CHAPTER FIVE

Appendices

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Appendix AA
National strategic goals

Following is a list of national goals relevant to land and resource management. This list is based on *Forest Service Manual* (FSM) objective statements. The topics to which the goals pertain are organized alphabetically. References to the FSM are included, should the reader wish to consult the FSM directly.

Air Quality (2580.2)

1. Protect air-quality-related values within Class 1 areas, as described in 42 U.S. Code (USC) 7475 (d)(2)(B) and (c) and section 2580.5.
2. Control and minimize air pollutant impact from land management activities.
3. Cooperate with air regulatory authorities to prevent significant adverse effects of air pollutants and atmospheric deposition on forest and rangeland resources.

Air Resources in Wilderness (2323.61)

1. Protect air quality and related values, including visibility, on wilderness land designated Class 1 by the Clean Air Act as amended in 1990. (FSM 2580)

American Indians (1563)

1. Maintain a governmental relationship with federally recognized tribal governments.
2. Implement programs and activities honoring treaty rights and fulfill legally mandated trust responsibilities to the extent that they are determined applicable to National Forest System lands.
3. Administer programs and activities to address and be sensitive to traditional native religious beliefs and practices.
4. Provide research, transfer of technology, and technical assistance to American Indian governments.

Animal Damage Management (2650.2)

1. Protect resources and permitted livestock from animal damage on National Forest System lands and protect human health and safety.

Burned Area Emergency Rehabilitation (2523.02)

1. Provide for immediate rehabilitation of watersheds following wildfire to help stabilize soil and control water, sediment, and debris movement.

Cave Management (2356.02)

1. Provide cave-related recreational, cultural, educational, and scientific study opportunities that serve public need. Balance surface resource management and cave use with the protection of cave values.

Commercial Timber Sales (2430.2)

1. Provide an orderly program of timber sales from each national forest in accordance with the forest land and resource management plan (forest plan) or approved interim plans.
2. Offer for sale the allowable sale quantity (ASQ) and other sales specified in forest plans, subject to financing levels or other modification during their implementation.
3. Coordinate the timber sales program with planning, management, and use of other forest resources.
4. Provide a continuous flow of raw material to local forest industries.

Concession Uses Involving Privately Developed Facilities (2343.02)

1. Provide a diversity of recreation activities that emphasizes the forest setting and rustic, natural resource-based recreation opportunities.

Condemnation (5480.2)

1. Acquire real property by condemnation when all other methods of acquisition fail and the property or interest is required for the protection, administration, or utilization of National Forest System lands.

Development (7720.2)

1. Locate, survey, design, and construct transportation facilities in accordance with FSM 7702.
2. Locate, design, and construct facilities that provide the stability and durability appropriate for their intended service life and uses.

Energy Management (2170.2)

1. Conserve energy in the conduct of Forest Service programs and in the operation of Forest Service programs and in the operation of Forest Service facilities, and to improve efficiency in the production and use of wood products.
2. Minimize undesirable consequences associated with development of renewable and nonrenewable energy sources extracted from National Forest System lands.
3. Facilitate recovery of fuels from forest lands and implement programs to support production and use of alternative fuels.
4. Provide leadership and support for environmentally acceptable and scientifically sound development, production, and use of all energy resources from lands.

Federal Lands Highway Program (7740)

1. Assist the Federal Highway Administration (FHWA) with the administration of the forest highway program to plan and develop access roads to:

   Enhance the value of National Forest System resources;

   Protect, develop, and use the National Forest System and its renewable resources;

   Enhance economic development at the local, regional, and national levels;

   Serve local needs and communities dependent on the National Forest System activities;

   Provide for economy of operation and maintenance and the safety of the users; and

   Provide safe and adequate rural highways connecting the National Forest System with major highway systems.

Federal Power Act Projects (2770.2)

1. Ensure hydroelectric production where it is compatible with national forest purposes. Ensure that planning, construction, and operation of hydroelectric projects are performed in such a manner to protect or effectively utilize National Forest System land and resources.

Fire Management (5102)

1. Protect, maintain, and enhance the production and quality of national forest resources through fire protection and use of prescribed fire.
2. Provide a cost-efficient level of wildfire protection on National Forest System lands commensurate with the threat of life and property and commensurate with the potential for resource and environmental damage based on hazard, risk, values, and management objectives.
3. Consistent with land and resource management objectives, minimize the sum of (a) the fire program cost, plus (b) the net change in value of planned resource outputs due to fire.

Fire Management in Wilderness (2324.21)

1. Permit lightning-caused fires to play, as nearly as possible, their natural ecological role within wilderness.
2. Reduce, to an acceptable level, the risks and consequences of wildfire within wilderness or escaping from wilderness.

Fire Suppression (5130.2)

1. Suppress wildfires at minimum cost consistent with land and resource management objectives and fire management direction as stated in fire management action plans.

Fish and Wildlife (2602)

1. Maintain ecosystem diversity and productivity by:

   Recovering threatened or endangered species;

   Maintaining at least viable populations of all native and desired non-native wildlife, fish, and plants in habitats distributed throughout their geographic range on National Forest System lands; and

   Producing habitat capability levels to meet sustained yield objectives relative to demand for featured management indicator species identified in RPA and forest plans.
2. Provide diverse opportunities for aesthetic, consumption, and scientific uses of wildlife, fish, and sensitive plant resources in accordance with national, regional, state, and local demands.

Floodplain Management Wetland Protection (2527.02)

1. Reduce risk of flood loss.
2. Minimize impacts of floods on human safety, health, and welfare.
3. Minimize destruction, loss, and degradation of wetlands.
4. Preserve and restore the natural and beneficial value of floodplains and wetlands.

Forest Cover in Wilderness (2323.51)

1. Manage forest cover to retain the primeval character of the environment and to allow natural ecological processes to operate freely.

Forest Development Trails (2353.02)

1. Provide trail-related recreation opportunities that serve public needs and meet land management and recreation policy objectives.
2. Provide trail recreation opportunities that emphasize the natural setting of the national forest and are consistent with land capability.
3. Provide trail access for national forest management and protection.

Forest Highways (7440.2)

1. The objective of this program is to plan, design, construct, operate, and maintain wastewater disposal facilities and other effluent disposal activities to ensure that discharge and/or infiltration of pollutants do not create health hazards or nuisance conditions nor alter the quality or characteristics of either ground water or surface water beyond applicable federal and/or state water quality and effluent discharge standards.
2. Where no standards exist, the quality of characteristics of surface and ground water shall:

   Be maintained as near to their existing conditions as measurable;

   Not be degraded to adversely affect either present or projected beneficial uses (FSH 7409.11 ch. 20); and

   Not be allowed to degrade the quality of subsequent ground or surface receiving waters beyond the standards when such have been established.

Fuel Management (5150.2)

1. Identify, develop, and maintain fuel profiles that contribute to the most cost-efficient fire protection and use program in support of land and resource management direction in the forest plan.

Group Use by Institutions or Other Entities (2345.02)

1. Allow group recreation opportunities, facilities, and service at camps on National Forest System land when suitable private lands are not available.

Harvest Cutting (2471.02)

1. Manage timber and other forest resources for protection, enhancement, and sustained yield of those resources through the sale or permitted use of forest products with the long-term intent to regenerate the stand.

Heritage (Cultural) Resources (2361.02)

1. Complete an inventory of cultural resources on all National Forest System land by 1985 sufficient to provide a database for land management planning.
2. Complete an inventory of all cultural resources on National Forest System land by 1990.
3. Until these inventories are complete, exercise caution to ensure cultural resources are not damaged, destroyed, or transferred by meeting the coordination requirements outlined in FSM 2361.3.
4. As part of the decision-making process, document inventory and evaluation procedures to ensure adequate participation by cultural resource professionals.
5. Perform inventories at appropriate levels prior to initiating project actions.

Highway Safety Program (7733.02)

1. Reduce traffic accident, deaths, injuries, and the resulting property damage.

Insects and Disease in Wilderness (2324.11)

1. Allow indigenous insect and plant diseases to play, as nearly as possible, their natural ecological role within wilderness.
2. Protect the scientific value of observing the effect of insects and disease on ecosystems and identifying genetically resistant plant species.
3. Control insect and plant disease epidemics that threaten adjacent lands or resources.

Interpretive Services / Visitor Information (2390.2)

1. Assist those visitors to the national forest, research projects, and state and private forestry locations in gaining a greater appreciation of the role of conservation in the development of the Nation’s heritage and culture.
2. Promote visitor understanding of the Forest Service, the National Forest System, forestry research, and state and private forestry programs.
3. Inform visitors of recreation opportunities and facilities on the national forests.
4. Help visitors know and experience the natural environment.

5. Implement an interpretive program that helps solve management problems and aids in the development of public understanding of Forest Service management.
6. Expand the number of interpretive associations that contribute to public understanding of Forest Service practices, support interpretive services objectives, increase public awareness, and aid in management of national forest resources.
7. Increase visitor understanding of natural and cultural history principles and their relation to land management techniques.

Land Exchange (5430.2)

1. Implement land management and resource planning directions to attain an optimum National Forest System land ownership pattern that provides for resource uses that best meet the present and future needs of the people.

Land Ownership Adjustment (5402)

1. Achieve the optimum landownership pattern to provide for resource use to meet the needs of the people now and in the future.
2. Settle land title claims equitably and promptly.
3. Provide resource administrators readily accessible and understandable title information affecting the status and use of lands and resources they administer.

Land Purchases and Donations (5420.2)

1. Enhance the multiple-use and sustained yield of the goods and services from the National Forest System.
2. Protect and improve the quality of renewable resources.
3. Protect and preserve important historic, cultural, and natural aspects of the national heritage.
4. Provide for access, use, and enjoyment of the forest resources by the public.
5. Improve administrative efficiency and effectiveness of the National Forest System.

Land Surveying (7151.02)

1. Provide legal and surveys and related service to locate, mark, post, and maintain land corners, property corners, and property lines between National Forest System land and other ownerships for the protection and management of National Forest System lands and resources.

Landline Location Program (7152.02)

1. Provide the land manager and public with visible and legally defendable administrative and property boundary lines on-the-ground, and accurately depict the location of landownership lines on administrative maps produced by the Forest Service.

Maintenance of Improvement (2244.02)

1. Maintain, in operable condition, all range improvements on the National Forest System and other lands administered by the Forest Service.

Mineral Materials (2850.2)

1. Meet the demand for mineral materials consistent with the management of other surface resources.

Minerals and Geology (2802)

1. Encourage and facilitate the orderly exploration, development, and production of mineral and energy resources within the National Forest System in order to maintain a viable, healthy minerals industry and to promote self-sufficiency in those mineral and energy resources necessary for economic growth and the national defense.
2. Ensure that exploration, development, and production of mineral and energy resources are conducted in an environmentally sound manner and that these activities are integrated with the planning and management of other national forest resources.
3. Ensure that lands disturbed by mineral and energy activities are reclaimed for other productive uses.

Minerals in Wilderness (2323.72)

1. Preserve the wilderness environment while performing activities for the purpose of gathering information about mineral resources.
2. Ensure that mineral exploration and development operations conducted in accordance with valid existing rights for federally owned locatable and leasable minerals (FSM 2810 and FSM 2820) and for non-federally owned minerals (FSM 2830), preserving the wilderness resource to the extent possible.
3. Ensure the restoration of lands disturbed during exploration and development activities, as nearly as practicable, promptly upon abandonment of operations.

Minerals Reservations Outstanding Mineral Rights (2830.2)

1. Administer mineral reservations and outstanding mineral rights consistent with the rights reserved or outstanding and the acquired rights of the United States in a manner that minimizes damage to National Forest System resources.

Motorized Equipment in Wilderness (2326.02)

1. Accomplish management activities with non-motorized equipment and non-mechanical transport of supplies and personnel.
2. Exclude the sight, sound, and other tangible evidence of motorized equipment or mechanical transport within wilderness, except where they are needed and justified.

Municipal Supply Watersheds (2542.02)

1. Manage National Forest System lands for multiple-use by balancing present and future resource use with domestic water supply needs.

National Forest System Modification (5450.2)

1. The objectives of National Forest System modifications are to:

   Obtain national forest status for all appropriate land within the National Forest System;

   Modify existing National Forest System unit boundaries as needed to provide logical exterior boundaries;

   Establish purchase units as needed to meet program objectives; and

   Establish national forest or other boundaries as needed to facilitate management and administration.

2. The objectives of land transfer are to:

   Improve management efficiency of federal lands;

   Improve service to the public; and

   Result in net benefits to the government, to the public, or both.

National Registry of National Landmarks (2373.02)

1. Cooperate with the U.S. Department of Interior National Park Service to:

   Encourage the preservation of sites illustrating the geological and ecological character of the United States.

   Enhance the scientific and educational value of sites thus preserved. Foster a greater concern in the conservation of the Nation's natural heritage.

National Wild and Scenic Rivers System (2354.02)

1. Provide river and similar water recreation opportunities to meet the public needs in ways that are appropriate to the national forest recreation role and are within the capabilities of the resource base. Protect the free-flowing conditions of designated wild and scenic rivers and preserve and enhance the values for which they were established.

National Wilderness Preservation System (2320.2)

1. Maintain and perpetuate the enduring resource of wilderness as one of the multiple uses of National Forest System land.
2. Maintain wilderness in such a manner that ecosystems are unaffected by human manipulation and influences so that plants and animals develop and respond to natural forces.
3. Minimize the impact of those kinds of uses and activities generally prohibited by the Wilderness Act, but specifically excepted by the act or subsequent legislation.
4. Protect and perpetuate wilderness character and public values including, but not limited to, opportunities for scientific study, education, solitude, physical and mental challenges and stimulation, inspiration, and primitive recreation experiences.
5. Gather information and carry out research in a manner compatible with preserving the wilderness environment to increase understanding of wilderness ecology, wilderness uses, management opportunities, and visitor behavior.

Noxious Weed Management (2080.2)

1. Use an integrated weed management approach to control and contain the spread of noxious weeds on National Forest System lands to adjacent lands. Specific objectives to be achieved through noxious weed management include:

   Prevention of the introduction and establishment of noxious weed infestations;

   Containment and suppression of existing noxious weed infestation;

   Formal and informal cooperation with state agencies, local landowners, weed control districts and boards, and other federal agencies in the management and control of noxious weeds; and

   Educate and increase awareness of employees, users of National Forest System lands, adjacent landowners, and state agencies about noxious weed threats to native plant communities and ecosystems.

Off-Road Vehicle Management (2355.02)

1. Provide off-road vehicle recreation opportunities that are in concert with the environmental setting, minimize off-road vehicle effects on the land and resources, promote public safety, and control conflicts with other uses of National Forest System lands.

Operations and Maintenance (7730.2)

1. Operate and maintain the Forest Development Transportation System in a manner to provide cost-effective support of resource management direction and safe travel for users of the system while protecting the environment, adjacent resources, and the public investment.

Partial Interest Acquisition (5440.2)

1. Provide for acquisition of only those interests in land necessary to meet planned program objectives.
2. Provide for continuance of private land uses that are consistent with planned program objectives.

Personal Use Firewood (2409.18)

1. Provide free firewood and other wood for personal use in order to aid in the protection and silvicultural improvements of the national forest when these needs cannot be met through the use of charge permits.

Pesticide Management (2150.2)

1. Ensure the proper use of pesticides.

Potable Water Supply (7420.2)

1. Protect the health of the public and Forest Service personnel. Accomplishing this objective requires that water provided by the Forest Service for human consumption at any administrative site or public use area must be both safe and protected.

Prescribed Fire (5140.2)

1. Use prescribed fires, from either management ignitions or natural ignitions, in a safe, carefully controlled, cost-effective manner as a means of achieving management objectives defined in the forest plan.

Privately Provided Recreation Opportunities (2340.2)

1. Provide, under special-use authorization, sufficient, suitable facilities and service that supplement or complement those provided by the private sector, state, and local government on private land and the Forest Service on national forest land to meet public needs, as determined through land and resource management planning.
2. Facilitate the use, enjoyment, understanding, and appreciation of the national forest natural resource setting.

Publicly Managed Recreation Opportunities (2330.2)

1. Maximize opportunities for visitors to know and experience nature while engaging in outdoor recreation.
2. Develop and manage sites consistent with the available natural resources to provide a safe, healthful, aesthetic, non-urban atmosphere.
3. Provide a maximum contrast with urbanization at national forest sites.

Range Improvement Investment (2246.02)

1. Invest in cost-effective range improvements to achieve objectives established in forest plans and allotment management plans.

Range Improvements (2240.2)

1. Without impairing land productivity or water quality, implement and maintain range improvements to the extent benefits are commensurate with cost and demand for livestock forage.
2. Provide information and advice through the range technical information system and Vegetative Rehabilitation and Equipment Workshop to enhance restoration, improvement, and quality of ranges.

Range in Wilderness (2323.21)

1. Manage wilderness range in a manner that utilizes the forage resource in accordance with established wilderness objectives.

Range Management (2202.1)

1. Manage range vegetation to protect basic soil and water resources, provide for ecological diversity, improve or maintain environmental quality, and meet public needs for interrelated resource uses.
2. Integrate management of range vegetation with other resource programs to achieve multiple-use objectives contained in forest plans.
3. Provide for livestock forage, wildlife food and habitat, outdoor recreation, and other resource values dependent on range vegetation.

4. Contribute to the economic and social well-being of people by providing opportunities for economic diversity and by promoting stability for communities that depend on range resources for their livelihood.

Reclamation (2840.2)

1. Minimize the environmental impacts resulting from such activities.
2. Ensure that disturbed lands are returned to a use that is consistent with long-term forest plans.

Recreation (2302)

1. Provide non-urbanized outdoor recreation opportunities in natural-appearing forest and rangeland settings.
2. Protect the long-term public interest by maintaining and enhancing open space options; public accessibility; and cultural, visual, and natural resource values.
3. Promote public transportation and/or access to national forest recreation opportunities.
4. Shift land ownership patterns as necessary to place urbanized recreation settings into other ownerships to create more public open space and/or natural resource recreation values.

Recreation in Wilderness (2323.11)

1. Provide, consistent with management of the area as wilderness, opportunities for public use, enjoyment, and understanding of the wilderness, through experiences that depend on a wilderness setting.
2. Provide outstanding opportunities for solitude or primitive and unconfined types of recreation.

Reforestation (2470.02)

1. Maintain all forested lands within the National Forest System in appropriate forest cover.
2. Improve the quality and yield of new timber stands.
3. Achieve desired time and stocking level goals in a cost-efficient manner.
4. Develop and demonstrate successful reforestation methods and techniques and encourage their use by private landowners.

Research in Wilderness (2324.41)

1. Provide appropriate opportunity for scientific studies that are dependent on a wilderness environment.

Research Natural Areas (4063.02)

1. Preserve a wide spectrum of pristine representative areas that typify important forbs, shrubland, grassland, alpine, aquatics, geological, and similar natural situations that have special or unique characteristics of scientific interest and importance that, in combination, form a national network of ecological areas for research, education, and maintenance of biological diversity.
2. Preserve and maintain genetic diversity.

3. Protect against serious environmental disruption.
4. Serve as reference areas for the study of success.
5. Provide on-site and extension education activities.
6. Serve as baseline areas for measuring long-term ecological changes.
7. Serve as control areas for comparing results from manipulative research.
8. Monitor effects of resource management techniques and practices.

Reservations and Outstanding Rights (5470.2)

1. Accomplish real property adjustments free of encumbrances that would detract from present or future uses of National Forest System land or that would needlessly restrict private land use and impose an unwarranted management obligation on the Forest Service.

Resource Conservation and Development Program (3620.2)

1. Help provide the people of the area with employment and other economic opportunities through the orderly development, improvement, conservation, and utilization of forest land-related resources in the RC&D areas.
2. Provide state and local leadership with the opportunity to coordinate and use the facilities and techniques available under current agricultural programs and any applicable new programs as may be instituted to aid in planning and carrying out a balanced program of development, conservation, and protection of natural resources to meet local, state, and national needs.
3. Develop a level of state and local leadership that can assume independent programs in forest and related resource management and achieve state and local forestry and related resource goals and objectives.

Right-of-Way Acquisition (5460.2)

1. Acquire, across non-national forest land, road and trail rights-of-way that are adequate for the protection, administration, and utilization of the national forests. Where compatible with national forest needs, the rights-of-way should also accommodate the utilization and development of resources in other ownerships upon which communities within or adjacent to the national forest depend.
2. Acquire such rights-of-way in time to meet road and trail construction and resource development program schedules.
3. Acquire all interests to permit use of roads and trails to meet the multiple-use and sustained yield objectives of the national forests.

Riparian Areas (2526.02)

1. Protect, manage, and improve riparian areas while implementing land and resource management activities.
2. Manage riparian areas in the context of the environment in which they are located, recognizing their values.

Rural Development (3602)

1. Utilize Forest Service programs and authorities to provide more jobs and income opportunities, to improve rural living conditions, to enrich the cultural life of rural America, and to maintain and protect the environment and natural resources of rural areas.
2. Participation in the Rural Conservation and Development Program (RC&D) is to improve the ability of state and local units of government and local sponsors to accelerate the conservation, development, and use of forest resources with the aim of improving the social, economic, and environmental conditions in an authorized RC&D area.

Rural Development (3610.2)

1. Protect and manage the natural resources including scenic, wilderness, and other special values of forest and range environments in rural areas.
2. Promote research to expand the technological base for forestry and the use of forest products and to lend support for rural housing goals.
3. Encourage the development and transfer of technological improvements to protect and improve the quality of the rural environment, and to extend the supplies of natural resources.
4. Maintain or increase the forest land base, improve its productivity, and improve forest land ownership patterns.
5. Promote orderly development and wise use of forest resources consistent with sound stewardship to develop and increase rural employment and income with the aim of improving or stabilizing rural social and economic conditions.
6. Expand public understanding of environmental conservation and natural resource planning, protection, and management and how stewardship is related to these activities.
7. Provide information and analysis for determining forest resource potentials and opportunities to enhance rural development.

Salvage Sales (2435.02)

1. Provide for the removal of damaged or dead timber as soon as practically possible to avoid unnecessary loss of value and volume and to respond to potentially serious catastrophes such as wildfire, windthrow, or hurricane.
2. Manage timber stands at high risk of spreading disease or insect epidemics to prevent volume loss.
3. Manage the use of salvage sale funds to provide for the rapid optimum practical use of wood material damaged through natural events, such as insects, windstorms, wildfires, hurricanes, and tornadoes.

