fire-tolerant species on the Flathead National Forest are western larch, ponderosa pine and, to a lesser extent, Douglas-fir.

fish passage a clear access for migrating fish through a potential barrier.

flame length the distance between the flame tip and the midpoint of the flame depth at the base of the flame (generally the ground surface), an indicator of fire intensity. [NWCG]

focal species a small subset of species whose status permits inference to the integrity of the larger ecological system to which it belongs and provides meaningful information regarding the effectiveness of the plan in maintaining or restoring the ecological conditions to maintain the diversity of plant and animal communities in the plan area. Focal species would be commonly selected on the basis of their functional role in ecosystems (36 CFR 219.19).

food/wildlife attractant special order a legal notice regarding the use and storage of wildlife attractants on National Forest Service lands. An example is the “Occupancy and Use Restrictions for National Forest System lands in the Primary Conservation Area, Zone 1 (including the demographic connectivity areas) and Zone 2 of the NCDE on the Flathead, Kootenai, Lewis and Clark, Lolo, and Helena National Forests in Montana, pursuant to 36 CFR 261.50 (a) and (b).”

forage the browse and non-woody plants available to livestock or wildlife for feed.

forage allowance see **animal unit month**

foraging habitat (lynx) an area that supports the primary prey (snowshoe hare) of lynx and has the vegetation structure suitable for lynx to capture prey. These conditions may occur in early successional stands following some type of disturbance, or in older forests with a substantial understory of shrubs and young conifer trees. Coarse woody debris, especially in early successional stages (created by harvest regeneration units and large fires), provides important cover for snowshoe hares and other prey. [LCAS]

forb a herbaceous (herb-like) plant other than grass or grass-like plants.

forest connectivity an area for wildlife species that prefer to remain within or close to forested cover.

forest dominance type a classification that reflects the most common tree species within a forest stand. The dominant species comprises at least 40 percent of the stocking, as measured by canopy cover, basal area, or trees per acre, depending on available information and stand characteristics.

forest health the perceived condition of a forest derived from concerns about such factors as its age, structure, composition, function, vigor, presence of unusual levels of insects or disease, and resilience to disturbance. A useful way to communicate about the current condition of the forest, especially with regard to the ability of the ecosystem to respond to disturbances. *Note:* perception and interpretation of forest health are influenced by individual and cultural viewpoints, land management objectives, spatial and temporal scales, the relative health of the stands that comprise the forest, and the appearance of the forest at a point in time.

forest land an area at least 10 percent occupied by forest trees of any size or formerly having had such tree cover and not currently developed for non-forest uses. Lands developed for non-forest

use include areas for crops, improved pasture, residential or administrative sites, improved roads of any width and adjoining road clearing, and power line clearings of any width.

forest management the practical application of biological, physical, quantitative, managerial, economic, social, and policy principles to the regeneration, management, utilization, and conservation of forests to meet specified goals and objectives while maintaining the productivity of the forest. *Note:* forest management includes management for aesthetics, fish, recreation, urban values, water, wilderness, wildlife, wood products, and other forest resource values. Forest management varies in intensity from leaving the forest alone, to a highly intensive regime composed of periodic silvicultural treatments.

forest plan a document that guides sustainable, integrated resource management of the resources within a plan area and within the context of the broader landscape, giving due consideration to the relative values of the various resources in particular areas (36 CFR 219.1(b)). Consistent with the Multiple-Use Sustained-Yield Act of 1960 (16 United States Code (U.S.C.) 528–531), the Forest Service manages National Forest Service lands to sustain the multiple use of its renewable resources in perpetuity while maintaining the long-term health and productivity of the land. Resources are managed through a combination of approaches and concepts for the benefit of human communities and natural resources.

forest structure a complex three-dimensional construct consisting of the various horizontal and vertical physical elements of the forest, including tree diameters, tree heights, tree ages, stand density, canopy layers, quantity/quality of deadwood, herbaceous species, and the clumpiness of the stand. There is no one measure to quantify or describe structure. Often individual forest attributes are described and integrated to evaluate forest structure, such as tree sizes or ages or number of canopy layers.

forest system road see **National Forest System road**

forest type a category of forest usually defined by its vegetation, particularly its dominant vegetation as based on percentage cover of trees, e.g., subalpine fir/spruce; lodgepole pine.

fuel management an act or practice of controlling flammability and reducing resistance to control of wildland fuels through mechanical, chemical, biological or manual means, or by fire, in support of land management objectives. [NWCG]

fuel model a set of surface plant material characteristics (e.g., load and surface-area-to-volume-ratio by size class, heat content, and depth) organized for input to a fire model. Standard fuel models (e.g., Anderson 1982) have been stylized to represent specific fuel conditions.

fuel treatment the manipulation or removal of dead or live plant materials to reduce the likelihood of ignition and/or lessen potential damage and resistance to fire control (example treatments include, lopping, chipping, crushing, piling and burning). [NWCG]

fuels reduction zone an area in which continuous high hazard fuels are broken up. These zones are designed to increase firefighter safety and reduce resistance to fire control efforts. Fuels reductions zones may be of any size or shape. They may have a higher number of snags, down logs, and canopy closure than other fuels treatment zones. They are recognized as being a significant portion of a complete fuels management program.

fuelwood a term for wood that is used for conversion to a form of energy (e.g., firewood, biomass).

gateway community a group of people residing within, or intersecting, a 60-mile radius around a specific boundary or access, for example an entrance to a national park.

geographic area a spatially contiguous land area identified within the planning area. A geographic area may overlap with a management area (36 CFR 219.19).

geographic information system (GIS) a computer process that links database software to graphics (spatially explicit) software and provides database and analytic capabilities.

gradient (stream) the slope of a streambed.

grazing allotment a designated area of land that is available for livestock grazing and is represented on a map. A grazing allotment can include National Forest Service (NFS) and non-NFS lands. Permits are issued for the use of allotments or portions of allotments. Allotments may be (Forest Service Manual (FSM) 2205):

- **active:** livestock grazing allotments, including pack and saddle stock allotments.
- **closed:** areas having suitable livestock range that have been closed to livestock grazing by administrative decision or action.
- **combined:** an allotment that has been combined into another allotment, and therefore, no longer exists as an independent allotment.
- **vacant:** an allotment that does not have a current grazing permit issued.

grazing permit in non-use status a term that applies to livestock numbers. Non-use of a term grazing permit, in whole or in part, must be approved by a Forest Supervisor and is allowed for permittee convenience, resource protection or development, or range research (FSM 2231.7).

green-line vegetation the concept of the “greenline” as a location to sample and monitor streamside vegetation was presented by Winward (2000) who described it as “the first perennial vegetation ... on or near the water’s edge”. The greenline is a useful location to measure vegetation along streams because it is the dynamic interface of the stream and terrestrial ecosystems.

