

Management Area 1 - Research Natural Areas

Description

Research Natural Areas (RNAs) are examples of important vegetative, aquatic and geologic ecosystems of scientific interest and importance, and serve as a baseline for comparing ecological changes. Conditions have developed with little or no influence from human activities. They are managed to preserve naturally functioning plant and animal communities. A network of RNAs have been established Nationally.

Each National Forest nominates areas in response to 36 CFR 251.23. Regional coordination occurs to assure that a wide range of natural communities are represented in the RNA system. Each of the Region 5 Forests are assigned a group of vegetative ecosystems to have represented in the RNA system (Region 5 Land Management Planning direction).

Table 4-12. Acres Allocated to Research Natural Areas

Name	Total Acres @	Habitat Type
Antelope Creek Lakes*	500	Subalpine wet meadow
Bridge Creek* (W)	1,700	Pacific Douglas-fir
Crater Creek	500	Mountain Mahogany and subalpine forest
Haypress Meadows (W)	3,100	Red fir
Limestone Bluffs	900	Montane chaparral, black oak, and knobcone pine
Marble Caves (W)	2,000	Limestone geology
Rock Creek Butte *	500	Montane chaparral and Brewer spruce
Stove Spring Canyon	100	Foothill woodland and Oregon white oak
Sugar Creek* (W)	3,200	Mixed conifer and special conifer
Total Acres	12,500	
<p>@ Acres displayed above represent the approximate acres of each RNA and are rounded to nearest 100 acres. Legal descriptions of the RNA boundaries and final acreages will be included in the Establishment Reports.</p> <p>* The Forest has prepared Establishment Records for these RNAs.</p> <p>(W) RNA is located within a wilderness.</p>		

Management Goals

Manage RNAs for the "maintenance of unmodified conditions and natural ecological processes" (FSM 4063.3).

Preclude impacts from human activities that would modify the value of the RNA. This is to maintain the area's value as a significant contribution to the Forest's biological and physical diversity and also as a gene pool for plant and animal species.

Promote and use RNAs for non-manipulative research and baseline or control sites for Forest management comparisons. Form partnerships with university and research communities.

Desired Future Condition

RNAs exist as examples of healthy ecological communities. Human influences are minimal. Management actions such as prescribed fire may be permitted if they further the management goals of the RNA. Non-manipulative research, monitoring and educational activities are ongoing within RNAs. Knowledge and information gained from RNA studies are incorporated into Forest management.

Exceptions

For RNAs located within wilderness, Wilderness MA2 standards and guidelines take precedence over RNA MA1 standards and guidelines.

Standards and Guidelines

General

- MA1-1 Established RNAs, and those RNA candidates accepted by the Region 5 RNA committee, shall be managed by the following standards and guidelines pending formal establishment.
- MA1-2 This Forest Plan and FSM 4063 shall provide management direction for RNAs. Project-level direction for each RNA shall be documented in the Establishment Record and in the individual RNA implementation schedule. The intent of additional management direction shall be to maintain the values for which the RNA has been established. Individual RNA implementation schedules should be completed no later than 3 fiscal years after official establishment of the RNA. Post RNA boundaries as soon after establishment as possible.
- MA1-3 Future management activities shall be conducted in a manner that does not threaten the intent for which the RNA was established. Activities known to have been occurring at the time of the RNA establishment and approved by the Regional RNA committee may continue.
- MA1-4 Develop implementation schedules for each RNA. Within the implementation schedules, identify research opportunities and potential partnerships to implement research. These project schedules may be appended to the Forest Plan (FSM 2372).
- MA1-5 The Forest shall prepare an Establishment Record for all RNAs recommended in the future as specified by FSM 4063.
- MA1-6 The introduction of non-native plant, animal or fish species should generally not be allowed, unless approved by the Regional RNA committee or determined to be of no effect to the RNA.

Visual Resource Management

- MA1-7 Design management activities to meet a Retention VQO.

Recreation Management

- MA1-8 Prohibit recreational use that threatens or interferes with the objectives or purposes for which the RNA was proposed or established (FSM 4063.3). Within the management area itself, manage to generally achieve Primitive Recreation Opportunity Spectrum (ROS) conditions. Management areas next to the RNA shall not be influenced by the primitive ROS designation.
- MA1-9 Close these areas to OHV use.

Lands Management

- MA1-10 Post all RNA boundaries as soon as possible after RNA designation. Maintain these areas in Federal ownership.

Minerals Management

- MA1-11 Review each plan of operation to assure the proposed activity results in the least possible impact to RNA values, consistent with the appropriate mining laws. Plans of operation shall require rehabilitation of any ground or vegetative disturbance.
- MA1-12 Recommend the withdrawal of RNAs from mineral entry or leasing, subject to valid existing rights.

Transportation and Facilities Management

- MA1-13 New facilities or trails should generally not be constructed within a RNA. They may be allowed if identified as appropriate in the RNA establishment record and approved by the Regional RNA committee. New facilities or trails also may be allowed if they contribute to the objectives or the

protection of the area (FSM 4063.3). If required as part of an approved study or are permitted under an approved mining plan of operations, new roads and facilities may be constructed.

- MA1-14 Development of rock sources shall not be permitted within RNAs.

Vegetation Management

- MA1-15 Vegetative management opportunities shall be governed by the management goals of each RNA. Take no action to control insects or diseases unless the outbreak threatens to alter significantly the natural ecological processes or research values of the RNA, or unless thought necessary by the Regional Forester and the Pacific Southwest Region Station Director (FSM 4063.32).
- MA1-16 The salvage of burned or bug-killed trees, and subsequent reforestation, may be allowed if the activity is compatible with the management goals of the RNA.
- MA1-17 Schedule no timber harvest from these areas. Do not permit the cutting or removal of firewood within RNAs.
- MA1-18 The Forest Supervisor may permit the collection of plants or plant parts for scientific or educational purposes if it does not adversely affect the goals and objectives of the RNA.

Fire Management

- MA1-19 Extinguish, as quickly as possible, all human-caused wildfires that endanger the values for which the RNA was established. Use "light hand" fire suppression tactics that cause the least amount of soil disturbance in the area. Allow fires to burn if they are within a prescription designated to accomplish objectives of the specific RNA as prescribed in the RNA implementation schedule.
- Implementation schedules should address the sensitivity of each RNA to fire and establish specific guidelines for its use or control. Fire may be used to preserve a vegetative type when thought necessary in the implementation schedule.
- MA1-20 Rehabilitate all suppression-related ground disturbance within a RNA using techniques appropriate to overall management goals of the RNA.

Range Management

- MA1-21 Manage grazing use within RNAs at a level consistent with the RNA's values (FSM 4063.3). Consider management practices that discourage or exclude livestock use if grazing is not consistent with the RNA values. For example, such practices may be riding, salting, fencing outside the area or finding alternate forage areas.
- MA1-22 No new grazing allotments should be established within RNAs. For allotments that contain RNAs, Annual Operating Instructions (AOIs) shall be updated to meet these standards and guidelines as necessary.

