

SECTION 4 – LIST OF PREPARERS

Forest Service Interdisciplinary Team

Gary Allison	Forest Hydrological Tech
Elizabeth Casselli	Landscape Architect
John Hamman	Forest Soil Scientist
Kraig Lang	Recreation
Wendy Maples	District Wildlife Biologist
Steve Martin	Zone Timber Management Officer
Brad McBratney	Forest Fire Management Officer
Kelsey McCartney	Archaeologist
Michael Muñoz	Rocky Mountain District Ranger
Tanya Murphy	Forest Silviculturist and Sensitive Plant Coord.
Russell Owen	Interdisciplinary Team Leader/ Fuels Specialist
Stan VanSickle	Forest Fisheries Tech
Lori Wollan	GIS Coordinator
Jennifer Woods	NEPA Coordinator
Ron Yates	Landscape Architect, Recreation Specialist
Lauri Teig	Document Editor
Tracie Buhl	Document Editor

Agency Consultation

Montana Fish Wildlife and Parks
USDA—NRCS
Montana SHPO

Others

Sun River Working Group
Benchmark Recreation Resident Cabin Owners
Coalition to Protect the Rocky Mountain Front

SECTION 5 – MAILING LIST

Rec. Residents

Richard Golie
127 Black Horse Lake Rd.
Floweree, MT 59440

Dale L. & Celores L. Herman
586 1st Rd. S.
Ft. Shaw, MT 59443

Zachary Winestine & Joanne Pawlowski
92 Horatio Street, Apt. 5-I
New York, NY 10014-1589

Patrick Blee
2700 Central Ave. W.
Great Falls, MT 59404

James F. Greenwood
PO Box 419
Garden City, KS 67846

Sara Walsh
PO Box 373
Augusta, MT 59410

Darcy A. Neal
585 Armington Rd.
Belt, MT 59412

Casey D. Dirkes
PO Box 307
Fairfield, MT 59436

John & Kris Maloney
PO Box 961
Choteau, MT 59422

Auldeen L. “Dean” Hall
1631 Colorado Gulch Dr.
Helena, MT 59601

Patricia I. Miller
3027 Conner Way
San Diego, CA 92117

Mark C. & Colleen A. Ruebke
1865 South Forty Dr.
Urbana, IL 61802-9646

John & Brenda Nickisch
PO Box 282
Medicine Lake, MT 59247

Arlana Renders
PO Box 5085
Kailua Kona, HI 96745

Scott Friskics & Jennifer Smith
1306 3rd Ave N
Great Falls, MT 59401

Brian & Marcia Birkenbuel
3200 2nd Ave S
Great Falls, MT 59405

Marion Wanken
Box 609—N Farm Dr.
Chester, MT 59522

Wayne Stegmeier
1025 25th Ave SW
Great Falls, MT 59404

Gregory & Evelyn Rider
6 Meadowlark Ridge Rd
Great Falls, MT 59405

David W. Johnson
982 Ave “E” NW
Great Falls, MT 59404-1742

**Gregory & Evelyn Rider
6 Meadowlark Ridge Rd.
Great Falls, MT 59405**

**Suzanne Nellen
1800 W. Koch—Suite 5
Bozeman, MT 59715**

**Jerry Loomis
2600 6th St NE
Great Falls, MT 59404**

**V. John Scott
3832 4th Ave. N
Great Falls, MT 59405**

**Ritchie & Marilyn Secor
349 Lamplighter Lane
Great Falls, MT 59405**

**James Lowe
c/o Gordon Jolliffe
#14 19 Ave. S.
Great Falls, MT 59405**

**Leslie Stafford
1807 SE 89th Ave.
Portland, OR 97216**

**David & Diane Spencer
HC36—Box 2130
Hardin, MT 59034**

**Edward Hollo
#212 Riverview 2 E.
Great Falls, MT 59404-1534**

**Gordon Kammerzell
PO Box 808
Lakeside, MT 59922**

**Larry & Connie Kind
PO Box 335
Fairfield, MT 59436**

**Robert Stephens
2340 17th Rd. NE
Dutton, MT 59433**

**Hugh & Darlene Wilkins
3201 6th Ave. N
Great Falls, MT 59401**

**Mark E. Young
Box 211
Augusta, MT 59410**

**Linda Tippetts
PO Box 611
Augusta, MT 59410**

**Linda Williamson
PO Box 463
Augusta, MT 59410**

**Ashby & Jacquie Burchard
3226 5th Ave. N.
Great Falls, MT 59401**

**Mel & Barb Margaris
3400 12th Ave. S.
Great Falls, MT 59405**

**Wesley & Daryl Ries
3205 8th Ave. N.
Great Falls, MT 59401**

**Ira Kaufman, Jr.
1008 Carlos Dr.
Great Falls, MT 59404**

**Gary & Debra Frederick
7320 Elk Hollow Rd. NE
Georgetown, IN 47122**

**Martha Mehmke
8293 Hwy 89
Great Falls, MT 59405**

**Gary W. & Connie Manning
7320 Elk Hollow Rd. NE
Georgetown, IN 47122**

**W.G. McOmber
Box 604
Fairfield, MT 59436**

**Joseph Lowery
1601 24th Rd. NE
Dutton, MT 59433**

**Brian Brunner
1031 3rd Rd. NE
Power, MT 59468**

**Fred & Cheryl Coyle
1966 4th St. S
Naples, FL 34102**

**Carolyn Siegel
116 N. Bozeman Ave.
Bozeman, MT 59715**

**John Poston
3940 Eagle Flats Rd.
Helena, MT 59602**

Resorts

**Sun Canyon Lodge
c/o Josh Carlbom
PO Box 327
Augusta, MT 59410**

**Ford Creek Guest Ranch
Liz & Travis Barker
PO Box 310
Augusta, MT 59410**

**Seven Lazy P Guest Ranch
c/o Chuck Blixrud
PO Box 178
Choteau, MT 59422**

**Benchmark Wilderness Ranch
c/o Darwin Heckman
422 County Line Rd.
Fairfield, MT 59436**

**Dick Klick
K Bar L Ranch
PO Box 287
Augusta, MT 59410**

Respondents to Scoping (Does not include respondents already included on list)

**WildWest Institute
PO Box 7998
Missoula, MT 59807**

**Michael Garrity, AWR
PO Box 505
Helena, MT 59624**

**Native Ecosystem Council
Sarah Jane Johnson
PO Box 125
Willow Creek, MT 59760**

**Gene and Linda Sentz
PO Box 763
Choteau, MT 59422**

**John & Cheryl Cobb
Cobb Charolais Ranch, Inc.
PO Box 348
Augusta, MT 59410**

Other Interested Individuals

**Doug Hammill
PO Box 415
East Glacier, MT 59434**

**Katie Sako
PO Box 475
East Glacier, MT 59434**

**Kendall Flint
PO Box 475
East Glacier, MT 59434**

**Gary Stewart
413 Riverview Drive East
Great Falls, MT 59404**

**H. Scott Oviatt
Hydrologist (Data Collection Officer)
USDA—NRCS
Federal Building, Room 443
10 E. Babcock Street
Bozeman, MT 59715**