Grizzly Bear Conservation Strategy a document published by the U.S. Fish and Wildlife Service that describes the regulatory framework for management of the NCDE grizzly bear population and its habitat upon recovery and subsequent removal from the federal list of Threatened and Endangered Species.

grizzly bear–human conflict an interaction between a grizzly bear and human in which bears either do, or attempt to, injure people, damage property, kill or injure livestock, damage beehives, obtain anthropogenic foods or attractants or agricultural crops. [GBCS]

ground fire a term used to describe organic material, such as duff, organic soils, roots, and rotten buried logs, burning beneath the surface. [NWCG]

ground-based logging system a log skidding method using tracked or wheeled tractors. These tractors or “skidders” typically operate on gentle slopes (e.g., <40%). Steeper slopes may require cable logging systems.

groundwater-dependent ecosystem a community of plants, animals, and other organisms whose extent and life processes depend on groundwater. Examples include many wetlands, groundwater-fed lakes and streams, cave and karst systems, aquifer systems, springs, and seeps.

group selection method a cutting method to develop and maintain uneven-aged stands by the removal of small groups of trees (generally up to 0.5 acre in size) at periodic intervals to meet a predetermined goal of size distribution and species composition in remaining stands.

group use an activity conducted on National Forest System lands that involves a group of 75 or more people, either as participants or spectators (36 CFR 251.51).

guide to provide services or assistance (such as supervision, protection, education, training, packing, touring, subsistence, transporting people, or interpretation) for pecuniary remuneration or other gain to individuals or groups on National Forest System lands (36 CFR 251.51).

habitat type an aggregation of plant communities of similar biophysical characteristics, and similar function and response to disturbances. A habitat type will produce similar plant communities at climax. On the Flathead National Forest, habitat types are based upon the work of Pfister and others.¹ See also **potential vegetation type**.

hazard tree a tree that has the potential to cause property damage, personal injury or fatality in the event of a failure, where failure is the mechanical breakage of a tree or tree part. Failures often result from the interaction of defects, weather factors, ice or snow loading or exposure to wind. Tree hazards may include dead or dying trees, dead parts of live trees, or unstable live trees (due to structural defects or other factors) that are within striking distance of people or property (a target). Defects are flaws in a tree that reduce its structural strength. Trees may have single or multiple defects, which may or may not be detectable. Failures result in accidents only if they strike a target.

Healthy Forests Restoration Act the public law (108-148), passed in December 2003, which provides statutory processes for hazardous fuel reduction projects on certain types of at-risk National Forest System and Bureau of Land Management managed public lands. The Healthy Forests Restoration Act also provides other authorities and direction to help reduce hazardous fuel and restore healthy forest and rangeland conditions on lands of all ownerships.

highway a term that includes all roads that are part of the National Highway System. (23 CFR 470.107(b))

historical range of variability the variation in ecological conditions resulting from disturbance regimes and other natural influences under which the ecosystem and forests evolved. Typically refers to the period prior to the dramatic changes in human land uses and patterns beginning with the influx of European-Americans about the mid-1800s. Historical range of variability is considered valuable for providing a context or frame of reference to evaluate current ecosystem conditions and understanding what an ecologically healthy and sustainable condition might look like. See also **natural range of variation**.

home range an area, from which intruders may or may not be excluded, to which an individual animal restricts most of its usual activities.

¹ Pfister, R.D., B.L. Kovalchik, S.F. Amo and R.C. Presby. 1977. Forest Habitat Types of Montana. General Technical Report INT-34. USDA, Forest Service. Intermountain Forest and Range Experiment Station. Ogden, Utah.

inherent capability of the plan area the ecological capacity or ecological potential of an area characterized by the interrelationship of its physical elements, its climatic regime, and natural disturbances.

initial attack a planned response to a wildfire given the wildfire's potential fire behavior. The objective of initial attack is to stop the fire and put it out in a manner consistent with firefighter and public safety and values to be protected.

integrated resource management a means to realize many benefits from a forest or other natural area and assure the renewable benefits are there for future generations. [NWCG]

integrity (ecology) see **ecological integrity**

interagency consultation a process required by Section 7 of the Endangered Species Act whereby federal agencies proposing activities that may affect a listed species or critical habitat confer with the U.S. Fish and Wildlife Service about the impacts of the activity on the species (50 CFR 402).

intermediate harvest a removal of trees from a stand between the time of its formation and a regeneration harvest. Most commonly applied intermediate cuttings are release, thinning, improvement, and salvage.

intermittent stream a stream that flows only at certain times of the year when it receives water, usually from springs or a surface source such as melting snow.

invasive species an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health. Invasive species infest both aquatic and terrestrial areas and can be identified within any of the following four taxonomic categories: plants, vertebrates, invertebrates, and pathogens (Executive Order 13112). All State- and County-listed noxious weeds are considered invasive plants. In addition, other exotic species that are not listed but can successfully out compete native plants and displace native plant communities are termed an invasive species.

key ecosystem characteristic the dominant ecological characteristic(s) that describes the composition, structure, function and connectivity of terrestrial, aquatic and riparian ecosystems that are relevant to addressing important concerns about a land management plan. Key ecosystem characteristics are important to establishing or evaluating plan components that would support ecological conditions to maintain or restore the ecological integrity of ecosystems in the plan area.

ladder fuel a term to describe plant materials that provide vertical continuity between forest strata, thereby allowing fire to carry from surface fuels into the crowns of trees or shrubs with relative ease

land management plan see **forest plan**

landscape a defined area irrespective of ownership or other artificial boundaries, such as a spatial mosaic of terrestrial and aquatic ecosystems, landforms, and plant communities, repeated in similar form throughout such a defined area (36 CFR 219.19).

landtype a unit shown on an inventory map with relatively uniform potential for a defined set of land uses. Properties of soils landform, natural vegetation, and bedrock are commonly components of landtype delineation used to evaluate potentials and limitations for land use.

late-seral/successional stage (forest) a late stage in the sequence of plant communities that develops after a disturbance, such as fire or harvest. On the forested communities of the Flathead National Forest, this stage may begin to develop 140 years or more after the disturbance. Forest structures can be very diverse, with wide range in densities, number of canopy layers and trees sizes. Usually larger trees are dominant (>16 inches diameter breast height).

linkage (see also **linkage habitat**, **linkage area**, or **linkage zone**) an area that will support a low density population of a species during certain parts of the year, and that facilitates demographic and genetic connectivity between geographically separate patches of habitat suitable for that species. Linkage areas facilitate movements of an animal (e.g., dispersal, breeding season movements, exploratory movements) beyond its home range. Linkage areas may include sizeable areas of non-habitat and areas influenced by human actions.

livestock a type of domestic animal raised for commercial production purposes, e.g., cattle. Small livestock includes animals such as sheep, goats, and llamas.

lynx analysis unit an area that approximates the size of a female lynx's annual home range and encompasses its seasonal habitats. Lynx analysis units may also include areas of non-lynx habitat, such as open meadows, especially in mountainous regions. A lynx analysis unit is the unit for which the effects of a project (including direct, indirect and cumulative effects) would be analyzed; its boundaries should remain constant. [LCAS]

lynx critical habitat an area designated by the USFWS that provides the physical or biological features essential to the conservation of the Canada lynx (50 CFR Part 402 Federal Register / Vol. 81, No. 28 / Thursday, February 11, 2016 / Rules and Regulations), as described in 50 CFR Part 17 Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Contiguous United States Distinct Population Segment of the Canada Lynx and Revised Distinct Population Segment Boundary; Final Rule (Federal Register / Vol. 79, No. 177 / Friday, September 12, 2014 / Rules and Regulations).

lynx habitat an area within a boreal forest with gentle rolling topography, dense horizontal cover, deep snow, and moderate to high snowshoe hare densities (i.e., more than 1 hare/2 ha (0.4 hares/2 ac)). In the western United States, forest cover types dominated by Engelmann spruce, subalpine fir and lodgepole pine provide habitat for lynx. [LCAS]

lynx habitat currently in unsuitable condition an area within the boreal forest that is in the early stand initiation stage (typically less 30 years old) or has been silviculturally treated to remove cover, in which the vegetation has not developed sufficiently to support snowshoe hare populations during all seasons. Stand-replacing (moderate to high intensity) fire, insect epidemics or wind events can create stand initiation structural stage. Vegetation management projects that may create unsuitable conditions for a period of time include clearcuts, seed tree harvest, precommercial thinning, or understory removal. [LCAS]

lynx habitat in suitable condition an area within the boreal forest that provides lynx habitat in all seasons. Forest stands may be in various ages or structural stages (i.e., young saplings in stand initiation structural stage, pole-size stands in stem exclusion structural stage, mature multi-story forest) provided that, following a stand-replacing disturbance or treatment that reduced the dense

horizontal cover required by snowshoe hares, trees have grown tall enough and dense enough to protrude above the snow and provide food and cover for snowshoe hares and lynx in winter.