Scenic and Historic Trails (2352.41)

1. Develop and administer national scenic or national historic trails to ensure retention of the outdoor recreation experience for which the trail was established and continued production of maximum benefits from the land.

Sensitive Species (2670.22)

1. Develop and implement management practices to ensure that species do not become threatened or endangered because of Forest Service actions.
2. Maintain viable populations of all native and desired nonnative wildlife, fish, and plant species in habitats distributed throughout their geographic range on National Forest System lands.
3. Develop and implement management objectives for populations and/or habitat of sensitive species.

Sign and Poster Program (7160.2)

1. Support accomplishment of management area direction contained in the forest plan for the administration, protection, management, and use of National Forest System lands.
2. Provide information for the safety, enjoyment, and convenience of national forest and grassland visitors, users, cooperators, and employees.
3. Provide information about geographic and historical features and the use, management, and research activities on the national forest and grasslands.
4. Identify national forest and grassland facilities and land.

Silvicultural Practices (2470.2)

1. Prescribe, implement, and monitor silvicultural practices that develop forest stand conditions which meet land management objectives designated in regional guides and forest plans.

Soil and Water in Wilderness (2323.41)

1. Maintain satisfactory natural watershed condition within wilderness.

Soil Resource Improvement (2553.02)

1. Improve soil quality to selected levels for specific purposes by mechanical treatment, chemical or other soil additives, irrigation, or vegetative manipulation.
2. Rehabilitate soils that are in unsatisfactory condition.

Solid Waste Management (2130.3)

1. Program objectives are to design, operate, and maintain all solid waste systems under Forest Service jurisdiction in such a manner so as to meet all federal, state, and local requirements; promote public health and safety; protect forest resource and environmental qualities; and complement and support the total land-use management process.

Special Interest Areas (2360.3)

1. Protect and, where appropriate, foster public use and enjoyment of areas with scenic, historical, geological, botanical, zoological, paleontological, or other special characteristics. Classify areas that possess unusual recreation and scientific values so that these special values are available for public study, use, or enjoyment.

Special Use Administration (2721.02)

1. Issue and administer special-use permits for recreation uses that serve the public, promote public health and safety, and protect the environment.

Special Use Authorization (2710.2)

1. Issue appropriate special-use authorizations according to the law, regulations, and policy for occupancy and use of land in a manner consistent with the purpose of the National Forest System and forest plans.

Special Use Management (2730.2)

1. Provide rights-of-way for the public road system, including the federal-aid system, when such roads cross National Forest System lands.
2. Accommodate the access needs for the protection, development, and utilization of lands and resources owned by private interests or administered by public agencies when the planned forest development road system and public road system do not meet those needs adequately.
3. Protect and enhance the quality of air, water, soil, and natural beauty of Forest Service-administered lands in the granting of any right-of-way.
4. Cooperate with intermingled and adjacent landowners in developing roads that serve the needs of both parties through the exchange of rights-of-way.
5. Provide access across National Forest System land to private land that is adequate to secure the owners thereof of reasonable use and enjoyment of their land without unnecessarily reducing the management options of the Forest Service or damaging national forest lands or resources.

Special Uses (2702)

1. Authorize the use of National Forest System lands by federal, state, and local agencies, as well as private industry and individuals, in accordance with governing laws and regulations to best serve the interest of the public and the United States.
2. Administer special uses based on resource management objectives and sound business management principles.
3. Develop and maintain a well-trained workforce to properly manage and administer special uses.

Structural Range Improvements (2242.02)

1. Install structural range improvements to obtain proper livestock management and to meet objectives contained in forest plans and allotment management plans.

Structures and Improvements in Wilderness (2324.31)

1. Limit structures and improvements for administrative purposes or under special-use permit to those actually needed for management, protection, and use of wilderness for the purpose for which the wilderness was established.

Threatened and Endangered Species (2670.21)

1. Manage National Forest System habitats and activities for threatened and endangered species to achieve recovery objectives so that special protection measures provided under the Endangered Species Act are no longer necessary.

Timber Management (2402)

1. Provide a continuous supply of national forest timber for the use and necessities of the citizens of the United States.
2. Provide, as far as feasible, an even flow of national forest timber in order to facilitate the stabilization of communities and opportunities for employment.
3. Cultivate and maintain tree stands in the manner that promotes and achieves a diverse pattern of vegetation that best meets the needs of people now and in the future.
4. Manage and provide for regeneration of tree stands.
5. Maintain a diversity of forest vegetation types and resources consistent with the forest plan.

Timber Stand Improvement (2476.02)

1. Maintain or increase the growth rate, health, species composition, and/or improve the quality of stands of timber or other resource uses according to direction in the forest plan.
2. Develop and demonstrate the benefit of methods and techniques of timber stand improvement for all resource uses as an encouragement for private landowners to apply timber stand improvement practices on their own land.

Trail, River, and Similar Recreation Opportunities (2350.2)

1. Provide recreation opportunities for users of the general forest, water, and cave resources.
2. Provide opportunities for a variety of recreation pursuits with emphasis on activities that are in harmony with the natural environment and consistent with the recreation role of the national forest.
3. Provide opportunities for a variety of recreation pursuits with emphasis on activities that are in harmony with the natural environment and consistent with the recreation role of the national forest.
4. Mitigate adverse impacts of users on the natural resources, cultural and historical resources and on other users.

Transportation Planning (7710.2)

1. Efficiently provide facilities that will achieve forest management direction and that are appropriate for this intended use.
2. Direct the orderly development and management of the transportation system and ensure the documentation of decisions affecting the system.

Transportation System (7702)

1. Plan, develop, and operate a network of transportation facilities and transportation modes that provide user safety, convenience, and efficiency of operations.
2. Provide access to National Forest System lands to accomplish management direction and protection objectives that are coordinated with national and statewide transportation needs.
3. Coordinate access to National Forest System lands with national and statewide transportation needs.
4. Minimize the total transportation present value cost, including user, maintenance, construction, restoration, realignment, and betterment costs.

Visual Quality (2380.2)

1. Manage all National Forest System lands to attain the highest possible visual quality commensurate with other appropriate public uses, costs, and benefits.

Wastewater Collection Systems and Treatment Works (7430.2)

1. Avoid creating health hazards or nuisance conditions. Restore and maintain the chemical, physical, and biological quality of water resources.
2. Manage future pollution or degradation of surface or ground waters.

Water Quality Management (2532.02)

1. Protect and, when needed, improve the physical, chemical, biological, and aesthetic quality of the water resource consistent with the purposes of the national forests and national water quality goals.
2. Provide water of a quality suitable for the beneficial uses identified in the land and resource management planning process.
3. Ensure safe drinking water subject to public use on national forests, whether the source is a natural or developed water supply. (When state standards do not exist, observe EPA water quality criteria.)

Watershed Improvements (2522.02)

1. Restore hydrologic balance of degraded watershed areas by stabilizing soil, controlling surface run-off and erosion, reducing flood potential, and improving long-term soil productivity.
2. Improve soil and water quality.

Watershed Management (2502)

1. Protect and, where appropriate, enhance soil productivity, water quality and quantity, and timing of waterflows.
2. Maintain favorable conditions of streamflow and continuous production of resources from National Forest System watersheds.

Watershed Protection and Management (2520.2)

1. Protect national forest watersheds by implementing practices designed to retain soil stability, improve or maintain site productivity, secure favorable conditions of water flow, and preserve or enhance aquatic values.

Wildlife and Fish Management in Wilderness (2323.21)

1. Provide an environment where the forces of natural selection and survival, rather than human actions, determine which and what numbers of wildlife species will exist.
2. Consistent with objective #1, protect wildlife and fish indigenous to the area from human-caused conditions that could lead to federal listing as threatened or endangered.
3. Provide protection for known populations, and aid recovery in areas of previous habitation, of federally listed threatened or endangered species and their habitats.

Withdrawals (2761.02)

1. Protect the United States' improvements and other unique values that are subject to disposition or destruction under the public land laws.
2. Provide a consistent and efficient withdrawal program that meets land and resource management objectives.
3. Ensure cooperation and coordination with the Secretary of the Interior and the Bureau of Land Management.
4. Encourage mineral activity where mineral extraction is the best use of the site.

Appendix BB

Key national and regional policies

Introduction

The following is a partial listing of national and regional Forest Service policy relevant to this Land and Resource Management Plan (Forest Plan). A complete listing can be found in the Forest Service Manual and the Forest Service Handbook. Together, these are known as the Forest Service Directives System (System).

The System is the primary basis for the management and control of all internal programs, and serves as the primary source of administrative direction to Forest Service employees. The System sets forth legal authorities, management objectives, policies, responsibilities, delegations, standards, procedures, and other instructions.

The **Forest Service Manual** (FSM) contains legal authorities, goals, objectives, policies, responsibilities, instructions, and guidance needed on a continuing basis by Forest Service line officers and primary staff, in more than one unit, to plan and execute assigned programs and activities.

Forest Service Handbooks (FSH) are directives that provide instructions and guidance on how to proceed with a specialized phase of a program or activity. Handbooks are either based on a part of the FSM or they incorporate external directives.

Most standards and guidelines used to implement forest plans are located in the System under the following general headings and codes:

1010 Laws, Regulations, and Orders
1030 Forest Service Mission
1500 External Relations
1900 Planning
2060 Ecosystem Classification, Interpretation, and Application
2070 Biological Diversity (Reserved)
2200 Range Management
2300 Recreation, Wilderness, and Related Resource Management
2400 Timber Management
2500 Watershed and Air Management
2600 Wildlife, Fish, and Sensitive Plant Habitat Management
2700 Special Uses Management
2800 Minerals and Geology
3400 Forest Pest Management
5100 Fire Management
5400 Land Ownership

7400 Public Health and Pollution Control Facilities
7500 Water Storage and Transmission
7700 Transportation System

The intent of many forest-wide standards and guidelines is incorporated into permits that authorize specific uses on the national forests. General permitting requirements can be referenced as follows:

Minerals	FSM 2817, 2822
Range Management	FSM 2230.3
Recreation	FSM 2331.1, 2342.04
Special Uses	FSM 2711
Timber Management	FSM 2451
Transportation System	FSM 7731.16

The following list of policies is organized alphabetically. References are included to the FSM or FSH, should the reader wish to consult these sources directly.

American Indians (FSM 1563)

On October 22, 1992, the U.S. Department of Agriculture issued a policy statement on Indian tribes. The outlined policies are:

1. Support the principles of self-governance delineated in the Indian Self-Determination Act and Education Assistance Act.
2. Consult with tribal governments regarding the influence of U.S. Department of Agriculture activities on water, land, forest, air, and other natural resources of tribal governments.
3. Seek input from tribes on U.S. Department of Agriculture policies and issues affecting tribes and reconciling Indian needs with the principle of good resource management.
4. Observe the American Indian Religious Freedom Act.
5. Work with tribal governments, high schools, and universities to encourage the development of agribusiness skills and sharing of information through exchange of technical staff and skills.
6. Encourage early communication and cooperation between agencies with responsibilities to tribal governments.
7. Consistent with applicable law or regulation, facilitate tribal participation in program planning and activities.

Biological Diversity (FSM 2670)

Sensitive Species

1. Manage sensitive species habitat as directed in interim directive 2600-94-2.

Caves (FSM 2356)

1. Caves will be protected and evaluated under provisions of the Federal Cave Resources Protection Act of 1988. Caves determined to be significant under the Act or being evaluated are exempt from locational disclosure under the Freedom of Information Act. The location of caves will be kept confidential when needed to protect important archeological resources, habitat for endangered wildlife, sensitive cave biota, and unique geological features.
2. Management plans will be prepared for caves determined to be significant.
3. Coordinate the management of cave and surface resources.

   a) Manage the cave resource in partnership with caving organizations, other governmental agencies, scientists, researchers, and outdoor recreationists.

   b) Interpret cave resources and provide public evaluation for increased public understanding and awareness of the need to protect and preserve these unique ecosystems.

   c) Provide for public health and safety while recognizing that no cave is completely safe and that risk-taking is part of the caving experience.
4. Adjust silvicultural prescriptions to protect caves.

   a) Retain a vegetation buffer around cave entrances.

   b) Do not alter cave entrances with timber harvest activities.

   c) Do not dispose of slash or refuse or burn slash at cave entrances.
5. Road and trail signs should not direct public attention to wild caves.
6. Access for exploration and development of locatable mineral resources will be analyzed in response to a proposed operating plan.
7. Potential impacts to cave resources will be considered in reviewing any project.
8. The water, sediment, nutrient, and temperature regimes of caves and karst features will be protected so these environments can function naturally.

Dams (FSM 7500)

1. For administrative class A, B, C, and high-hazard class D dams located on National Forest System lands, annually update the national inventory of dams (PL 99-662) in accordance with data elements required by the Federal Emergency Management Agency (FSM 7514). Maintain a record for all dams on National Forest lands over 6 feet high (vertical difference between the lowest point on the crest of the dam and the lowest point in the original streambed). As a minimum, the record should include the dam identification, location, purpose, owner, administrative classification, hazard-potential classification, height, and maximum storage. (FSM 7154)

Fire and Fuels (FSM 5100)

Fire Suppression

1. Structural firefighting is the responsibility of local fire service agencies. Structural fire protection from advancing wildfire within the national forest protection boundary is the responsibility of local fire-service agencies and the Forest Service. (FSM 5133.1)

Fuel Treatment

1. Cooperate with state and local governments and fire protection districts in the development of fire hazard reduction plans and ordinances by providing technical assistance. (FSM 3172, 3173, 3174)

2. Provide a level of protection from wildfire outside of incorporated towns that minimizes the risk of building damage or firefighter exposure. A fire management plan will be written for all facilities on national forest lands and will be maintained in the forest's fire management action plan (NFPA).

3. Standards will be used as guidelines for the development of individual plans. Each plan will provide guidance for structural, vegetative, and infrastructure management of the facilities on the Forest. Planning standards will be used to provide guidance for private landowners requesting direction for wildland fire protection improvements.

Prescribed Fire

1. Use prescribed fire to accomplish resource management objectives such as reducing fuel load buildup, wildlife habitat improvement, etc. Identify objectives in conjunction with a burning plan approved by a line officer. Prescribed burns adjoining private or other federal or state lands will be coordinated with the adjoining landowner. (FSM 5140)

2. Use prescribed fire where it will meet management objectives in the most economically and ecologically acceptable way. (FSM 5140)

Geology (FSM 2800)

1. Permit appropriate prospecting and collecting proposals for fossils and minerals by noncommercial, scientific, and/or educational institutions, and provide appropriate opportunities for recreational collection of mineral and fossil materials, where consistent with forest plan goals and objectives. (FSM 2860.3)

2. Prevent unauthorized removal of fossil and mineral resources. (FSM 5302)

3. Propose significant paleontologic sites for designation as Special Interest Areas or Geologic Areas. (FSM 2360, 2372, 4063)

4. Identify special geologic hazards and problems that affect land and resource management and encourage research in those areas. (FSM 2880, 2883, 2884)

Heritage Resources (FSM 2360)

1. Locate, evaluate, protect and foster public use and enjoyment of heritage resources.

   a) Protect all heritage resources listed on, or eligible for the National Register of Historic Places (NRHP).

   b) Nominate all eligible heritage resources to the NRHP.

c) All projects will be reviewed by a Forest Service heritage resources specialist. Complete heritage resource inventories, evaluations, and mitigation measures for a project's area of potential effect prior to issuing environmental decision notices. (FSM 2361)

d) Avoid effects to heritage resources until evaluated and determined ineligible for NRHP.

e) Implement appropriate mitigative measures in consultation with the State Historic Preservation Officer (SHPO) and/or the President's Advisory Council on Historic Preservation (ACHP) when eligible heritage resources will be affected.

f) Maintain, stabilize, or enhance all eligible heritage resources.

Integrated Pest Management (FSM 4500)

1. Use only chemicals registered with the Environmental Protection Agency and follow label instructions.

Lands (FSM 5400)

Landownership Adjustments

1. Work with other federal agencies to consolidate ownership and propose jurisdictional transfers that achieve the following objectives:

   a) Develop more effective and efficient work units.

   b) Reduce administrative costs.

   c) Improve, maintain, and simplify user access to public lands.

2. Adjust National Forest System and private lands to create a landownership pattern that meets objectives of the Forest Service and other landowners.

3. Manage National Forest System lands identified for exchange or sale consistent with surrounding management area goals and in accordance with the following:

   a) Terminate special-use permits on an opportunity basis and in compliance with applicable regulations and Forest Service policy.

   b) Renew or extend special-use permits on an annual basis only with specific notice of the potential sale or exchange included in the authorization.

   c) Do not authorize construction of additional permanent facilities.

   d) Do not adversely affect land values by management activities.

   e) Do not adversely affect land values through issuance of special-use permits.

   f) Acquire unrestricted rights-of-way whenever possible to maintain the value of the public land.

   g) Ensure needed public rights-of-way are retained across all lands conveyed out of public ownership. (FSM 5403.1)

4. Convey lands only if:

   a) Flood hazards on and downstream from conveyed lands are not increased.

   b) Natural and beneficial values of acquired wetlands equal or exceed those of conveyed wetlands.

   c) Natural water regimes in wetlands downstream from conveyed lands are not disrupted.

   d) Lands have been evaluated for the presence of hazardous materials, and known hazardous materials have been removed.

   e) Lands do not contain habitat identified by the U.S. Fish and Wildlife Service as necessary for recovery of federally listed threatened and endangered species.

   f) Lands do not contain unique resource characteristics. (FSH 5409.13, Chapter 30)

5. Effect jurisdictional transfers that achieve the following objectives:

   a) Reduce duplication of efforts by users and agencies in terms of time, cost, and coordination.

   b) Improve or maintain user access to the administrating agency.

   c) Decrease travel, and enhance management.

   d) Improve public understanding of applicable laws, regulations, policies, and procedures.

   e) Develop more effective and efficient work units.

Property Boundary Administration

1. Locate, mark, and post landlines according to the following priorities:

   a) Lines needed to meet planned activities;

   b) Lines needed to protect NFS lands from encroachment; and

   c) All other lines. (FSM 7152)

Minerals (FSM 2800)

General

1. Require an operating plan for each significant proposed mineral action that may disturb surface resources. (FSM 2817, 2818, 2820)
2. In areas of actively producing sites or areas containing known reserves, consider only surface resource programs compatible with mineral activities.
3. Provide reasonable access to outstanding and reserved mineral rights. (FSM 2830.5)
4. In designated wilderness areas, provide for reasonable access to proposed operations and for restoration of disturbed lands as near as practical to their natural condition when they are no longer needed for operation.
5. Consider significant cave discoveries for mineral withdrawal and other protection measures. (FSM 2761, 5302)

6. Deny drilling, mining, or production on withdrawn lands, with the exception of valid existing rights, at the time of withdrawal. (FSM 2811, 2818, 2822, 2823)

7. Resolve suspected abuse of the mining laws, such as occupancy of the land for purposes other than prospecting, mining, and related operations.

8. Avoid placing or proposing capital investments or other surface resource activities in areas where they would interfere with operating sites or known mineral resources. (FSM 2761)

9. Request mineral leasing withdrawals in situations such as for classified lands.

10. Cover mining activity by an operating plan and performance bond of the appropriate amount.

11. Reclamation will return disturbed lands to the planned uses.

Leasable Minerals

1. Approve applications for permit to drill (APD) in conformance with all stipulations included in the lease and necessary conditions of approval determined during review of the applications. (FSM 2800)

Geophysical Operations

1. Permit geophysical operations on withdrawn, classified lands where the operations do not interfere with purposes for which the lands are withdrawn.

2. Do not permit such operations if significant adverse effects cannot be prevented. (FSM 2860)

Coal, Uranium, and Non-Energy Common Materials

1. In designated wilderness, congressionally designated wilderness study areas, and areas recommended for wilderness in RARE II upon which Congress has not taken final action:

   a) Prospecting for and disposal of common varieties of mineral materials will not be authorized.

   b) Coal mining in the National Wilderness Preservation System is prohibited by the Coal Leasing Amendments Act of 1975.

   c) Unless there is statutory language to the contrary, in which case the statutory provisions control, recommend, or consent to Bureau of Land Management (BLM) for issuance of leases or permits where operations, including surface-based access, product transportation, and other necessary ancillary facilities, will not cause irreversible and irretrievable damage to surface resources and where the lands disturbed can be restored as near as practical to natural conditions.

2. In classified lands other than wilderness (wild and scenic river systems; RARE II further planning areas; national recreation areas; national historic sites; natural areas; special areas, such as geological, scenic, and zoological; and some other specific classifications):

   a) Authorize common variety exploration and disposals under terms and conditions to protect the purposes for which the lands were classified. The objective of reclamation requirements will be to return lands to a condition suitable for the purposes for which they were classified. For special areas classified under 36 CFR 294 and 251.23 for specific management purposes, the regulatory provisions permit no use or occupancy inconsistent with the classification.

   b) Coal mining is prohibited by the Coal Leasing Amendment Act of 1975, within the National System of Trails and the Wild and Scenic Rivers System, including study rivers designated by that Act.

   c) Recommend or consent to BLM for issuance of leases, permits, or licenses only when terms and conditions can be applied that will protect the purposes for which the lands were classified.

Range (FSM 2200)

1. Allotment management plans (AMPs) need to provide for threatened, endangered, and sensitive species. (FSM 2203, 2211, 2212)
2. When updating allotment management plans, display forage utilization factors by type of management, the season of use, and the ecological type by condition and seral stage within the AMP. (FSM 2210, 2211)
3. Construct structural improvements to maintain or improve rangeland conditions within classified wilderness, consistent with wilderness values. (FSM 2323.26)
4. Riparian utilization or stubble-remaining standards are to be developed and included in allotment management plans. Consider season of use to minimize impacts on riparian zones. (FSM 2211, 2212, 2526)
5. Give emphasis to developing livestock management strategies that are economically efficient, environmentally sound, and compatible with other resources. (FSM 2212.03 - 2212.8)
6. Structural and nonstructural improvements to maintain or improve rangeland conditions will be designed to benefit livestock and wildlife and minimize impacts on wildlife and recreation users. (FSH 2209.22, 2209.23, FSM 2240)

Recreation (FSM 2300)

Developed

1. Where terrain allows and demand exists, facilities will be considered for development to accommodate people with disabilities. Different challenge levels will be planned, depending upon the nature of the improvement and the principal form of recreation being provided.