**Bonnie Marceau
Montana Wood Products Association
PO Box 1149
Helena, MT 59624**

**Myrstol Logging
PO Box 189
Clyde Park, MT 59018**

**Mark Good
1400 1st Ave N
Great Falls, MT 59404**

**Joe L. Perry
4125 Circle S. Road
Brady, MT 59416**

**Joseph Woodhead
Old Hwy 43
Fairfield, MT 59436**

**C. Allan Froyd
Box 129
Augusta, MT 59410**

**Mark Coverdell
Fairfield, MT 59436**

**Dan Bennett
2410 5th Ave. S.
Great Falls, MT 59405**

**Donna Wahlberg
2227 Central Ave.
Great Falls, MT 59404**

**John & Virginia Nelson
PO Box 101
Augusta, MT 59410**

**Art Dolman
3016 Central Ave S
Great Falls 59401**

John Stephenson-Luve
300-40th Ave. So. #29
Great Falls, MT 59405

Larry Hoffman
PO Box 855
Helena, MT 59624

Pat McGuffin
2220 Alamo Drive
Great Falls, MT 59405

Katie Kneeshaw
928 Gladis Dr.
Missoula, MT 59804

Stuart Lewin
615 3rd Ave N
Great Falls, MT 59401

Sara Walsh
PO Box 345
Augusta, MT 59410

Hilary Ransdell
2304 2nd Ave S.
Great Falls, MT 59405

Cameron Naficy
PO Box 8251
Missoula, MT 59807

Karl Rappold
Box 182
Dupuyer, MT 59432

Melody Martinsen
Box 320
Choteau, MT 59422

Roy Jacobs
Box 926
Choteau, MT 59422

David B. Hoge
Box 1283
Choteau, MT 59422

Don Converse
Augusta, MT 59410

Other Interested Groups and Cooperators

Sun River Working Group
c/o Stanley Meyer
3417 14th Ave S
Great Falls, MT 59405

Montana Wilderness Association
c/o Gabriel Furshong
PO Box 37
Choteau, MT 59422

Alliance for the Wild Rockies
PO Box 505
Helena, MT 59524-0505

Teton County Commissioners
PO Box 610
Choteau, MT 59422

Sun River and Teton Watershed Groups
c/o Alan Rollo
816 Grizzly Drive
Great Falls, MT 59404

Dick VanAuken
Teton Co. Fire Warden
PO Box 610
Choteau, MT 59422

**Pat McKelvey
Law Enforcement Center Basement
221 Breckenridge Ave.
Helena, MT 59601**

**Debra Coverdell
PO Box 610
Choteau, MT 59422**

**Lewis and Clark County Commissioners
c/o Andy Hunthausen
316 N. Park Ave.
Helena, MT 59623**

**August VFD
c/o Charles Taylor
Augusta, MT 59410**

**Coalition to Protect the Rocky Mountain Front
PO Box 37
Choteau, MT 59410**

**Brent Lonner (MT FWP)
PO Box 488
Fairfield, MT 59436**

**Fairfield/Sun Times
PO Box 578
Fairfield, MT 59436**

**Eric Eneboe (MT DNRC)
PO Box 961
Conrad, MT 59425**

**Emma T. Suarez, Esq.
Pacific Legal Foundation
3900 Lennane Dr. Suite 200
Sacramento, CA 95834**

**Blackfeet Tribal Council
PO Box 850
Browning, MT 59417**

**Blackfeet Tribal HPO
PO Box 2809
Browning, MT 59417**

**Western Watershed
317 East Spruce Street
Missoula, MT 59801**

**Badger-Two Medicine Committee
Blackfeet Community College
PO Box 819
Browning, MT 59417**

**Little Shell Tribe
Attn: John Sinclair
PO Box 1384
Great Falls, MT 59403**

**Little Shell Cultural Rep.
Attn: James Parker-Shield
PO Box 1384
Great Falls, MT 59403**

**Metis
Al Wiseman
PO Box 155
Choteau, MT 59422**

**Confederated Salish-Kootenai Tribal Council
PO Box 278
Pablo, MT 59855**

**Confederated Salish-Kootenai Reservation Preservation Dept
PO Box 278
Pablo, MT 59855**

SECTION 6 - GLOSSARY

A

active ratio – the ratio of the crown fire rate of spread to the critical crown fire rate of spread. The fire may be an active crown fire if the active ratio value is greater than or equal to one.

activity area - A land area impacted by a management activity, excluding specified transportation facilities and dedicated trails. Activity areas include harvest units within timber sale areas, prescribed burn areas, and grazing areas within range allotments (FSH 2509.18).

activity fuels – broadcast burn: A prescribed fire burning through a continuous fuel cover that is designed to treat one or more land management objective. The burn occurs in activity created fuels.

activity fuels – underburn: A type of broadcast burn designed to reduce fuel accumulations beneath an overstory tree canopy (shelterwood, seed tree, etc.) and be designed to achieve specific levels of site preparation. The burn occurs in activity created fuels.

activity fuels – pile burn: A planned ignition of activity created fuel piles.

activity fuels – wildfire: A wildfire that burned through activity created fuels.

age class - An age grouping of trees according to an interval of years, usually 20. A single age class would have trees that are within 20 years of the same age, such as 1-20 years or 21-40 years.

airshed - The geographic area that, because of topography, meteorology, and climate, shares the same air. A basic geographic unit in which air quality is managed.

allotment management plan (AMP) - A plan that identifies specific resource objectives for a grazing allotment. Grazing systems are developed and improvements identified to meet those objectives.

allowable sale quantity (ASQ) - The amount of timber that may be sold from suitable timberland in a ten-year period.

all terrain vehicle (ATV), quadricycle – Any self-propelled motorized vehicle 50-inches or less in width, that travels on three or more low-pressure tires, has a seat or saddle upon which the operator sits, derives its motive power from any source other than muscle or wind, has a motor capable of producing not more than 50 horsepower, and is capable of being operated on a trail with a maximum tread width of 50-inches.

alternative - A combination of management prescriptions applied in specific amounts and locations to achieve a desired management emphasis. An alternative need not substitute for another in all respects.

anadromous - Moving from the sea to fresh water for reproduction. Chinook salmon and steelhead are anadromous fish.

animal unit month (AUM) - In range management, a unit of measure based on the amount of forage required by an animal unit for one month. An animal unit is a 1,000-pound cow and calf, or three sheep.

apparent naturalness - The environment looks natural to most people using the area. It is a measure of importance of visitors' perceptions of human impacts to the area. Even though some of the long-term ecological processes of an area may have been interrupted, the landscape of the area generally appears to be affected by the forces of nature. If the landscape has been modified by human activity, the evidence is not obvious to the casual observer, or it is disappearing due to natural processes.

aquatic systems - Interaction of biological and physical components in a water-based environment.

archaeological site - A geographic locale that contains material remains of prehistoric and/or historic human activity.

aspect - The direction a slope faces. A hillside facing east has an eastern aspect.