Management Area 2 - Wilderness

Description

There are 5 wildernesses located partially or in whole on the Forest. They are the Marble Mountain, Russian, Siskiyou, Trinity Alps, and Red Buttes Wildernesses. These areas are mostly pristine landscapes, managed as vestiges of a wild America. Wilderness resources provide specific values such as solitude, physical and mental challenges, and opportunities for scientific study and primitive recreation.

Table 4-13. Acres Allocated to Wilderness	
Name	Total Acres
Marble Mountain	223,500
Russian	12,600
Siskiyou	70,100
Trinity Alps	74,900
Red Butte	*
Total Acres	381,100
* The portion of the Red Buttes Wilderness on the Forest is less than 10 acres.	

These areas were Congressionally designated as wilderness by the Wilderness Act of 1964 and/or the California Wilderness Act of 1984.

Management Goals

Manage for wilderness characteristics, natural conditions, and ecological processes within each wilderness.

Provide recreationists a primitive and semi-primitive, non-motorized recreation opportunity.

Manage for high air quality.

Utilize forage resources consistent with the 1964 Wilderness Act, as amended.

Desired Future Condition

Each wilderness looks natural, with human disturbances substantially unnoticeable. Ecological processes, including fire, have shaped the vegetative patterns and condition. Some evidence of human influence consistent with the Wilderness Act may be present due to valid mining claims, livestock grazing, and recreational use.

The trail system throughout the wilderness will provide recreational access. Some trails will keep a primitive condition, receiving light use and requiring a high degree of skill and challenge to negotiate. Other trails will accommodate light to moderate levels of use and will be easily negotiated.

Standards and Guidelines

General

- MA2-1 To better emphasize wilderness values, manage each wilderness as an integrated resource with inseparable ecosystem parts.
- MA2-2 Minimize the use of motorized equipment and mechanical transport of materials and personnel within wilderness. Carefully analyze the need for motorized equipment and obtain prior

documented approval. Schedule such work to avoid disturbance to the public.

- MA2-3 Wilderness values shall predominate if resource conflicts are identified.
- MA2-4 Wilderness management shall not affect adjacent management areas.
- MA2-5 Analyze uses and activities inconsistent with wilderness designation that are not otherwise provided for by the establishing wilderness legislation. Make provisions for discontinuing these uses and activities in an environmentally sensitive and socially acceptable manner.
- MA2-6 Discourage flights over wildernesses at elevations less than 2,000 feet above ground level. Low-level flights may occur in emergencies or for essential military missions according to Federal Aviation Advisory regulations, or as provided for in MA2-20. Emergencies may include fire suppression, health and safety, law enforcement involving serious crime or fugitive pursuit, removal of deceased persons and aircraft accident investigations.
- MA2-7 Naturally occurring ecological processes should predominate within wilderness ecosystems.
- MA2-8 Forest Service management activities, necessary to perpetuate a Federally listed T&E species, may be allowed with proper approvals.
- MA2-9 Complete an implementation schedule for each wilderness to coordinate and integrate management activities.

Geology

- MA2-10 Continue the geology and soil surveys of the wilderness. Forest Service and cooperating researchers will conduct the survey, with emphasis on documentation of natural soil conditions.

Water

- MA2-11 Do not alter or manipulate watersheds to increase water quantity, water quality, or timing of discharge, except as provided for in section 4(d)(4) of the Wilderness Act.
- MA2-12 Discourage the use of soap or detergent for bathing and laundering purposes in streams, lakes and other surface waters. Use the visitor education program to educate the public about the adverse effects of using soap and detergent in wilderness lakes and streams.
- MA2-13 Where terrain permits, discourage camping and holding of domestic livestock within 100 feet of surface water.
- MA2-14 Discourage establishing new snow measurement sites and the use of helicopter transport to existing snow measurement sites.
- MA2-15 Permit maintenance or reconstruction of existing dams that do not change the location, size, type or storage capacity. Retain Campbell Lake Dam under Special Use Permit. Retain Cliff and Ukonom Lake Dams in their present condition. The Cliff Lake Dam will not be restored or placed under Special Use Permit.

Air Quality

- MA2-16 Manage smoke from wildland fires managed for resource benefits as a component of the wilderness. Manage wildland fires managed for resource benefits and prescribed burns (ignited by humans) to reduce future smoke emissions. Coordinate with the proper State and local agencies to meet air quality regulations (see Forest-wide Standards and Guidelines for Air Quality, Fire Management).
- MA2-17 Manage for Class 1 Air Quality Related Values over the Marble Mountain Wilderness Area. (Refer to Appendix F later in this document.) Coordinate management efforts with other agencies responsible for maintenance of air quality. The rest of the Forest, including the other wildernesses, is associated with a Class 2 Airshed and should be managed to meet those goals.

Wildlife Management

- MA2-18 Seek natural distribution, numbers, population composition, and interaction of indigenous species.

- MA2-19 Consider the reintroduction of indigenous species that were extirpated by human-induced events.

Fisheries Management

- MA2-20 Coordinate with CDFG to provide fishing opportunities in the wilderness that do not conflict with the maintenance of viable populations of indigenous species. Fish stocking techniques may include the use of aircraft when this technique was used before the area was designated wilderness.
- MA2-21 Stocking of barren waters will not be permitted unless it is necessary to perpetuate an indigenous T&E species that was extirpated by human-induced events.

Visual Resource Management

- MA2-22 Wilderness will be managed to meet a Preservation VQO. Management activities occurring outside the wilderness may be evident from the wilderness.

Recreation Management

- MA2-23 Manage human use of wilderness consistent with the Limits of Acceptable Change (LAC) process described by Stankey, et al. in the "Limits of Acceptable Change System for Wilderness Planning." Use the LAC process to designate opportunity classes within each wilderness. Opportunity class is described as follows:

Table 4-14. Description of Opportunity Classes by Setting				
Description	Opportunity Class 1	Opportunity Class 2	Opportunity Class 3	Opportunity Class 4
Physical Setting	Unmodified natural environment	Unmodified natural environment	Unmodified natural environment	Predominantly unmodified natural environment
Social Setting	Very infrequent contacts with other users	Minimum contact with other users	Low to moderate contact with other users	Highest contact with other users
	No evidence of use.	Minimum evidence of use	Moderate evidence of use	Greatest evidence of use
Management Actions	Virtually no management presence	Minimal management presence	Low management presence	Moderate management presence

- MA2-24 Motorized and non-motorized recreational use shall be consistent with the 1964 Wilderness Act.
- MA2-25 Meet foraging requirements for wildlife and the permitted grazing use before allowing use by recreational stock.
- MA2-26 Permanent outfitter-guide caches or camps shall not be allowed.
- MA2-27 Manage permitted outfitter-guide operations according to principles described in the LAC guidelines.
- MA2-28 Eliminate unauthorized outfitter-guide use through an active law enforcement program.
- MA2-29 Encourage minimum impact camping activities through signing and public education. The collection of dead and down material for firewood may be restricted in some areas due to the availability of materials.
- MA2-30 If it is determined that the desired wilderness experience objectives are not being met, a wilderness permit system may be implemented to manage recreational use.