2. The customer will be recognized as a spectrum of our society interested in a wide array of dispersed, sedentary, adventure, developed, guided, self-determined, motorized, and non-motorized activities in controlled and uncontrolled environments. Potential customers will be recognized as those who might use national forest resources if appropriate services and resources were available. (FSM 2330)

3. Sites will be managed and maintained according to the needs of customers using the site. Safety and cleanliness are of utmost importance. Remove hazardous and/or dead trees in developed sites. (FSM 2331 R-2 Supplement #70, FSM 2332)

4. The type and level of development sophistication in developed sites may vary, depending upon the situation and need. They are developed by the Forest Service, concessionaires or cooperators and may be managed by any or a mix of these. (FSM 2303)

Recreation Opportunity Spectrum

1. A recreation opportunity spectrum (ROS) map is included with this Forest Plan. A decision to change an ROS class will be documented in a National Environmental Policy Act (NEPA) decision document. (FSM 1922.15, 2310.3)

Research Natural Areas (FSM 4060)

1. Discourage or prohibit any public use which contributes to impairment of research or natural values (FSM 4063.36)

2. Use special-use permits or cooperative agreements to authorize and document scientific activity. (FSM 4063.37).

Rights-of-Way Acquisition (FSM 5460)

1. Acquire rights-of-way on existing and proposed Forest System roads and trails that cross lands other than National Forest System lands.

2. Acquire rights-of-way using the following criteria:

   a) Legal access for existing roads and trails that provide general access to the national forest.

   b) Legal access to support planned projects and high priority activities at least two years prior to project implementation. (FSM 5461.2)

Soils (FSM 2550)

1. Soil should not be displaced more than a continuous area of 100 square feet or more. (FSH 2509.18 R-2 Supplement)
2. Soils should not be compacted more than (FSM 2509.18 R-2 Supplement):

   a) A 15 percent increase in bulk density from the average undisturbed density, or

   b) Bulk density values that exceed the following threshold values:

   - 1.25g/cc silt and clay
   - 1.30 g/cc silty clay, silty clay loam, and silt loam
   - 1.40 g/cc loam and clay loam
   - 1.50 g/cc sandy loam, sandy clay loam, and sandy clay
   - 1.60 g/cc sand and loamy sand

3. Maintain adequate plant cover to protect the watershed and maintain plant health consistent with the soil type.
4. Management practices will be designed and implemented to maintain or improve the long-term soil productivity potential of the national forest. (FSH 2509 R-2 Supplement)
5. Soil quality monitoring will be conducted to determine if soil management goals, objectives, and standards are being achieved. (FSH 2509 R-2 Supplement)
6. Monitoring results will be used to adjust management activities and mitigating measures, where necessary, to prevent significant impairment of the long-term soil productivity. (FSH 2509 R-2 Supplement)

Special Land Uses (FSM 2700)

1. Act on special-use applications according to the following priorities:

   a) Those required by law or regulation or national in scope.

   b) Those in the public interest, mainly local or regional in nature.

   c) All others.

2. Do not approve any special-use applications that can be reasonably met on nonfederal or other federal lands unless it is clearly in the public interest. (FSM 2703.2)
3. Do not approve special-use applications for areas adjacent to developed sites unless the proposed use is compatible with the purpose and use of the developed site.
4. Utilize approved electronic sites where feasible.
5. Do not approve applications for use of federal land which involve any hazardous materials as defined in U.S. Code (USC) 9601 et seq., 40 Code of Federal Regulations (CFR) 261.30 and 40 CFR 302.4. The hazardous materials listed are individual chemicals. These references do not relate to hazardous waste dumps. (FSM 2703)

Timber (FSM 2400)

General

1. Forests are to be managed to provide net public benefits. Many different philosophies and strategies are used that provide benefits desired in the areas of urban interface, areas used for recreation and viewing, for wildlife habitat, watershed protection, water-yield enhancement, and others, as well as for wood and fiber products. In most cases, these must be integrated. Managers are to develop and use a wide variety of prescriptions to meet these public priorities and should supplement traditional economic considerations with both empirical and subjective ones. (FSM 2470.3)
2. Plan areas for timber harvest only if assured, based on existing technology and knowledge, that long-term soil productivity will not be degraded. (FSH 2409.26 Chapter 10)
3. Provide for wildlife habitat improvement and enhancement of other renewable resources in sale area improvement plans.

Tree Stand Improvement (Precommercial Thinning)

1. Provide for accelerated growth, create specific stocking, and improve quality and vigor of timber stands.
2. Silvicultural prescriptions for tree stand improvement, including thinning, should evaluate the tradeoffs associated with alternative treatments in terms of increased timber yields, economic efficiency, enhanced wildlife habitat, increased wood products yield and quality, improved long-term forest health, increased species and structural diversity, and the desired future condition of the stand. (FSH 2409.26c, FSH 2409.17)

Silvicultural Prescriptions

1. Silvicultural prescriptions will be prepared for all vegetation management activities proposing the management of forested vegetation to work toward achieving the desired future condition. (FSH 2409)
2. Apply a variety of silvicultural systems and harvest methods that best meets resource management objectives.
3. Prepare individual silvicultural prescriptions for areas or site-specific practices.
4. Use thinning practices that consider genetic diversity and competition among the trees for water, nutrients, and light. The frequency of thinning should depend upon the tree species, financial efficiency, and the site growing conditions (as commonly measured by site index). (FSH 2409.17 Chapter 6)
5. Where appropriate, reduce competition between desired trees and other vegetation. (FSH 2409.17 Chapter 6)
6. If the silvicultural system being applied to a particular area of the landscape is uneven-aged, harvest trees designated for commercial timber production based on the desired density, as determined by age class or size, and the objective for the area. (FSH 2409.26)

7. In most circumstances, rely on or make primary use of those silvicultural systems that ensure regeneration of forest stands through natural seeding and suckering. (FSH 2409.26b Chapter 70)

8. Use artificial regeneration methods when the natural sequence of events and/or environmental conditions cannot be relied on to regenerate the forests within 5 years or earlier. (FSH 2409.26b Chapter 70)

9. Inventory improvement needs in sale areas during sale reconnaissance. Use KV funds as applicable after sale closure to accomplish needed improvements, including education and interpretation. (FSH 2409.12 Chapter 10)

Transportation System Management (FSM 7700)

Transportation and Travel

1. Unless a proposed road is determined necessary as a permanent addition to the National Forest transportation system, close it and revegetate it. Revegetation will be achieved within six months. Close or obliterate temporary roads immediately when use ends. (FSM 7703.1)

2. Retain access rights. (FSM 7712.31)

3. Establish the specific purpose and intended use for each existing and proposed road, based on management direction. Document this purpose by writing specific road management objectives which include appropriate design, operation, and maintenance criteria. Employ traffic [travel] management strategies which encourage, accept, discourage, eliminate, unrestrict, or prohibit use on all roads. (FSM 7712.31)

4. Develop road management programs to require commercial users to pay their share of road maintenance.

5. Propose state and county roads as forest highways where the use and development of National Forest System lands affect the public road system, thus necessitating federal investments to ensure that these roads are safe and adequate. Such designation identifies state and local government roads that qualify for construction and reconstruction funding under the Forest Highway program. Designate and develop forest development roads as forest highways when use of the road meets requirements for forest highway designation. (FSM 7740.3)

6. Coordinate forest information and directional signs with appropriate transportation agencies. (FSH 7109.11)

Trails (FSM 2300)

7. Provide for a wide range of recreational opportunities, both motorized and non-motorized. The trail system on each national forest will:

   a) Consider barrier-free opportunities for all new construction or rehabilitation proposals.

   b) Not be dedicated to single use unless clearly necessary to resolve conflicts or create unique opportunities.

   c) Have documentation on the purpose and use of each trail. (FSH 2309)

8. Trail systems will be integrated across administrative boundaries, including adjacent Forest Service units, other federal agencies, state, and municipal trails. (FSM 2353)

9. Maintain each trail to the standard required for the intended user types. The permanent forest trail system will be determined and identified in the forest trail development plan. This plan will include the existing and future trail system, trail use type, trail management objectives, and ROS and visual quality constraints as they apply to trail experiences. (FSM 2353)

10. National historic, scenic, or recreation trails will receive higher priority than other trails for reconstruction, operation, and maintenance. (FSM 2353)

11. Maintain all trails to established forest standards.

    a) Maintain trails in accordance with standards in the Trail Handbook.

    b) Schedule trail maintenance in accordance with regional acceptable work standards.

12. Construct or reconstruct trails when needed as part of the transportation system.

Visual Quality (FSM 2380)

1. Management activities must be consistent with the visual quality objectives (VQO) in the forest plan unless a decision is made to change the VQO. A decision to change the VQO will be documented in project NEPA decision documents. (FSM 2382.21)

2. At the project implementation stage, the VQO should be refined to the project scale.

3. As new viewer platforms (such as roads, trails, recreation areas, or major housing developments outside national forests) are developed, the VQOs should be reassessed. (FSM 2382.32)

4. For areas which do not currently meet the VQO, use landscape rehabilitation as a short-term alternative to restore landscapes containing undesirable visual impacts to a desired visual quality. (FSM 2383)

Water (FSM 2520)

Water Quality

1. Develop integrated soil-water-fishery improvement schedules for watersheds, coordinated with other resources. Coordinate with staging wildlife agencies.

2. Apply treatment and land use controls as needed to restore soil productivity, water quality, channel stability, and aquatic habitat. (FSM 2522.03, 2522.2)

Wild and Scenic Rivers (FSM 2354)

1. The following guidelines set forth standards for determining the classification (wild, scenic, or recreational) and eventual management of designated Wild and Scenic Rivers (FSH 1909.12)

Wild Rivers

1. Cutting of trees will not be permitted except when needed in association with a primitive recreation experience (such as clearing for trails and protection of users) or to protect the environment (such as control of fire). Timber outside the boundary but within the visual corridors will be managed and harvested in a manner to provide special emphasis to visual quality.

2. All water supply dams and major diversions are prohibited.

3. No development of hydroelectric power facilities is permitted.

4. No flood control dams, levees, or other works are allowed in the channel or river corridor. The natural appearance and essentially primitive character of the river area must be maintained.

5. New mining claims and mineral leases are prohibited within 1/4 mile of the river. Valid claims will not be abrogated. Subject to regulations (36 CFR 228) that the Secretaries of Agriculture and Interior may prescribe to protect the rivers included in the National System, other existing mining activity would be allowed to continue. Existing mining activity must be conducted in a manner that minimizes surface disturbance, sedimentation, and visual impairment. Reasonable access will be permitted.

6. No roads or other provisions for overland motorized travel will be permitted within a narrow incised river valley or, if the valley is broad, within 1/4 mile of the river bank. A few inconspicuous roads leading to the boundary of the river area at the time of study will not disqualify wild river classification. Also, unobtrusive trail bridges can be allowed.

7. Agricultural use is restricted to a limited amount of domestic livestock grazing and hay production to the extent currently practiced. Row crops are prohibited.

8. Major public-use areas, such as large campgrounds, interpretive centers, or administrative headquarters are located outside the wild river area. Simple comfort and convenience facilities, such as fireplaces or shelters, may be provided as necessary within the river area. These should harmonize with the surroundings.

9. A few minor existing structures could be allowed assuming such structures are not incompatible with the essentially primitive and natural values of the viewshed. New structures would not be allowed except in rare instances to achieve management objectives (i.e. structures and activities associated with fisheries enhancement programs).

10. New transmission lines, gas lines, water lines, etc. are discouraged. Where no reasonable alternative exists, additional or new facilities should be restricted to existing rights-of-way. Where new rights-of-way are indicated, the scenic, recreational, and fish and wildlife values must be evaluated in the selection of the site.

11. Motorized travel on land or water could be permitted, but is generally not compatible with this classification.

Scenic Rivers

1. A wide range of silvicultural practices could be allowed provided that such practices are carried on in such a way that there is no substantial adverse effect on the river and its immediate environment. The river area should be maintained in its near natural environment. Timber outside the boundary but within the visual scene area should be managed and harvested in a manner that provides special emphasis on visual quality.

2. All water supply dams and major diversions are prohibited.

3. No development of hydroelectric power facilities is allowed.

4. Flood control dams and levees are prohibited.

5. Subject to regulations at 36 CFR 228 that the Secretaries of Agriculture and Interior may prescribe to protect the rivers included in the National System, new mining claims and mineral leases could be allowed and existing activities allowed to continue. However, mineral activity must be conducted in a manner that minimizes surface disturbance, sedimentation and pollution, and visual impairment.

6. Roads may occasionally bridge the river area and short stretches of conspicuous or longer stretches of inconspicuous and well-screened roads or screened railroads could be allowed. Consideration will be given to the type of use for which roads are constructed and the type of use that will occur in the river area.

7. A wider range of agricultural uses is permitted to the extent currently practiced. Row crops are not considered as an intrusion of the “largely primitive” nature of scenic corridors as long as there is not a substantial adverse effect on the natural-like appearance of the river area.

8. Larger scale public-use facilities, such as moderate size campgrounds, public information centers, and administrative headquarters, are allowed if such structures are screened from the river. Modest and unobtrusive marinas also can be allowed.

9. Any concentrations of habitations are limited to relatively short reaches of the river corridor. New structures that would have a direct and adverse effect on river values would no be allowed.

10. New transmission lines, gas lines, water lines, etc. are discouraged. Where no reasonable alternative exists, additional or new facilities should be restricted to existing rights-of-way. Where new rights-of-way are indicated, the scenic, recreation, and fish and wildlife values must be evaluated in the selection of the site.

11. Motorized travel on land or water may be permitted, prohibited, or restricted to protect the river values.

Recreational Rivers

1. Timber harvesting would be allowed under standard restrictions to protect the immediate river environment, water quality, scenic, fish and wildlife, and other values.
2. Existing low dams, diversion works, rip rap and other minor structures are allowed provided the waterway remains generally natural in appearance. New structures are prohibited.
3. No development of hydroelectric power facilities is allowed.
4. Existing flood control works may be maintained. New structures are prohibited.
5. Subject to regulations (36 CFR 228) that the Secretaries of Agriculture and Interior may prescribe to protect values of rivers included in the National System, new mining claims and mineral leases are allowed and existing activities are allowed to continue. Mineral activity must be conducted in a manner that minimizes surface disturbance, sedimentation and pollution, and visual impairment.
6. Paralleling roads or railroads could be constructed on one or both riverbanks. There can be several bridge crossings and numerous river access points.
7. Lands may be managed for a full range of agricultural uses to the extent currently practiced.
8. Campgrounds and picnic areas may be established in close proximity to the river. However, recreational classification does not require extensive recreation development.
9. Small communities as well as dispersed or cluster residential developments are allowed. New structures are allowed for both habitation and for intensive recreation use.
10. New transmission lines, gas lines, water lines, etc. are discouraged. Where no reasonable alternative exists, additional or new facilities should be restricted to existing rights-of-way. Where new rights-of-way are indicated, the scenic, recreation, and fish and wildlife values must be evaluated in the selection of the site.
11. Motorized travel on land or water may be permitted, prohibited, or restricted. Controls will usually be similar to surrounding lands and waters.

Wildlife and Fish (FSM 2600)

General

1. Manage animal damage in cooperation with the state wildlife agencies and Animal and Plant Health Inspection Service to prevent or reduce damage to other resources and direct control toward preventing damage or removing only the offending animal.

2. Provide forage for big game. Allocate forage to big game based on direction in management area prescriptions and FSM 2210, range analysis and allotment management planning.

Endangered or Threatened Species

1. Provide habitat for federally listed or proposed endangered or threatened species on National Forest System lands. (FSM 2672.24, 2676)

2. Complete biological evaluations on actions authorized through NEPA decision documents and funded or carried out by the Forest Service to determine the effects on federally listed or proposed endangered or threatened species. (FSM 2672.4)

3. Carry out consultation, informal or formal as appropriate, with the U.S. Fish and Wildlife Service when biological assessments determine that Forest Service actions may affect federally listed or proposed endangered or threatened species. (FSM 2671.45)

4. Carry out consultation, informal or formal as appropriate, with the U.S. Fish and Wildlife Service for Platte River system water depletions over 25 acre-feet, pursuant to the Intra-Service biological opinion issued on June 13, 1996, as amended on May 21, 1997. Carry out consultation, informal or formal as appropriate, with the U.S. Fish and Wildlife Service for Colorado River system water depletions.

Appendix CC

Relevant federal and state statutes and other regulations

STATUTES

American Indian Religious Freedom	*Act of August 11, 1978*
Americans With Disabilities Act	*Act of 1990*
Anderson-Mansfield Reforestation and Revegetation	*Act of October 11, 1949*
Antiquities Act	*Act of June 8, 1906*
Archaeological Resources Protection Act, as amended 1988	*Act of October 31, 1979*
Architectural Barriers Act	*Act of 1968*
Bankhead-Jones Farm Tenant Act	*Act of July 22, 1937*
Clarke-McNary Act	*Act of June 7, 1924*
Clean Air Act Amendments of 1977 and 1990	*Act of August 7, 1977*
Clean Water Acts (1948-87)	
Clean Water Amendments ("Federal Water Pollution Control Act Amendments of 1972")	
Color of Title	*Act of December 22, 1928*
Common Varieties of Mineral Materials	*Act of July 31, 1947*
Cooperative Forestry Assistance Act	*Act of July 1, 1978*
Disaster Relief Act	*Act of May 22, 1974*
Eastern Wilderness Act	*Act of January 3, 1975*
Economy Act	*Act of June 30, 1932*
Emergency Flood Prevention (Agricultural Credit Act)	*Act of August 4, 1978*
Endangered Species Act	*Act of December 28, 1973*
Energy Security Act	*Act of June 30, 1980*
Federal Advisory Committee Act	*Act of October 6, 1972*
Federal Cave Resources Protection Act	*Act of November 18, 1988*
Federal Coal Leasing Amendments Act	*Act of August 4, 1976*
Federal Insecticide, Rodenticide, and Fungicide Act	*Act of October 21, 1972*
Federal Land Policy and Management Act	*Act of October 21, 1976*

Federal Noxious Weed Act	*Act of January 3, 1975*
Federal Power Act	*Act of June 10, 1920*
Federal-State Cooperation for Soil Conservation	*Act of December 22, 1944*
Federal Water Pollution Control Act, as amended (Water Quality Act of 1965, Clean Water Restoration Act of 1966)	*Act of July 9, 1956*
Federal Water Project Recreation Act	*Act of July 9, 1965*
Fish and Wildlife Conservation	*Act of September 15, 1960*
Fish and Wildlife Coordination Act	*Act of March 10, 1934*
Forest and Rangeland Renewable Resources Planning Act	*Act of August 17, 1974*
Forest Highways	*Act of August 27, 1958*
Freedom of Information Act	*Act of November 21, 1974*
Geothermal Steam Act	*Act of December 24, 1970*
Granger-Thye Act	*Act of April 24, 1950*
Historic Preservation Act	*Act of October 15, 1966*
Joint Surveys of Watershed Areas Act	*Act of September 5, 1962*
Knutson-Vandenberg Act	*Act of June 9, 1930*
Land Acquisition	*Act of March 3, 1925*
Land Acquisition-Declaration of Taking	*Act of February 26, 1931*
Land Acquisition-Title Adjustment	*Act of July 8, 1943*
Land and Water Conservation Fund Act	*Act of September 3, 1964*
Law Enforcement Authority	*Act of March 3, 1905*
Leases Around Reservoirs	*Act of March 3, 1962*
Mineral Leasing Act	*Act of February 25, 1920*
Mineral Leasing Act for Acquired Lands	*Act of August 7, 1947*
Mineral Resources on Weeks Law Lands	*Act of March 4, 1917*
Mineral Springs Leasing	*Act of February 28, 1899*
Mining and Minerals Policy Act of 1970	*Act of December 31, 1970*
Mining Claims Rights Restoration Act	*Act of August 11, 1955*
Multiple Use and Sustained Yield Act	*Act of June 12, 1960*
National Environmental Policy Act	*Act of January 1, 1970*
National Forest Management Act	*Act of October 22, 1976*
National Forest Roads and Trails Act	*Act of October 13, 1964*
National Historic Preservation Act	*Act of October 15, 1966*

National Historic Preservation Act Amendments of 1980 and 1992	*Act of December 12, 1980*
National Trails System Act	*Act of October 2, 1968*
Occupancy Permits	*Act of March 4, 1915*
Organic Administration Act	*Act of June 4, 1897*
Petrified Wood	*Act of September 28, 1962*
Pipelines	*Act of February 25, 1920*
Preservation of American Antiquities	*Act of June 8, 1906*
Preservation of Historical and Archaeological Data	*Act of May 24, 1974*
Public Land Surveys	*Act of March 3, 1899*
Public Rangelands Improvement Act	A*ct of October 25, 1978*
Rehabilitation Act of 1973, as ammended	*Act of 1973*
Renewable Resources Extension Act	*Act of June 30, 1978*
Research Grants	*Act of September 6, 1958*
Right of Eminent Domain	*Act of August 1, 1888*
Rural Development Act	*Act of August 30, 1972*
Safe Drinking Water Amendments	*Act of November 16, 1977*
Sikes Act	*Act of October 18, 1974*
Small Tracts Act	*Act of January 22, 1983*
Smokey Bear Act	*Act of May 23, 1952*
Soil and Water Resources Conservation Act	*Act of November 18, 1977*
Solid Waste Disposal (Resource Conservation & Recovery Act)	*Act of October 21, 1976*
Supplemental National Forest Reforestation Fund	*Act of September 18, 1972*
Surface Mining Control And Reclamation Act	*Act of August 3, 1977*
Sustained Yield Forest Management	*Act of March 29, 1944*
Timber Export	*Act of March 4, 1917*
Timber Exportation	*Act of April 12, 1926*
Title Adjustment	*Act of April 28, 1930*
Toxic Substances Control Act	*Act of October 11, 1976*
Transfer Act	*Act of February 1, 1905*
Twenty-Five Percent Fund	*Act of May 23, 1908*
Uniform Federal Accessibility Standards U.S. Criminal Code (Title 18 USC Chapter 91 – Public Lands)	*Act of June 25, 1948*
U.S. Mining Laws (Public Domain Lands)	*Act of May 10, 1872*

Volunteers in the National Forests Act	*Act of May 18, 1972*
Water Quality Improvement Act	*Act of April 3, 1965*
Water Resources Planning Act	*Act of July 22, 1965*
Watershed Protection and Flood Prevention Act	*Act of August 4, 1954*
Weeks Act	*Act of March 1, 1911*
Weeks Act Status for Certain Lands	*Act of September 2, 1958*
Wild and Scenic Rivers Act	*Act of October 2, 1968*
Wild Horse Protection	*Act of September 8, 1959*
Wild Horses and Burros Protection Act	*Act of December 15, 1971*
Wilderness Act	*Act of September 3, 1964*
Wildlife Game Refuges	*Act of August 11, 1916*
Wood Residue Utilization Act	*Act of December 19, 1980*
Woodsy Owl/Smokey Bear Act	*Act of June 22, 1974*
Youth Conservation Corps	*Act of August 13, 1970*

REGULATIONS

36 CFR 60	National Register of Historic Places
36 CFR 212	Forest Development Transportation System
36 CFR 213	Administration Under Bank-Jones Act
36 CFR 219	Planning
36 CFR 221	Timber Management Planning
36 CFR 222	Range Management
36 CFR 223	Sale and Disposal of National Forest System Timber
36 CFR 228	Minerals
36 CFR 241	Fish and Wildlife
36 CFR 251	Land Uses
36 CFR 254	Landownership Adjustments
36 CFR 261	Prohibitions
36 CFR 291	Occupancy and Use of Developed Sites and Areas of Concentrated Public Use
36 CFR 292	National Recreation Areas
36 CFR 293 s	Wilderness Primitive Area
36 CFR 294	Special Areas

36 CFR 295	Use of Motor Vehicles off Forest Development Roads
36 CFR 296	Protection of Archaeological Resources
36 CFR 297	Wild and Scenic Rivers
36 CFR 800	Advisory Council on Historic Preservation
40 CFR 1500-1508	Council on Environmental Quality
National Electrical Code	
National Fire Code	
Uniform Building Code	
Uniform Mechanical Code	
Uniform Plumbing Code	

EXECUTIVE ORDERS

EO 11593	Protection and Enhancement of Cultural Environment
EO 11988	Floodplain Management
EO 11644/11989	Use of Off-Road Vehicles
EO 11990	Protection of Wetlands
EO 12113	Independent Water Project Review
EO 13007	Indian Sacred Sites

STATE AND LOCAL LAWS

Colorado Air Quality Control Act

AGREEMENTS

Memorandum of Understanding

White River National Forest and Aspen Wilderness Workshop

- Includes cooperative efforts to annually monitor and report on wilderness lake monitoring, visibility monitoring, and aerosol monitoring on Aspen District.