B

background - For visual quality, the area seen 3 to 5 miles from a viewer's position.

bark beetles - A group of beetles that can kill live trees by boring galleries and girdling the inner bark.

basal area - A measure of stand density that is the cross-sectional area of the trunk of a tree or stand of trees measured at breast height (4.5 feet).

bedload – Sand, gravel, and cobble material that moves along the bottom of stream channels, and is partially, but not completely, suspended by flowing water.

below cost - A timber sale that generates less revenue than the costs associated with environmental analysis, planning, preparation and administration.

beneficial use - An actual or potential use of natural stream or lake waters which are protected against degradation. Beneficial uses can include; drinking, culinary and food processing purposes, after conventional treatment; bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply (ARM 17.30.623 (I)).

best management practices (BMPs) - A set of practices which when applied during implementation of a project, can help to minimize the effects of surface erosion and ensure that water-related beneficial uses are protected and that state water quality standards are met. BMPs can take several forms. State laws and regulations define some; others are defined by

the forest interdisciplinary planning team for application forest wide, for application at the project level, and/or for application to specific management areas.

big game - Those species of large mammals normally managed as a recreational hunting resource.

biological assessment (BA) - The legal record of findings for USDI Fish and Wildlife Service proposed, threatened, or endangered species.

biological diversity or biodiversity - The variety of life and its processes, including the variety in genes, species, ecosystems, and the ecological processes that connect everything in ecosystems.

biomass - The sum total of living plants and animals above and below ground.

biotic - Pertaining to any aspect of living components.

board foot - A measurement of wood equivalent to a board one foot square and one inch thick. Usually expressed in terms of thousand board feet (MBF) or million board feet (MMBF).

broadcast burn - Intentional burning of debris on a designated unit of land, where the fuel has not been piled or windrowed, by allowing fire to spread freely over the entire area.

bulk density - The density of soil. The weight of soil divided by the volume.

buffer - A land area that is designated to block or absorb unwanted impacts to the area beyond the buffer. Buffer strips along a trail could block views that are undesirable. Buffers along streams can greatly reduce any changes or impacts to stream water quality, temperature, or channel stability.

burning site preparation for natural regeneration: A general term for removing unwanted vegetation, slash, stumps, roots, and stones, from a site. Site preparation is accomplished by prescribed burning for the purpose of naturally regenerating the area.

burn window - The seasonal period available for conducting a burn within prescription.

C

canopy - The more or less continuous cover of branches and foliage formed collectively by the crown of adjacent trees and other woody growth. The part of any stand of trees represented by the tree crowns. It usually refers to the uppermost layer of foliage, but it can also describe lower layers in a multi-storied forest.

canopy base height – for modeling in Behave Plus, canopy base height refers to understory ladder fuels and the main canopy layer for a stand of trees

cavity - A hole in a tree often used by wildlife, especially birds, for resting and reproduction.

certification of naturals with or without site preparation: The same as Planted Area Certification except the stand was naturally regenerated.

chains/h – chains per hour (1 chain = 66 ft)

classified road - Roads wholly or partially within or adjacent to National Forest System lands that are determined to be needed for long-term motor vehicle access, including State roads, county roads, privately owned roads, and other roads authorized by the Forest Service.

climate - Generalized statement of the prevailing weather conditions at a given place, based on statistics of a long period of record.

climax - The final or mature stage in secondary plant succession that persists for an indefinite period of time if no major disturbances occur. Climax tree species typically include Douglas-fir and subalpine fir.

coarse woody debris - Snags, fallen trees, and decaying logs and large limbs distributed across the forest floor that are larger than 3 inches in diameter or 1000 hour timelag fuels.

commercial thinning (CT) - Removal of excess or non-crop trees in young sawtimber stands to accelerate diameter increment and improve the average form of the trees that remain, without permanently breaking the canopy. This intermediate cut may be used in both uneven-aged and even-aged stands.

compaction - A physical change in soil properties that results when pore spaces are reduced in size and soil becomes denser. Compaction generally occurs when a load is applied to the soil, such as when heavy equipment makes several passes that compress the soil.

composition - The constituent elements of an entity, (i.e. the species that constitute a plant community).

condition class – Level of potential future risk to the watershed from accumulated live fuels.

conditional crown fire – a fire that burns as a crown fire if it enters the stand as a crown fire from an adjacent stand

corridor - A defined tract of land, usually linear in shape, that enables species to travel between areas of suitable habitat. Corridors enlarge the habitat base for animals with large home ranges, provide for genetic exchange within or between populations, provide a route by which populations can move in response to environmental change, and allow for dispersal of individuals to maintain a well-distributed population.

cover - Vegetation (usually coniferous) that provides wildlife either protection from the elements (thermal cover) or protection from predators (hiding cover).

critical crown rate of spread – critical rate of spread necessary to maintain active crown fire.

critical habitat - Areas designated for the survival and recovery of federally listed threatened or endangered species.

critical surface flamelength – surface fire flamelength associated with critical surface intensity as needed to transition to a crown fire.

critical surface intensity – surface fire intensity needed to transition to a crown fire.

crown fire – a fire that spreads in the canopy of trees or shrubs more or less independent of a surface fire.

crown ROS – forward spread rate of the crown fire; indicates a sustained run over several hours that includes spotting.

cultural resource - The physical remains of human activity (artifacts ruins, burial mounds, petroglyphs, etc.) and conceptual content or context (as a setting for legendary, historic, or prehistoric events, such as a sacred area of native people) of an area.

cumulative effects - Those effects on the environment that result from the incremental effect of the action when added to the past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

cut slope - That portion of the slope that is excavated in constructing roads, trails, landings, or skidtrails.

D

debris flow - A moving mass of super-saturated rock fragments, soil, and mud. As it moves toward and into streams, a debris flow may incorporate wood and other organic material.

debris slide - The sudden movement and transport of shallow, non-cohesive materials (i.e., soil, rock, organic debris) that generally move down steep drainage channels during saturated conditions.

decommission - Activities that result in the stabilization and restoration of unneeded roads to a more natural state. There are various degrees of decommissioning ranging from closure actions that leaves the existing road prisms to full recontouring (obliterating), which restores original hillslope hydrology. All levels of road decommissioning result in long-term closure to vehicle traffic. Road decommissioning usually includes removal of existing stream crossing or cross-drain culverts. Decommissioning may include ripping or scarification of compacted soils followed by application of organic soil enhancers and native grass seed.

desired future condition - In the Forest Plan, a concise but general description by resource of what the Forest should be like 50 years in the future. It is the resulting condition of meeting the goals and objectives by following the standards and guidelines of the Forest Plan.

developed recreation - Recreation that requires a level of facilities and investment that result in concentrated use of the area. Examples of developed recreation areas are

campgrounds, ski resorts, visitor centers, and trailheads with defined parking, toilet, and bulletin board.

diameter at breast height (DBH) - The diameter of a tree measured 4.5 feet above the ground on the uphill side of the tree.

direct effects - Effects caused by an action and occurring at the same time and place.

dispersed recreation - Recreation that does not occur in a developed recreation setting, requires few if any improvements, and may occur over a wide area. Examples of such activities include hunting, fishing, berry picking, off-road vehicle use, hiking, horseback riding, picnicking, camping, viewing scenery, and snowmobiling.

disturbance - A force that causes significant change in structure and/or composition of an ecosystem through events such as fire, flood, or wind.

diversity - (1) The relative abundance of wildlife species, plant species, communities, habitats, or habitat features per unit of area. (2) The distribution of different plant and animal communities and species within the area covered by a Land and Resource Management Plan (36 CFR Part 219.3(g)).

down or downed logs - Fallen trees and large logs lying on the forest floor.

duff - The layer of partially and fully decomposed organic materials lying below the litter and immediately above the mineral soil. It corresponds to the fermentation and humus layers of the forest floor.

dwarf mistletoe - A parasitic plant that grows on many conifer tree species. It reduces tree growth and causes stress that may eventually contribute to the death of the tree. It spreads from one tree to another of the same species.