[LCAS]

maintain to keep in existence or continuance of the desired ecological condition in terms of its desired composition, structure, and processes. Depending upon the circumstance, ecological conditions may be maintained by active or passive management or both.

management area a land area identified within the planning area that has the same set of applicable plan components. A management area does not have to be spatially contiguous (36 CFR 219.19).

management system (timber) an administrative method that includes even-aged stand and uneven-aged stand protocols.

mature multi-story structural stage (forest) a phase characterized by understory re-initiation, resulting in several tree age classes and vegetation layers. Fallen trees may be present, creating gaps in the overstory canopy. In lynx habitat, these stands typically have high horizontal cover from young understory trees and lower limbs of mature trees that reach the ground or snow level.

[LCAS]

mature tree a tree which has achieved its maximum or near-maximum mean annual rate of growth in height or diameter.

mbf/mmbf (thousand board feet and million board feet, respectively) a specialized unit of measure for the volume of lumber in the United States and Canada. One board foot is the volume of a 1-foot length of a board, 1 foot wide, and 1 inch thick.

mean annual increment of growth the total increment of increase in volume of a stand (standing crop plus thinning removals) up to a given age divided by that age. Culmination of mean annual increment of growth is the age in the growth cycle of an even-aged stand at which the average annual rate of increase of volume is at a maximum. In land management plans, mean annual increment is expressed in cubic measure and is based on the expected growth of stands, according to intensities and utilization guidelines in the plan.

mechanized travel/mmechanical transport a contrivance for moving people or material in or over land, water, or air, having moving parts, that provides a mechanical advantage to the user, and that is powered by a living or nonliving power source. This includes, but is not limited to, sailboats, hang gliders, parachutes, bicycles, game carriers, carts, and wagons. It does not include wheelchairs when used as necessary medical appliances. It also does not include skis, snowshoes, rafts, canoes, sleds, travois, or similar primitive devices without moving parts (36 CFR 2320.5(3)).

mesic a type of habitat that is moderately moist.

metropolitan area an urban area that has a population of more than 50,000.

micropolitan area an urban area that has a population of 10,000 to 49,999.

mid-seral/successional stage (forest) a mid-stage in the sequence of plant communities that develop after a disturbance, such as fire or harvest. On the forested communities of the Flathead National Forest, stands may be considered in this stage from about 40 to 140 years after the

disturbance. Stand structure, such as density and number of canopy layers, can vary widely. Dominant tree sizes are typically from 5 to 15 inches diameter breast height.

mine reclamation the process of restoring land that has been mined to a natural or economically usable state. Although the process of mine reclamation occurs once mining is completed, the preparation and planning of mine reclamation activities occur prior to a mine being permitted or started.

minerals the Forest Service defines three types of mineral (and energy) resources:

- locatable minerals: commodities such as gold, silver, copper, zinc, nickel, lead, platinum, etc. and some nonmetallic minerals such as asbestos, gypsum, and gemstones.
- salable minerals: common varieties of sand, stone, gravel, cinders, clay, pumice and pumicite.
- leasable minerals: commodities such as oil, gas, coal, geothermal, potassium, sodium phosphates, oil shale, sulfur, and solid leasable minerals on acquired lands.

mitigate to avoid, minimize, rectify, reduce, or compensate the adverse environmental impacts associated with an action.

mixed-severity fire/mixed-severity fire regime a combination of low- to high-severity fire effects within the perimeter of a single fire, or across consecutive events. Mixed-severity fire regimes give rise to unique patch dynamics and ecosystem responses.

monitoring a systematic process of collecting information to evaluate effects of actions or changes in conditions or relationships.

motorized equipment a machine that uses a motor, engine, or other nonliving power sources. This includes, but is not limited to, such machines as chain saws, aircraft, snowmobiles, generators, motorboats, and motor vehicles. It does not include small battery or gas powered hand carried devices such as shavers, wristwatches, flashlights, cameras, stoves, or other similar small equipment.

motorized route a National Forest Service (NFS) road or NFS trail that is designated for motorized use on a motor vehicle use map pursuant to 36 CFR 212.51.

motorized use the designation of roads, trails, and areas that are open to motor vehicle use as specified in Federal Register / Vol. 70, No. 216 / Wednesday, November 9, 2005 /36 CFR Parts 212, 251, 261, Travel Management; Designated Routes and Areas for Motor Vehicle Use; Final Rule [GBCS].

moving window analysis a geographic information system procedure that quantifies the density of roads and trails by incrementally moving a template across a digital map. [GBCS]

multiple use the management of the various renewable surface resources of the National Forest Service lands so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some lands will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with

the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output, consistent with the Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. 528–531).

National Forest System the National Forest lands reserved or withdrawn from the public domain of the United States, all National Forest lands acquired through purchase, exchange, donation, or other means, the National Grasslands and land utilization projects administered under title III of the Bankhead-Jones Farm Tenant Act (50 Stat. 525, 7 U.S.C. 1010-1012), and other lands, waters or interests therein which are administered by the Forest Service or are designated for administration through the Forest Service as a part of the system.

native knowledge a way of knowing or understanding the world, including traditional ecological and social knowledge of the environment derived from multiple generations of indigenous peoples' interactions, observations, and experiences with their ecological systems. Native knowledge is place-based and culture-based knowledge in which people learn to live in and adapt to their own environment through interactions, observations, and experiences with their ecological system. This knowledge is generally not solely gained, developed by, or retained by individuals, but is rather accumulated over successive generations and is expressed through oral traditions, ceremonies, stories, dances, songs, art, and other means within a cultural context.

native species an organism that was historically or is present in a particular ecosystem as a result of natural migratory or evolutionary processes; and not as a result of an accidental or deliberate introduction into that ecosystem. An organism's presence and evolution (adaptation) in an area are determined by climate, soil, and other biotic and abiotic factors.

natural range of variation (NRV) the variation of ecological characteristics and processes over scales of time and space that are appropriate for a given management application. See also historical range of variation (HRV). The NRV (or HRV) is a tool for assessing the ecological integrity and does not necessarily constitute a management target or desired condition. The NRV can help identify key structural, functional, compositional, and connectivity characteristics, for which plan components may be important for either maintenance or restoration of such ecological conditions.

natural regeneration a renewal of a tree crop by natural seeding, sprouting, suckering, or layering.

net change the difference in a measurement (such as road density) after on-the-ground changes are accounted for pre- and post-project; allows for temporary changes during a project. [GBCS]

no-surface occupancy stipulation a mineral lease clause which, if attached to a mineral lease, prohibits the lessee from constructing roads, well pads, or otherwise occupying the land surface unless, upon site-specific review, it is determined by the authorized officer that the requirements of the stipulation can be modified if other less stringent mitigation is determined to be sufficient to protect the other resources.

non-attainment area an area within a State that exceeds the national ambient air quality standards.

non-consumptive water use the act of removing water from an available supply and utilizing it in a manner that it returns to a waterbody.

non-denning season the time period when grizzly bears typically are not hibernating [GBCS]:

- west side of the Continental Divide: from 1 April through 30 November.
- east side of the Continental Divide: from 16 April through 30 November.

nonpoint source pollution a discharge from a diffuse source, such as polluted runoff from an agricultural area or precipitation, to a water body.