Memorandum of Understanding

White River National Forest and Bureau of Land Management

- Provides guidance for coordinating the joint issuance and administration of Christmas tree permits.

Memorandum of Understanding

State of Colorado and Forest Service, National Park Service, and Bureau of Land Management

- Colorado Smoke Management Plan – January 1, 2001

Colorado Senate Bill 94-217 (1994)

- Requires State Air Pollution Control Division to periodically evaluate federal actions and their impacts to visibility and other air-quality-related values in Class I areas.

Federal Multi-Agency Source Water Agreement

- 13 federal agencies, including the Forest Service, agreed to assist states and local entities, within the mission and resource of the agency, to complete local source water assessments and protection activities.

Appendix DD

Fish and wildlife management in wilderness

Introduction

The following are policies and guidelines for fish and wildlife management in National Forest System and Bureau of Land Management wilderness (FS, BLM, and IAFWA – August 1986):

Purpose

This statement of policy and the following guidelines are intended to provide guidance to state and federal personnel for the management of fish and wildlife in wilderness in accordance with the Wilderness Act of 1964 (16 USC 1131-1136). Both state and federal agencies are responsible for fostering mutual understanding and cooperation in the management of fish and wildlife in wilderness. These guidelines should serve as a framework for cooperation among the Forest Service, the Bureau of Land Management, and the states in the coordination of fish and wildlife management and in the development of cooperative agreements or other management plans.

These policies and guidelines were developed within the overall context of the purpose and direction of the Wilderness Act, and they should be made available to all agencies responsible for management of the National Wilderness Preservation System, to appropriate state fish and wildlife agencies, and to other interested parties.

General policy

Fish and wildlife management activities in wilderness will be planned and carried out in conformance with the Wilderness Act's purpose of securing an "enduring resource of wilderness" for the American people. The wilderness resource is defined in section 2(c) of the Act as an area essentially "untrammeled by man," where natural ecological processes operate freely, and the area is "affected primarily by the forces of nature." The National Wilderness Preservation System will be managed to ensure that ecological succession, including fire and infestation of insects, operate as freely as possible with only minimum influence by humans.

Fish and wildlife management activities will emphasize the protection of natural processes. Management activities will be guided by the principle of doing only the minimum necessary to manage the area as wilderness.

Section 4(d)(7) of the Wilderness Act stipulates that: "Nothing in this Act will be construed as affecting the jurisdiction or responsibilities of the several states with respect to wildlife and fish in the national forests." Angling, hunting, and trapping are legitimate wilderness activities, subject to applicable state and federal laws and regulations.

This nation is fortunate in having a National Wilderness Preservation System encompassing a wide range of ecosystems. Specific on-the-ground conditions will result in slightly different application of these guidelines in so vast a system. These different applications are spelled out in national forest plans or wilderness management plans. This is both appropriate and proper, if nature is to be allowed to play the dominant role.

Aerial fish stocking

Aerial stocking of fish will be permitted for those waters in wilderness where this was an established practice before wilderness designation or where other practical means are not available. Aerial stocking requires approval by the administering agency.

Guidelines

a) As justification for aerial stocking, the state agency will supply the administering agency a list of those waters where stocking with aircraft was an established practice before wilderness designation, indicating the type of aircraft used (fixed-wing or helicopter). This justification will become a part of the wilderness management plan.

b) To stock waters that had not been aerially stocked before wilderness designation, the state agency will demonstrate to the administering agency the need for using aircraft.

c) Plan aircraft flights over wilderness to minimize disturbance. Consider season of year, time of day, route and altitude of flight, and location of landing areas on the perimeter of the wilderness.

Angling, hunting, and trapping

Angling, hunting, and trapping are legitimate wilderness activities subject to applicable state and federal laws and regulations.

Chemical treatment

Chemical treatment may be necessary to prepare waters for the reestablishment of indigenous species, to protect or recover federally listed threatened or endangered species, or to correct undesirable conditions resulting from the influence of humans. Species of fish traditionally stocked before wilderness designation may be considered indigenous if the species is likely to survive. Undesirable conditions and affected species will be identified in wilderness plans.

Guidelines

a) Use only registered pesticides according to label directions.

b) In selecting pesticides, give preference to those that will have the least impact on non-target species and on the wilderness environment.

c) Schedule chemical treatments during periods of low human use, insofar as possible.

d) Immediately dispose of fish removed in a manner agreed to by the administering agency and the state agency.

Facility development and habitat alteration

In rare instances, facility development and habitat alteration may be necessary to alleviate adverse impacts caused by human activities on fish and wildlife. For the benefit of wildlife that spend only part of the year in wilderness, give first priority to locating facilities or habitat alterations outside wilderness.

Flow-maintenance dams, water developments, water diversion devices, ditches and associated structures, and other fish and wildlife habitat developments necessary for fish and wildlife management (which were in existence before wilderness designation) may be permitted to remain in operation.

Clearing of debris that impedes the migratory movements of fish on primary spawning streams may be permitted, but only in a manner compatible with the wilderness resource.

Maintenance of existing water supplies and development of additional water supplies may be permitted, but only when essential to preserve the wilderness resource and to correct unnatural conditions resulting from human influence.

Guidelines

a) Submit proposals for new structures or habitat alterations to the administering agency for approval.

b) Build or maintain new and existing structures permitted for wildlife management in a manner that minimizes the visual impacts on the landscape.

c) Limit clearing of debris from spawning streams to those identified in the wilderness management plan as being critical to the propagation of fish.

d) Use only non-motorized equipment to clear debris. Use explosives only when the use of hand tools is not practical, and only outside of heavy visitor-use periods.

e) The administering agency and the state agency will jointly make decisions to remove existing water-related improvements.

f) If it is necessary to restore essential food plants after human disturbance, use only indigenous plant species.

Fire management

The objectives of fire management in wilderness are to: (a) permit lightning-caused fires to play, as nearly as possible, their natural ecological role within wilderness; and (b) reduce, to an acceptable level, the risks and consequences of wildlife within wilderness or escaping from wilderness. Fire ignited by lightning will be permitted to burn or will be suppressed as prescribed in an approved plan. Prescribed fires ignited by man may be permitted to reduce unnatural buildup of fuels only if necessary to meet objectives (a) and (b) above. Although additional benefits may result from human-ignited prescribed fire, vegetation manipulation will not be used to justify such fires.

Fish and wildlife research

Research on fish and wildlife, their habitats, and the recreational users of these resources is a legitimate activity in wilderness when conducted "in a manner compatible with the preservation of the wilderness environment" (Sec. 4(d)(1) of the Wilderness Act). Methods that temporarily infringe on the wilderness environment may be approved if alternative methods or other locations are not available. Research or management surveys must be approved in writing, on a case-by-case basis, by the administering agency.

Helicopters and fixed-wing aircraft overflights may be used to conduct approved fish and wildlife research activities. Aircraft must be used in a manner that minimizes disturbance of other users, including humans and wildlife.

All fish and wildlife studies within and over wilderness must be conducted so as to preserve the natural character of the wilderness. Aerial counts and observations of wildlife may be permissible for management of wilderness wildlife resources. Capturing and marking of animals, radio telemetry, and occasional temporary installations (such as shelters for cameras and scientific apparatus and enclosures and exclosures essential to wildlife research or management surveys) may be permitted, if they are essential to studies that cannot be accomplished elsewhere.

Guidelines

a) Obtain scientific written approval or permits from the administering agency before erecting any structure, enclosure, or exclosure.

b) Locate and construct all structures so as to make them unobtrusive on the landscape.

c) Construct structures of native materials or camouflage to make them blend with their natural surroundings.

d) Plan aircraft flights over wilderness to minimize disturbance. Consider time of day, season of the year, route and altitude of flight, and location of landing areas on the perimeter of the wilderness.

e) Research projects underway when a wilderness is designated may continue, but modify research methods to minimize disturbance of the wilderness environment.

f) Installation of permanent base stations within wilderness is not permitted for monitoring of radio-instrumented animals.

g) The administering agency should only approve capture methods that minimize the impact on the wilderness environment.

Fish stocking

Fish stocking may be conducted by the state agency in coordination with the administering agency, using means appropriate for wilderness, when either of the following criteria is met: (a) to reestablish or maintain an indigenous species adversely affected by human influence; or (b) to perpetuate or recover threatened or endangered species.

Selection of species for stocking will be determined jointly by the administering agency and the state agency. Exotic species of fish will not be stocked. The order of preference for stocking fish species is (a) federally listed threatened or endangered species, (b) indigenous species. Species of fish traditionally stocked before wilderness designation may be considered indigenous if the species is likely to survive. Numbers and size of fish and time of stocking will be determined by the state agency.

Barren lakes and streams may be considered for stocking, if there is mutual agreement that no appreciable loss of scientific values or adverse effects on wilderness resources will occur.

Guidelines

a) The state agency will make fish stocking schedules available to the administering agency, indicating what species and numbers are planned for each water within a wilderness.

b) Adjust stocking rates to minimize the likelihood of exceeding the carrying capacity of the water being stocked so as to reduce the chance of producing a population imbalance and to minimize the likelihood of attracting overuse detrimental to the wilderness resource.

Motorized equipment

Section 4(c) of the Wilderness Act states:

> *Except as specifically provided for in this Act, and subject to existing private rights, there will be no commercial enterprise and no permanent road within any wilderness area designated by this Act and, except as necessary to meet minimum requirements for this administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there will be no temporary road, no use of motor vehicles, motorized equipment, or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.*

The emphasis is on the management of the area as wilderness as opposed to the management of a particular resource. This language is viewed as direction that all management activities within wilderness be done without motor vehicles, motorized equipment, or mechanical transport, unless truly necessary to administer the area or specifically permitted by other provisions in the Act. It means that any such use should be rare and temporary, that no roads can be built, and that Wilderness managers must determine such use is the minimum necessary to accomplish the task. Any use of motorized equipment or mechanical transport requires advance approval by the administering agency.

Population sampling

Scientific sampling of fish and wildlife populations is an essential procedure in the protection of natural populations in wilderness.

Guidelines

a) Use only methods that are compatible with the wilderness environment.

b) Gill netting, battery-operated electrofishing, and other standard techniques of population sampling may be used.

c) Closely coordinate sampling activities with the administering agency and schedule them to avoid heavy public-use periods.

Spawn taking

The collection of fish spawn will be permitted from wilderness when alternative sources are unavailable or unreliable, or where spawn taking was an established practice before wilderness designation.

Guidelines

a) Do not use motorized equipment to assist in collecting and removing spawn.

b) Use of techniques and facilities necessary to take spawn, which were in existence before wilderness designation, may continue as provided for in the wilderness management plan.

c) Facilities for spawn-taking stations must be approved after wilderness designation and must be removed after the termination of each season's operation.

d) Decisions to prohibit spawn taking, where it was an established practice before wilderness designation, will be made jointly by the administering agency and the state agency.

Threatened & endangered species

Many wilderness areas provide important habitat for federally listed threatened and endangered species of wildlife. Actions necessary to protect or recover threatened or endangered species, including habitat manipulation and special protection measures, may be implemented in wilderness. But such actions must be necessary for the perpetuation or recovery of the species and it must be demonstrated that the actions cannot be done more effectively outside wilderness. Use only the minimum actions necessary and the methods most appropriate in wilderness.

Guidelines

a) Manage wilderness to protect known populations of federally listed threatened or endangered species where necessary for their perpetuation and to aid in their recovery in previously occupied habitat.

b) When alternative areas outside of wilderness offer equal or better opportunities for habitat improvement or species protection, take actions to recover threatened or endangered species outside of wilderness first.

c) Threatened and endangered species may be transplanted into previously occupied habitat within wilderness.

d) All transplants or habitat improvement projects require approval by the administering agency.

e) To prevent federal listing, protect indigenous species that could become threatened or endangered or are listed as threatened or endangered by states.

Transplanting wildlife

Transplants (removal, reintroduction, or supplemental introduction) of terrestrial wildlife species in wilderness may be permitted if necessary to: (a) perpetuate or recover a threatened or endangered species; or (b) restore the population of an indigenous species eliminated or reduced by human influence.

Transplants will be made in a manner compatible with the wilderness character of the area. Transplant projects, including follow-up monitoring, require advance written approval by the administering agency.

Guideline

a) Motorized methods and temporary holding and handling facilities may be permitted if they are the minimum necessary to accomplish an approved transplant.

Wilderness wildlife resources

Many wildlife species are sensitive to human encroachments on their ranges. Grizzly bear, bighorn sheep, elk, mountain goat, birds of prey (such as peregrine falcon and bald eagle), other migratory and resident birds, and certain other wilderness wildlife species cannot tolerate excessive human disturbance, particularly during certain seasons of the year.

When necessary to reduce human disturbance to a wildlife species, the administering agency, in coordination with the state agency, may take direct or indirect management actions to control visitor use.

Guidelines

a) Specify in the wilderness management plan the management actions necessary and the agency responsible to reduce conflicts with wildlife.

b) If and when it becomes apparent that public use is significantly degrading the wilderness wildlife resources, limitations on visitor use may be imposed and enforced by the appropriate agency. Any limitations will be applied equitably to all wilderness visitors.

Wildlife damage control

Wildlife damage control in wilderness may be necessary to protect federally listed threatened or endangered species, to prevent transmission of diseases or parasites affecting other wildlife and humans, or to prevent serious losses of domestic livestock. Control of non-indigenous species also may be necessary to reduce conflicts with indigenous species, particularly if the latter species are threatened or endangered.

Guidelines

a) Acceptable control measures include lethal and non-lethal methods, depending upon need, justification, location, conditions, efficiency, and applicability of state and federal laws.

b) Control measures will be implemented by the Animal and Plant Health Inspection Service, the administering agency, the state fish and wildlife agency, or other approved state agency, pursuant to cooperative agreements or memoranda of understanding. Wildlife damage control must be approved by the administering agency on a case-by-case basis.

c) Direct control at individual animals causing the problem.

d) Use only the minimum amount of control necessary to solve the problem.

e) Use pesticides only where other measures are impractical. Use only registered pesticides according to label directions and subject to the following restrictions

1) Pesticides may be applied only by certified pesticide applicators.
2) The placement of pesticides will be accurately indicated on the largest scale USGS map available.
3) Place warning signs at the entrance to the area where pesticides are being used to warn the public of any dangers to themselves or their pets.
4) In the selection of pesticides, give preference to those that will have the least impact on non-target species and on the wilderness environment.

Appendix EE
List of species

The following tables display federal threatened, endangered, and proposed species; Region 2 sensitive species; management indicator species; species of concern; species of viability concern; and species needing more baseline inventory and evaluation to determine status on the White River National Forest.

Table EE 1, 2, 3 Threatened, Endangered, Region 2 Sensitive (on or potential for WRNF), and Management Indicator Species (MIS)

KEY
WHR - White River NF
K - Species currently documented to occur on National Forest System (NFS) lands.
L - Species or habitat is suspected to occur on NFS lands, but unconfirmed.
P – Potential site for reintroduction of the species has been identified.
N - Species not known or suspected to occur on NFS lands, however it may occur in planning area vicinity. Evaluate whether indirect effects from Forest Service management actions may occur.

	WHR
STATUS: ENDANGERED	
MAMMALS	
BIRDS	
FISHES	
Humpback chub *Gila cypha*	N
Bonytail chub *Gila elegans*	N
Colorado pikeminnow *Ptychocheilus lucius*	N
Razorback sucker *Xyrauchen texanus*	N
INVERTEBRATES	
Uncompahgre fritillary *Boloria acrocnema*	L
PLANTS	
STATUS: THREATENED	
MAMMALS	
Canada lynx *Lynx canadensis*	K
BIRDS	
Mexican spotted owl *Strix occidentalis lucida*	L
FISHES	

	WHR
Greenback cutthroat trout *Oncorhynchus clarki stomias*	K
INVERTEBRATES	
PLANTS	
Eutrema penlandii Penland alpine fen mustard	K
STATUS: SENSITIVE	
MAMMALS	
Spotted bat *Euderma maculatum*	K
North American wolverine *Gulo gulo*	K
River otter *Lontra canadensis*	L
American marten *Martes americana*	K
Fringed myotis *Myotis thysanodes*	L
Rocky Mountain bighorn sheep *Ovis canadensis canadensis*	K
Townsend's big-eared bat *Plecotus townsendii*	K
Pygmy shrew *Sorex hoyi*	L
BIRDS	
Northern goshawk *Accipiter gentilis*	K
Boreal owl *Aegolius funereus*	K
Sage sparrow *Amphispiza bellii*	L
Ferruginous hawk *Buteo regalis*	K
Greater sage-grouse *Centrocercus urophasianus*	K
Northern harrier Circus cyaneus	K
Olive-sided flycatcher *Contopus cooperi*	K
Black swift *Cypseloides niger*	K
American peregrine falcon Falco peregrinus anatum	K
Bald eagle *Haliaeetus leucocephalus*	K
White-tailed ptarmigan Lagopus leucurus	K
Loggerhead shrike *Lanius ludovicianus*	K
Lewis's woodpecker *Melanerpes lewis*	L
Flammulated owl *Otus flammeolus*	K
American three-toed woodpecker Picoides dorsalis	K
Purple martin *Progne subis*	K

	WHR
Brewer's sparrow *Spizella breweri*	K
Columbian sharp-tailed grouse Tympanuchus phasianellus columbianus	L
AMPHIBIANS	
Boreal toad *Anaxyrus boreas boreas*	K
Northern leopard frog *Lithobates pipiens*	K
REPTILES	
FISHES	
Bluehead sucker *Catostomus discobolus*	K
Flannelmouth sucker *Catostomus latipinnis*	K
Mountain sucker *Catostomus platyrhynchus*	K
Roundtail chub *Gila robusta*	K
MOLLUSCS	
INSECTS	
Nokomis fritillary (*aka* Great Basin silverspot) *Speyeria nokomis nokomis*	L
PLANTS – Non-vascular	
Sphagnum angustifolium (Sphagnum)	K
PLANTS – Ferns & Allies	
Carex diandra (lesser panicled sedge)	K
Eriophorum altaicum var. *neogaeum* (whitebristle cottongrass)	K
Eriophorum chamissonis (Chamisso's bristlegrass)	K
Eriophorum gracile (slender bristlegrass)	K
Ptilagrostis porteri (Porters' false needlegrass)	K
PLANTS – Dicots	
Armeria maritima ssp. *sibirica* (Siberian sea thrift)	K
Astragalus leptaleus (park milkvetch)	K
Astragalus wetherillii (Wetherill's milkvetch)	K
Braya glabella (smooth northern-rockcress)	K
Cirsium perplexans (Rocky mountain thistle)	K
Draba exunguiculata (clawless draba)	K
Draba grayana (Gray's draba)	K
Machaeranthera coloradoensis (Colorado tansyaster)	K

	WHR
Parnassia kotzebuei (Kotzebue's grass of Parnassus)	K
Penstemon harringtonii (Harrington's beardtongue)	K
Phacelia scopulina var. *submutica (Candidate)* (Debeque phacelia)	K
Ranunculus karelinii [R. gelidus ssp. grayi] (ice cold buttercup)	K
Thalictrum heliophilum (Cathedral Bluff meadow-rue)	K
STATUS: MIS	
MAMMALS	
American Elk	K
Cave Bats	K
BIRDS	
American Pipit	K
Brewer's Sparrow	K
Virginia's Warbler	K
INSECTS	
Aquatic Microinvertebrates	
All trout (includes brook, brown, rainbow, and Colorado River cutthroat)	K

Updated to reflect current ESA listing status, the revised (May 2009) sensitive species list, and the amended MIS list

Table EE-4
Species of concern on the White River National Forest

Common name	Scientific name
Mule deer	*Odocoilus hemionus*
Bighorn sheep	*Ovis canadensis*
American peregrine falcon	*Falco peregrinus anatum*