E

ecosystem - A complete, interacting system of organisms considered together with their environment (for example: a marsh, a watershed, or a lake). A naturally occurring, self-maintained system of varied living and non-living interacting parts that are self-organized into biophysical and social components.

ecology - The interrelationships of living things to one another and to their environment, or the study of these interrelationships.

ecological integrity - In general, ecological integrity refers to the degree to which the elements of biodiversity and the functions that link them together and sustain the entire system are complete and capable of performing desired functions; the quality of being complete; a sense of wholeness. Absolute measures of integrity do not exist. Proxies provide useful measures to estimate the integrity of major ecosystem components (forestland, rangeland, aquatic, and hydrologic). Estimating these integrity components in a relative sense across the analysis area helps to explain current conditions and to prioritize future

management. Thus, areas of high integrity would represent areas where ecological functions and processes are better represented and functioning than areas rated as low integrity.

economic efficiency - A measure of how well inputs are used to achieve outputs when all inputs and outputs (including environmental) are identified and valued.

ecosystem management - Using an ecological approach to achieve the multiple-use management of national forests by blending the needs of people and environmental values in such a way that national forests represent diverse, healthy, productive, and sustainable ecosystems.

edge - The interface between watershed elements of different composition and structure, for example between an open clearcut and a closed-canopy forest.

effects - Physical, biological, social, and economic results (expected or experienced) resulting from natural events or management activities. Effects can be direct, indirect, and/or cumulative.

elk management unit (EMU) - A geographical analysis unit that represents an elk's movements and home range. Elk management units are made up of smaller units called Issue Reporting Areas (IRA's).

Endangered Species (E) - Any species that is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary to constitute a pest whose protection under the Endangered Species Act would present an overwhelming and overriding risk to man.

environmental analysis – An investigation of a proposed action and alternatives to that action and their direct, indirect, and cumulative environmental impacts.

environmental assessment – A concise public document prepared by a Federal agency that serves to provide sufficient analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact and that serves as an aid in compliance with the National Environmental Policy Act when an EIS is not necessary.

ephemeral stream - A stream that flows only as the direct result of rainfall or snowmelt.

erosion - A process of weathering, solution, corrosion, and transportation of soil and rock material by ice, water, wind, or gravity.

extirpated - eliminated; in a biological sense, the extermination of a species, subspecies or life history form through habitat alteration, competition, predation, or mortality of the entire population.

F

fill slope - The sloping earth surface on the downhill side of a road resulting from roadway embankment.

fine fuels - Cured grass, leaves, needles, twigs, and small branches that ignite easily and carry fire rapidly.

fine sediment – Stream substrate comprised of inorganic particles smaller than 6.3 millimeters in diameter. Also referred to as surface fines.

fine woody debris – dead wood less than 3 inches in diameter or 1-, 10-, and 100-hour timelag fuels

fire group - A grouping of habitat types that have common responses to fire and similar post-fire successional patterns.

fire regimes - The characteristics of fire in a given ecosystem, such as the frequency, predictability, intensity, and seasonality of fire.

fire return interval - The average time between wildfires in a given ecosystem.

fire scar - A healing or healed-over injury, caused or aggravated by fire, on a woody plant.

fire severity - A qualitative term used to describe the relative effect of fire on an ecosystem, especially the degree of organic matter consumption and soil heating. Fires are commonly classed as low, moderate, and high severity. Fire severity may or may not be closely related to fire intensity, and this term is often called burn severity.

fireline intensity – a quantitative measure that describes the rate of heat release per unit time per unit length of the linear fire front.

flamelength – within the flaming front, the length of the flame of a spreading surface fire; a function of fire intensity that influences the effect on vegetation.

floodplain - The area adjacent to the active stream channel that is inundated during flows that exceed bankfull level. The floodplain acts as an energy dispersion zone during flood events, and functions as an area of deposition.

foliar moisture – moisture content of overstory foliage; one of the attributes used to determine transition from surface to crown fire; 100% refers to mature foliage with new growth complete.

forage - Plant material (usually grasses, forbs, and brush) that is available for animal consumption.

forbs - Broadleaf ground vegetation with little or no woody material.

foreground - For visual quality, the area generally seen within ¼ mile of a viewer's position.

forest - Land at least 10 percent stocked (based on crown cover) by forest trees of any size, or formerly having had such tree cover and not currently developed for non-forest use.

forest health - The general condition of a forested stand or group of stands with reference to ecological function, resilience, vigor, structural complexity, and a natural (i.e., historic) range

of variability. The vigor, species composition, and structural attributes of a healthy forest are conducive to resisting excessive disease/insect infestation (although a natural level is present) and supporting a diversity of indigenous wildlife/insect species and biotic (e.g., dead and down wood deposition) and abiotic processes (e.g., varied regime of wild fire frequency and intensity). See Desired Condition section for forest health characteristics within each forest/vegetation type.

forest plan - A document that guides all natural resource management activity and establishes management standards and guidelines for a National Forest, embodying the provisions of the National Forest Management Act (1976).

forest system road - A road wholly or partly within or adjacent to and serving the National Forest System and necessary for the protection, administration, use, and development of Forest resources.

forest transportation system - A classified road, designated trail, designated airfield, including bridges, culverts, parking lots, log transfer facilities, safety devices and other transportation network appurtenances, under Forest Service jurisdiction that is wholly or partially within or adjacent to National Forest Systems lands.

fragmentation - The splitting or isolating of patches of similar habitat. Habitat can be fragmented by natural events or development activities.

fry - Juvenile fish less than 1 year old.

fuel - Any substance or composite mixture (including woody and other vegetative material) susceptible to ignition and combustion.

fuel break - Any natural or constructed barrier utilized to segregate, stop, and control the spread of fire or to provide a control line from which to work.

fuel groups - Fuel properties that have become known as fuel models and can be organized into four groups: grass, shrub, timber, and slash.

fuel load - The dry weight of combustible materials per unit area; usually expressed as tons per acre.

fuel management - The planned manipulation and/or reduction of living or dead forest fuels for forest management and other land-use objectives.

fuel model - A quantitative basis for rating fire danger and predicting fire behavior. The mathematical models require descriptions of fuel properties as inputs to calculations of fire danger indices or fire behavior potential.

full planting without site preparation: The formation of a forest by planting nursery-grown tree seedlings, typically bare-root or container-grown stock, in a stand that received no previous site preparation (mechanical, fire, chemical).

G

Geographic Information System (GIS) - A computer system that stores and manipulates spatial (mapped) data.

geologic structural failure (slump) - The movement of large masses of earth materials, or mass failures associated with slippage along geologic bedding planes. In general, these types of mass movements are slower than debris slides and they are not confined to drainage channels.

granitics - (1) Soils derived from granite. (2) Pertaining to relatively coarse-ground, light colored rocks.

ground cover - All vegetative material as well as rock and rock fragments that are in contact with ground.

ground water - The supply of fresh water under the earth's surface in an aquifer or in the soil.