- MA2-31 Emphasize recreational uses that depend on the wilderness environment and cannot be reasonably accommodated elsewhere. Actively manage to displace activities that are not wilderness- dependent to out-of-wilderness settings, areas and trail systems. Provide information on backcountry recreational opportunities available on non-wilderness public lands. Dispersing recreational use will help to maintain wilderness objectives.
- MA2-32 Manage recreational settings to generally achieve primitive or semi-primitive non-motorized ROS conditions.

Trailheads and Access

- MA2-33 Allow "adequate access," as defined in the Glossary, to holders of private inholdings.
- MA2-34 A variety of trail maintenance classes may be constructed and maintained in wilderness depending on wilderness management objectives. Trail maintenance schedules shall determine the proper maintenance frequency based on the amount of use, budget, and environmental conditions in the area.
- MA2-35 Favor trail restoration over trail relocation, except where necessary to more effectively manage wilderness resources.
- MA2-36 Use native materials that blend with the wilderness environment for trail construction and/or maintenance. Rockwork shall be performed to high masonry standards and remain as unobtrusive as possible.
- MA2-37 Utilize visitor information and education programs to emphasize wilderness values and behaviors that protect wilderness resources.
- MA2-38 Post regulations, orders, and appropriate amounts of interpretive information at each trailhead outside the wilderness. Provide interpretive and general information at Forest administrative sites.
- MA2-39 Signs will be routed, rustic and of a weathered gray color. Install signs only at trail junctions, showing trail names and major destinations in each direction.
- MA2-40 The use of explosives for the construction and maintenance of trails shall be conducted in a manner that minimizes disturbance to the public (for example, timing, drill techniques, etc). Post notices at trailheads when explosives are in use.

Lands Management

- MA2-41 Efforts should be made to acquire inholdings where land use is incompatible with wilderness management objectives, as opportunities arise.
- MA2-42 Pursue acquisition of rights-of-way needed to insure public access to wilderness.
- MA2-43 Post all wilderness boundaries.

Minerals Management

- MA2-44 Mineral exploration and development operations may proceed after valid existing rights have been verified.
- MA2-45 Insure that mineral plans of operation incorporate terms and conditions to protect the wilderness resource. Collect adequate reclamation bonds for the prompt restoration of lands disturbed during mineral operations.

Transportation and Facilities Management

- MA2-46 Do not construct new structures that are not essential to the administration, protection or management of the wilderness.
- MA2-47 Construct facilities out of materials that are visually unobtrusive.
- MA2-48 Do not allow place name signs, such as for lakes and streams.

- MA2-49 Allow structures that are not culturally significant and that are not essential to the administration, protection or management of wilderness to deteriorate naturally or remove them.

Vegetation Management

- MA2-50 Revegetate areas damaged by extreme catastrophic events that would have an adverse effect on resources outside wilderness with native species or allow the areas to heal naturally.
- MA2-51 Endemic levels of insect and disease infestations will be left to play their natural ecological role. Epidemic infestations that severely threaten wilderness values or adjacent non-wilderness lands may be treated.
- MA2-52 The Forest Supervisor may permit the collection of plants or plant parts for scientific or educational purposes if it does not adversely affect wilderness values.
- MA2-53 As opportunities arise, map and record habitat for endemic plant species and plants of special interests. If these species do not exist outside the wilderness, establish a seed collection program from these sources.
- MA2-54 No timber harvest or salvage will be allowed.

Fire Management

- MA2-55 All lightning-started fires will be wildland fires managed for resource benefits, unless the fire does not meet the goals and objectives (it then will be declared a wildfire). Permit lightning-caused fires to play their ecological role, as nearly as possible, within the wilderness.
- MA2-56 Each wildland fire managed for resource benefits will have a Burn Plan prepared within 48 hours of discovery. Review the Burn Plan daily to assure validity based on current and projected conditions.
- MA2-57 Coordinate fire management actions with forests that share management of the wildernesses.
- MA2-58 A Wilderness Fire Coordinator (WFC) may be established to gather and send out information and aid to the National Forests and Region. The WFC will set priorities for on-going fires within the wilderness. The WFC should be at least Nationally qualified as a Prescribed Fire Manager. As a minimum, the wildland fire managed for resource benefits should have 1 Fire Information Officer and a Wilderness Resource Advisor.
- MA2-59 Consider all person-caused wildland fires (not management lighted prescribed fires) as wildland fires and use the appropriate suppression response.
- MA2-60 Reduce to an acceptable level the risks and consequences of a wildland fire within or escaping from the wilderness. Assessments of consequences will emphasize potential impacts on residential intermixes, mixed or adjacent landowners, Endangered or Threatened species, etc.
- MA2-61 Permit planned ignitions or management-lighted prescribed fire. This will allow fire to return in a more natural role so managers can select meteorological and fuel situations for future prescribed natural fire. Wilderness fire policy permits the use of management-lighted fires.
- MA2-62 Suppression of wildland fire will use appropriate suppression response and the Minimum Impact Suppression Techniques as outlined in the Forest-wide Fire and Fuels Management Standards and Guidelines.
- MA2-63 Fire prevention will be an important practice within wilderness. Fire prevention activities, such as signing, will concentrate on entrance portals to not diminish the visitor's wilderness experience. Visitor contacts within the wilderness will occur when there is a threat to wilderness preservation or resource protection.
- MA2-64 Develop a implementation schedule for wildland fires managed for resource benefits. For all resources, develop decision flow charts and prescription parameters that meet the resource standards and guidelines.

Range Management

- MA2-65 Manage livestock in a manner that utilizes forage resources according to wilderness management objectives.
- MA2-66 Use the AOI process to coordinate with permittees in identifying potential livestock impacts and in mitigating those effects.
- MA2-67 Prepare yearly AOIs for each allotment. Use the AOI as the basis for the management of livestock grazing. Base the numbers of livestock on positive or negative impacts to plant communities, wildlife habitat, water quality, and riparian areas. Incorporate the specifics of the wilderness management goals into the AOI.
- MA2-68 Adjustments in permitted livestock should be made as a result of revisions in the AOI and project planning process. Adjustments would consider legal mandates, range condition, and the protection of the wilderness resource from deterioration.
- MA2-69 The construction of new range improvements or replacement of deteriorated facilities in wilderness is permissible if they are in accordance with wilderness management objectives.
- MA2-70 There shall be no curtailments of grazing in wilderness simply because an area is, or has been, designated as wilderness.
- MA2-71 No new allotments or expansions of existing allotments will be established.
- MA2-72 Discourage the use of native pasture by commercial pack stock, administrative stock, private stock and permitted livestock until the range has been determined to be ready to sustain use, or prior to July 1 if such a determination has not been made.