Table EE-5
Species of viability concern on the White River National Forest

Common name	Scientific name	Common name	Scientific name
Plants			
Colorado tansy-aster	*Machaeranthera coloradoensis* (Gray) Osterhout var. *brandegei* (Rydberg) T.J. Watson	Sea pink	*Armeria scabra* Pallas spp. *sibirica* (Turczanivov ex Boissier) Hylander
Leadville milkvetch	*Astragalus molybdenus* Barneby	Smooth rockcress	*Braya glabella* (Richardson) S. Watson var. *glabella*
Altai cotton-grass	*Eriophorum altaicum* Meinsh. var. *neogaeum* Raymond	Kotzebue grass-of-Parnassus	*Parnassia kotzebuei* Chamisso and Schlechtendal
Harrington beardtongue	*Penstemon harringtonii* Penland	De Beque phacelia	*Phacelia submutica* J.T. Howell
Porter feathergrass	*Ptilagrostis porteri* (Rydberg) W.A. Weber	Tundra buttercup	*Ranunculus gelidus* Karlin and Kirilov spp. *grayi* (Britton) Hulten
Sun-loving meadowrue	*Thalictrum heliophilum* Wilken and DeMott	Penland alpine fen mustard	*Eutrema edwardsii* R. Brown ssp. *penlandii* (Rollins) W.A. Weber
Birds			
Pygmy nuthatch	*Sitta pygmaea*	Northern sage grouse	*Centrocercus urophasianus*
Barrow's goldeneye	*Bucephala islandica*	Brewer's sparrow	*Spizella breweri*
Mammals			
Townsend's big-eared bat	*Corynorhinus townsendii*	Fringed myotis	*Myotis thysanodes*
Canada lynx	*Lynx canadensis*	North American wolverine	*Gulo gulo luscus*
Fish			
Bonytail	*Gila elegans*	Colorado pikeminnow	*Ptychocheilus lucius*
Humpback chub	Gila cypha	Razorback sucker	*Xyrauchen texanus*
Roundtail chub	*Gila robusta*	Colorado River cutthroat trout	*Oncorhynchus clarki pleuriticus*
Amphibians			
Boreal western toad	*Bufo boreas boreas*	Northern leopard frog	*Rana pipiens*

Table EE-6
Species needing more baseline inventory and evaluation to determine status on the White River National Forest

Common name	Scientific name	Common name	Scientific name
Plants			
Arctic braya	*Braya glabella* (Richardson) S. Watson *var. glabella*	Lance-leaved moonwort	*Botrychium lanceolatum* (Gmelin) Angstrom var. *lanceolatum*
Colorado wild buckwheat	*Erigonum coloradense* Small	Pale moonwort	*Botrychium pallidum* W.H. Wagner
Brewer's cliff-brake	*Pellaea breweri* Chamissoo and Schlechtendal	Reflected moonwort	*Botrychium echo* W.H. Wagner
Stiff clubmoss	*Lycopodium dubium* Zoega	Canyon bog-orchid	*Limnorchis ensfolia* Rydberg
Rocky Mountain columbine	*Aquilegia saximontana* Rydberg ex B.L. Robinson in A. Gray	Grand mesa penstemon	*Penstemon mensarum* Pennell
Draba	*Draba spectabilis* Greene *var. oxyloba* (Greene) Gilg and Schulz	Slender rock-brake	*Cryptogramma stelleri* (Gmelin) Prantl
Arctic draba	*Draba fladnizensis* Payson	Weber saussurea	*Saussurea weberi* Hulten
Clawless draba	*Draba exunguiculata* (O.E. Schulz) C.L. Hitchcock	Tundra saxifrage	*Muscaria monticola* Small
Porsild draba	*Draba porsildii* Mulligan	Lesser panicled sedge	*Carex diandra* Schrank
Tundra draba	*Draba ventosa* A. Gray	Low northern sedge	*Carex concinna* R. Brown
Woods draba	*Draba oligosperma* Hooker	Mud sedge	*Carex limosa* Linnaeus
Mountain bladder fern	*Cystopteris montana* (Lamarck) Bernhardi ex Desveaux	Green spleenwort	*Asplenium trichomanes-ramosum* Linnaeus
Oak fern	*Gymnocarpium dryopteris* (l.) Newman	Hanging garden sullivantia	*Sullivantia hapemanii* (Coulter & Fisher) Coulter var. *purpusii* (Brandegee) Soltis
Wooly fleabane	*Erigeron lanatus* Hooker	Broad-leaved twayblade	*Listera convallarioides* (Swartz) Nuttall
Globe gilia	*Ipomopsis globularis* (Brand) W.A. Weber	Northern twayblade	*Listera borealis* Morong
Large-flower globe-mallow	*Iliamna grandiflora* (Rydberg) Wiggins	Northern rockcress	*Draba borealis* De Candolle
Snow grass	*Phippsia algida* (Phipps) R.Br.	Colorado divide whitlow-grass	*Draba streptobrachia* Price
Dwarf hawksbeard	*Askellia nana* (Richardson) W.A. Weber	Gray's peak whitlow-grass	*Draba grayana* (Rydberg) C.L. Hitchcock
Purple lady-slipper	*Cypripedium fasciculatum* Kellogg ex S. Watson	Lancepod whitlowgrass	*Draba lonchocarpa* Rydberg *var. lonchocarpa*
Wetherill milkvetch	*Astragalus wetherillii* M. E. Jones	Mountain whitlow-grass	*Draba rectifructa* C.L. Hitchcock
Common moonwort	*Botrychium lunaria* (Linnaeus) Swartz	Thick-leaf whitlow-grass	*Draba crassa* Rydberg

Table EE-6 continued

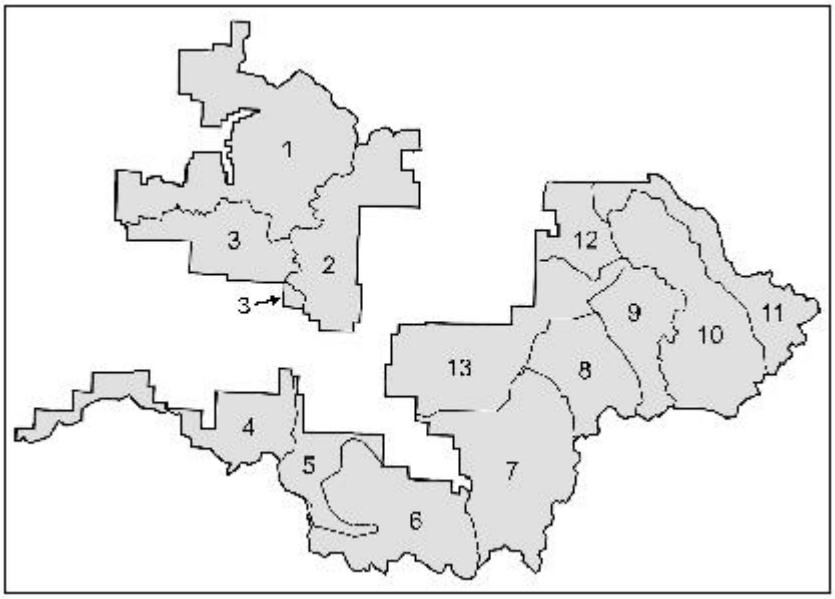
Common name	Scientific name	Common name	Scientific name
Birds			
Black swift	*Cypseloides niger*		
Mammals			
Spotted bat	*Euderma maculatum*		
Invertebrates			
Fragil ancylid	*Ferrissia fragilis*	Desert forktail	*Ischnura barberi*
Dark blue butterfly	*Lycaeides idas sublivens*	Swampy lymnaea	*Lymnaea stagnalis*
Theano alpine butterfly	*Erebia theano*	Two-banded skipper	*Pyrgus ruralis*
Uncompahgre fritillary butterfly	*Boloria acrocnema*	Umbilicate sprite	*Promenetus umbilicatellus*
White-veined arctic butterfly	*Oeneis taygete*	Short-tailed black swallowtail	*Papilio indra minori*
Painted damsel	*Hesperagrion heterodoxum*	Mossy valvata	*Valvata sincera*
Hudsonian emerald	*Somatochlora hudsonica*		

Appendix FF

Late-successional and old-growth forest standard

Introduction This appendix is biodiversity standard #5 of the forest-wide standards and guidelines. To ensure that late-successional (mature and old-growth forest with moderate to dense canopy closure, defined as structural stages 4B, 4C, and 5) and old-growth (as described by M. Mehl 1992) forests are well-distributed across the White River National Forest, the forest has been divided into 13 **late-successional assessment areas** (LSAAs), as shown in **Figure FF-1**.

Figure FF-1
Late-successional assessment areas on the White River National Forest



These areas are large enough to incorporate the effects of natural landscape disturbance processes and patterns. Where possible, ecological subsection boundaries were used as the dividing lines. When this approach produced some areas that were larger than desired, fourth-order watershed lines were used to divide the LSAAs into smaller units. These 13 LSAAs are useful for identifying acreages of late-successional or old-growth forest that will be managed over the long term for the respective characteristics shown in **Table FF-1**.

Table FF-1
Assessment areas, cover types, and management constraints for late-successional and old-growth forests

		Minimum % to be managed	
LSAA	**Cover type**	**Late-successional**	**Old-growth**
1	Spruce-fir	30	*(see note #1)*
	Lodgepole pine	10	
	Douglas-fir	10	
2	Spruce-fir	30	*(see note #1)*
	Lodgepole pine	10	
	Douglas-fir	10	
3	Spruce-fir	30	10
	Lodgepole pine	10	
	Douglas-fir	10	
4	Spruce-fir	30	10
	Lodgepole pine	10	
	Douglas-fir	10	
5	Spruce-fir	30	10
	Lodgepole pine	10	
	Douglas-fir	10	
6	Spruce-fir	30	10
	Lodgepole pine	10	
	Douglas-fir	10	
7	Spruce-fir	30	10
	Lodgepole pine	10	
	Douglas-fir	10	
8	Spruce-fir	30	10
	Lodgepole pine	10	
	Douglas-fir	10	
9	Spruce-fir	30 *(see note #2)*	10
	Lodgepole-pine	10	
	Douglas-fir	10	
10	Spruce-fir	30	10 *(see note #3)*
	Lodgepole pine	10	
	Douglas-fir	10	
11	Spruce-fir	30	10
	Lodgepole pine	10	
	Douglas-fir	10	
12	Spruce-fir	30	10
	Lodgepole pine	10	
	Douglas-fir	10	
13	Spruce-fir	30	10
	Lodgepole pine	10	
	Douglas-fir	10	

Notes:

1. LSAA 1 and LSAA 2 are found on the Flat Tops Plateau. These two units were significantly affected by a spruce bark beetle epidemic that occurred in the late 1940s and early 1950s. This outbreak killed nearly all spruce on the forest greater than eight inches diameter at breast height (DBH) over an area of approximately 250,000 acres. As a result, the spruce-fir composition found on the plateau changed from 90 percent spruce/10 percent fir to 20 percent spruce/80 percent fir, with the accompanying release of previously suppressed fir and spruce. Spruce has been very slow to reestablish within these two LSAAs. Because of the relatively young ages present these areas are at least 100-150 years away from qualifying as old-growth (as described by M. Mehl, 1992). They do display many of the other stand qualities normally found in old-growth stands important to wildlife, such as an abundance of snags and downed woody material, and often have multi-layered canopies. In terms of the size and canopy closure of the residual fir, many stands qualify as late-successional, and currently there is an abundance of late-successional spruce-fir within these two LSAAs (71 percent in LSAA 1 and 51 percent in LSAA 2). Because age is the limiting factor, there are no methods of management that can be applied to turn these stands into old-growth at an earlier date. The late-successional standard currently is met in these areas, and stands within these identified areas will continue to progress toward old-growth conditions. The few stands that have been identified as either old-growth or old-growth recruitment will be managed as old-growth and removed from the suitable timber base. However, no additional stands will be identified to be managed as old-growth within these two LSAAs.
2. In LSAA #9, the current spruce-fir late-successional acreage is 474 acres short of meeting the minimum standard of 30 percent. Two stands of spruce-fir, which total 560 acres of structural stage 3C (middle-aged with greater than 70 percent canopy closure), have been identified to be managed long term for late-successional characteristics. For further information, see the project file.
3. In LSAA #10, the current spruce-fir old-growth acreage is 811 acres short of meeting the minimum standard of ten percent. A total of six additional stands of structural stage 4C (mature with greater than 70 percent canopy closure), totaling more than 900 acres, have been identified to be managed long term for old-growth characteristics. For further information, see the project file.

Spruce-fir

The spruce-fir cover type covers more than one fourth of the forest, and makes up almost one half of all forested acres. The forest-wide standard for late-successional spruce-fir is to maintain a minimum of 30 percent of the spruce-fir as late successional in each LSAA. Spruce-fir old-growth acreage is calculated as a portion of the maintained late-successional spruce-fir acreage, not as additional acreage. There are three exceptions, as explained by the notes in Table FF-1.

Lodgepole pine and Douglas fir

Lodgepole pine and Douglas fir cover types both are included within the late-successional standard, but neither cover type is included in the old-growth portion of the standard. The standard is that 10 percent of lodgepole pine and 10 percent of the Douglas-fir must be maintained as late-successional within each LSAA. Recently completed old-growth inventories indicate patchy, localized distribution for old-growth for each of these two types. Douglas fir old-growth is concentrated in five of the 13 LSAAs, and lodgepole pine old-growth is concentrated in six of the 13 LSAAs. Environmental constraints similar to those described for aspen control the development of these stands. It is not feasible to manage old-growth on a Forest-wide basis when environmental site conditions necessary for the development of old-growth characteristics meeting the definition criteria eliminate the development of old-growth across large portions of the forest.

Aspen

The aspen cover type is a major component of the forest. However, environmental conditions supporting aspen vary widely across the forest. The western section of the Flat Tops Plateau provides productive conditions for large, rapidly growing aspen. The bulk of the remaining forest, following the Continental Divide from Summit County to Pitkin County, has a more severe climate and different soil conditions, with a consequently lower potential for the growth of aspen. These conditions produce many older aspen stands that never develop characteristics meeting regional descriptions of late-successional aspen forest. No management techniques currently exist that will produce aspen stands meeting the definition criteria in these areas. Because of these factors, aspen is not included in the forest-wide late-successional or old-growth standard. Forest-wide biodiversity guidelines #2 and #3 and silvicultural guideline #8 all ensure that the ecological importance of aspen is considered and that aspen is maintained across the landscape of the White River National Forest.

Appendix GG

List of acronyms

ADT	American Discovery Trail
AIRFA	American Indian Religious Freedom Act
AMS	Analysis of the Management Situation
AQRV	air-quality-related values
ASQ	allowable sale quantity
ATV	all-terrain vehicle
AUM	animal unit month
BA	biological assessment
BE	biological evaluation
BLM	Bureau of Land Management
CDNST	Colorado Divide National Scenic Trail
CDOW	Colorado Division of Wildlife
CFR	Code of Federal Regulations
CVU	common vegetation unit
DAU	data analysis unit
DEIS	draft environmental impact statement
EPA	Environmental Protection Agency
ESI	existing scenic integrity
FDR	forest development road
FDT	forest development trail
FEIS	final environmental impact statement
FS	Forest Service
FSH	Forest Service Handbook
FSM	Forest Service Manual
GIS	geographic information system
GPRA	Government Performance & Results Act
HRV	historic range of variability
HUC	hydrologic unit code
IDT	interdisciplinary team
IRI	integrated resource inventory
IWM	Integrated Noxious Weed Management
LAU	lynx analysis unit
LRMP	land and resource management plan
LSAA	late successional assessment area
MA	management area
MIC	management indicator communities
MIS	management indicator species
MBF	thousand board feet
MDP	master development plan
MMBF	million board feet
MMCF	million cubic feet

MRVD	million recreation visitor days
NAAQS	national ambient air quality standard
NAGPRA	Native American Graves Protection and Repatriation Act
NBIS	national bridge inspection standards
NEPA	National Environmental Policy Act
NFMA	National Forest Management Act
NFS	National Forest System
NOI	notice of intent
NRHP	National Register of Historic Places
NRT	National Recreation Trail
NSO	no surface occupancy
NST	National Scenic Trail
NTSA	National Trail System Act
NWSRS	National Wild and Scenic Rivers System
NWPS	National Wilderness Preservation System
OHV	off-highway vehicle
PAOT	persons at one time
PILT	payments in lieu of taxes
PNV	present net value
PSD	permit of significant deterioration
PTES	proposed, threatened, and endangered species
RIM	Recreation Information Management
RMRIS	Rocky Mountain resource inventory system
RNA	research natural area
ROD	record of decision
ROS	Recreational Opportunity Spectrum
RPA	Forest and Rangeland Renewable Resources Planning Act
RVD	recreation visitor day
SAOT	skiers at one time
SIA	special interest area
SMS	Scenery Management System
STL	suitable timber lands
TES	threatened and endangered species
TMDL	total maximum daily loads
TSTL	tentatively suitable timber lands
UCR	Upper Colorado River Interagency Fire Management Unit
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
VMS	Visual Management System
WCP	watershed conservation practices

Appendix HH
Glossary

aboriginal areas	Used to describe the historic and prehistoric lands where a tribe(s) carried out food gathering or seasonal activities or traded with other Indian peoples. These areas may be extensive depending on the geographic terrain.
aboriginal rights	Aboriginal rights are based on aboriginal title, original title, or Indian title, which is the possessory right to occupy and use an area that Indians have traditionally used. Congress could extinguish such rights or title at will through treaty or otherwise. Individual aboriginal rights were based on continuous actual possession by occupancy, enclosure, or other actions establishing a right to the land to the exclusion of adverse claimants. For national forest managed lands, such possession must have predated the establishment of the National Forests.
acceptable vegetation management status	A plant community that is at least 75 percent similar to the desired plant community.
access	The opportunity to approach, enter and make use of public or private land.
acid neutralizing capacity	A water chemistry measurement that reflects the ability of a watershed to offset acid inputs.
acre-foot	The amount of water covering one acre to a depth of one foot.
activity	A measure, course of action, or treatment that is undertaken to directly or indirectly produce, enhance, or maintain forest and rangeland outputs or achieve administrative or environmental quality objectives.
activity area	An area of land affected by a management activity or activities. An activity area can range from a few acres to an entire watershed depending on the type of monitoring being conducted.
adaptive management	A type of natural resource management in which decisions are made as part of an ongoing process. Adaptive management involves testing, monitoring, evaluation, and incorporating new knowledge into management approaches based on scientific findings and the needs of society. Results are used to modify management policy.
affected environment	The biological and physical environment that will or may be changed by proposed actions and the relationship of people to that environment.

age class	A distinct aggregation of trees originating from a single natural event or regeneration activity, or grouping of trees, e.g. 10-year age class, as used in inventory or management.
air pollution	Any substance or energy form (heat, light, noise, etc.) that alters the state of the air from what would naturally occur.
airshed	Basic geographic units in which air quality is managed.
allocation	The assignment of a land area to a particular use or uses to achieve management goals and objectives.
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.
allowable sale quantity (ASQ)	The amount of chargeable timber volume which can be sold from the area of suitable land covered by the forest plan for a time period specified by the plan. This quantity is usually expressed on an annual basis as the "average annual allowable sale quantity."
allowable use	(1) The degree of utilization considered desirable and attainable on various parts of a ranch or allotment considering the present nature and condition of the resource, management objectives and levels of management; (2) The amount of forage planned to be used to accelerate range improvement.
alluvial	Of or pertaining to sand, mud, and other sediments deposited on land by streams.
alpine	Those portions of mountains that rise above the cold limits of trees.
alternative	A combination of management prescriptions applied in specific amounts and locations to achieve a desired management emphasis as expressed in goals and objectives. One of several policies, plans, or projects proposed for decision making. An alternative need not substitute for another in all respects.
all-terrain vehicle (ATV)	Any motorized, off-highway vehicle 50 inches or less in width, having a dry weight of 600 pounds or less that travels on three or more low-pressure tires with a seat designed to be straddled by the operator.
analysis area	One or more capability areas combined for the purpose of analysis in formulating alternatives and establishing various impacts and effects.

animal unit month (AUM) The tenure of one animal unit (considered to be one mature 1,000-pound cow or the equivalent based on the average daily forage consumption of 26 pounds of dry matter per day) for a period of one month.

aquatic ecosystem An ecosystem (biological and physical components and their interactions) in which water is the principle medium. Examples include wetlands, streams, reservoirs and areas with plants or animals characteristic of either permanently or seasonally inundated soils.

aquifer A geologic formation capable of transmitting water through its pores at a rate sufficient for water-supply purposes. The term water-bearing is sometimes used synonymously with aquifer when a stratum furnishes water for a specific use. Aquifers are usually saturated sands, gravel, fractures, caverns or vesicular rock.

arterial road Provides service to large land areas and usually connects with public highways or other Forest Service arterial roads to form an integrated network of primary travel routes. The location and standard are often determined by a demand for maximum mobility and travel efficiency rather than specific resource management service. It usually is developed and operated for long-term land and resource management purposes and constant service.

aspect (1) The visual first impression of vegetation or a landscape at a particular time or as seen from a specific point; (2) the predominant direction of slope of the land; (3) seasonal changes in the appearance of vegetation.

assigned camp A location that is authorized for occupancy and use by the authorized officer and for which a fee is paid by the holder.

attenuated flooding Flooding lessened in severity due to natural or man-made structures or areas that disperse water or slow flows.

available lands Those portions of a national forest not administratively excluded from timber harvest or livestock grazing.

background A term used in visual management to describe that part of a scene or landscape that is farthest from the viewer, usually three miles to infinity from the observer.

band A group of people who share a culture, territory and sense of mutual recognition. Bands are primarily those pre-treaty-making-period American Indian groups.

basal area The cross-sectional area of a single stem, including bark, measured at breast height (4.5 feet or 1.37 meters above the ground).

benchmark Reference points that define the bounds within which feasible management alternatives can be developed. Benchmarks may be defined by resource output or economic measures.

beneficiary The recipient of payment or entitlement based upon an agreement, contract or treaty. Indian tribes in the project area signed treaties and agreements with the U.S. in exchange for promises by the U.S. to "secure" or guarantee rights the Indians reserved in these treaties and agreements.

best available control measures A term used to refer to the most effective measures (according to EPA guidance) for controlling small or dispersed particulates and other emissions from sources such as roadway dust, soot and ash from woodstoves and open burning of rush, timber, grasslands, or trash.

big game Certain wildlife that may be hunted for sport under state laws and regulations, including elk, pronghorn antelope, mule and white-tail deer, turkey and bighorn sheep.

biogeography The study of the geographic distribution of plants and animals.

biodiversity The full variety of life in an area, including the ecosystems, plant and animal communities, species and genes, and the processes through which individual organisms interact with one another and their environments.

biological assessment A biological assessment evaluates the potential effects of an action on listed and proposed species under the Endangered Species Act and designated and proposed critical habitat. A biological assessment also determines whether any such species or habitat is likely to be adversely affected by the action. An assessment used in determining whether formal consultation or a conference is necessary.

biological evaluation A review of all Forest Service planned, funded, executed or permitted programs and activities for possible effects on regionally listed sensitive species. A biological evaluation may be used or modified to satisfy consultation requirements for biological assessments of construction projects requiring an environmental impact statement.

biological opinion An official report by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service issued in response to a formal Forest Service request for consultation or conference. It states whether or not the federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

biomass The total amount of living plants and animals above and below ground in an area at a given time.

board foot The amount of wood contained in an unfinished board one inch thick, 12 inches long and 12 inches wide (2.54 x 30.5 x 30.5 cm).

browse Twigs, leaves, and young shoots of trees and shrubs upon which animals feed; in particular, those shrubs that are utilized by livestock and big game animals for food.

buffer zone An area on the edge of protected areas with restrictive land-use controls allowing only activities compatible with protection of the core area, such as research, environmental education, recreation and tourism.