H

habitat - (1) A specific set of physical conditions that surround a single species, a group of species, or a large community. In wildlife management, the major components of habitat are food, water, cover, and living space. (2) The place where a plant or animal lives and grows under natural conditions.

habitat type - (1) A distinct assemblage of plants and animals occupying a given area that can be distinguished from surrounding areas on the basis of certain identifiable characteristics, including environmental conditions. (2) An aggregation of all land areas potentially capable of producing similar plant communities at climax. The collective area which one plant association occupies or will come to occupy as succession advances.

hazard fuel loadings - Debris generated from any activity (such as timber harvest) that increases fire potential.

hazard reduction - In fuel management, the planned treatment or manipulation of naturally growing vegetation or any other flammable material for the purpose of reducing the rate of spread and the output of heat energy from any wildfire occurring in the area treated.

hiding cover - Vegetation that can hide 90 percent of an adult elk from human view at a distance of 200 feet or less.

historical range of variability (HRV) - The natural fluctuation of components of healthy ecosystems over time. The range of conditions and processes that likely occurred prior to settlement of the analysis area by people of European descent (approximately the mid-1800s, which would have varied within certain limits over time). Historical conditions and processes include such variables as: forest and range vegetation types, compositions, and structures; fish and wildlife habitats and populations; and fire regimes. For purposes of comparison to current conditions, historical conditions represent an estimated mid-point within historical range of variability. HRV is a reference point to establish a baseline of conditions for which

sufficient scientific and historical information is available to enable comparison to current conditions. See also Range of Variability.

hybrid swarm – A thoroughly intermingled population of one of more interbreeding species or subspecies, such that all individual organisms are hybrid offspring.

hydrologic cycle - Also called the water cycle. This is the process of water evaporating, condensing, falling to the ground as precipitation, and returning to the ocean as run-off.

Hydrologic Unit Code (HUC) - A hierarchical coding system developed by the U.S. Geological Service to identify geographic boundaries of watersheds of various sizes.

hydrophobicity - The ability of a material, typically soil, to repel water.

I

indirect effects - Impacts caused by an action but occurring later in time or farther removed in distance.

initiate natural regeneration: Indication that management activities have occurred that would begin the renewal of a tree crop by natural seeding or sprouting.

interdisciplinary team - Agency specialists assembled to analyze the effects of a potential decision or actions on National Forest resources.

interior species - Plants or animals that require dense, forested habitat.

intermittent stream - A stream that flows at certain times of the year in response to high ground water levels or surface sources such as melting snow.

invasive - A species that displays rapid growth and spread allowing it to establish over large areas.

irretrievable commitments - Losses of production or use for a period of time. An example is suitable timberland being used for a skidtrail. Timber growth on the land is irretrievably lost while the land is a skidtrail, but the timber resource is not irreversibly lost because the land could grow trees again in the near future.

irreversible commitments - Permanent or essentially permanent resource uses or losses that cannot be reversed, except in the extreme long-term. Examples include minerals that have been extracted or soil productivity that has been lost.

issue - A problem or subject of concern raised by the public or by agency employees during scoping. Issues important to the decision at hand are analyzed in the DEIS.

J

Jefferson Division – a portion of the Lewis and Clark National Forest consisting of the Highwood, Little Belt, Big Snowy, Little Snowy, Castle, and north-half Crazy mountains.

L

ladder fuels - Grass, brush, small trees, and dead limbs that allow a ground fire to climb into the crowns of trees, fuels that provide vertical continuity between surface and canopy fuels.

landform - A topographic pattern of a particular landscape that exists as a result of geologic activity and geomorphic processes. For example, a mountain, valley, ridge, or basin.

landing - A roadside location (usually cleared and level) where logs are stored or loaded onto logging trucks.

landscape - An area composed of interacting and interconnected patterns of habitats (ecosystems) that are repeated because of geology, landform, soils, climate, biota, and human influences throughout the area.

landscape character - The particular attributes, traits, and qualities of a landscape that give it an image and make it identifiable or unique.

landslide prone - Landslide-prone refers to land that has a probability of mass movement occurring greater than or equal to 10 percent during a period of 100 years.

landtype - A grouping of lands or portion of the landscape that have defined characteristics of similar origin, composition, structure, and function with predictable behavior.

landtype association - A grouping of landtypes that are similar in general surface configuration and origin.

lek - An assembly site where sage grouse carry on mating displays and courtship behaviors.

lithic scatter - A prehistoric activity area characterized by a concentration of stone chips left at the site of stone tool manufacturing.

live fuel moisture – herbaceous and live woody fuels; 100% refers to mature foliage with new growth complete.

M

management area - An area of land with similar management goals and a common management prescription, as described in the Forest Plan.

management indicator species (MIS) - Representative species whose condition and population changes are used to assess the impacts of management activities on similar species in a particular area.

man-caused fire damage: A wildfire caused by human activities.

mass wasting – A general term for any of the variety of processes by which large masses of earth material are moved downslope by gravitational forces – either slowly or quickly. This includes slumps, debris avalanches, and landslides.

mature timber - Trees that have attained full development, especially height, and are in full seed production.

mean fire interval – mean of all fire intervals in a given area for a specified period of time

merchantable (timber) - Meeting standards for minimum size and soundness.

middleground - For visual quality, the area generally seen from ¼ mile to 3 miles of a viewer's position.

midflame windspeed – the windspeed at midflame height above the fuelbed; also referred to as eye-level winds.

mitigation - Actions that avoid, minimize, reduce, eliminate, or rectify impacts from management practices.

mixed conifer - Stands composed of a mixture of tree species, primarily ponderosa pine, Douglas-fir, grand fir, and to a lesser extent western larch, subalpine fir, and Engelmann spruce.

monitoring - The process of collecting information to evaluate if objective and anticipated or assumed results of a management plan are being realized or if implementation is proceeding as planned.

mortality (stand) - The number or volume of trees that died because of fire, insects, disease, climatic factors, or competition from other trees or vegetation.

N

National Environmental Policy Act of 1969 (NEPA) - Establishes environmental policy for the nation. Requires environmental analysis and public disclosure of federal actions.

National Environmental Policy Act (NEPA) process - An interdisciplinary process, mandated by the National Environmental Policy Act, which concentrates decision-making around issues, concerns, and alternatives, and the effects of those alternatives on the environment.

National Forest Management Act - A law passed in 1976 amending the Forest and Rangeland Renewable Resources Planning Act, which requires the development of regional and forest plans and the preparation of regulations to guide that development.

National Forest System - All 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.

National Register of Historic Places (NRHP) - A formal list established by the National Historic Preservation Act of 1966 of cultural resources worthy of preservation. The register is maintained by the National Park Service and lists archaeological, historic, and architectural properties.

natural changes (no timber harvest involved): Changes in vegetation character or volume due to natural occurrences such as floods, landslide, insect epidemic, fire, etc. Typically a stand-replacing wildfire. The local qualifier typically describes the natural occurrence.

natural fuels prescribed burn: A planned ignition that burns through a natural stand.

natural integrity - The extent to which long-term ecological processes are intact and operating. Impacts to natural integrity are measured by the presence and magnitude of human induced change to an area. Such impacts include physical developments (e.g. roads, utility rights-of-way, fences, lookouts, cabins), recreation developments, domestic livestock grazing, mineral developments, wildlife/fisheries management activities, vegetative manipulation, and fire suppression activities.

natural recovery: The intent to accept conditions (successional pathway) that result from natural processes (wildfire) which may occur over many years/decades. Monitoring would occur to assure that the expected result is being achieved and it meets the management objectives. This code would primarily be used for stands outside the suitable timber base/land suitability classes other than 500.

natural regeneration - The renewal of a tree crop by natural seeding or sprouting.

neotropical migratory birds (NTMB) - Birds that breed in Canada and the United States and winter in Mexico, Central America, South America and the Caribbean.

net effective population - A population level of breeding individuals required to maintain 95 percent of initial heterozygosity after 100 years.

no action alternative - An alternative where no activity would occur, or where current management practices would continue unchanged. The development of a no action alternative is requested by regulations implementing the National Environmental Policy Act (NEPA) (40 CFR 1502.14). The no action alternative provides a baseline for estimating the effects of other alternatives.

non-classified roads - Roads on National Forest System lands that are not managed as part of the forest transportation system, such as unplanned roads, abandoned travelways, and off-road vehicle tracks that have not been designated and managed as a trail; and those roads that were once under permit or other authorization and were not decommissioned upon the termination of the authorization.

non-forest land - Land that has never supported forests, and land formerly forested where timber production is precluded by development or other uses.

non-native species – Plant or animal not known to occur in the area before the arrival of European cultures. Thus, non-native species are typically those species, desirable and

undesirable, that have been introduced intentionally or unintentionally by humans. Subsequent generations of the species may have arisen or been born in the area but they are still consider “non-native.”

noxious weed - A designated plant species that causes negative ecological and economic impacts to both agricultural and Forest lands and may be defined as a pest by law or regulation.