Cultural Resource Management

- MA2-73 Prepare an archaeological reconnaissance report addressing the management of known cabins and lookouts within wilderness. Consult with the State Historic Preservation Officer and/or Advisory Committee on Historic Preservation (ACHP) and other interested parties to determine if maintenance is necessary.

Management Area 3 - Designated and Recommended Wild Rivers

Description

This prescription applies to those Wild River segments of either designated components of the National WSR System, or rivers recommended within this Plan, for inclusion in the National System.

The Wild classification applies to those rivers that are free-flowing, free of impoundments and generally inaccessible except by trail. The terrain surrounding the rivers is variable, but generally very steep and rocky. The canyons are often incised so sharply that views from the rivers themselves are limited.

The corridor boundary for the recommended rivers will be maintained at approximately 1/4-mile on each side of the river until Congress has reviewed the proposed designations or a management plan can be prepared. For designated rivers, the newly established boundaries described and mapped in this Forest Plan.

This prescription applies to those Wild River segments or recommended Wild River segments of Burney Valley Creek, Clear Creek, Elk Creek, Granite Creek, Grider Creek, Kelsey Creek, the North Fork of the Salmon River, South Russian Creek, Rainy Valley Creek, the South Fork of the Salmon River, Tenmile Creek, Toms Valley Creek, Ukonom Creek, West Fork of Clear Creek and Wooley Creek.

Table 4-15. Acres Allocated to Designated and Recommended Wild Rivers

Name	Total Acres*	Outstandingly Remarkable Values
Burney Valley Creek (BV01)	1,000	Vegetation, Water Quality
Clear Creek (CL01)	5,300	Cultural, Fisheries, Scenic, Vegetation, Water Quality
Elk Creek (EL01)	2,600	Fisheries, Geological, Scenic, Vegetation, Water Quality
Granite Creek (GN01)	1,500	Scenic, Vegetation, Water Quality
Grider Creek (GR01)	1,900	Fisheries, Vegetation, Wildlife
Kelsey Creek (KE01)	1,200	Fisheries, Vegetation
North Fork Salmon River (NS01, NS02**)	2,700	Fisheries, Scenic, Vegetation, Water Quality (NS01), Fisheries (NS02)
South Russian Creek (RU01)	1,000	Vegetation, Water Quality
Rainy Valley Creek (RV01)	900	Geological, Scenic, Water Quality
South Fork Salmon River (SS01)	3,700	Cultural, Fisheries, Geological, Scenic
Tenmile Creek (TE01)	2,100	Fisheries, Scenic, Vegetation
Toms Valley Creek (TV01)	700	Vegetation, Water Quality
Ukonom Creek (UK01)	2,800	Fisheries, Geological, Recreation, Scenic, Vegetation
West Fork Clear Creek (WC01)	1,400	Vegetation
Wooley Creek (WO01, WO02**)	3,900	Cultural, Fisheries, Recreation, Scenic, Water Quality (WO01), Fisheries (WO02)
Total Acres	32,700	
* Acres for each Designated and Recommended Wild River have been rounded to nearest 100 acres.		
** Wild River segments already designated		

Currently, the only designated components of the WSRs System on the Forest are portions of the North Fork of the Salmon River and Wooley Creek. The other rivers and creeks have been recommended for inclusion in the National System.

Although the rivers are all classified as Wild, the character of each river may be significantly different. The outstandingly remarkable values for each river are different. Therefore, the management objectives for each river may be different as well. The specific management objectives for each river will be documented in a River Management Plan. For designated rivers, the river management boundaries will be delineated by the approval of the Forest Plan. For rivers recommended for designation in the Forest Plan, the river boundaries should be identified within 3 years of designation by Congress.

Management Goals

Protect the Wild River qualities in a free-flowing condition. Manage the rivers and their immediate environments for the benefit and enjoyment of present and future generations.

Protect and enhance the outstandingly remarkable value(s) for which the river(s) were or would be designated. Provide for public recreation and resource uses that do not adversely impact or degrade those values.

Manage recreational activities to assure that the character and quality of recreational use will not cause adverse impacts to the resource values of the river areas.

Manage all designated and recommended rivers identified in the Forest Plan according to the 1982 USDA-USDI Revised Guidelines and other applicable policy. The USDA-USDI Guidelines provides guidance for the management of designated rivers or those recommended for inclusion into the National WSRs System.

Desired Future Condition

The river area appears essentially primitive, with little or no evidence of human activity. Viewers see fire scars from the rivers, evidence of the ecological processes that shape the vegetative patterns viewed from the river. The physical and biological integrity of the aquatic system is maintained. Habitat for anadromous and resident fish species is in good condition, capable of supporting viable populations of indigenous species. Shorelines and watersheds that can be seen from the rivers are essentially free of structures. These include buildings, pipelines, powerlines, pumps, generators, dams, diversion works, rip-rap and other modifications of the waterway or adjacent land within the river corridor. These rivers represent vestiges of primitive America.

Standards and Guidelines

General

- MA3-1 The following guidelines apply to Federal lands, Federal scenic or access easements and other interests under Forest Service's jurisdiction. They do not apply to privately owned lands. These standards and guidelines shall be used along with the USDA-USDI Revised Guidelines (47 Federal Register 39454) and the Land Management Planning Handbook, Chapter 8. These guidelines also govern interim management of study rivers and designated rivers.
- MA3-2 Management of the "outstandingly remarkable values" shall be the driving management intent, consistent with maintaining the Wild character of the river and ecological processes. In cases where the "outstandingly remarkable values" can be maintained or enhanced, without adversely impacting the river's eligibility or designation, that activity or project may be implemented.

Water

- MA3-3 Prohibit all water supply dams and major diversions.
- MA3-4 No development of hydroelectric power facilities shall be permitted.
- MA3-5 No flood control dams, levees, or other works shall be allowed in the channel or river corridor. The natural appearance and essentially primitive character of the river area must be maintained.

Visual Resource Management

- MA3-6 Management activities within foreground views of the Wild River segments should meet a Preservation VQO.
- MA3-7 Middleground views from the Wild River segments of the river should be managed to meet a Retention VQO. Background views from the rivers should be managed to meet a Modification VQO.

Recreation Management

- MA3-8 Major public-use areas, such as campgrounds, interpretive centers, or administrative headquarters, shall be located outside the Wild River area. Simple comfort and convenience facilities, such as fireplaces, shelters, or primitive toilets, may be provided as necessary within the river area. These improvements should harmonize with the surroundings.
- MA3-9 Manage recreational settings to generally achieve semi-primitive non-motorized ROS conditions. Close these areas to OHV use.
- MA3-10 Maintain existing trails to promote foot access through the area. Design new trails to promote a dispersed recreation experience.
- MA3-11 Manage public use through signing, river permit systems, or area closures as necessary to protect the outstandingly remarkable Wild River values.