Bureau of Land Management (BLM) An agency in the U.S. Department of the Interior responsible for administering public lands.

canopy cover The percentage of the ground covered by a vertical projection of the natural spread of the branches and leaves of the trees in an area.

carrying capacity The maximum number of animals that can be supported in a given environment without deteriorating that environment.

cave A cave is any naturally formed void, cavity, recess or system of interconnected passages that occur beneath the surface of the earth or within a cliff or ledge, including natural subsurface water and drainage systems large enough to permit a person to enter, whether or not the entrance is naturally formed or created by humans. The term “cave” shall also include any natural pit, sinkhole or other feature that is an extension or component of a cave.

cavity tree A live tree with one or more cavities. The presence of a cavity may be by verified by visual observation of the cavity or by the behavior of a cavity nester suggesting active breeding behavior.

ceded lands Lands that tribes ceded to the U.S. by treaty in exchange for reservation of specific land and resource rights, annuities and other promises in the treaties.

channel A passage, either naturally or artificially created, that periodically or continuously contains moving water, or that forms a connecting link between two bodies of water. River, creek, run, branch and tributary are some of the terms used to describe natural channels. Natural channels may be single or braided. Canal and floodway are some of the terms used to describe artificial channels.

chargeable volume All volume included in the growth and yield projections for the selected management prescriptions used to arrive at the allowable sale quantity, based on regional utilization standards. Consistent with the definition of timber production, planned production of fuelwood is not included in the allowable sale quantity and therefore is non-chargeable.

class 1 area Under the 1977 Clean Air Act amendments, all international parks, national parks larger than 6,000 acres, and designated wilderness areas larger than 5,000 acres that existed on August 7, 1977 are considered a Class 1 area. This class provides the most protection to pristine lands, severely limiting the amount of additional air pollution that can be added to these areas.

class 2 area A geographic area designated by Congress for a moderate degree of protection from future air quality degradation. Moderate increases in new pollution may be permitted in class 11areas. All wilderness designated after August 7, 1977 are automatically class 11 areas, as are all other National Forest System lands (except additions to existing class 1 areas).

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, and other roads authorized by the Forest Service.

clearcutting See *regeneration method*.

climax (1) The final or stable biotic community in a successional series that is self-perpetuating and in dynamic equilibrium with the physical habitat; (2) The assumed end point in succession.

closed road An intermittent service road in Maintenance Level 1 that is closed to all vehicular traffic for more than one year.

collector road Serves smaller land areas than a forest arterial road and usually is connected to a forest arterial road or public highway. Collects traffic from forest local roads and/or terminal facilities. The location and standard are influenced by both long-term multi-resource service needs, as well as travel efficiency. May be operated for either constant or intermittent service, depending on land use and resource management objectives for the area served by the facility.

Cole classes Campsite condition classes based on defined levels and/or types of impact. The presence, absence, or degree of change in certain critical parameters is quickly noted and forms the basis for an impact rating, usually between 1 and 5.

commercial forest land Land declared suitable for producing timber crops and not withdrawn from timber production by statute or administrative regulation.

commercial timber sale The selling of timber from National Forest System lands for the manufacture of commercial products, such as lumber, plywood, etc.

commercially valuable species Tree species that are used in the production of wood products and are often bought by purchasers within the White River National Forest's regional timber market. The list of commercially valuable species is subject to change over time depending on the market supply and demand for individual species. The White River National Forest's current list includes Englemann spruce, subalpine fir, Douglas fir, lodgepole pine, ponderosa pine, and aspen.

composition The proportion of each tree species in a stand expressed as a percentage of either the total number, basal area or volume of all tree species in the stand.

concessionaire A special-use permittee who provides goods and services primarily at Forest Service developed sites (excluding ski areas).

confederated tribe A body of separate and different tribes who operate under one form of tribal government upon a reservation or Indian trust land.

conflict Goal interference attributed to another's behavior.

conformity determination An area conforms to air quality standards as determined by the Environmental Protection Agency or state or local entity.

connected disturbed areas High runoff areas like roads and other disturbed sites that discharge surface runoff into a stream or lake.

connectivity The arrangement of habitats that allows organisms and ecological processes to move across the landscape. Patches of similar habitats are close together or linked by corridors of appropriate vegetation. The opposite of fragmentation.

construction The supervising, inspecting, actual building, and all expense incidental to the development of a new facility, including locating, surveying, mapping, costs and acquisition of rights-of-way and elimination of hazards.

consultation (1) An active, affirmative process that (a) identifies issues and seeks input from appropriate American Indian governments, community groups and individuals; and (b) considers their interests as a necessary and integral part of the BLM and Forest Service decision-making process. (2) The federal government has a legal obligation to consult with American Indian tribes. This legal obligation is based on such laws as Native American Graves Protection and Repatriation Act, the American Indian Religious Freedom Act and numerous other executive orders and statutes. The legal responsibility is, through consultation, to consider Indian interests and account for those interests in the decision. (3) Consultation also refers to a requirement under Section 7 of the Endangered Species Act for federal agencies to consult with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service with regard to federal actions that may affect listed threatened or endangered species or critical habitat.

cooperating agency Any federal agency other than the lead agency that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major federal action significantly affecting the quality of the human environment.

coppice See *regeneration method*.

cost The negative or adverse effects or expenditures resulting from an action. Costs may be monetary, social, physical or environmental in nature.

cost efficiency The usefulness of specified inputs (costs) to produce specified outputs (benefits). In measuring cost efficiency, some outputs, including environmental, economic, or social impacts, are not assigned monetary values but are achieved at specific levels in the least cost manner. Cost efficiency is usually measured using present net value, although use of benefit-cost ratios and rates of return may be appropriate.

cover type A descriptive classification of vegetation based on the present dominant tree species.

critical habitat Habitat of federally listed threatened or endangered species where those physical and biological features essential to conservation of the species are found and which may require special management considerations or protection. This habitat may currently be occupied or determined by the Secretary of the Interior to be essential for areas outside the species' current range.

cubic foot A unit of true volume that measures 1 x 1 x 1 foot (30.48 x 30.48 x 30.48 centimeters).

cumulative impact The impact on the environment that results from the incremental impact of the action when added to other 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.

decommissioning Activities that terminate the function of a road and mitigate any adverse impacts to forest resources in the process. The road is permanently removed from the transportation system. The activities range from blocking the entrance, scattering boughs on the roadbed, revegetating and water barring, to removing fills and culverts, reestablishing drainage-ways, pulling back unstable road shoulders, and recontouring the slopes for full obliteration. (A road does not have to be recontoured to be decommissioned.)

deferred rotation Any grazing system that provides for a systematic rotation of the deferment among pastures (units).

design capacity — The maximum theoretical amount of use a developed recreational site was built to accommodate. This is usually expressed in PAOTs (persons at one time).

desired future condition — A portrayal of the land or resource conditions that are expected to result if goals and objectives are fully achieved.

developed recreation — This type of recreation is dependent upon facilities provided to enhance recreation opportunities in concentrated-use areas. Examples include campgrounds and ski areas. Facilities in these areas might include roads, parking lots, picnic tables, drinking water, toilets, ski lifts and buildings.

developed recreation sites — Relatively small, distinctly defined areas where facilities are provided for concentrated public use, such as campgrounds, picnic areas and swimming beaches.

diameter at breast height (DBH) — A diameter of the stem of a tree measured at breast height (4.5 feet or 1.37 meters) from the ground.

direct effects — Environmental effects caused by an action and that occur at the same time and place.

dispersed campsite — An individual/family-sized campsite that has a general size of about 600-750 square feet. It includes a hardened area around a fire pit, a barren area, and/or user-constructed facilities.

dispersed recreation — Those forest, range, or desert-oriented outdoor recreation activities that normally take place outside of sites or areas that are developed or managed to concentrate recreational use. Dispersed recreation activities may require facilities for safeguarding visitors, protecting resources, and enhancing the quality of visitor experiences.

district ranger — The official responsible for administering the National Forest System lands on a ranger district.

disturbance — An event that causes a significant change from the normal pattern in an ecological system. Disturbances are often subdivided into natural disturbances and man-caused disturbances.

diversity — Diversity refers to the distribution and abundance of different plant and animal communities and species within the area covered by a forest plan. This term is derived from the National Forest Management Act (NFMA). It is not synonymous with "biodiversity."

draft environmental impact statement (DEIS) — The statement of environmental effects required for major federal actions under Section 102 of the National Environmental Policy Act and released to the public and other agencies for comment and review.

easement A special-use authorization for a right-of-way that conveys a conditioned interest in National Forest System land, and is compensable according to its terms.

ecoregion A scale of planning and analysis is the National Hierarchical Framework that has broad applicability for modeling and sampling, strategic planning and assessment, and international planning. Ecoregions include domain, division and province ecological units.

ecosystem A functional unit consisting of all the living organisms (plants, animals, and microbes) in a given area, and all the non-living physical and chemical factors of their environment, linked together through nutrient cycling and energy flow. An ecosystem can be of any size—a log, pond, field, forest or the earth's biosphere—but it always functions as a whole unit. Ecosystems are commonly described according to the major type of vegetation, for example, forest ecosystem or range ecosystem.

ecosystem composition The plant and animal species and communities in the plan area.

ecosystem-level approach An approach to maintaining biodiversity that involves maintaining a diversity of structures within stands and a diversity of ecosystems across the landscape. The intent is to meet most of the habitat requirements of most of the native species.

ecosystem structure The biological and physical attributes that characterize ecological systems.

ecotone A transition area between two adjacent ecological communities usually exhibiting competition between organisms common to both.

edge An outer band of a patch of vegetation that has an environment significantly different from the interior of the patch.

edge effect Habitat conditions (such as degree of humidity and exposure to light or wind) created at or near the more-or-less well-defined boundary between ecosystems. For example, between open areas and adjacent forest.

elk security habitat An area that will hold elk during periods of stress because of geography, topography, vegetation, or a combination of those features.

endangered species A taxonomic group of organisms in danger of extinction throughout all or a significant portion of its range.

environmental assessment (EA) — A document that discloses the environmental impacts to be expected from a proposed action and from specific alternatives to the proposed action. An EA is prepared when significant environmental impacts are not anticipated or when there is a question as to the extent of the impacts. Comments are accepted within 30 days of release of an EA, and are considered before a final decision is made. Responses to comments appear in an appendix to the EA.

environmental impact statement (EIS) — A formal public document prepared to analyze the impacts on the environment of a proposed project or action and released for comment and review. An EIS is prepared, instead of an EA, when significant environmental impacts are anticipated. Comments by the public and by other agencies are accepted within 90 days after the release of a Draft EIS, and are considered before the final decision is documented in a Final EIS. Responses to comments appear in an appendix to the Final EIS.

essential habitat — Essential habitat is designated by a Regional Forester. It possesses the same characteristics as critical habitat without having been declared as critical habitat by the Secretary of the Interior or Commerce. The term includes habitats necessary to meet recovery objectives for endangered, threatened, and proposed species and those necessary to maintain viable populations of sensitive species.

even-aged management — The application of a combination of actions that results in the creation of stands in which trees of essentially the same age grow together. Regeneration in a particular stand is obtained during a short period at or near the time that a stand has reached the desired age or size for regeneration, and is harvested.

even-aged method — See *regeneration method*.

even-aged stand — A stand of trees composed of a single age class in which the range of tree ages usually is +/-20 percent of the rotation.

even-aged system — A planned sequence of treatments designed to maintain and regenerate a stand with one age class. The range of tree ages usually is less than 20 percent of the rotation. Also see *clearcutting, seed tree, shelterwood, coppice*.

exotic species — Non-native species, or fish, wildlife or plant species that was deliberately or accidentally introduced in an ecosystem and that has become permanently established.

extirpated — A species which has become locally extinct; a species or subspecies that has disappeared from a locality or region without becoming extinct throughout its entire range.

federal recognition — Acknowledgement of an Indian tribe as a government entity that has a special relationship with the U.S. government. This relationship recognizes that Indian tribes receive some rights not available to other citizens; for example, health and education benefits from the trust relationship or off-reservation hunting and fishing rights related to treaties with tribal governments.

federally recognized Indian tribes — An Indian group for which: (1) Congress or an executive order created a reservation for the group either by treaty (before 1871), statutorily expressed, agreement by executive order, or other valid administrative action; and (2) the U.S. has some continuing political relationship with the group, such as providing services through the Bureau of Indian Affairs.

fire management — The activities concerned with the protection of people, property and forest areas from wildfire and the use of prescribed burning for the attainment of forest management and other land use objectives, all conducted in a manner that considers environmental, social and economic criteria.

forest development road — A forest road under the jurisdiction of the Forest Service. Total mileages of forest development roads are used for reporting to Congress. These roads are synonymous with the term "National Forest System road (NFSR)."

forest development trail — Trails wholly or partially within, adjacent to and serving the national forests and other areas administered by the Forest Service that have been included in the Forest Development Transportation Plan.

forest development transportation system — Those facilities, forest development roads, trails, and airfields in the transportation network and under Forest Service jurisdiction. See also *road density*.

forest development road density — See *road density.*

forest highway — A designated forest road under the jurisdiction of, and maintained by, a public authority that is subject to the Highway Safety Act.

forest land not suitable for timber production — Lands not selected for timber production in a forest plan alternative because of the fact that: (a) the multiple-use objectives for the alternative preclude timber production; (b) other management objectives for the alternative limit timber production activities to the point at which it is not possible to meet management requirements set forth in 36 CFR 219.27; or (c) the lands are not cost-efficient, over the planting horizon, in meeting forest objectives that includes timber production. In the preferred alternative and forest plan, lands not appropriate for timber production are designated as unsuitable.

forest road A road wholly or partly within, or adjacent to, and serving the National Forest System. Roads are necessary for the protection, administration, and utilization of the National Forest System and the use and development of its resources. See also *road.*

forest visitor map A map that provides detailed information about a national forest. It is to be used by the forest visitor and those interested in specific activities such as driving, camping, hunting, or other recreational activities. Long-term (3-4 year) travel management information and philosophy from the forest plan is also displayed.

four-season resort Any recreation facility on National Forest System lands permitted to operate during more than one season of the year. Resorts with either a winter or summer emphasis may be authorized for facilities to remain open to allow additional recreational use during alternative seasons. Permit holders who operate ski-based facilities during the winter season and permit holders with summer-based resorts with overnight lodging normally are assigned responsibility for public safety and resource protection and are required to manage their permit area 365 days per year.

fragmentation The process of transforming large continuous patches of similar vegetation into one or more smaller patches surrounded by disturbed areas. This may occur naturally through such agents as fire, landslides, windthrow and insects and disease, or through development action of humans. The primary distinction between fragmentation and perforation is in scale; fragmentation impacts usually are large in scale and may inhibit or prevent one or more species from moving from one patch of suitable habitat to another. See also Perforation.

fuelwood Wood used for conversion to some form of energy, e.g., in residential use or in cogeneration plants.

group selection See *regeneration method*

habitat The place where an organism lives and/or the conditions of that environment, including the soil, vegetation, water, and food.

habitat capability The capability of a given habitat to meet the needs of species, either seasonally or year-round.

habitat effectiveness Percentage of available habitat that is usable by elk during the non-hunting season. This includes habitat that is considered cover and forage, and is measured against the effects of roads.

hardening (a recreation site) The protection of physical resources (usually from recreational impacts) accomplished through a variety of means (such as surfacing, graveling, adding signs, improving drainage, placing barriers or metal fire rings, etc.) that allows continued recreational use of the area.

harvesting method (cutting method) A cutting method by which a stand is logged. The emphasis is on meeting logging requirements while concurrently attaining silvicultural objectives See also *regeneration methods*.

head month One month's use and occupancy of the range by one weaned or adult cow with or without calf, full, steer, heifer, horse, burro, mule, or sheep or goats.

historic range of variability The natural fluctuation of components of healthy ecosystems over time. Refers to the range of conditions and processes that are likely to have occurred prior to settlement of the project area by people of European descent (approximately the mid-1800s), which would have varied within certain limits over time. Historical conditions and processes portrayed include such variables as forest or grassland vegetation types, compositions, and structures, fish and wildlife habitats and populations, and drought, grazing, and fire regimes.

hydrologic unit code (HUC) Divides watersheds into a series of progressively smaller nested levels, with the first level being the largest land area relative to higher-numbered levels in that watershed. Each level is identified systematically by a hydrologic unit code number, or HUC. A first-level watershed can be divided into a number of second level watersheds; each second-level watershed may be further subdivided into third-level watersheds, and so forth.

Indian country Broadly speaking, Indian country is all the land under supervision of the U.S. government that has been set aside for the use of Indians. This would include reservations, as well as other areas under federal jurisdiction and designated for Indian use.

Indian land Any land in collective tribal holding or ownership for which the Secretary of the Interior has a continuing trust responsibility to manage for the benefit of the respective tribe. In the past, this term described certain parcels or areas where Indians lived and represented a smaller concept than Indian territory.

Indian territory Unsurveyed lands that were recognized by the federal government to be occupied or used by Indians. Prior to the U.S. Constitution, lands occupied or used by American Indians were referred to as "Indian Territory." Historical documents dating back to the 16th century refer to these unsurveyed regions and a "territory."

infrastructure The facilities, utilities and transportation systems needed to meet public and administrative needs.

institutional and semi-public uses Includes a variety of membership and limited-constituency institutions such as service clubs and religious, conservation, youth, fraternal and social groups; educational institutions such as schools, colleges and universities; and similar common-interest organizations and associations. Semi-public outfitters may operate commercially on an intermittent or irregular basis in providing services to select clientele rather than the public at large. As a rule, membership or affiliation is required, rather than being open to the public at large.

isolated cabin Cabins on sites not planned or designated for recreational cabin purposes. These cabins are authorized by special-use permit.

jurisdiction The legal right to control or regulate use of a transportation facility. Jurisdiction requires authority, but not necessarily ownership. The authority to construct or maintain a road may be derived from fee title, an easement, an agreement, or other method.

karst A type of landform that develops when soluble rocks (such as limestone, dolomite, gypsum, anhydrite, and halite) are dissolved. A karst landscape is characterized by well-developed subsurface drainage, collapse features such as sinkholes, dry valleys, vertical shafts, caves, and fluted rock surfaces (epikarst).

ladder fuels Fuels that provide vertical continuity between the surface fuels and crown fuels in a forest stand, thus contributing to the ease of torching and crowning.

land exchange A discretionary, voluntary transaction involving mutual transfers of land or interests in land between the Secretary of Agriculture acting by or through the Forest Service and a non-federal entity.

landscape A heterogeneous land area composed of a cluster of interacting ecosystems that are repeated in similar form throughout. Landscapes vary in size, down to a few kilometers in diameter.

landscape ecology The study of the distribution patterns of communities and ecosystems, the ecological processes that effect those patterns and changes in pattern and process over time.

late successional forest A forest stand of mature to old growth tress with canopy closure of greater than 40 percent. This category includes habitat structural stages 4B, 4C and 5.

lentic Standing water habitat such as lakes, ponds, seeps, bogs and meadows (wet).

lifeways Manner and means by which a group of people lives—their way of life. Components include language, subsistence strategies, religion, economic structure, physical mannerisms, and shared attitudes.

limits of acceptable change (LAC) A framework for establishing acceptable and appropriate resource and social conditions in recreation settings.

lithic Stone used as raw material for the production of artifacts, such as tools or other utilitarian objects. It may also be used strictly for ceremonial purposes.

local road Connects terminal facilities with forest collector or forest arterial roads or public highways. The location and standard are usually controlled by topography and a specific resource activity rather than travel efficiency. Forest local roads may be developed and operated for long-term, intermittent, or short-term service.

lotic Running water habitat such as rivers, streams and springs.

lynx analysis unit (LAU) The LAU is a project analysis unit upon which direct, indirect, and cumulative effects analyses are performed. LAU boundaries should remain constant to facilitate planning and allow effective monitoring of habitat changes over time. An area of at least the size used by an individual lynx, about 25-50 square miles.

lynx habitat Lynx occur in mesic coniferous forest that have cold, snowy winters and provide a prey base of snowshoe hare. Lynx records occur predominantly in the following vegetation types: In the western U.S. lodgepole pine, subalpine fir, Engelmann spruce, and aspen cover types on subalpine fir habitat types. Cool, moist Douglas-fir, grand fir, or western larch forest, where they are interspersed with subalpine forests, also provide habitat for lynx. In the Southern Rocky Mountain Geographic Area, because of their structure, mature and late-successional spruce-fir forests, provide structure and forage that is superior to mature lodgepole pine forests. (Many parts of the Southern Rockies currently have a shortage of regenerating lodgepole pine stands.) In the absence of widespread regenerating forest stands, mature and late-successional spruce-fir forests may constitute some of the most important habitat for lynx. These stands not only provide components necessary for denning habitat, but also produce red squirrels, grouse, and snowshoe hares. Although these forest types may support a lower density of hares than do densely regeneration stands, they also likely provide stable populations of both hares and red squirrels over time.