O

obliteration - See “decommission.”

old growth - A forest habitat that has reached the late stages of development. Other characteristics include large-diameter trees, two or more canopy layers, dead standing and downed trees, and small openings.

off-highway vehicles (OHV) - Any motorized wheeled vehicle designed for cross-country travel over any kind of terrain. (Sometimes referred to as ORV- off road vehicles).

open road - an imprint on the land made for or by a four-wheel vehicle over 40 inches in width that will exist for longer than one year and is available for public use.

open road density - Miles of open road per square mile.

P

passive crown fire – see torching.

patch clearcut: A modification of the clearcut method where patches of an individual stand are clearcut.

perennial stream - a stream that usually flows yearlong, except during periods of extreme drought. It has well-defined channels and shows signs of washing and scouring.

planted area certification: The status of a planted stand that indicates that the stand is well established with sturdy seedlings of adequate density and will require no further reforestation treatments.

potential natural community (PNC) - The community of plants and wild animals that would become established if all successional sequences were completed without interference. For forest communities, the potential natural community is an old-growth conifer stand.

pre-commercial thinning: A felling made in an immature stand in order to accelerate diameter increment and also improve the average form of the trees that remain.

prescribed fire - A fire burning under specified conditions that will accomplish certain planned objectives. The fire may result from planned or unplanned ignitions.

present net value - The difference between the discounted value of all benefits and the discounted value of all costs over the analysis period. PNV is used to compare project alternatives that have different cost and revenue flows.

prescription - A management pathway to achieve a desired objective(s).

primitive recreation experience - Includes the opportunity to experience solitude, a sense of remoteness, closeness to nature, serenity, and spirit of adventure through the application of outdoor skills in an environment that offers a high degree of challenge and risk.

project area - The preliminary outline of a proposed action or activity that is in the planning stages.

project file - More detailed documentation of an environmental analysis, located in the relevant Forest Service Office.

Propagules -a structure (as a cutting, a seed, or a spore) that propagates a plant.

proposed action - The project, activity, or action that a Federal agency intends to implement or undertake and which is the subject of an environmental analysis.

R

range allotment - A designated area of land available for livestock grazing upon which a specified number and kind of livestock may be grazed under a range allotment management plan. It is the basic land unit used to facilitate management of the range resource on National Forest System lands and associated lands administered by the Forest Service.

rangeland - Land on which the climax vegetation (potential natural plant community) is predominantly grasses, grass like plants, forbs, or shrubs suitable for grazing and browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundra, and certain forb and shrub communities. It also includes areas seeded with native or adapted/introduced plant species that are managed as if they are native vegetation.

range of variation - The range of sustainable conditions in an ecosystem that is determined by time, processes, native species, and the land itself. The components of functioning ecosystems naturally fluctuate over time, but they generally fluctuate within a natural or historic range of variation. As some components move toward or beyond the limits of that range, other components are affected as well, because they have evolved over time to interact within a limited range of conditions. These resulting changes can be dramatic, and can affect the composition, structure, and function of ecosystems over the short and long term

RARE I and RARE II - Abbreviations for the Roadless Area Review and Evaluations 1 and 2 that were conducted in 1972 and 1977 to 1979, respectively. Both were nationwide planning efforts the Forest Service conducted to resolve the roadless area issue. RARE I was abandoned after legal action showed non-compliance with the National Environmental Policy Act. In 1980 RARE II was found to be legally insufficient in a lawsuit (California vs. Bergland).

reach - An unbroken stretch, as with a stream.

recontour - To move soil back (usually with mechanical or hand tools) to a previous condition thus making an area blend with the natural landscape.

recreation opportunity spectrum (ROS) - A classification system that categorizes land by its setting and the probable recreation experiences and opportunities it provides. The spectrum runs from primitive to semi-primitive non-motorized to semi-primitive motorized to roaded natural to rural to urban.

recreation visitor day (RVD) - Twelve hours of recreation use in any combination of persons and hours (one person for 12 hours, or 3 persons for 4 hours, etc.).

reforestation - The renewal of forest cover by seeding, planting, or natural means.

regeneration - The re-establishment of trees, either naturally or by planting. This term may also refer to the young trees themselves, also called reproduction.

release and weeding – individual tree: Release is freeing a tree from immediate competition by cutting, or otherwise eliminating, growth that is overtopping or closely surrounding the tree. Weeding is eliminating or suppressing undesirable vegetation, mainly herbaceous, during the seedling stage of a forest crop so as to reduce competition with the seedling stand.

release and weeding – area: Same as Release and Weeding – Individual Tree except the treatment is done for an area rather than individual tree.

remoteness - A perceived condition of being secluded, inaccessible, and out of the way. The physical factors that can create “remote” settings include topography, vegetative screening, distance from human impacts such as roads and logging operations (sight and sound), and changes in legal public access.

research natural area - Part of a national network of ecological areas designated in perpetuity for research and education and/or to maintain biological diversity on National Forest System lands.

reservoir - A human- made basin used to collect and hold water. Generally with a sufficient summer water source to maintain a usable water supply throughout the year.

restoration - (1) Holistic actions taken to modify an ecosystem to achieve desired, healthy, and functioning conditions and processes. Generally refers to the process of enabling the system to resume its resiliency to disturbances. (2) The process of restoring site conditions as they were before a land disturbance.

restore - Management emphasis designed to move ecosystems to desired conditions and processes, and/or to healthy forestlands, rangelands, and aquatic systems; a variety of management-induced activities dominate the landscape. Generally, “restore” strategies are applied to areas of moderate to low ecological integrity.

restricted – the condition of being restrained or limited in some manner, either by physical or regulatory factors. Held back, abridging or inhibiting the ability to perform certain things.

revegetation - The re-establishment of any plant cover, either naturally or by planting.

riparian - Pertaining to land that is next to water, where plants are dependent on a perpetual source of water.

riparian area or riparian zone - The banks and adjacent areas of water bodies, water courses, seeps and springs whose waters provide soil moisture sufficiently in excess of that otherwise available locally so as to provide a more moist habitat than that of contiguous flood plains and uplands.

riparian ecosystems - (1) Those assemblages of plants, animals, and aquatic communities whose presence can be either directly or indirectly attributed to factors that are water influenced or related. (2) Interacting system between aquatic and terrestrial situations, identified by soil characteristics, and distinctive vegetation that requires or tolerates free or unbound water.

riparian vegetation - Plant communities dependent upon the presence of free water near the ground surface (high water table).

road - A motor vehicle travelway over 50 inches wide, unless designated and managed as a trail. A road may be classified, unclassified, or temporary.

road construction - Activity that results in the addition of forest classified or temporary road miles to the forest transportation system.

road improvement - Activities that result in an increase of an existing road's traffic service level, expand its capacity, or change its original design function.

road maintenance - The ongoing upkeep of a road necessary to retain or restore the road to the approved road management objective.

road realignment - Activity that results in a new location of an existing road or portions of an existing road and treatment of the old roadway.

road reconstruction - Activity that results in improvement or realignment of an existing classified road defined as follows: (1) Road improvement. Activity that results in an increase of an existing road's traffic service level, expansion of its capacity, or a change in its original design function. (2) Road Realignment. Activity that results in a new location of an existing road or portions of an existing road, and treatment of the old roadway.

roadless area - A National Forest area which: (1) is larger than 5,000 acres or, if smaller is contiguous to a designated wilderness area or primitive area; (2) contains no roads; and (3) has been inventoried by the Forest Service for possible inclusion in the wilderness preservation system. It can be a generic term, referring to both inventoried roadless and unroaded areas.