Wild and Scenic Rivers Management

- MA3-12 Encourage the use of the "Adopt a Wild River" stewardship program.

Lands Program Management

- MA3-13 For designated Wild Rivers, as opportunities arise, pursue acquisition of private lands where such acquisition would contribute to the outstandingly remarkable values for which the river was designated.
- MA3-14 Discourage the construction of new transmission lines, gas lines, water lines, etc. by offering alternative rights-of-way outside the management area. Where no reasonable alternative exists, additional or new facilities should be restricted to the existing rights-of-way.
- MA3-15 Modify special use permits within Wild River corridors to meet the objectives of the area. Permits that cannot be modified to meet the objectives in the area shall be terminated.

Minerals Management

- MA3-16 Existing mining activity may be allowed to continue, subject to regulations (36 CFR 228) that the Secretaries of Agriculture and Interior may prescribe to protect the rivers. Existing mineral activity should be conducted in a manner that does not impair outstandingly remarkable values. Permit reasonable levels of access.
- MA3-17 Propose recommended rivers for withdrawal from mineral entry or leasing, subject to valid existing rights.

Transportation and Facilities Management

- MA3-18 No roads or other provisions for overland motorized travel shall be permitted within the management area. Allow unobtrusive trail ridges.
- MA3-19 Allow minor existing structures, assuming such structures are not incompatible with the essentially primitive and natural values of the viewshed. New structures should not be allowed except in rare instances to achieve management objectives.

Vegetation Management

- MA3-20 Manage the vegetation to promote a safe recreation experience when constructing trails or other approved primitive recreation facilities.
- MA3-21 Ecological processes shall shape the vegetative patterns within the management area. The

salvage of dead trees, or the reforestation of these areas following catastrophes, should not be permitted.

- MA3-22 Schedule no timber harvest from this management area.

Fire Management

- MA3-23 Extinguish wildland fires that threaten the presence of outstandingly remarkable values, until a River Management Plan, which specifically addresses fire management, is completed. The use of mechanical equipment should be discouraged.

Range Management

- MA3-24 Permit grazing within Wild River areas. AOIs shall be modified to be consistent with Wild River management objectives. Livestock improvements shall meet all management goals for the area.

Management Area 4 - Butte Valley National Grassland

Description

The Butte Valley National Grassland (BVNG), designated on February 28, 1991, is 18,100 acres of land originally purchased under the authority of the Bankhead-Jones Farm Tenant Act of 1937. Previously called the Butte Valley Land Utilization Project, the Goosenest Ranger District administers the area. Private agricultural lands partially surround the BVNG. The 13,000-acre Butte Valley Wildlife Area, administered by the CDFG, also adjoins the Grassland. Portions of the area were seeded to perennial grasses for soil stabilization and livestock forage.

Management of the Grassland is facilitated by the Butte Valley CRMP effort. Participants include Forest Service, Butte Valley Resource Conservation District, Soil Conservation Service, grazing permittees, adjacent landowners, CDFG and the Butte Valley Irrigation District.

Grazing use is allowed under a Grazing Agreement issued to the Butte Valley Resource Conservation District in partnership with the Forest Service. Forage for livestock and migratory waterfowl is managed in cooperation with the adjacent State Wildlife Area and the broader CRMP.

Table 4 -16. Acres Allocated to Butte Valley National Grassland

Name	Total Acres
Butte Valley National Grassland	18,100

Management Goals

Manage for an ecologically healthy grassland and wetland ecosystem. Provide for the sustained productivity of range vegetation for utilization by wildlife and domestic livestock.

Restore the area to either a grassland or wetland ecosystem, based on the site potential. Show the use of a variety of strategies to achieve this goal.

Restore native vegetation where practical.

Optimize the production, distribution, storage, and utilization of water in the management area.

Restore traditional wetland habitat by raising the water table where possible. Confine excess water to the management area.

Maintain and enhance habitat for a variety of grassland and wetland ecosystem-dependent wildlife species.

Desired Future Condition

The BVNG will support a diverse and productive grassland and wetland ecosystem. A variety of ecological communities in various conditions will be obvious. The site potential will ultimately determine the future potential condition of the area on a site by site basis. Wetlands have been restored to a near natural condition. Vegetation provides forage, cover, and habitat for rangeland-dependent wildlife species and domestic livestock.

Viewers will see a diverse variety of wildlife, including raptors, waterfowl, and pronghorn antelope, in their nesting and foraging habitats.

Domestic livestock may be present in wetland areas at specific times of the year. The vegetation in these areas will show signs of grazing or browsing by livestock. After removal of the livestock, the areas will support a predominantly continuous vegetative cover. The area will provide adequate residual dry matter for soil cover and plant health.

The management area will provide opportunities for several small livestock operations on an annual application basis.

Standards and Guidelines

General

- MA4-1 Encourage users to take an active role in the administration and management of livestock in the area.

Water

- MA4-2 Coordinate the regulation of surface water to prevent flooding and sub-irrigation to facilitate re-charge of ground water.

Wildlife Management

- MA4-3 Construct wildlife habitat enhancement projects in a manner that benefits grassland-dependent species.

Visual Resource Management

- MA4-4 Manage the BVNG to meet the intent of the Forest VQO map. Foreground and middleground views from Highway 97 will be managed for a Partial Retention VQO per agreements with the State on eligible State Scenic Highways.

Recreation Management

- MA4-5 Manage recreational settings to generally achieve semi-primitive motorized or roaded natural conditions.

Vegetation Management

- MA4-6 Improve forage conditions where conditions are poor or decadent. Favor a variety of grasses, forbs, and shrubs suitable to grassland-dependent species. Manage the area to achieve a vegetative combination conducive to these species.
- MA4-7 Manage brush-dominated landscapes to allow for an age class structure of 25% early seral stage, 25% mid-seral stage, and 50% late-seral stage.

Fire Management

- MA4-8 Utilize an aggressive prescribed fire program to maintain long-term ecological processes.

Range Management

- MA4-9 The intensity of management and specific management systems to be used shall be determined through the Forest Plan and project planning processes.
- MA4-10 Livestock should be used as a management tool in areas to meet a variety of resource needs. Decadent stands of sedges and grass should be grazed or burned to provide fall and spring forage for waterfowl.
- MA4-11 Utilize the Coordinated Resource Planning and Grazing agreements to encourage user groups to assist in administration of the BVNG.

Management Area 5 - Special Habitat

Description

This management area includes the following types of special habitat: Late-Successional Reserves (LSRs) are designed to provide for the viability needs of all late-successional species in an ecosystem approach; some of the lands designated by the USFWS and the Forest as habitat needed to support the recovery of Federally listed Threatened and Endangered (T&E) wildlife populations; habitat for the Sensitive plant, *Calochortus persistens* (Siskiyou mariposa lily).

Each of the T&E species requires different habitat. When the habitat of these species overlap, the management priority shall be placed on the species with the most specialized habitat needs (that is, the rarest occurring habitat).