lynx denning habitat Habitat used during parturition and rearing of young until they are mobile. The common component appears to be large amounts of coarse woody debris, either down logs or root wads. (In some studies this was estimated at greater than 80 downed logs per acre, but could be less if properly arranged.) The coarse woody debris provides escape and thermal cover for kittens. Denning habitat may be found either in older mature forest of conifer or mixed conifer/deciduous types, or in regenerating

stands (greater than 20 years since disturbance). Denning habitat must be located within daily travel distance of foraging habitat (typical maximum daily distances for females is 3-6 miles).

lynx diurnal security habitat – In lynx habitat, areas that provide secure winter daytime bedding sites for lynx in highly disturbed landscapes, e.g., large developed winter recreational sites or areas of concentrated winter recreational use. It is presumed that lynx may be able to adapt to the presence of regular and concentrated human use during winter, so long as other critical habitat needs are being met, and security habitat blocks are present and adequately distributed in such disturbed landscapes. Security habitat will provide lynx the ability to retreat from human disturbance during winter daytime hours, emerging at dusk to hunt when most human activity ceases. Security habitats will generally be sites that naturally discourage winter human activity because of extensive forest floor structure, or stand conditions that otherwise make human access difficult, and should be protected to the degree necessary. Security habitats are likely to be most effective if they are sufficiently large to provide effective visual and acoustic insulation from winter human activity and to easily allow movement away from infrequent human intrusion. These winter habitats must be distributed such that they are in proximity to foraging habitat.

lynx foraging habitat Habitat that supports primary prey (snowshoe hare) and/or important alternate prey (especially red squirrels) that are available to lynx. The highest quality snowshoe hare habitats are those that support a high density of young trees or shrubs (greater than 4,500 stems or branches per acre from studies done in the Northern Rocky Mountain Geographic Area, but estimated at 1000 to 2000 stems per acre in the lodgepole pine and spruce-fir forests in the Southern Rocky Mountain Geographic Area), tall enough to protrude above the snow. 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 wood debris, especially in early successional stages (created by harvest regeneration units and large fires), provides important cover for snowshoe hares and other prey. Red squirrel densities tend to be highest in mature cone-bearing forests with substantial quantities of coarse woody debris.

lynx habitat connectivity (landscape) Cover (vegetation) in sufficient quantity and arrangement to allow for the movement of lynx. Narrow forested mountain ridges or shrub-steppe plateaus may provide a linkage between more extensive areas of lynx habitat. Wooded Riparian

Communities may provide travel cover across otherwise open valley floors between mountain ranges, or lower elevation ponderosa pine or pinyon-juniper woodlands may link high elevation spruce-fir forests.

lynx habitat currently in unsuitable condition — Areas within identified/mapped lynx habitat that are in early successional stages as a result of recent fires or vegetation management, in which the vegetation has not developed sufficiently to support snowshoe hare populations during all seasons. Management-created openings would likely include clearcuts and seed tree harvest units, and might include shelterwood and commercially-thinned stands depending on unit size and remaining stand composition and structure.

lynx habitat matrix — Matrix is defined as the most extensive and most connected landscape element type present, which plays the dominant role in landscape functioning. A landscape surrounding a patch. For lynx, this is an area which is predominantly lynx habitat, but due to natural fragmentation, includes stringers or isolated patches of vegetation such as aspen, riparian areas, sagebrush, grasslands, or alpine. These stringers or patches may have value to lynx for alternate prey species or travelways. Activities in these areas could have effects on adjacent lynx habitat.

lynx unsuitable habitat areas — Areas such as lakes, low elevation ponderosa pine forest, and alpine tundra that do not support snowshoe hare populations and are not considered to be capable of providing lynx habitat. See also *lynx habitat currently in unsuitable condition*.

lynx key linkage areas — Critical areas for lynx habitat. Usually, the factors that place connectivity at risk are highways or private land developments. Special management emphasis is recommended to maintain or increase the permeability of key linkage areas.

maintenance level — See *road maintenance.*

management-ignited — See *prescribed burning.*

management indicator community — Management indicator communities are important habitats that are selected to predict the likely effects of management actions that are identifiable, measurable, and predictable and can be related to habitat of associated species.

management indicator species — Includes the following endangered and threatened species identified on state and federal lists for the planning area: species with special habitat needs that may be influenced significantly by planned management programs; species commonly hunted, fished or trapped; and additional species selected because their population changes are believed to indicate effects of management activities on other species of a major biological community or on water quality.

Mature forest — Generally used in an economic sense to indicate that a forest has attained harvest age.

meaningful measures — A process that helps provide quality service to recreation visitors by setting quality standards for work, prioritizing work by visitor preferences, and agreeing to a plan of work consistent with program funding.

mechanized vehicle — Any contrivance that provides mechanical assistance and has moving parts for the purpose of transporting one or more people across land or water and that is powered by a living or non-living power source. Examples include wagons, bicycles, rollerblades, paddle-wheeled watercraft. Not included are wheel chairs when used as a necessary medical appliance. Also not included are skis, snowshoes, rafts, canoes, sleds, travois, or similar devices without moving parts.

microclimate — Generally the climate of small areas, especially insofar as this differs significantly from the general climate of the region. Forest stands often create microclimates.

National Environmental Policy Act (NEPA) — An act declaring a national policy to encourage productive harmony between people and their environment, to promote efforts that will prevent or eliminate damage to the environment and the biosphere and simulate the health and welfare of people, to enrich the understanding of the ecological systems and natural resources important to the nation and to establish a Council on Environmental Quality.

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

National Forest System (NFS) lands — Federal lands designated by executive order or statute as national forests, national grasslands, or purchase units, or other lands under the administration of the U.S. Forest Service.

National Forest System road — A classified forest road under the jurisdiction of the Forest Service. The term "National Forest System Road" is synonymous with the term "forest development road."

National Recreation Trails — Trails designated by the Secretary of Interior or the Secretary of Agriculture as part of the national system of trails authorized by Section 4 of the National Trails System Act in or reasonably accessible to urban areas.

National Register of Historic Places (NHRP) — A list of heritage resources that have local, state or national significance maintained by the Secretary of the Interior.

National Wild and Scenic River System — Rivers with outstanding scenic, recreational, geological, fish and wildlife, historic, cultural, or other similar values designated by Congress under the Wild and Scenic Rivers Act for preservation of their free-flowing condition. See also *wild, scenic, and recreational rivers*.

National Wilderness Preservation System — All lands covered by the Wilderness Act and subsequent wilderness designations, irrespective of the department or agency having jurisdiction.

natural appearing landscapes — Whether naturally evolved, or culturally established, the landscape appears natural.

natural regeneration — The establishment of a plant or a plant age class from natural seeding, sprouting, suckering, or layering.

No Action alternative — An alternative that maintains established trends or management direction.

non-chargeable volume — Timber harvest not included in the allowable sale quantity calculations.

non-forested area — Lands never having or incapable of having 10 percent or more of the area occupied by forest trees, or lands previously having such cover and currently developed for non-forest use.

non-motorized activities — Activities that do not incorporate the use of a motor, engine or other non-living power source. Excluded by this classification would be such machines as aircraft, hovercraft, motorboats, automobiles, motor bikes, snowmobiles, bulldozers, chainsaws, rock drills and generators.

non-system road — A road within the National Forest System that is not necessary for the protection, administration, and utilization of the National Forest System or the use and development of its resources. It may, however, have recreational or historical value. Subsequent conversion to a different status may occur in the future. See also *unclassified and way*.

notice of intent — Formal notification that an environmental impact statement will be prepared and considered. The notice briefly describes the proposed action and possible alternatives, the agency's scoping process, and the address and name of the agency to contact regarding questions about the proposed action and the environmental impact statement.

noxious weed An alien plant that aggressively invades or is detrimental to native plant communities. The direct or indirect effect of the presence of this plant is detrimental to environmentally sound management of natural ecosystems.

obliteration The act of eliminating the functional characteristics of a travelway and the reestablishment of natural resource production capability. The intent is to make the corridor unusable as a road or a trail and stabilize it against soil loss.

off-highway vehicle (OHV) As defined by Colorado Revised Statute 33-14.5-101: "any self-propelled vehicle which is designed to travel on wheels or tracks in contact with the ground, which is designed primarily for use off of the public highways, and which is generally and commonly used to transport persons for recreational purposes. *Off-highway vehicle* does not include the following: (a) vehicles designed and used primarily for travel on, over or in the water; (b) snowmobiles; (c) military vehicles; (d) golf carts; (e) Vehicles designed and used to carry disabled persons; (f) Vehicles designed and used specifically for agricultural, logging or mining purposes."

once-over-lightly rotation grazing A rotation grazing system in which the animals graze an area lightly and only once during the grazing season.

open road density See *road density.*

orographic Of or about mountains, as in orographic lifting or orographic influence. The effects of increased rainfall on the windward mountain side of mountain ranges causes an air mass to cool and rise and thus to lose most of its moisture as it moves across mountain ranges.

outfitter/guide A special-use permittee that provides all commercial outfitting operations involving services for accommodating guests, transporting persons, and providing equipment, supplies, and materials. The permittee also provides guiding activities wherein the guide furnishes personal services or serves as a leader or teacher.

outputs The goods, end products or services purchased, consumed or utilized directly by people. Outputs are goods, services, products and concerns produced by activities that are measurable and capable of being used to determine the effectiveness of programs and activities in meeting objectives. A broad term used to describe any result, product or service that a process or activity actually produces.

overgrazing Continued heavy grazing that exceeds the recovery capacity of the community and creates a deteriorated range.

overmature A tree or even-aged stand that has reached that stage development when it is declining in vigor and health and reaching the end of its natural life span.

overstory removal The cutting of trees comprising an upper canopy layer in order to release trees or other vegetation in an understory.

paleontological area A unit of land that contains fossils of plants and animals, shellfish, early vertebrates, coal swamp forests, early reptiles, dinosaurs, and other prehistoric plants and animals.

particulates Small particles suspended in the air and generally considered pollutants.

patch In landscape ecology, a particular unit with identifiable boundaries which differs from its surroundings in one or more ways. These can be a function of vegetational composition, structure, age or some combination of the three.

patented mining claim A parcel of land originally claimed under the Mining Law of 1872 for which title has now passed from the federal government to the mining claimant. A patented mining claim is private land.

payments in lieu of taxes (PILT) Payments to local or state governments based on ownership of federal land and not directly dependent upon production of outputs or receipt sharing. Specifically, they include payments made under the Payments in Lieu of Taxes Act of 1976.

perforation The process of "punching holes" in large continuous patches of similar vegetation. These holes are generally small in scale and may impact some individuals of plants and wildlife in the affected areas. Perforations may be created by natural disturbances, such as fire, windthrow or insects and disease or through the management actions of humans. The primary distinction between a perforation and fragmentation is in scale; perforations are generally small in scale and most species are able to negotiate around these habitat disruptions to suitable adjacent habitats. See also *fragmentation*.

permit A special-use authorization that provides permission, without conveying an interest in land, to occupy and use National Forest System lands or facilities for specific purposes, and which is both revocable and terminable.

persons at one time (PAOT) A recreational capacity measurement term indicating the number of people who can use a facility or area at one time.

planning area The area of the National Forest System, including national grasslands, covered by a regional or forest plan.

planning criteria Standards, tests, rules, and guidelines by which the planning process is conducted and upon which judgments and decisions are based.

planning horizon — The overall time period considered in the planning process that spans all activities covered in the analysis or plan and all future conditions and effects of proposed actions that would influence the planning decisions. In the National Forest System planning process, this is 50 years.

planning period — A time interval for which inputs and outputs are identified in a planning process. Current Resource Planning Act and national forest plan intervals are five and 10 years, respectively.

planning records — Documents and files that contain detailed information and decisions made in developing the forest plan. Available at the Forest Supervisor's Office.

plant association — The distinctive combination of trees, shrubs, grasses, and herbs occurring in a theoretical terminal or climax community or series of communities.

plant community — A grouping of plants that have reached dynamic equilibrium with the local environmental conditions and is equivalent to climax. On site, there is no evidence of replacement by other dominant plant species and there is no evidence of serious disturbances.

potential natural community (PNC) — A taxonomic unit of vegetation classification. The biotic community that would be established under present environmental conditions if all successional sequences were completed without additional human-caused disturbances. Natural disturbances, such as drought, flood, wildfire, grazing by native fauna, and insect and disease infestations, are inherent in the development of potential natural communities, which may include naturalized, non-native species.

potential ponderosa pine cover type areas — Cover types that have the ecological characteristics that could be properly managed as a ponderosa pine cover type. These areas include historical ponderosa pine cover types that, because of past active management, have developed into other forest cover types.

population viability — The ultimate concern and requirement for species are long-term persistence, assessed and provided within the context of ecosystems. A population with a high level of viability is one with a high likelihood of continued existence throughout its range over the long term—for example, the next 100 years.

preferred alternative — The alternative recommended for implementation as the forest plan at the draft stage based on the evaluation completed in the planning process.

prescribed burning — Controlled application of fire to wildland fuels in either their natural or modified state, under specified environmental conditions, that allows the fire to be confined to a predetermined area and, at the same time, to produce the fireline intensity and rate of spread required to attain planned resource management objectives. Also called *management-ignited*.

prescribed fire A fire burning within prescription, resulting from planned or unplanned ignition.

present net value (PNV) The difference between the discounted value (benefits) of all outputs to which monetary values or established market prices are assigned and the total discounted costs of managing the planning area.

prevention of significant deterioration of air quality (PSD) A classification established to preserve, protect, and enhance the air quality in National Wilderness Preservation System areas in existence prior to August 1977 and other areas of national significance, while ensuring that economic growth can occur in a manner consistent with the preservation of existing clean air resources. Specific emission limitations and other measures, by class, are detailed in the Clean Air Act.

primitive See *recreational opportunity spectrum*.

proposed action In terms of the National Environmental Policy Act, the project, activity, or action that a federal agency intends to implement or undertake and which is the subject of an environmental analysis.

proposed species Any species of fish, wildlife, or plant that is proposed by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service to be listed as threatened or endangered.

province A continuous geographic area wherein species composition, both plant and animal, is more homogenous than between adjacent areas.

public The people of an area, state, or nation that can be grouped together by a commonality of interests, values, beliefs, or lifestyles.

public access Usually refers to a road or trail route over which a public agency has secured a right-of-way for public use.

public involvement A Forest Service process designed to broaden the information base upon which agency decisions are made by (1) informing the public about Forest Service activities, plans and decisions, and (2) encouraging public understanding about the participation in the planning processes that lead to final decision-making.

public issue A subject or question of widespread public interest identified through public participation relating to management of National Forest System lands.

public-private ventures Opportunities for private, profit-oriented businesses to invest in the development of campgrounds and other appropriate facilities on National Forest System lands.

range Land supporting indigenous vegetation that is grazed or that has the potential to be grazed, and is managed as a natural ecosystem.

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 other associated lands administered by the Forest Service.

Range condition A rangeland is considered to be in satisfactory condition when the desired condition is being met or short-term vegetation objectives are being achieved to move the rangeland toward the desired condition or trend. Unsatisfactory condition is when the desired condition is not being met and short-term vegetation objectives are not being achieved to move the rangeland toward the desired condition or trend.

rangeland Lands on which the native vegetation is predominately grasses, grass-like plants, forbs, or shrubs suitable for grazing or browsing usage. Includes lands revegetated naturally or artificially to provide a forage cover that is managed like native vegetation.

rangeland health The degree to which the integrity of the soil and the ecological processes of rangeland ecosystems are sustained.

ranger district Administrative subdivision of a national forest supervised by a district ranger who reports to a forest supervisor.

reclamation Returning disturbed lands to a form and productivity that will be ecologically balanced, often in conformity with a predetermined reclamation plan.

reconstruction Construction activities performed on an existing facility. Reconstruction includes those activities that alter the facility from its originally constructed or subsequently reconstructed condition.

recontouring Obliteration of a road or trail by means of decompaction, reestablishment of sub-surface flow, debris and rock placements, treatments to gullies and to their connectivity to stream systems, vegetation plantings, seeding, mulching, reestablishing original contours or removal of drainage structures.

record of decision (ROD) A document separate from but associated with an environmental impact statement that publicly and officially discloses the responsible official's decision on the proposed action.

recovery plan Identifies, justifies, and schedules the research and management actions necessary to reverse the decline of a species and ensure its long-term survival.

recreation carrying capacity — The level of recreation use beyond which impacts exceed social or biological levels specified by evaluative standards.

recreation information management (RIM) — The Forest Service system for recording recreation facility condition and use. Technically refers to a database system that has been replaced by one called INFRASTRUCTURE.

recreation opportunity — Availability of a real choice for a user to participate in a preferred activity within a preferred setting in order to realize desired experiences.

recreational opportunity spectrum (ROS) — A framework for stratifying and defining classes of outdoor recreation environments, activities, and experience opportunities. The settings, activities, and opportunities for obtaining experiences are arranged along a continuum or spectrum divided into seven classes: primitive, semi-primitive non-motorized, semi-primitive motorized, roaded natural, roaded modified, rural and urban.

primitive — Area that is characterized by an essentially unmodified natural environment of fairly large size. Interaction between users is very low and evidence of other users is minimal. The area is managed to be essentially free of evidence of human-induced restrictions and controls. Motorized use within the area is not permitted.

semi-primitive non-motorized — Area is characterized by a predominantly natural or natural-appearing environment of moderate to large size. Interaction between users is low, but there is often evidence of other users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but would be subtle. Motorized recreation is not permitted, but local roads used for other resource management activities may be present on a limited basis. Use of such roads is restricted to minimize impacts on recreational experience opportunities.

semi-primitive motorized — Area is characterized by a predominantly natural or natural-appearing environment of moderate to large size. Concentration of users is low, but there is often evidence of other users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but would be subtle. Motorized use of local primitive or collector roads with predominantly natural surfaces and trails suitable for motor bikes is permitted.

roaded natural — Area is characterized by predominantly natural-appearing environments with moderate evidence of the sights and sounds of people. Such evidence usually harmonizes with the natural environment. Interaction between users may be moderate to high, with evidence of other users prevalent. Resource modification and utilization practices are evident, but harmonize with the natural environment. Conventional motorized use is allowed and incorporated into construction standards and design of facilities.

roaded modified — Area is characterized by substantially modified environments except for campsites. Roads, landings, slash and debris may be strongly dominant from within yet remain subordinate from distant sensitive roads and highways. Interaction between users and evidence of others may be moderate on roads, but there is little evidence of others or interaction at camp sites. The area is managed in such a way that few on-site controls may be present except for gated roads. Conventional motorized use is allowed and incorporated into construction standards and design of facilities.

rural — Area is characterized by a natural environment that has been substantially modified by development of structures, vegetative manipulation or pastoral agriculture development. Resource modification and utilization practices may be used to enhance specific recreation activities and to maintain vegetative cover and soil. Sights and sounds of humans are readily evident, and the interaction between users is often moderate to high. A considerable number of facilities are designed for use by a large number of people. Facilities often are provided for special activities. Moderate user densities are present away from developed sites. Facilities for intensified motorized use and parking are available.

urban — Area is characterized by a substantially urbanized environment, although the background may have natural-appearing elements. Renewable resource modification and utilization practices are often used to enhance specific recreational activities. Vegetation cover often is exotic and manicured. Sights and sounds of humans are predominant on the site. Large number of users can be expected both on the site and in nearby areas. Facilities for highly intensified motor use and parking are available with forms of mass transit often available to carry people throughout the site.

recreation residence Cabins on National Forest System land that normally were established in tracts and built for recreation purposes with agency approval and supervision. These cabins are authorized by special-use permit and are not the primary residences of the owners.

recreation visitor day (RVD) Twelve visit hours, which may be aggregated continuously, intermittently, or simultaneously by one or more persons. Recreation visitor days are used to measure recreational production or output capacity.

reforestation The reestablishment of forest cover either naturally (by natural seeding, coppice, or root suckers) or artificially (by direct seeding or planting). Reforestation usually maintains the same forest type and is done promptly after the previous stand or forest was removed (synonymous with *regeneration*).

regeneration (reproduction) method A cutting method by which a new age class is created. The major methods are clearcutting, seed tree, shelterwood, selection, and coppice (also see *harvesting method*).

even-aged methods Methods to regenerate a stand with a single age class.

coppice A method of regenerating a stand in which all trees in the previous stand are cut and the majority of regeneration is from sprouts or root suckers.

clearcutting A method of regenerating an even-aged stand in which a new age class develops in a fully exposed microclimate after removal, in a single cutting, of all trees in the previous stand. Regeneration is from natural seedlings, direct seeding, plant seedlings, and/or advance reproduction. Cutting may be done in groups or patches (group or patch clearcutting), or in strips (strip clearcutting). In the clearcutting system, the management unit or stand in which regeneration, growth and yield are regulated consists of the individual clearcut stand (see *group selection*). When the primary source of regeneration is advance reproduction, the preferred term is *overstory removal*.

seed tree An even-aged regeneration method in which the new age class develops from seeds that germinate in fully exposed microenvironments after removal of all previous stand except a small number of trees left to provide seed. Seed trees are moved after regeneration is established.

shelterwood — A method of regenerating an even-aged stand in which a new age class develops beneath the moderated microenvironment provided by the residual trees. The sequence of treatments can include three distinct types of cuttings: (1) an optional preparatory cut to enhance conditions for seed production; (2) an establishment cut to prepare the seed bed and to create a new age class; and (3) a removal cut to release established regeneration from competition with overwood. Cutting may be done uniformly throughout the stand (uniform shelterwood), in groups or patches (group shelterwood), or in strips (strip shelterwood).

two-aged methods — Methods designed to maintain and regenerate a stand with two age classes. In each case the resulting stand may be two-aged or tend toward an uneven-aged condition as a consequence of both an extended period of regeneration establishment and the retention of reserve trees that may represent one or more age classes.

uneven-aged (selection) methods — Methods of regenerating a forest stand, and maintaining an uneven-aged structure, by removing some trees in all size classes either singly, in small groups, or strips.

group selection — A method of regenerating uneven-aged stands in which trees are removed, and new age classes are established, in small groups. The maximum width of groups is approximately twice the height of the mature trees, with small openings providing microenvironments suitable for tolerant regeneration and the larger openings providing conditions suitable for more intolerant regeneration. In the group selection system, the management unit or stand in which regeneration, growth, and yield are regulated consists of a landscape containing an aggregation of groups. See also *clearcutting*.

single tree selection — A method of creating new age classes in uneven-aged stands in which individual trees of all size classes are removed more-or-less uniformly throughout the stand to achieve desired stand structural characteristics.