S

salvage - The removal of dead trees or trees damaged or dying because of injurious agents other than competition, to recover economic value that would otherwise be lost (FSM 2435.05).

sanitation: Sanitation cutting is the removal of dead, damaged, or susceptible trees, essentially to prevent the spread of pests or pathogens and to improve stand health.

sawtimber - Trees that are 8 inches DBH or larger (7 inches for lodgepole pine) that can be made into lumber.

scarification - Exposing mineral soil for better tree seed germination.

scenery management system - A means of managing the scenery resource within the National Forest and Grassland system. The system is used in the context of ecosystem management to inventory and analyze scenery in a national forest, to assist in establishment of overall resource goals and objectives, to monitor the scenic resource, and to ensure high-quality scenery for future generations.

scenic integrity - The state of naturalness or, conversely, the state of disturbance created by human activities or alteration. It is described in terms of the level of deviation from the existing landscape character in a national forest.

scenic integrity objective - The level of scenic integrity to be managed for. Objectives vary from Very High, High, Moderate, to Low and Very Low.

scoping process - An early and open process for determining the range of issues to be addressed and for identifying issues relevant to the proposed action.

scorch height – height above the ground that the temperature in the convection column reaches the lethal temperature to kill live crown foliage.

sediment - Any solid (inorganic) material that has been transported to, or within, a stream course.

seed tree seed cut: Removing trees in a mature stand so as to effect permanent opening of its canopy (if there was no preparatory cutting to do this) and so provide conditions for securing regeneration from the seed of trees retained for that purpose.

seed tree seed cut with reserves: The same as the Seed Tree Seed Cut with the addition that any tree or group of trees left unfelled and kept for part of or the entire next rotation are reserves.

sensitive species - A plant or animal species that is susceptible or vulnerable to management activity impacts or habitat alteration. These species are identified by and specific to Forest Service Regions.

sensitivity levels - The particular degree or measure of viewer interest in the scenic qualities of the landscape. Three sensitivity levels are utilized to identify different levels of user concern for the visual environment (USDA-Forest Service, Agriculture Handbook #462, 1974, pg 18). They range from 1 (high) to 2 (average) to 3 (low).

seral stage - The stages that plant communities go through during succession. Early seral refers to plants that are present soon after a disturbance; mid seral refers to pole of medium sawtimber growth stages; and late seral refers to plants present during the later stage of succession, such as mature and old forest stages.

shale - A sedimentary rock formed by the compaction of clay, silt or mud. Structure is finely laminated where the rock readily splits along, especially at weathered surfaces.

shelterwood preparatory cut: Removing trees near the end of a rotation so as to permanently open the canopy and enlarge the crowns of seed bearers, with a view of improving conditions for seed production and natural regeneration in a shelterwood system.

shelterwood seed cut: Removing trees in a mature stand so as to effect permanent openings in the canopy (if there was no preparatory cutting to do this) and so provide conditions for securing regeneration from the seed of trees retained for that purpose in a shelterwood system.

shelterwood seed cut with reserves: The same as the Shelterwood Seed cut but any tree or group of trees left unfelled and kept for part of or the entire next rotation are reserves.

shelterwood final cut: Removal of the last seed bearers and shelter trees after regeneration is considered to be established under a shelterwood system.

silviculture - The practice of manipulating the establishment, composition, structure, growth, and rate of succession of forests to accomplish specific objectives.

sinuosity - A ratio of stream length to valley bottom length.

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

size class – coded attribute representing the fire size.

- A 0 – 0.25 acres
- B 0.25 – 9.9 acres
- C 10 – 99.9 acres
- D 100 – 299.9 acres
- E 300 – 999.9 acres
- F 1000 – 4999.9 acres
- G 5000+ acres

skidding - Dragging logs from the stump to a collection point or landing.

skidtrail - A route used by loggers to drag logs from stump to landing.

skyline logging - A logging system using steel cable, tower, and a powered winch to elevate logs from their position in the woods and carry them to a point where they can be loaded on to trucks.

slash - The woody debris left on the ground after timber harvest, a storm, fire, or other event. Slash includes unused logs, uprooted stumps, broken stems, branches, twigs, leaves, bark, and chips.

snag - A standing dead tree usually greater than five feet in height and six inches in diameter at breast height.

soil - (1) A dynamic natural body composed of mineral and organic materials and living forms in which plants grow. (2) The collection of natural bodies occupying parts of the earth's surface that support plants and that have properties due to the integrated effect of climate and living matter acting upon parent material, as conditioned by relief, over periods of time.

soil compaction - Reduction of soil volume which results in alteration of soil, chemical and physical properties.

soil displacement - The horizontal movement of the forest floor and soil organic layers from their natural positions by mechanical forces such as a tractor blade. Also defined as the removal of one half of the "A horizon" in an area at least one square meter in size.

soil productivity - The inherent capacity of a soil to support growth of specified plants and plant communities.

soil organic matter - fraction of the soil composed of living organisms comprised of microbial, macro-invertebrates, plants, and fungus; 'active' organic matter with fresh or partially decomposed and labile components; and humus which constitutes well decomposed and recalcitrant substances.

soil resource commitment - A conversion of a productive site to an essentially nonproductive site for a period of more than 50 years.

solitude - A personal, subjective value defined as isolation from the sights, sound and presence of others, and human developments. Common indicators of solitude are numbers of individuals or parties one may expect to encounter in an area during a day, or the number of parties camped within sight and sound of other visitors.

species - A population or series of populations or organisms that is capable of interbreeding freely with each other but not with members of other species.

spotting – embers that are transported ahead of the zone of direct ignition of the main fire that start new fires.

stability - The ability of channel banks and/or channel bottom to resist the erosive force of moving water.

stand - A community of trees or other vegetative growth occupying a specific area and sufficiently uniform in composition, age, spatial arrangement, and conditions as to be distinguishable from the other growth on adjoining lands.

stand clearcut: Removal of the entire standing crop (live and/or dead) within a stand for the purpose of creating a new, even-aged stand.

stand clearcut with reserves: A clearcut method in which varying numbers of reserve trees (live trees, pole-sized or larger) are not harvested to attain goals other than regeneration.

stand composition - The representation of tree species in a forest stand, expressed by some measure of dominance (i.e., percent volume, number, basal area, cover).

stand structure - The different sizes and ages of trees within a stand.