Management actions proposed for these areas will be consistent with the recommendations for habitat management provided in the USFWS Recovery Plans for these species and the Forest Service direction applicable to the recovery plan.

Table 4-17. Acres Allocated to Special Habitat	
Name	Total Acres
Late Successional Reserves	396,600
Bald eagle	7,800
Peregrine falcon	6,300
<i>Calochortus persistens</i>	100
Total Acres	410,800

Management Goals

Provide habitat conditions and management activities that contribute to the recovery of Federally listed T&E species and to Sensitive species found on the Forest. Emphasize the recovery of each species, by managing for quality habitat, consistent with ecological processes.

Provide for more than the minimum number of bald eagle and peregrine falcon pairs established by the Recovery Plans and disaggregated to the Forest.

Meet the habitat requirements as outlined in the *Record of Decision (ROD) for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl signed April 13, 1994 and the Final Supplemental Environmental Impact Statement on Management of Habitat for Late Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl* dated February 1994 (FSEIS).

Late Successional Reserves

Description

- * LSRs have been designated based on 5 elements: (1) areas mapped as part of an interacting reserve system; (2) LS/OG 1 and 2 areas within Marbled Murrelet Zone 1 and certain owl additions, mapped by the Scientific Panel on Late-Successional Forest Ecosystems (1991); (3) sites occupied by marbled murrelets; (4) known owl activity centers; and (5) Protection Buffers for specific endemic species identified by the Scientific Analysis Team (SAT)(1993).

Management Goals

- * The objective of LSRs is to protect and enhance conditions of late-successional and "old growth" forest ecosystems, which serve as habitat for late-successional and "old growth"-related species including the northern spotted owl. These reserves are designed to maintain a functional, interacting, late-successional and "old growth" forest ecosystem.

Desired Future Condition

The characteristics of individual areas vary according to the dominant vegetative species, site class, topography and other site factors. Well-dispersed and continuous areas of multi-layered forests with high quality habitat characteristics and attributes are common: (1) under optimum conditions on north slopes, (2) at high elevations, and (3) in cool, moist areas. The overstory trees are large diameter, tall and have obvious signs of decadence. Some are broken-topped, have mistletoe, or have platforms of branches capable of holding organic materials that serve as a nest. Snags are common and fallen trees visible on the ground, providing for adequate prey populations. Within true fir habitats or where hardwoods occur, mid-seral stage forested areas provide suitable habitat as well. Although overstory trees are smaller and stands are less dense, important structural elements, such as snags and nesting platforms, are present. South slopes and drier areas are more open due to frequent natural fires.

Exceptions

- * RNAs and activities required by recovery plans for listed T&E species take precedence over LSR standards and guidelines.

Management Assessment for Late-Successional Reserves

- * A management assessment should be prepared for each LSR (or group of smaller LSRs) before habitat manipulation activities are designed and implemented. LSR assessments should generally include: (1) a history and inventory of overall vegetative conditions within the reserve, (2) a list of identified late-successional associated species known to exist within the LSR and information on their locations, (3) a history and description of current land uses within the reserve, (4) a fire management plan, (5) criteria for developing appropriate treatments, (6) identification of specific areas that could be treated under those criteria, (7) a proposed implementation schedule tiered to higher order (for example, larger scale) plans, and (8) proposed monitoring and evaluation components to help evaluate if future activities are carried out as intended and achieve desired results. Only in unusual circumstances would silvicultural treatments, including prescribed fire, precede preparation of this management assessment. LSR assessments are subject to review by the Regional Ecosystem Office. Until LSR assessments are completed, fire suppression activities should be guided by land allocation objectives in coordination with local resource management specialists.
- * Projects and activities within LSRs (including restoration, recreation, projects for public safety, thinning and salvage) may proceed in FYs 1994-96 using initial LSR assessments done at a level of detail sufficient to assess whether the activities are consistent with the objectives of the LSRs.

Standards and Guidelines

Biological Diversity

- * MA5-1 **Habitat Improvement Projects** - Projects designed to improve conditions for fish, wildlife or watersheds should be considered if they provide late-successional habitat benefits or if their effect on late-successional associated species is negligible. Projects required for recovery of threatened or endangered species should be considered even if they result in some reduction of habitat quality for other late-successional species. For example, watershed rehabilitation projects, such as felling trees along streams, will be coordinated with a wildlife biologist and may include seasonal restrictions. Design and implement watershed restoration projects in a manner that is consistent with LSR objectives.
- * MA5-2 **Research** - A variety of wildlife and other research activities may be ongoing and proposed in late-successional habitat. These activities must be assessed to determine if they are consistent with LSR objectives. Some activities (including those within experimental forests) not otherwise consistent with the objectives may be appropriate, particularly if the activities will test critical assumptions of these standards and guidelines, will produce results important for habitat development, or if the activities represent continuation of long-term research. These activities should only be considered if there are no equivalent opportunities outside LSRs.
 - * Current, funded, agency-approved research that meets the above criteria is assumed to continue if analysis ensures that a significant risk to Aquatic Conservation Strategy objectives does not exist. Research Stations and other Forest Service and BLM units will, within 180 days of the signing of the Record of Decision for these standards and guidelines, submit a brief project summary to the Regional Ecosystem Office of ongoing research projects that are potentially inconsistent with other standards and guidelines of this document, but are expected to continue under the above research exception. The Regional Ecosystem Office may choose to more formally review specific projects and may recommend to the Regional Interagency Executive Committee modification, up to and including cancellation, of those projects having an unacceptable risk to LSR objectives.
- * MA5-3 **Nonnative Species** - In general nonnative species (plant and animal) should not be introduced into LSRs. If an introduction of nonnative species is proposed, complete an assessment of impacts and avoid any introduction that would retard or prevent achievement of LSR objectives. Evaluate impacts of nonnative species (plant and animal) currently existing within reserves and develop plans and recommendations for eliminating or controlling nonnative species that are inconsistent with LSR objectives. These will include an analysis of the effects of implementing such programs to other species or habitats within LSRs.
- * MA5-4 **Other** - Activities should be evaluated by local interdisciplinary teams and appropriate guidelines should be written and documented. Activities deemed to have potentially adverse effects on LSR objectives are subject to review of the Regional Ecosystem Office. The Regional Ecosystem Office may develop additional criteria for exempting some additional activities from review.
- * MA5-5 (As Amended by the Record of Decision and Standards and Guidelines for Amendments to through the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and MA5-9 Guidelines, January 2001)

Wildlife Management

- * MA5-10 **Occupied Marbled Murrelet Sites** - Timber harvest is prohibited within occupied marbled murrelet habitat at least until completion of the Marbled Murrelet Recovery Plan. Silvicultural treatments in non-habitat within the 1/2-mile circle must protect or enhance the suitable or replacement habitat. When objectives of the Marbled Murrelet Recovery Plan have been identified, management direction will be amended or revised as appropriate.
- * MA5-11 **Known Spotted Owl Activity Centers** - This standard and guideline applies to known spotted owl activity centers that are not protected by Congressionally Reserved Areas, LSRs, RRs, Managed Late-Successional Areas, or Administratively Withdrawn Areas. One hundred acres of the best northern spotted owl habitat will be retained as close to the nest site or owl

activity center as possible for all known (as of January 1, 1994) spotted owl activity centers located on Federal lands in the matrix and AMA. This is intended to preserve an intensively used portion of the breeding season home range. "Activity center" is defined as an area of concentrated activity of either a pair of spotted owls or a territorial single owl. Timber management activities within the 100-acre area should comply with management guidelines for LSRs. Management around this area will be designed to reduce risks of natural disturbance. Because these areas are considered important to meeting objectives for species other than spotted owls, these areas are to be maintained even if they become no longer occupied by spotted owls.