Region 2 — See *Rocky Mountain Region.*

rehabilitation — Actions taken to restore or reclaim site productivity, water quality or other values.

research natural area (RNA) Formally designated tracts of land where natural processes are allowed to continue and where natural features are preserved for education and research. These conditions are ordinarily achieved by allowing natural physical and biological processes to prevail without human intervention. However, under unusual circumstances, deliberate manipulation may be used to maintain the unique feature that the RNA was established to protect.

responsible official The Forest Service employee who has the delegated authority to make a specific decision.

restoration 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 disturbance.

Revegetation The reestablishment and development of plant cover. This may take place naturally through the reproductive processes of the existing flora or artificially through the direct action of reforestation or reseeding.

Right-of-way Land authorized to be used or occupied for the construction, operation, maintenance and termination of a project or facility passing over, upon, under or through such land.

Riparian Refers to land bordering a stream, lake or tidewater, and generally implying a particular type of habitat physiognomy often characterized by an overstory of trees or other large woody plants with a complex understory of other woody and/or herbaceous species.

Riparian area Ecological units with distinctive vegetation, landform, soil and water regimes consisting of the aquatic ecosystem and wet-to-moist areas located between aquatic ecosystems and adjacent terrestrial ecosystems. They include floodplains and wetlands. Riparian ecosystems are distinguished by soil characteristics and distinctive existing or potential vegetation communities that are adapted to soils with consistently high levels of moisture.

Riparian community Repeating, classified, defined and recognizable assemblages of plant or animal communities associated with riparian areas.

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

Road A facility for purposes of travel by vehicles greater than 50 inches in width. It does not include trails used by motor vehicles that are operated and maintained under the trail vehicle classification.

road density Road density refers to the miles of road per square mile. There are different road densities depending on what road types are being considered. These densities include:

forest development road density — The miles of forest development roads per square mile. This is the road density of the road system managed by the Forest Service for resource management.

open road density — The miles of forest development roads and other private and public roads and highways open for public travel.

wheel-track density — The miles of established wheel tracks per square mile. Wheel tracks are not managed as part of the forest development road system and are formed by repeated travel off system roads by users.

roadless area An area in a national forest or national grassland that (1) is larger than 5,000 acres or, if smaller, contiguous to a designated wilderness or primitive area, or lies east of the 100th Meridian and therefore under the jurisdiction of the Eastern Wilderness Act, and (2) contains no roads and 3) has been inventoried by the Forest Service for possible inclusion in the Wilderness Preservation System.

road maintenance The upkeep of the entire forest development transportation facility including surface and shoulders, parking and side areas, structures and such traffic control devices as are necessary for its safe and efficient utilization. Road maintenance is classified in terms of the following levels:

maintenance level 1 — Assigned to intermittent service roads during the time they are closed to vehicular traffic. Basic custodial maintenance is performed to keep damage to adjacent resources to an acceptable level and to perpetuate the road to facilitate future management activities.

maintenance level 2 — Assigned to roads open for public or permitted use by high clearance vehicles. Passenger car traffic is not a consideration.

maintenance 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.

maintenance level 4 — Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Some roads may be paved and/or dust-abated.

maintenance level 5 — Assigned to roads that provide a high degree of user comfort and convenience. These roads are normally paved facilities.

roadless area — See *road density.*

roaded modified — See *recreational opportunity spectrum.*

roaded natural — See *recreational opportunity spectrum.*

Rocky Mountain Region — The Forest Service organizational unit consisting of Colorado, Wyoming, and parts of South Dakota, Nebraska and Kansas. Also known as Region 2.

rotation — In even-aged systems, the period between regeneration establishment and final cutting. See *regeneration methods.*

salable minerals — Salable minerals include common varieties of sand, stone, gravel, pumice, pumicite, cinders and clay. In general, these minerals are widespread and relatively low in value. They are generally used for construction materials and for road-building purposes.

salvage sale — A salvage sale is a timber sale where the primary reason for entry is that most of the trees are insect-infested or are dying or damaged, or the trees are dead standing or down, and they can still be useful as logs, firewood, or other wood products. Associated healthy trees in the stand can be removed to improve the whole stand, if it is efficient and desirable, in order to leave the stand in a healthier condition.

scoping process — An early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to the proposed action. Scoping requires examining a proposed action and its possible effects; establishing the depth of environmental analysis needed; determining analysis procedures, data needed, and task assignments. During the scoping period, the public is encouraged to participate and submit comments on proposed projects.

scenic integrity — State of naturalness, or conversely, the state of disturbance created by human activities or alteration. Integrity is stated in degrees of deviation from the existing landscape character. The degrees of deviation are used to describe the existing scenic integrity, proposed scenic integrity levels, and scenic integrity objectives.

seed tree See *regeneration methods*.

sensitive species Those plant and animal species identified by regional foresters for which population viability is a concern, as evidenced by: (a) significant current or predicted downward trends in population numbers or density, or (b) significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution. (For a list of Region 2 sensitive species that are known or thought to occur on the White River National Forest, see Appendix E of the Revised Forest Plan).

shelterwood See *regeneration methods*.

significant cave A cave located on Federal lands that has been determined to meet the criteria in 36 CFR 290.3(c) or (d) and has been designated in accordance with 36 CFR 290.3(e). A cave considered significant may contain biotic, cultural, mineralogical, paleontologic, geologic, hydrologic, or other resources that have important values for scientific, educational or recreational purposes. Any cave located within a special management area, designated wholly or in part due to cave resources therein, shall also be determined significant. This could include special areas, research natural areas, or other areas of special interest.

silviculture The art and science of controlling the establishment, growth, health, and quality of forests and woodlands to meet the diverse needs and values of landowners and society on a sustainable basis.

silviculture system A planned series of treatments for tending, harvesting, and re-establishing a stand. The system name is based on the number of age classes (see *even-aged, two-aged, uneven-aged*), and or the regeneration method used (see *clearcutting, seed tree shelterwood, selection,* and *coppice*).

single tree selection See *regeneration methods*.

single unit management A management strategy designed to achieve consistency in any Wilderness that extends onto more than one national forest. It requires agreement on a lead forest and on processes for achieving consistent policies and coordination and capturing management efficiencies.

sinkhole A funnel-shaped vertical hole the sides of which are often loose dirt.

site The classification of land based on its climate, physiographic (physical geography), edaphic (soil), and biotic factors that determine its suitability and productivity for particular species and silvicultural alternatives.

size class Tree size recognized by distinct ranges, usually of diameter or height.

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 rental, skiing instruction and trail passes, or for the use of permittee-maintained ski trails. A ski area also may include ancillary facilities directly related to the operation and support of skiing activities. Operation of Nordic and alpine ski areas for up to 40 years and encompassing such acreage as the forest officer determines sufficient and appropriate is authorized by the National Ski Area Permit Act of 1986.

skiers at one time (SAOT) The daily capacity of a ski-based resort.

snag A standing dead tree or standing portion from which at least the leaves and smaller branches have fallen. Often called a stub if it is less than 20 feet tall.

snowshoe hare habitat See *lynx foraging habitat* under *lynx habitat.*

social analysis An analysis of the social (as distinct from the economic and environmental) effects of a given plan or proposal for action. Social analysis includes identification and evaluation of all pertinent desirable and undesirable consequences to all segments of society, stated in some comparable quantitative terms, such as persons or percent of population in each affected social segment. It also includes a subjective analysis of social factors not expressible in quantitative terms.

soil compaction A physical change in soil properties that results in a decrease in porosity and an increase in soil-bulk density and strength.

soil erosion The detachment and movement of soil from the land surface by water or wind. Soil erosion and sediment are not the same.

soil productivity The inherent capacity of a soil to support the growth of specified plants, plant communities or a sequence of plant communities. Soil productivity may be expressed in terms of volume or weight/unit area/year, percent plant cover or other measures of biomass accumulation.

sovereignty For Indian tribes that have federal recognition, this is the inherent governmental power from which all specific political powers are derived. Indian governmental powers, with some exceptions, are not powers granted by Congress, but are inherent powers of a limited sovereignty that have never been extinguished. A tribe retains the inherent right to self-government and no state may impose its laws on a reservation.

special-use permit See *permit.*

species A singular or plural term for a population or series of populations of organisms that are capable of interbreeding freely with each other but not with members of other species. Includes a number of cases:

desired non-native FSM 2620.1-1 and 36 CFR 219.19 direct the Forest Service to manage "habitats for all existing native and *desired non-native* plants, fish, and wildlife species in order to maintain at least viable populations of such species." Within research natural areas (RNAs)and wilderness (both designated and recommended), management actions are focused on sustaining the natural process within the range of historic variability. Generally, indigenous species are preferred within wilderness and RNAs and there are no "desired non-native" plants, fish, and wildlife species in these areas. In other management areas, it may be appropriate to manage for "desired non-natives" based on habitat goals and objectives for wildlife and fish, including endangered, threatened, and sensitive animal and plant species.

endemic A species originating in, or belonging to, a particular region.

exotic A species introduced accidentally or intentionally to a region beyond its natural range.

subspecies A subdivision of a species. A population or series of populations occupying a discrete range and differing genetically from other subspecies of the same species.

species diversity A measurement that relates the density of individuals of a species in a habitat to the number of different species present in the habitat. The number of different kinds of species in a given habitat.

species-level approach An approach to maintaining biodiversity that is directed toward particular habitats or individual species that might fall through the ecosystem-level approach. These habitats may be critical in some way and the species threatened or endangered.

special interest area Areas managed with emphasis on protecting or enhancing unusual characteristics. These areas are managed to maintain their special interest values.

speleothem An all-inclusive term used to describe deposits in caves of calcium, aragonite, etc.

stablilization The process of arresting the deterioration of a damaged heritage resource in order to prevent further damage from occurring. Stabilization may include reconstructing portions of the heritage resource.

stand A contiguous group of trees sufficiently uniform in age class distribution, composition, and structure, and growing on a site of sufficiently uniform quality, to be a distinguishable unit. See also *regeneration method*.

standard In Region 2, a standard is defined as a mandatory requirement. Mandatory adherence to standards is the most important feature distinguishing standards from desired condition statements.

structural stages Any of several developmental stages of tree stands described in terms of tree age and the extent of canopy closure they create. They include:

structural stage 1 ***Grass/forb.*** Forest openings created by disturbances, such as fire or windthrow. Meadows and prairies are also modeled as grass/forb although succession will not move beyond this stage.

structural stage 2 ***Shrubs/seedlings.*** Developmental stage dominated by tree seedlings (less than one-inch DBH) and shrub species.

structural stage 3 ***Sapling/pole.*** Developmental stage dominated by young trees on to seven inches diameter breast height, 10 to 50 feet tall and usually less than 50 years old. This stage is subdivided into three canopy closure classes: (a) less than 40 percent; (b) 40 to 70 percent; and (c) greater than 70 percent.

structural stage 4 ***Mature.*** Consists of trees larger and older than stage 3. Also classified by the same canopy closure categories as stage 3.

structural stage 5 ***Old growth.*** This structural stage is characterized by trees at least 200 years old for spruce-fir or Douglas fir; 150 years old for lodgepole pine; or 100 years old for aspen.

subnivean The space between the ground and snow, which can be an important habitat for a variety of wildlife species.

succession The progress of vegetational development whereby an area becomes successively occupied by different plant communities.

successional stages (seral stages) The relatively transitory communities that replace one another during development toward a potential natural community.

suitable forest lands Land to be managed for timber production on a regulated basis.

sustainability A concept that reflects the capacity of a dynamic ecosystem to maintain its composition, function, and structure over time thus maintaining the productivity of the land and a diversity of plants and animals.

sustained yield The yield that a forest can produce continuously at a given intensity of management. The achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources on National Forest System lands without impairment of the productivity of the land.

temporary road A road associated with a timber sale contract, fire activity, or other short-term access need, and not intended to be part of the forest development transportation system and not necessary for future resource management. When intended use is ended, these roads are treated to eliminate motor vehicle traffic and permit the reestablishment of vegetation to minimize erosion.

thermal cover Cover used by animals to ameliorate the effects of weather. Optimally, thermal cover is provided by a stand of coniferous trees, 30 to 60 acres in size, at least 40 feet tall, with a canopy cover of at least 70 percent.

threatened species Any species likely to become endangered within the foreseeable future throughout all or a significant portion of its range and that has been designated in the Federal Register by the Secretary of the Interior as such.

tiering The elimination of repetitive discussions of the same issue by incorporating by reference the general discussion in an environmental impact statement of broader scope (e.g., a project environmental assessment could be tiered to the forest plan EIS).

timber A general term applied to tree stands that provide a wood-fiber product.

timber base The lands within a national forest suitable for timber production.

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, except fuelwood.

traditional The beliefs, acts, practices, objects, or sites for the perpetuation of an Indian culture originating from or historically located at a specific area. This may include traditional cultural practices that are so interrelated with spiritual activities tat they cannot be separated from the land location.

traffic service level Used to describe a road's significant traffic characteristics and operating conditions:

service level A — Traffic is free-flowing with adequate parking facilities. Accommodates mixed traffic including all vehicles normally found on public roads.

service level B — Traffic may be congested during heavy flow periods such as during peak commercial or recreation activities. Accommodates mixed traffic including all vehicles normally found on public roads.

service level C — Traffic may be interrupted by limited passing facilities or slowed by the road condition. All vehicle types are accommodated with some controls.

service level D — Traffic flow is slow or may be blocked by an activity. Two way traffic is difficult and may require backing to pass. The road is designed for a single use, not for mixed traffic. Some vehicles may not be able to negotiate**.**

transition plan A plan that sets forth the steps necessary to complete structural changes to facilities to achieve program accessibility as required by Section 504 of the Rehabilitation Act of 1973 and Forest Service regulation 7 CFR Part 15e.

travel management The integrated planning of and providing for appropriate movement of people and products to and through National Forest System lands.

travel management strategy A designation of acceptable modes, methods and time periods for travel over a road, trail, or area.

travel order A travel management decision issued by the Regional Forester or Forest Supervisor to restrict, prohibit or allow the use of a described area or transportation facility over which the Forest Service has jurisdiction.

travelway A way for passage of vehicles, conveyances, persons or domestic livestock (stock driveways), developed by construction or use: may be referred to as a road or a trail.

trail A linear travelway for purposes of travel by vehicles 50 inches in width or less, pack animals or people.

trailhead The parking, signing, or other facilities available at the beginning of a trail.

trail vehicle Vehicles designed for trail use, such as bicycles, snowmobiles, trail motorcycles, and all-terrain vehicles (ATVs).

treaty A legally binding agreement between two or more sovereign governments. With respect to American Indian tribes, a treaty is a document negotiated and concluded by a representative of the president of the U.S. and ratified by two-thirds majority vote of the U.S. Senate.

treaty boundaries A modern term that applies to lands described within the treaty document, usually outlining an area of land that was ceded to the U.S..

treaty rights Tribal rights or interests, reserved in treaties, by Indian tribes for the use and benefit of their members. Such uses are described in the respective treaty document. Only Congress may abolish or modify treaties or treaty rights.

tribal self-governance First stated in modern terms by former President Nixon in 1970 as "self determination," this refers to the ability of Indian tribal governments to make decisions that affect either the general tribal population or tribal assets—a modern U.S. Indian policy that reinstates the independent decision-making process of Indian tribal entities that had existed before European contact. In 1982, Congress passed new authorities whereby Indian tribes could sign a compact directly with the Secretary of the Interior without involving the Bureau of Indian Affairs in the delivery of federal services. Using appropriations formerly sent through the Bureau of Indian Affairs, Indian tribes can now prioritize their own expenditures of federal funds.

tribe Term used to designate a federally recognized group of American Indians and their governing body. Tribes may comprise more than one band.

trust responsibility This term has never been defined by the U.S. Congress, any President, or any Cabinet official. Generally, it is a set of principles and concepts outlining the responsibilities of the U.S. government to act as the trustee of Indian people and Indian-owned assets. The U.S. government, through the President, has certain responsibilities to protect Indian property and rights, Indian lands and resources. The trust responsibility may involve a fiduciary obligation in which the President, through the Secretary of the Interior, acts as the trustee of Indian assets. Fulfilling or redeeming a trust responsibility, can best be reflected or demonstrated as a matter of action—a stream that was protected, a site that was maintained intact, a property right that has been left unaffected by a federal action. The writing of an environmental document is not an example of fulfillment of a trust duty.

trustee One that holds legal title to property to administer it for the benefit of another. The Federal Government's trust responsibility arises from promises made in treaties, executive orders and agreements. Certain lands and resources of Indians are entrusted to the U.S. government through those treaties and agreements.

two-aged selection See *regeneration method.*

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 authorized. See also *non-system road and way.*

understory The lowest layer of vegetation in a forest or shrub community composed of grass, forbs, shrubs and trees less than 10 feet tall. Vegetation growing under the tree canopy.

undesirable species (1) Species that conflict with or do not contribute to the management objectives; (2) Species that are not readily eaten by animals.

uneven-aged management The application of a combination of actions needed to simultaneously maintain continuous high-forest cover, recurring regeneration of desirable species, and the orderly growth and development of trees through a range of diameter or age classes.

uneven-aged selection methods See *regeneration methods*.

uneven-aged stand A stand with trees of three or more distinct age classes, either intimately mixed or in small groups.

uneven-aged system — A planned sequence of treatments designed to maintain and regenerate a stand with three or more age classes. See *single tree selection* and *group selection*.

unsuitable forest land (not suited) — Forest land not managed for timber production because: (a) Congress, the Secretary, or the Chief has withdrawn it; (b) it is not producing or capable of producing crops of industrial wood; (c) technology is not available to prevent irreversible damage to soil productivity, or watershed conditions; (d) there is no reasonable assurance based on existing technology and knowledge, that it is possible to restock lands within five years after final harvest, as reflected in current research and experience; (e) there is, at present, a lack of adequate information about responses to timber management activities; or (f) timber management is inconsistent with or not cost-efficient in meeting the management requirements and multiple-use objectives specified in the forest plan.

urban — See *recreational opportunity spectrum.*

usufructuary — Having the legal right of using and enjoying the fruits or profits of something belonging to another. A land-use right where title to the land belongs to another person. A hunting right on National Forest System lands is an example of a usufructuary right.

utility corridor — A linear strip of land defined for the present or future location of transportation or utility facilities within its boundaries

utilization level — The portion of the current year's forage production by weight consumed or trampled by livestock. Utilization levels are usually expressed as a percentage.

vegetation management — Any activities undertaken to modify the existing condition of the vegetation.

viable population — A group of individuals of a particular species that produces enough offspring for long-term persistence and adaptation of the species or population in a given place. 36 CFR 219.19 defines a viable population for planning purposes as one that has the estimated numbers and distribution of reproductive individuals to ensure that a continued viable population is well distributed in the planning area. A planning area is further defined by 36 CFR 219.3 as the "area of the National Forest System covered by a regional guide or forest plan." Direction from the Forest Service Manual (FSM 2670.5) defines a viable population as one that has the estimated numbers and distribution of reproductive individuals to ensure the continued existence of the species throughout its existing range (or range required to meet recovery for listed species) within the planning area.

viewshed Total visible area from a single observer's position or the total visible area from multiple observer positions. Viewsheds are accumulated seen areas from highways, trails, campgrounds, towns, cities, or other view locations. Examples are corridors, feature or basin viewsheds.

water influence zone The land next to water bodies where vegetation plays a major role in sustaining long-term integrity of aquatic systems. It includes the geomorphic floodplain, riparian ecosystem, and inner gorge. Its minimum horizontal width (from top of each bank) is 100 feet or the mean height of mature dominant late-seral vegetation, whichever is most.

watershed An area of land that collects and discharges water into a single main stream through a series of smaller tributaries. The area of land, bounded by a divide, that drains water, sediment and dissolved materials to a common outlet at some point along a stream channel, or to a lake, reservoir or other body of water. Also called drainage basin or catchment.

watershed level Divides watersheds into a series of progressively smaller nested levels, with the first level being the largest land area relative to higher-numbered levels in that watershed. Each level is identified systematically by a hydrologic unit code number, or HUC. A first-level watershed can be divided into a number of second level watersheds; each second-level watershed may be further subdivided into third-level watersheds, and so forth.

water yield (1) The measured output of surface water, usually measured in acre-feet; (2) The runoff from a watershed, including groundwater outflow.

way Travelways existing on the national forest but not inventoried as part of the forest development transportation system. These routes vary in width, length and structure. Their origin is typically from off-road public travel but may also be abandoned routes from past management activities such as mining, oil and gas exploration, grazing and timber harvesting. See also *non-system road and unclassified road.*

wheel-track density See *road density.*

wild, scenic and recreational rivers Rivers or sections of rivers designated by Congressional actions under the 1968 Wild and Scenic Rivers Act as wild, scenic or recreational by an act of the legislature of the state or states through which they flow. See also *National Wild and Scenic Rivers System.* Rivers may be classified and administered under one or more of the following categories:

wild river — River or section of river that is free of impoundments with watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

scenic river — River or section of river that is free of impoundments, with watersheds still largely undeveloped, but accessible in places by roads.

recreational river — River or section of river that is readily accessible by road or railroad that may have some development along its shoreline and that may have undergone some impoundment or diversion in the past.

wilderness An area of undeveloped federal land that Congress designated as wilderness and that retains its primeval character and influence, without permanent improvements or human habitation, and is protected and managed to preserve its natural conditions. An area that 1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; 2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; 3) comprises at least 5,000 acres of land or is of sufficient size to make practicable its preservation and use in an unimpaired condition; and 4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

wilderness implementation schedule A document outlining how the wilderness management direction in a forest plan will be carried out. A three-to-five year schedule of actions that are needed to bring existing conditions into compliance with forest plan standards and guidelines.

wildfire Any wildland fire not designated and managed as a prescribed fire within an approved prescription. All wildfires will be given an appropriate suppression action.

wildlife Collectively, non-domesticated vertebrate animals, except fishes. The natural community of animals and plants.

windthrow The act of trees being uprooted by wind. The result is a *blowdown.*