Northern Continental Divide Ecosystem a region identified in the Grizzly Bear Conservation Strategy encompassing about 27.3 million acres of land in western and central Montana that is one of five areas in the lower 48 states where grizzly bear populations occur. [GBCS]

Northern Continental Divide Ecosystem (NCDE) Coordinating Committee an interagency group that evaluates implementation of the NCDE GBCS, promotes the exchange of data and information about the NCDE grizzly bear population among agencies and the public, and makes recommendations to the management agencies regarding implementation of the NCDE GBCS. Member of the interagency group may include Montana Fish, Wildlife & Parks; U.S. Fish & Wildlife Service; U.S. Park Service; Forest Service; APHIS-Wildlife Services; U.S. Geological Survey; U.S. Bureau of Land Management; Blackfoot Tribe, and the Confederated Salish and Kootenai Tribes. [GBCS]

noxious weed a legal term; an exotic plant species established, or that may be introduced in the area, regulated by law, which are typically aggressive, difficult to manage, and invasive. They may render land unfit for agriculture, forestry, livestock, wildlife, or other beneficial uses.

off-highway vehicle a motor vehicle designed for, or capable of, cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain (36 CFR 212.1).

old growth forest an ecosystem that is distinguished by old trees and related structural attributes. This term is deliberately defined generically, as the use of the term old growth and definitions for old growth vary substantially by ecological regions, forest types, local conditions, literature source, and a host of other factors. In the context of the Flathead National Forest ecosystem the definitions for old growth are those provided within the document titled “Old Growth Forest Types of the Northern Region (Green et al. 1992, and errata 12/11).

old-growth associated species the group of wildlife species that is associated with old-growth forest plant communities on the Flathead National Forest.

old-growth habitat a community of forest vegetation characterized by a diverse stand structure and composition along with a significant showing of decadence. The stand structure will typically have multi-storied crown heights and variable crown densities. There is a variety of tree sizes and ages ranging from small groups of seedlings and saplings to trees of large diameters exhibiting a wide range of defect and breakage both live and dead, standing and down. The time it takes for a forest stand to develop into an old-growth habitat condition depends on many local variables such as forest type, habitat type, and climate. Natural chance events involving forces of nature such as weather, insect, disease, fire, and the actions of man also affects the rate of development of old-

growth stand conditions. Old-growth habitat may or may not meet the definition for old growth forest.²

open motorized route density a moving window analysis calculation that applies to the primary conservation area portion of the NCDE and includes Federal, State, and Tribal roads and motorized trails that are open to wheeled motor vehicle use by the public for any part of the non-denning season. *Note:* Motorized routes closed only by sign or order are considered to be open for purposes of this calculation. [GBCS] See also **moving window analysis**.

opening (as pertaining to maximum opening size standard for timber harvest) a forest patch in a seedling/sapling size class (average stand diameter breast height is less than 5 inches) created as a result of one even-aged harvest operation (i.e., clearcut, seedtree or shelterwood seed cutting). Legacy or reserve trees left to meet other desired conditions are not counted in the calculation of size class for determining the seedling/sapling classification. Adjacent seedling/sapling stands created as a result of an earlier harvest operation are not considered part of an opening.

outfitting to rent on, or deliver to, National Forest Service lands for pecuniary remuneration or other gain any saddle or pack animal, vehicle, boat, camping gear, or similar supplies or equipment (36 CFR 251.51).

over snow motorized use an activity involving a motor vehicle that is designed for use over snow and that runs on a track or tracks and/or a ski or skis, while in use over snow (36 CFR 212.1, *Definitions*).

over snow standard season the time period for over snow motorized use. Generally, the season is defined as December 1 to March 31 of each year; however exceptions apply in specific areas and are noted at the applicable locations as well as in Over Snow Vehicle Use Maps for the Flathead National Forest.

overstory the portion of the trees that form the uppermost canopy layer in a forest of more than one story.

passive crown fire a type of fire in which individual or small groups of trees torch out, but solid flaming in the canopy cannot be maintained except for short periods. Passive crown fire encompasses a wide range of crown fire behavior from the occasional torching of an isolated tree to a nearly active crown fire. Also called torching and candling.

patch an area distinguished from its surroundings by environmental discontinuities, such as a small area of early seral/successional forest (seedling/sapling size class) surrounded by mid-seral and late-seral/successional forest (small to large tree size classes).

perennial a stream that flows continuously throughout most years and whose upper surface generally stands lower than the water table in the region adjoining the stream.

permit a special use authorization which provides permission, without conveying an interest in land, to occupy and use National Forest Service land or facilities for specified purposes, and which is both revocable and terminable (36 CFR 251.51).

² Green, P., J. Joy, D. Sirucek, W. Hann, A. Zack and B. Naumann. 1992. Old-growth forest types of the Northern Region, R-1 SES 4/92. USDA, Forest Service. Northern Region. Missoula, Montana. 57 pp.

plan a document, or set of documents, that provides management direction for an administrative unit of the National Forest System developed under the requirements of the 2012 planning rule or a prior planning rule. See also **forest plan**.

plan area the National Forest System lands covered by a forest plan.

point source pollution a discharge from a known pollutant source, such as a sewage treatment plant, to a water body from a single location.

pole a tree at least 5 inches diameter breast height (d.b.h.) and smaller than 8 inches d.b.h.

potential vegetation type/potential vegetation group an assemblage of habitat types on the basis of similar biophysical environments, such as climate, slope and soil characteristics. This biophysical environment influences the vegetation characteristics and ecosystem processes that occur. The vegetation communities and conditions that would develop over time given no major natural or human disturbances (i.e., the climax plant community) would be similar within a particular potential vegetation type classification.

precommercial thinning the selective felling, deadening, or removal of trees in a young stand dominated by trees less than 5 inches diameter breast height. Primary purposes for thinning include to accelerate diameter increment on the remaining stems, to maintain a specific stocking or stand density range, to develop desired tree species composition, and/or to improve the vigor and quality of the trees that remain.

prescribed burning or prescribed fire a fire ignited via management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and National Environmental Policy Act requirements (where applicable) must be met, prior to ignition. [NWCG]

primary conservation area (PCA) an area identified in the NCDE GBCS to be managed as a source area for the grizzly bear population, where continuous occupancy by grizzly bears would be maintained. Habitat within the PCA would receive the most stringent protection. The PCA is the same area as the NCDE Grizzly Bear Recovery Zone identified in the Grizzly Bear Recovery Plan (<http://www.fws.gov/mountain-prairie/species/mammals/grizzly/>) (USFWS 1993)

productivity the capacity of National Forest Service lands and their ecological systems to provide the various renewable resources (such as timber) in certain amounts in perpetuity. In land management, productivity is an ecological term, not an economic term.

project an organized effort to achieve an outcome on National Forest Service lands identified by location, tasks, outputs, effects, times, and responsibilities for execution (36 CFR 219.19).

project (in grizzly bear habitat in the NCDE) a project in grizzly bear habitat in the NCDE, for purposes of the motorized access standards and guidelines in the primary conservation area of the NCDE, refers to any temporary activity requiring construction of new roads, temporary roads, reconstruction or opening of restricted roads during the non-denning season, if such use exceeds administrative use levels (see **administrative use**). Activities involving recurring helicopter use (see **recurring helicopter use**) are also considered to be a project. [GBCS]

projected timber sale quantity (PTSQ) the estimated quantity of timber meeting applicable utilization standards that is expected to be sold during the plan period. As a subset of the projected wood sale quantity, the projected timber sale quantity includes volume from timber harvest for any purpose from lands in the plan area based on expected harvests that would be

consistent with the plan components. The PTSQ is also based on the planning unit's fiscal capability and organizational capacity. PTSQ is not a target nor a limitation on harvest, and is not an objective unless the responsible official chooses to make it an objective in the plan.