- MA5-12 Opportunities to improve late-successional habitat should be actively investigated and implemented. The LSR Management Assessment should consider the existing habitat quality and quantity, distribution and population levels when scheduling projects within these areas.

Visual Resource Management

- MA5-13 Manage these areas to meet the intent of the Forest VQO map. As a minimum, manage for a Partial Retention VQO.

Recreation

- * MA5-14 Dispersed recreational uses, including hunting and fishing, generally are consistent with the objectives of LSRs. Use adjustment measures such as education, use limitations, traffic control devices or increased maintenance when dispersed and developed recreation practices retard or prevent attainment of LSR objectives.

- MA5-15 Emphasize dispersed recreational opportunities.

- MA5-16 Maintain the existing developed recreation sites, trails or other existing facilities as provided for under Transportation and Facilities Management.

- MA5-17 Manage recreational settings to generally achieve semi-primitive or roaded natural ROS conditions.

Lands Program Management

- * MA5-18 Land exchanges involving LSRs will be considered if they provide benefits equal to or better than current conditions. Consider land exchanges especially to improve area, distribution and quality (for example, connectivity, shape, contribution to biological diversity) of LSRs, especially where public and private lands are intermingled (for example, checkerboard ownership).

- MA5-19 Use the Section 7 consultation process, when appropriate, on land ownership adjustments within LSRs. Acquisition efforts should focus on consolidation of late-successional habitat within areas of mixed ownership in LSRs.

- * MA5-20 Access to non-Federal lands through LSRs will be considered and existing right-of-way agreements, contracted rights, easements and special use permits in LSRs will be recognized as valid uses. New access proposals may require mitigation measures to reduce adverse effects on LSRs. In these cases, alternate routes that avoid late-successional habitat should be considered. If roads must be routed through a reserve, they will be designed and located to have the least impact on late-successional habitat. Review all special use permits and when objectives of LSRs are not being met, reduce impacts through either modification of existing permits or education.

Minerals Management

- * MA5-21 The impacts of ongoing and proposed mining actions will be assessed and mineral activity permits will include appropriate stipulations (for example, seasonal or other restrictions) related to all phases of mineral activity. The guiding principle will be to design mitigation measures that minimize detrimental effects to late-successional habitat.

Transportation and Facilities Management

- * MA5-22 Road construction in LSRs for silvicultural, salvage and other activities generally is not recommended unless potential benefits exceed the costs of habitat impairment. If new roads are necessary to implement a practice that is otherwise in accordance with these guidelines, they will be kept to a minimum, be routed through non-late-successional habitat where possible, and be designed to minimize adverse impacts. Alternative access methods, such as aerial logging, should be considered to provide access for activities in reserves.
- * MA5-23 Road maintenance may include felling hazard trees along rights-of-way. Leaving material on site should be considered if available coarse woody debris is inadequate. Topping trees should be considered as an alternative to felling.
- * MA5-24 Development of new facilities that may adversely affect LSRs should not be permitted. New development proposals that address public needs or provide significant public benefits, such as power lines, pipelines, reservoirs, recreation sites or other public works projects will be reviewed on a case-by-case basis and may be approved when adverse effects can be minimized and mitigated. These will be planned to have the least possible adverse impacts on LSRs. Developments will be located to avoid degradation of habitat and adverse effects on identified late-successional species. Existing developments in LSRs such as campgrounds, recreation residences, ski areas, utility corridors and electronic sites are considered existing uses with respect to LSR objectives and may remain, consistent with other standards and guidelines. Routine maintenance of existing facilities is expected to have less effect on current "old growth" conditions than development of new facilities. Maintenance activities may include felling hazard trees along utility rights-of-way, trails and other developed areas.
- MA5-25 Review existing road and facility use to determine if the road or improvement meets the need for which it was constructed. If the development is no longer necessary, plans for removal or rehabilitation efforts should be developed.

Vegetation Management

Silviculture

- * MA5-26 Thinning or other silvicultural treatments inside reserves are subject to review by the Regional Ecosystem Office to ensure that the treatments are beneficial to the creation of late-successional forest conditions. The Regional Ecosystem Office may develop criteria that would exempt some activities from review. Stand and vegetation management of any kind, including prescribed burning, is considered a silvicultural treatment. Excepted from review are reforestation activities legally required by and planned as part of, existing sold timber sales, where the reforestation prescription has been modified as appropriate to meet the objectives of the LSR.

Guidelines to Reduce Risks of Large-Scale Disturbance

- * MA5-27 Certain risk management activities, if properly planned and implemented, may reduce the probability of major stand-replacing natural events such as fire.
- * MA5-28 Silvicultural activities aimed at reducing risk shall focus on younger stands in LSRs. The objective will be to accelerate development of late-successional conditions while making the future stand less susceptible to natural disturbances. Salvage activities should focus on the reduction of catastrophic insect, disease and fire threats. Treatments should be designed to provide effective fuel breaks wherever possible. However, the scale of salvage and other treatments should not generally result in degeneration of currently suitable owl habitat or other late-successional conditions.
- * MA5-29 In some LSRs in these provinces, management that goes beyond these guidelines may be considered. Levels of risk in those LSRs are particularly high and may require additional measures. Consequently, management activities designed to reduce risk levels are encouraged in those LSRs even if a portion of the activities must take place in currently late-successional habitat. While risk-reduction efforts should generally be focused on young stands, activities in older stands may be appropriate if: (1) the proposed management activities will clearly result in greater assurance of long-term maintenance of habitat, (2) the

activities are clearly needed to reduce risks and (3) the activities will not prevent the LSRs from playing an effective role in the objectives for which they were established.

- * Such activities in older stands may also be undertaken in LSRs in other provinces if levels of fire risk are particularly high.