State Historic Preservation Officer (SHPO) - The appointed State official charged with administration of the National Historic Preservation Act on State lands, and charged with consultation regarding cultural resources on Federal lands in Montana.

stewardship - Responsibility for managing natural resources on public land.

strata - A stand delineation based on visible criteria: size class, crown density, and past management.

stratigraphy - The classification, correlation, and interpretation of layered deposits, for example soil layers or geological strata.

streambank alteration – Human activities or natural events that destabilize streambanks including natural water flows, excessive livestock use, or concentrated human use.

streamside management zone (SMZs) – An area of land adjacent to a stream course where management practices are modified to minimize effects to water quality, fish or other aquatic resources. The width of a SMZ is generally between 50 and 100 feet, but may be extended to 150 or 300 feet along streams that support sensitive fisheries. The SMZ acts as an effective filter and depositional zone for sediment; maintains shade; conserves aquatic and terrestrial riparian habitats; protects the stream channel and banks; and promotes floodplain stability.

substrate - The bottom of a stream, usually composed of silt, sand, gravel, and/or boulders.

subwatershed - A subdivision within a watershed. For the Judith Restoration Project, this usually refers to a Hydrologic Unit Code 7 (HUC-7) subwatershed, such as Weatherwax Creek, Russian Creek, or similar size drainage.

succession - A predictable process of biotic community development that involves changes in species, structure, and community processes with time.

successional stage - A phase in the gradual supplanting of one community of plants by another.

suitable land - Commercial forest land identified as appropriate for timber production.

summer range - The area essential for big game to carry out their reproductive cycles.

surface erosion - The wearing away of the land surface by running water or wind.

surface fire - A fire burning along the surface without significant movement into the understory or overstory, with flame length usually below 1 meter, also called ground fire.

sustainability - The ability to maintain a desired condition or flow of benefits over time.

T

take - As pertaining to the Migratory Bird Treaty Act: to pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect (50 CFR 10.12).

temporary roads - Roads authorized by contract, permit, lease, other written authorization, or emergency operation, not intended to be a part of the forest transportation system and not necessary for long-term resource management.

terrestrial - Pertaining to the land.

thermal cover - A stand of coniferous trees at least 40 feet tall with an average crown closure of 70 percent or more that acts as shelter from the weather.

threatened and endangered Species - Any species, plant or animal, which 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 Endangered Species Act (1973).

threatened species - Plant or animal species likely to become endangered throughout all or a specific portion of their range within the foreseeable future, as designated by the U.S. Fish and Wildlife Service.

timber type - Timber stands or groups of stands that have the same general vegetative composition.

torching – a fire that burns a single tree or group of trees, also known as passive crown fire.

total maximum daily load (TMDL) - The sum of the individual waste load allocations for point sources, and load allocations for both nonpoint sources and natural background sources established at a level necessary to achieve compliance with applicable water quality standards [75-5-103(32) MCA]. In practice, TMDLs are water quality restoration targets for both point and nonpoint sources which are contained in water quality restoration plans.

tractor logging - A logging method that uses tractors or skidders to carry or drag logs from the stump to a collection point.

transition ratio – the ratio of the surface fireline intensity to the critical surface fireline intensity. A transition ration that is greater than or equal to one indicates surface fireline intensity sufficient to transition to crown fire.

U

unclassified road – Roads on National Forest System lands that are not managed as part of the forest transportation system, such as unplanned roads, abandoned travelways, and off-road vehicle tracks that have not been designated and managed as a trail: and those roads that were once under permit or other authorization and were not decommissioned upon the termination of the authorization (36 CFR 212.1).

underburn - A light broadcast burn under an existing forest canopy. A prescribed fire to reduce fuels causing minimal damage to existing trees.

understory - The trees, brush, and other vegetation growing beneath the canopy or overstory in a stand of taller trees.

unique features - Those unique geological, biological, ecological, cultural, or scenic features that may be located in the area.

unsuitable forest land (not suited) (or unsuited land) - Forest land that is not managed for timber production because: (1) the land has been withdrawn by Congress, Secretary, or Chief; (2) technology is not available to prevent irreversible damage to soils, productivity, or watershed conditions; (3) there is no reasonable assurance that lands can be adequately restocked within 5 years after final harvest based on existing technology and knowledge; (4) there is at present, a lack of adequate information to responses to timber management activities; or (5) timber management is inconsistent with or not cost-efficient in meeting the management requirements and multiple-use objectives specified in the Forest Plan.

uplands - Land at a higher elevation, in general, than the alluvial plain (current floodplain) or low stream terrace (past floodplain); land above the foot slope zone of the hill slope continuum.

V

vegetative community - A group of one or more populations of plants in common spatial arrangement with common nutritive and growth functions.

viability - The ability of a wildlife or plant population to maintain sufficient size so that it persists over time in spite of normal fluctuations in numbers; usually expressed as a probability of maintaining a specific population for a specified period.

viable population - A wildlife or plant population that contains an adequate number of reproductive individuals appropriately distributed across a planning area to ensure the long-term existence of the species.

viewshed - The area that is visible from a particular viewpoint or series of viewpoints. For example, the area seen from Road 487 would be that road's viewshed, and extends for many miles.

visual quality objectives (VQOs) – Visual quality objectives are a part of the Visual Management System and were replaced in 1995 by the Scenery management system. A desired level of scenic quality and diversity of natural features based on physical and sociological characteristics of an area. Refers to the degree of acceptable alterations of the characteristic landscape. The Visual Management System was replaced in 1995 by the Scenery Management System. Management areas within the Lewis and Clark National Forest Plan have prescribed VQOs based upon the Management Area and whether or not an area is seen (or visible) from a Sensitivity Level 1 viewpoint. In the case of prescribed fire, allowance is made for red needles to drop and the ground plane to green up before determining whether the prescribed VQO has been met.

- Retention - Human activities are not evident to the casual forest visitor.
- Partial Retention - Human activities may be evident but do not dominate the landscape.
- Modification - Human activities may dominate the characteristic landscape, but should appear as a natural occurrence when viewed from foreground (¼ mile or less) or middleground (¼ to about 3 miles).

W

waterbar - An earthen barrier across a road or skidtrail, used to divert water and reduce erosion. It is usually designed to allow limited vehicle passage.

water development - A water source developed by public land managers and livestock permittees to provide water to livestock, but which could also be used by wildlife.

water quality - Refers to the chemical, physical, or biological characteristics that describe the conditions of a river, stream, or lake.

water quality limited segment (WQLS) - A body of water which is not fully supporting its beneficial uses. In other words it is impaired. Impaired water bodies are listed on the 303 (d) List of impaired waters by the Montana Department of Environmental Quality and require the development of a TMDL.

watershed - The area of land that contributes surface runoff water to a given drainage point. A major subdivision of a drainage basin.

water yield - The runoff from a watershed, including ground water and surface water flow.

wetland - Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (including) playa lakes, swamps, marshes, bogs and similar areas such as sloughs, prairie potholes, wet meadows, prairie river overflows, mudflats, and natural ponds (40 CFR at 110.1[f]).

Wilderness - Federal land retaining its primeval character and influence without permanent improvements or human habitation as defined under the Wilderness Act (1964).

windthrow - Trees uprooted by the wind.

winter range - The area where big game species find food and cover during severe winter weather.

woody debris recruitment - The process of trees and branches entering stream channels.. Also, refers to trees and branches falling on soils. The process ensures continued supply of woody debris for physical and biological soil function.

Y

yarding - Moving logs from the stump to a deck, road, or landing where they can then be loaded onto trucks, generally with the use of a cable system. (See “skidding”).

Z

zone of influence - The area that is economically and socially influenced by Forest Service management activities.

SECTION 7

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