projected wood sale quantity (PWSQ) the estimated quantity of timber and other wood products that is expected to be sold from the plan area for the plan period. The PWSQ consists of the projected timber sale quantity as well as other woody material such as fuelwood, firewood, or biomass that is also expected to be available for sale. The PWSQ includes volume from timber harvest for any purpose based on expected harvests that would be consistent with the plan components. The PWSQ is also based on the planning unit's fiscal capability and organizational capacity. PWSQ is not a target nor a limitation on harvest, and is not an objective unless the responsible official chooses to make it an objective in the plan.

proposed action a project, activity, or action that a federal agency aims to implement or undertake, and which is the subject of an environmental analysis. Proposed action is a specific term defined under the National Environmental Policy Act.

proposed species a type of animal or plant that is proposed by the U.S. Fish and Wildlife Service, or the National Marine Fisheries Service, through the Federal Register to be listed for protection under Section 4 of the Endangered Species Act.

public involvement a process designed to broaden the information base upon which agency decisions are made. The process involves informing the public about Forest Service activities, plans, and decisions, and participation in the planning processes which lead to final decision making.

rate of spread see **spread rate**

reach a length of stream channel, lake, or inlet exhibiting, on average, uniform hydraulic properties and morphology.

rearing habitat a stable and protected micro-environment for a species to birth and rear their young. For example, for juvenile westslope cutthroat trout, rearing habitat is primarily the pool environment found in streams.

recovery the improvement in the status of a listed species to the point at which listing as federally endangered or threatened is no longer appropriate (36 CFR 219.19). This definition is for the purposes of the land management planning regulation at 36 CFR part 219 and Land Management Planning Handbook 1909.12, and with respect to threatened or endangered species.

recovery plan a document that details actions or conditions necessary to promote improvement in the status of a species listed under the Endangered Species Act, to the point at which listing is no longer appropriate.

recreation the set of recreation settings and opportunities on the National Forest System that is ecologically, economically, and socially sustainable for present and future generations. See also **sustainable recreation**.

recreation event a recreational activity conducted on National Forest System lands for which an entry or participation fee is charged, such as animal, vehicle, or boat races; dog trials; fishing contests; rodeos; adventure games; and fairs.

recreation opportunity the opportunity to participate in a specific recreation activity in a particular recreation setting to enjoy desired recreation experiences and other benefits that accrue. Recreation opportunities include non-motorized, motorized, developed, and dispersed recreation on land, water, and in the air. The six classes are the following:

- **primitive** the primitive recreational opportunity spectrum (ROS) setting is large, remote, wild, and predominately unmodified landscapes. There is no motorized activity and little probability of seeing other people. Primitive ROS settings are managed for quiet solitude away from roads, people, and development. There few, if any facilities or developments. Most of the primitive ROS settings coincide with designated wilderness boundaries.
- **semi-primitive non-motorized** the semi-primitive non-motorized ROS settings include areas of the forest managed for non-motorized use. Mountain bikes and other mechanized equipment are often present. Rustic facilities are present for the primary purpose of protecting the natural resources of the area. These settings are not as vast or remote as the primitive ROS settings, but offer opportunities for exploration, challenge, and self-reliance.
- **semi-primitive motorized** the semi-primitive motorized ROS settings area(s) of the forests are managed for backcountry motorized use on designated routes. Routes are designed for off highway vehicles and other high clearance vehicles. This setting offers visitors motorized opportunities for exploration, challenge, and self-reliance. Mountain bikes and other mechanized equipment are also sometimes present. Rustic facilities are present for the primary purpose of protecting the natural resources of the area or providing portals to adjacent areas of primitive, or semi-primitive, non-motorized areas.
- **roaded natural** the roaded natural setting is managed as natural appearing with nodes and corridors of development that support higher concentrations of use, user comfort, and social interaction. The road system is well defined and can typically accommodate sedan travel. System roads also provide easy access to adjacent in semi-primitive motorize, semi-primitive non-motorized and primitive areas.
- **rural** the rural settings represent the most developed recreation sites and modified natural settings Facilities are designed primarily for user comfort and convenience.
- **urban** the urban setting is characterized by a substantially developed environment although the background may have natural appearing elements. Highly developed ski areas and resorts are examples of an urban setting on National Forest Service lands.

recreation setting the social, managerial, and physical attributes of a place that, when combined, provide a distinct set of recreation opportunities. The Forest Service uses the recreation opportunity spectrum to define recreation settings and categorize them into six distinct classes: primitive, semi-primitive non-motorized, semi-primitive motorized, roaded natural, rural, and urban. See also **recreation opportunity**.

recreation site a defined, public recreation area. The Forest Service uses two categories for recreation sites: dispersed and developed. Both types may have improvements needed to protect resources such as signs, road closure devices, bear resistant food storage devices, and/or sanitation facilities. Some recreation sites are designed and managed for overnight use and some are designed and managed for day-use only (e.g. interpretive signs at roadside pull-outs;

trailheads at roadside pull-outs or at road closures; picnic areas or boat launches that are closed at night; ski areas that do not have overnight lodging). [GBCS]

- **developed sites** have agency improvements made out of manmade materials that are intended to provide for public recreation and user comfort/convenience. Examples on National Forest Service lands include, but are not limited to: ski areas, campgrounds, sites with cabins, huts, lodges, recreation residences, visitor centers, and trailheads. GBCS management direction applies to developed recreation sites. [GBCS]
- **dispersed sites** have minimal to no agency improvements made out of manmade materials. Dispersed sites may include outfitter camps or other primitive camping spots along a road, trail, water body, or at a road closure. [GBCS]

recurring helicopter use a type of helicopter flight that involves multiple trips/passes each day consisting of low-altitude (< 500 m above-ground-level) flights that continues for a duration longer than 48 consecutive hours. [GBCS]

reference vs. managed watersheds a watershed is considered “reference” if it was not grazed by livestock in the last 30 years, road densities were less than 0.5 km per km², riparian road densities were less than 0.25 km per km², and there was no historic dredge or hardrock mining in riparian areas. Typically, a wilderness watershed. All other watersheds are considered “managed.”

reforestation the renewal of forest cover by planting, seeding, and natural means (such as seed from existing trees on the site).

regeneration the renewal of a forest, whether by natural or artificial means. This term may also refer to a tree crop itself.

regeneration harvest the cutting of trees and creation of an entirely new age class; an even-age or uneven-aged harvest. The primary methods used for regeneration harvest are clearcutting, seed tree, shelterwood, and group selective cuts.

regeneration method the cutting approach used to regenerate a stand. Example methods include clearcut, seedtree and shelterwood cutting methods.

resilience (ecology) the capacity of a (plant) community or ecosystem to maintain or regain normal function and development following disturbance.

resource selection function the relative probability of an animal using a unique set of habitat (landscape) characteristics. For studies involving radio-collared animals, “use” of landscape combinations is compared to the “availability” of those combinations in a designated study area.

restoration the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed; ecological restoration focuses on reestablishing the composition, structure, pattern, and ecological processes necessary to facilitate terrestrial and aquatic ecosystems sustainability, resilience, and health under current and future conditions (36 CFR 219.19).

riffle a shallow rapid where the water flows swiftly over completely or partially submerged obstructions (rocks, etc.) to produce surface agitation, but standing waves are absent.

riparian area a three-dimensional ecotone of interaction that include terrestrial and aquatic ecosystems that extend into the groundwater, above the canopy, and outward across the

floodplain, up the near-slopes that drain to the water, laterally into the terrestrial ecosystem, and along the water course at variable widths.

riparian ecosystem a transition between the aquatic ecosystem and the adjacent upland terrestrial ecosystem. A riparian ecosystem is identified by soil characteristics and by distinctive vegetative communities that require free or unbounded water.

riparian habitat conservation area (RHCA) a portion, or portions, of the watershed where riparian-dependent resources receive primary emphasis and management activities are subject to specific standards and guidelines. RHCAs widths are defined as follows:

- **category 1, fish-bearing streams:** RHCAs consist of the stream and the area on either side of the stream extending from the edges of the active channel to the top of the inner gorge, or to the outer edges of the 100 year floodplain, or to a distance equal to the height of two site-potential trees, or 300 feet slope distance (600 feet, including both sides of the stream channel), whichever is greatest.
- **category 2, permanently flowing non-fish bearing streams:** RHCAs consist of the stream and the area on either side of the stream extending from the edges of the active channel to the top of the inner gorge, or to the outer edges of the riparian vegetation, or to a distance equal to the height on one site-potential tree, or 150 feet slope distance (300 feet, including both sides of the stream channel), whichever is greatest.
- **category 3, ponds, lakes, reservoirs, and wetlands greater than 1 acre:** RHCAs consist of the body of water or wetland and the area to the outer edges of the riparian vegetation, or to the extent of the seasonally saturated soil, or to the distance of the height of one site-potential tree, or 150 feet slope distance from the edge of the maximum pool elevation of constructed ponds and reservoirs, or from the edge of the wetland, pond, or lake, whichever is greatest.
- **category 4, seasonally flowing or intermittent streams, wetlands less than 1 acre, and lands identified as landslide prone:** This category includes features with high variability in size and site-specific characteristics. At a minimum, the RHCA must include: (1) the intermittent stream channel and the area to the top of the inner gorge; (2) the intermittent stream channel or wetland and the area to the outer edges of the riparian vegetation; (3) for Priority watersheds as identified in Appendix E, the area from the edges of the stream channel, wetland, or landslide prone terrain to a distance equal to the height of one site-potential tree, or 100 feet slope distance, whichever is greatest; or (4) for watersheds not identified as Priority watersheds, the area from the edges of the stream channel, wetland, or landslide prone terrain to a distance equal to the height of one-half site potential tree, or 50 feet slope distance, whichever is greater.

riparian wildlife habitat an environment that occurs along lakes, rivers, streams, springs, and seeps where the vegetation and microclimate are influenced by year-round or seasonal water and associated high water tables. Plant and animal species in these areas are more productive and diverse than on nearby uplands, making these areas very important to many wildlife species.

road (Flathead Revision) a motor vehicle route more than 50 inches wide, unless identified and managed as a trail. (36 CFR 212.1, FSM 7705):

- **decommissioned:** the stabilization and restoration of an unneeded road to a more natural state (36 CFR 212.1). Decommissioned roads do not count towards Total Motorized Route Density as long as they meet the definition of impassable.
- **forest road or trail:** a route wholly or partly within or adjacent to and serving the National Forest Service (NFS) that is necessary for the protection, administration, and utilization of the NFS and the use and development of its resources (36 CFR 212.1 – Definitions)
- **impassable:** a road that has been treated in such a manner that the road is blocked and there is little resource risk if road maintenance is not performed on a regular basis (self-maintaining). These roads are not counted in the total motorized route density as long as the road (generally the first 50 to 300 feet) has been treated to make it inaccessible to wheeled motorized vehicles during the non-denning season. Roads may become impassable as a result of a variety of means, including but not limited to one or more of the following: natural vegetation growth, road entrance obliteration, scarified ground, fallen trees, boulders, culvert or bridge removal, etc. Impassable roads may remain on the inventoried road system if use of the road is anticipated at some point in the future. Some, but not all, roads placed in intermittent stored service may be impassable. [GBCS]
- **intermittent stored service/intermittent service road, closed to traffic:** the road is in a condition that there is little resource risk if maintenance is not performed.
- **maintenance level:** a term for the level of service provided by, and maintenance required for, a specific road, consistent with road management objectives and maintenance criteria (Forest Service Handbook 7709.59, 62.32).
 - level 1: these are roads that have been placed in storage between intermittent uses. The period of storage must exceed 1 year. Basic custodial maintenance is performed to prevent damage to adjacent resources and to perpetuate the road for future resource management needs. Emphasis is normally given to maintaining drainage facilities and runoff patterns.
 - level 2: assigned to roads open for use by high clearance vehicles. Passenger car traffic, user comfort, and user convenience are not considerations.
 - level 3: assigned to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities
 - level 4: assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds
 - level 5: assigned to roads that provide a high degree of user comfort and convenience.
- **National Forest System:** a forest road other than a road which has been authorized by a legally documented right-of-way held by a State, county, or other local public road authority (36 CFR 212.1)
- **reclaimed** (pertains to alternative A only, from amendment 19 of the 1986 forest plan]: a road that has been treated in such a manner so as to no longer function as a road or trail and has a legal closure order until reclamation treatment is effective. This can be accomplished through one or a combination of treatments including, recontouring to original slope, placement of natural debris, or revegetation with shrubs or trees. A reclaimed road does not mean it is decommissioned (not included in the transportation

system) but when decommissioning a road to meet A-19 road density standards, it must be reclaimed first.

- **temporary:** a road necessary for emergency operations or authorized by contract, permit, lease, or other written authorization that is not a forest road and that is not included in a forest transportation atlas (36 CFR 212.1). In the NCDE primary conservation area, temporary roads will meet the definition of impassable when no longer needed. [GBCS]

road a motor vehicle route more than 50 inches wide, unless identified and managed as a trail. (36 CFR 212.1, FSM 7705):

- **decommissioned:** the stabilization and restoration of an unneeded road to a more natural state (36 CFR 212.1). Decommissioned roads do not count towards Total Motorized Route Density as long as they meet the definition of impassable.
- **forest road or trail:** a route wholly or partly within or adjacent to and serving the National Forest System (NFS) that is necessary for the protection, administration, and utilization of the NFS and the use and development of its resources (36 CFR 212.1 – Definitions)
- **impassable:** a road that has been treated in such a manner that the road is blocked and there is little resource risk if road maintenance is not performed on a regular basis (self-maintaining). These roads are not counted in the total motorized route density as long as the road (generally the first 50 to 300 feet) has been treated to make it inaccessible to wheeled motorized vehicles during the non-denning season. Roads may become impassable as a result of a variety of means, including but not limited to one or more of the following: natural vegetation growth, road entrance obliteration, scarified ground, fallen trees, boulders, culvert or bridge removal, etc. Impassable roads may remain on the inventoried road system if use of the road is anticipated at some point in the future. Some, but not all, roads placed in intermittent stored service may be impassable. [GBCS]
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rotation the number of years (including the regeneration period) required to establish and grow timber under an even-aged management system to a specified condition or maturity for regeneration harvest.

running average a method for computing the average of a stream of numbers for a specified period. A 10-year running average computes the mean for the values in the current year plus the previous 9 years. A running average is commonly used with time series data to smooth out short-term fluctuations and highlight longer-term trends or cycles. [GBCS]

salvage harvest a commercial timber sale of dead, damaged, or dying trees. The harvest recovers economic value that would otherwise be lost. Collecting firewood for personal use is not considered salvage harvest.

sapling a young tree that is larger than a seedling but smaller than a pole or small tree; typically 5 to about 25 feet tall and 1 to 5 inches diameter breast height.

sawtimber a collection of logs cut from trees with minimum diameter (typically greater than 6 or 7 inches diameter breast height) or trees of the same minimum diameter and of sufficient length and stem quality suitable for conversion to lumber.

scarification the removal of the surface organic material (duff) of an area, typically to prepare the site for reforestation.

scenic character a combination of the physical, biological, and cultural images that gives an area its scenic identity and contributes to its sense of place; scenic character provides a frame of reference from which to determine scenic attractiveness and to measure scenic integrity.

scheduled timber harvest a commercial timber harvest that is planned and conducted using a rotation age (the age planned to harvest timber into the future). Rotation age is determined based on site productivity, site conditions, and forest plan desired conditions. Timber harvest is only scheduled on lands suitable for timber production.

scion a detached living portion of a plant, such as a bud or shoot, often a branch tip, that is grafted onto the root-bearing part of another plant.

secure core (grizzly bear) an area of the NCDE primary conservation area more than 500 meters from a route open to wheeled motorized use during the grizzly bear non-denning season, or a gated route, that is greater than or equal to 2,500 acres in size. Roads restricted with physical barriers (not gates), decommissioned roads, impassable roads, temporary roads, over-the-snow motorized routes/areas, and non-motorized trails are allowed within secure core, unless otherwise restricted (e.g., by other national forest plan direction).

security habitat an area with low levels of human disturbance or habitat that allows a wildlife species to remain in a defined area despite an increase in stress or disturbance. The components of security habitat can include vegetation, topography, the size of the patches of vegetation, road density, distance from roads, intensity of the disturbance, and seasonal timing of the disturbance. This general definition covers most uses of the term security habitat, except for elk and grizzly bear, which have specific definitions.

security habitat (elk) the forested stands on National Forest Service lands at least 250 acres in size greater than 0.5 mile away from open motorized routes during the hunting season. Elk security habitat is calculated at the project level. Roads that are not open to the public for motorized use during the hunting season are not included in this calculation. The effects of non-motorized use and/or administrative motorized use of closed or temporary roads during the hunting season are not included in this calculation and would instead be analyzed separately at the project level.

sediment solid material, both mineral and organic, that is in suspension, being transported, or has been moved from its site of origin by air, water, gravity, or ice.

seedling a young tree that has just germinated but has not yet reached sapling size, typically 1 to 5 feet tall.

seedling/sapling a size category for forest stands in which trees less than 5 inches in diameter and less than about 25 feet tall are the predominant vegetation.

seedtree method a cutting technique used to regenerate a stand in which nearly all trees are removed from an area, except for a small number of trees that are left singly or in small groups.

seedtree with reserves the application of the seedtree method with the intention of retaining or reserving all or a portion of the seed trees for future stand structure.

selection method a cutting technique used to regenerate a forest stand and maintain an uneven-aged structure, by periodically removing some trees within multiple size classes either singly or in small groups or strips.

seral a biotic community that is developmental; a transitory stage in an ecologic succession.

seral/structural stage a phase of development of an ecosystem in ecological succession from a disturbed, relatively unvegetated state to a complex, mature plant community.

severity the ecological effects of fires, usually on the dominant organisms of the ecosystem, such as the trees.

shade-intolerant a plant species that does not grow well or dies from the effects of too much shade.

shade-tolerant a plant species that can develop and grow successfully in the shade of other plants.

shelterwood method a cutting technique used to regenerate an even-aged stand in which some of the mature trees are left to provide protection for regeneration species (greater numbers of trees are left in this method than with the seedtree method). This technique may be performed uniformly throughout the stand, in strips, or in groups. Regeneration may be natural or artificial (planting).

shelterwood with reserves the application of the shelterwood cutting technique with the intention of retaining or reserving all or a portion of the shelterwood trees for future stand structure.

silvicultural diagnosis the compiling, summarizing, evaluation and analyzing of forest stand and/or landscape data. Includes describing desired conditions, interpreting management direction and determining feasible alternative silvicultural systems and initial treatments. Integrates other resource conditions and considerations, such as soils, wildlife habitat and visual sensitivity.

silvicultural prescription a written document that describes management activities needed to implement one or more silvicultural treatments, or a treatment sequence. The prescription documents the results of the analysis during the diagnosis phase.

silvicultural system a management process whereby forests are tended, harvested, and replaced, resulting in a forest of distinctive form. It includes cultural management practices performed during the life of the stand, such as regeneration cutting, thinning, and use of genetically improved tree seeds and seedlings to achieve multiple resource benefits.

silviculture the theory and practice of controlling the establishment, composition, growth, and quality of forest stands in order to achieve the objectives of management.

site preparation a general term for a variety of activities that remove competing vegetation, slash, and other debris that may inhibit the reforestation effort.

site productivity the combined effect of physical and climate properties, soil depth, texture, nutrient load, precipitation, temperature, slope, elevation, and aspect, on tree growth of a specific area of land.

ski area a site and attendant facilities expressly developed to accommodate alpine or Nordic skiing and from which the preponderance of revenue is generated by the sale of lift tickets and fees for ski rentals, for skiing instruction and trail passes for the use of permittee-maintained ski trails. A ski area may also include ancillary facilities directly related to the operation and support of skiing activities (36 CFR 251.51).

slash the residue left on the ground after felling and other silvicultural operations, or that has accumulated there as a result of storms, fire, or natural pruning.

snag a standing dead tree usually greater than 5 feet in height and 6 inches in diameter breast height.

snow intercept cover a forest canopy which lessens the snow depths for wintering big game animals so that they can forage and travel about.

snowshoe hare habitat an area within boreal and upper montane forest in North America with cold, moderately deep winter snowpack and dense horizontal cover in the understory. During the winter, hares are restricted to areas where young trees or shrubs grow densely (thousands of woody stems per hectare) and are tall enough to protrude above the snow during winter, or where numerous overhanging boughs of mature conifer trees touch the snow surface, providing cover and browse. Winter snowshoe hare habitat develops primarily in the later phase (15 to 40 years post-disturbance) of stand initiation structural stage and in multi-story mature stands. [LCAS] Snowshoe hare habitat is defined at the scale of a forest stand which is a minimum of 5 acres, consistent with the minimum home range size of a snowshoe hare in northwest Montana.

spread rate/rate of spread a measure of the final headfire extent (in the direction of maximum spread).

stand a community of trees occupying a specific area and sufficiently uniform in canopy composition, age, and size class to be a distinguishable unit, forming a single management entity.

stand initiation structural stage the phase following a stand-replacing disturbance or regeneration timber harvest, a new single-story layer of shrubs, tree seedlings, and saplings establish and develop, reoccupying the site. Trees that need full sun are likely to dominate these even-aged stands. (In the years immediately following the disturbance, tree seedlings are too small to provide food and cover for snowshoe hares and lynx, particularly during the winter. (See also **lynx habitat currently in unsuitable condition**.) As time progresses, the trees grow tall and dense enough to provide food and cover for snowshoe hares and lynx during all seasons (see also the definition for lynx habitat in suitable condition). [LCAS]

stand-replacing disturbance an agent such as fire, blowdown, insect or disease epidemic, or timber harvest, which kills or removes enough trees (usually considered 80% or more of the tree component) to result in an early seral/successional forest.

stocking a measure of timber stand density as it relates to the optimum or desired density to achieve a given management objective.

stressor (ecology) see **ecosystem stressor**

structural stage a particular forest condition, characterized by a set of forest structural characteristics (such as tree diameters, tree heights, tree densities, canopy layers) that is representative of a particular period of stand development. See also **stand initiation structural stage**, **stem exclusion structural stage**, and **understory reinitiation structural stage**.

structure see **forest structure**

substrate a mineral and/or organic material that forms the streambed (i.e., stream bottom).

subwatershed a 6th code hydrologic unit, as defined in the U.S. Geological Survey hierarchical system of watersheds.

succession/successional stage a predictable process of changes in structure and composition of plant and animal communities over time. Conditions of the prior plant community or successional stage create conditions that are favorable for the establishment of the next stage. The different stages in succession are often referred to as “seral,” or “successional” stages.

suitability of lands a determination made regarding the appropriateness of various lands within a plan area for various uses or activities, based on the desired conditions applicable to those lands. The terms suitable and suited and not suitable and not suited can be considered the same.

summer range a part of the overall range of a species where the majority of individuals are located between spring green-up and the first heavy snowfall; in some areas winter range and summer range may overlap.

sustainability the capability to meet the needs of the present generation without compromising the ability of future generations to meet their needs. For purposes of this part, “ecological sustainability” refers to the capability of ecosystems to maintain ecological integrity; “economic sustainability” refers to the capability of society to produce and consume or otherwise benefit from goods and services including contributions to jobs and market and nonmarket benefits; and “social sustainability” refers to the capability of society to support the network of relationships, traditions, culture, and activities that connect people to the land and to one another, and support vibrant communities (36 CFR 219.19).

sustainable recreation the set of recreation settings and opportunities on the National Forest System that is ecologically, economically, and socially sustainable for present and future generations.

sustained yield limit (SYL) the amount of timber, meeting applicable utilization standards, “which can be removed from [a] forest annually in perpetuity on a sustained-yield basis” (NFMA at section 11, 16 USC 1611; 36 CFR 219.11(d)(6)). It is the volume that could be produced in perpetuity on lands that *may be suitable* for timber production. Calculation of the limit includes volume from lands that may be deemed not suitable for timber production after further analysis during the planning process. The calculation of the SYL is not limited by land management plan desired condition, other plan components, or the planning unit’s fiscal capability and organizational capacity. The SYL is not a target but is a limitation on harvest, except when the plan allows for a departure.

system road see **National Forest System road**

threatened species a species that the Secretary of the Interior or the Secretary of Commerce has determined is likely to become an endangered species within the foreseeable future throughout

all, or a significant portion, of its range. Threatened species are identified by the Secretary of the Interior in accordance with the 1973 Endangered Species Act. Threatened species are listed at 50 CFR sections 17.11, 17.12, and 223.102.

timber harvest the removal of trees for wood fiber use and other multiple-use purposes (36 CFR 219.19).

timber production the purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use (36 CFR 219.19).

torching index the open wind speed (measured or forecasted for a standard height (6.1-m) above the tallest vegetation) at which crown fire activity can initiate for the specified fire environment.

total motorized route density a moving window analysis calculation that applies to the primary conservation area portion of the NCDE and includes Federal, State, and Tribal roads and motorized trails that do not meet the definition of an impassable road. [GBCS] See also **moving window analysis**.

trail a route 50 inches or less in width or a route over 50 inches wide that is identified and managed as a trail (36 CFR 212.1).

trail class the prescribed scale of development for a trail, representing its intended design and management standards.

underburning a fire that consumes surface fuels but not trees and some large shrubs.

understory the trees and other woody species which grow under a more or less continuous cover of branches and foliage formed collectively by the upper portion of adjacent trees and other woody growth.

understory re-initiation structural the establishment of a new age class of trees after overstory trees begin to die, are removed, or no longer fully occupy their growing space. The stand of trees begins to stratify into vertical layers, with some small shade-tolerant trees in the understory. [LCAS]

untrammelled a term defined in the context of the Wilderness Act as an area where human influence does not impede the free play of natural forces or interfere with natural processes in the ecosystem.

utilization standards the specifications for merchantable forest products offered in a timber sale.

viable population a population of a species that continues to persist over the long term with sufficient distribution to be resilient and adaptable to stressors and likely future environments. (36 CFR 219.19)

viewshed the visible portion of the landscape seen from viewpoints. Viewpoints can include residences, recreational facilities, and travelways.

water quality the physical, chemical, and biological properties of water.

water yield the runoff from a watershed, including groundwater outflow.

watershed a region or land area drained by a single stream, river, or drainage network; a drainage basin.

watershed condition the state of a watershed based on physical and biogeochemical characteristics and processes.

weighted average/weighted mean a measure similar to an arithmetic mean or average, where instead of all data points contributing equally to the final average, some data points contribute more than others. In the example of patch sizes of early successional seedling/sapling forests, the data point is the patch. Patches are “weighted” by their acreage, and thus larger patches will contribute more to the determination of average than the smaller patches. This statistic gives insight into how large the largest patches really are, and how the individual patches are distributed along the range from smallest to largest patch size.

wetland an area that under normal circumstances has hydrophytic vegetation, hydric soils, and wetland hydrology.

wild and scenic river a waterway designated by Congress as part of the National Wild and Scenic Rivers System, which was established in the Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271, 1271–1287).

wilderness an area of land designated by Congress as part of the National Wilderness Preservation System that was established in the Wilderness Act of 1964 (16 U.S.C. 1131–1136).

wilderness character the untrammeled, undeveloped, natural, outstanding opportunities for solitude or a primitive and unconfined type of recreation and other features and values such as the following:

- **untrammeled:** wilderness is essentially unhindered and free from modern human control or manipulation.
- **naturalness:** wilderness ecological systems are substantially free from the effects of modern civilization.
- **undeveloped:** wilderness is essentially without permanent improvements or modern human occupation.
- **outstanding opportunities for solitude or a primitive and unconfined type of recreation:** wilderness provides outstanding opportunities for people to experience solitude or primitive and unconfined recreation, including the values of inspiration and physical and mental challenge.
- **other features of value:** wilderness may contain ecological, geological, or other features of scientific educational, scenic, or historical value.

wilderness characteristics the undeveloped, natural, outstanding opportunities for solitude or a primitive and unconfined type of recreation and other features and values.

wildland fire a non-structure fire, other than prescribed fire, that occurs in the wildland. Any fire originating from an unplanned ignition.

wildland-urban interface a term is defined by the Healthy Forest Restoration Act § 101:

- (A) an area within or adjacent to an at-risk community that is identified in recommendations to the Secretary in a community wildfire protection plan; or
- (B) in the case of any area for which a community wildfire protection plan is not in effect—
 - ◆ (i) an area extending 1/2-mile from the boundary of an at-risk community;
 - ◆ (ii) an area within 1 1/2 miles of the boundary of an at-risk community, including any land that—
 - (I) has a sustained steep slope that creates the potential for wildfire behavior endangering the at-risk community;
 - (II) has a geographic feature that aids in creating an effective fire break, such as a road or ridge top; or
 - (III) is in condition class 3, as documented by the Secretary in the project-specific environmental analysis; and
 - ◆ (iii) an area that is adjacent to an evacuation route for an at-risk community that the Secretary determines, in cooperation with the at-risk community, requires hazardous fuel reduction to provide safer evacuation from the at-risk community.

wind-dominated fire a state where the power of the wind is greater than the power of the fire in influencing its behavior.

windthrow a tree or stand of trees that have been blown over by the wind.

winter range the portion of the overall area a species inhabits where the majority of individuals are found from the first heavy snowfall to spring green-up, or during a site-specific period of winter. In the Rocky Mountains, winter range areas tend to have a relatively low amount of snow cover.

yarding the operation of hauling timber from the stump to a collecting point.

zone 1 an area surrounding the grizzly bear primary conservation area (PCA) in the NCDE, where the intent is to maintain occupancy by grizzly bears, but at expected lower densities than inside the PCA. Zone 1 also includes two demographic connectivity areas. [GBCS]

zone 2 an area adjacent to the grizzly bear zone 1 and/or zone 3 in the NCDE, where grizzly bears, particularly males, would have the opportunity to move between the NCDE and adjacent ecosystems. The intent of the zone 2 area is to allow for resource management and recreational opportunities while responding to grizzly bear-human conflicts with appropriate management actions. [GBCS]

zone 3 the area that primarily consists of areas where grizzly bears do not have enough suitable habitat to support population growth. Grizzly bear occupancy will not be actively discouraged in zone 3 and the management emphasis will be on conflict response. [GBCS]