***MA5-30 Guidelines for Salvage**

- * 1. The potential for benefit to species associated with late-successional forest conditions from salvage is greatest when stand-replacing events are involved. Salvage in disturbed sites of less than 10 acres is not appropriate because small forest openings are an important component of old-growth forests. In addition, salvage should occur only in stands where disturbance has reduced canopy closure to less than 40%, because stands with more closure are likely to provide some value for species associated with these forests.
- * 2. Surviving trees will provide a significant residual of larger trees in the developing stand. In addition, defects caused by fire in residual trees may accelerate development of structural characteristics suitable for associated species. Also, those damaged trees that eventually die will provide additional snags. Consequently, all standing live trees should be retained, including those injured (for example, scorched) but likely to survive. Inspection of the cambium layer can provide an indication of potential tree mortality.
- * 3. Snags provide a variety of habitat benefits for a variety of wildlife species associated with late-successional forests. Accordingly, following stand-replacing disturbance, management should focus on retaining snags that are likely to persist until late-successional conditions have developed and the new stand is again producing large snags. Late-successional conditions are not associated with stands less than 80 years old.
- * 4. Following a stand-replacing disturbance, management should retain adequate CWD quantities in the new stand so that in the future it will still contain amounts similar to naturally regenerated stands. The analysis that determines the amount of CWD to leave must account for the full period of time before the new stand begins to contribute CWD. As in the case of snags, province-level specifications must be provided for this guideline. Because CWD decay rates, forest dynamics and site productivity undoubtedly will vary among provinces and forest types, the specifications also will vary.
- * Province-level plans will establish appropriate levels of CWD and decay rates to be used. Levels will be "typical" and will not require retention of all material where it is highly concentrated, or too small to contribute to CWD over the long timeframes discussed. This standard and guideline represents one item to be considered and may indeed result in no salvage following windthrow in low density stands. As for other management activities, it is expected that salvage standards and guidelines will be refined through the implementation and adaptive management processes.
- * 5. Some salvage that does not meet the preceding guidelines will be allowed when salvage is essential to reduce the future risk of fire or insect damage to late-successional forest conditions. This circumstance is most likely to occur in the California Cascades Province and somewhat less likely to occur in the California Klamath Province. It is important to understand that some risk associated with fire and insects is acceptable because they are natural forces influencing late-successional forest development. Consequently, salvage to reduce such risks should focus only on those areas where there is high risk of large-scale disturbance.
- * 6. Removal of snags and logs may be necessary to reduce hazards to humans along roads and trails and in or adjacent to campgrounds. Where materials must be removed from the site, as in a campground or on a road, a salvage sale is appropriate. In other areas, such as along roads, leaving material on site should be considered. Also, material will be left where available CWD is inadequate.
- * 7. Where green trees, snags and logs are present following disturbance, the green-tree and snag guidelines will be applied first and completely satisfied where possible. The biomass

left in snags can be credited toward the amount of CWD biomass needed to achieve management objectives.

- *8. These basic guidelines may not be applicable after disturbances in younger stands because remnant CWD may be relatively small. In these cases, diameter and biomass retention guidelines should be developed consistent with the intention of achieving late-successional forest conditions.
- *9. Logs present on the forest floor before a disturbance event provide habitat benefits that are likely to continue. It seldom will be appropriate to remove them. Where these logs are in an advanced state of decay, they will not be credited toward objectives for CWD retention developed after a disturbance event. Advanced state of decay should be defined as logs not expected to persist to the time when the new stand begins producing CWD.
- *10. The CWD retained should approximate the species composition of the original stand to help replicate preexisting suitable habitat conditions.
- *11. Some deviation from these general guidelines may be allowed to provide reasonable access to salvage sites and feasible logging operations. Such deviation should occur on as small a portion of the area as possible and should not result in violation of the basic intent that late-successional forest habitat or the development of such habitat in the future should not be impaired throughout the area. While exceptions to the guidelines may be allowed to provide access and operability, some salvage opportunities will undoubtedly be foregone because of access, feasibility and safety concerns.

Fuelwood Gathering

- * MA5-31 Fuelwood gathering will be permitted only in existing cull decks, where green trees are marked by silviculturists to thin (consistent with standards and guidelines), to remove blowdown blocking roads and in recently harvested timber sale units where down material will impede scheduled post-sale activities or pose an unacceptable risk of future large-scale disturbances. In all cases these activities should comply with the standards and guidelines for salvage and silvicultural activities.

Special Forest Products

- * MA5-32 Special forest products include but are not limited to posts, poles, rails, landscape transplants, yew bark, shakes, seed cones, Christmas trees, boughs, mushrooms, fruits, berries, hardwoods, forest greens (for example, ferns, huckleberry, salal, beargrass, Oregon grape and mosses) and medicinal forest products. In all cases, evaluate whether activities have adverse effects on LSR objectives. Sales will ensure resource sustainability and protection of other resource values such as special status plant or animal species. Where these activities are extensive (for example, collection of Pacific Yew bark or fungi), it will be appropriate to evaluate whether they have significant effects on late-successional habitat. Restrictions may be appropriate in some cases.

Other

- MA5-33 Seeding and fertilization projects designed to prevent or mitigate erosion hazards and the removal of hazard trees that pose a risk to public safety would be appropriate management activities within LSRs.

- MA5-34 Schedule no timber harvest from these areas.

Fire Management

- * MA5-35 Each LSR will be included in fire management planning as part of watershed analysis. Fire suppression in LSRs will utilize minimum impact suppression methods in accordance with guidelines for reducing risks of large-scale disturbances. Plans for wildfire suppression will emphasize maintaining late-successional habitat. During actual fire suppression activities, fire managers will consult with resource specialists (for example, botanists, fisheries and wildlife biologists, hydrologists) familiar with the area, these standards and guidelines and their

objectives, to assure that habitat damage is minimized. Until a fire management plan is completed for LSRs, suppress wildfire to avoid loss of habitat in order to maintain future management options.

- * MA5-36 In LSRs, a specific fire management plan will be prepared prior to any habitat manipulation activities. This plan, prepared during watershed analysis or as an element of province-level planning or a LSR assessment, should specify how hazard reduction and other prescribed fire applications will meet the objectives of the LSR. Until the plan is approved, proposed activities will be subject to review by the Regional Ecosystem Office. The Regional Ecosystem Office may develop additional guidelines that would exempt some activities from review. In all LSRs, watershed analysis will provide information to determine the amount of CWD to be retained when applying prescribed fire.
- * MA5-37 In LSRs, the goal of wildfire suppression is to limit the size of all fires. When watershed analysis, province-level planning or a LSR assessment are completed, some natural fires may be allowed to burn under prescribed conditions. Rapidly extinguishing smoldering CWD and duff should be considered to preserve these ecosystem elements.
- MA5-38 Utilize an aggressive prescribed fire program to maintain long-term habitat quality and ecological processes within LSRs once LSR assessments and NEPA analysis are completed and site-specific decisions are made. Specific fire prescriptions shall be used until wildland fire managed for resource benefits can be effectively used. The use of wildland fire managed for resource benefits is outlined in the Wilderness Fire Management Standards and Guidelines. Those standards and guidelines also shall apply to LSRs.
- MA5-39 Report wildfires within activity centers to the appropriate District and/or Forest biologist. The biologist shall determine the need to contact the USFWS. Report fires that escape initial attack to the USFWS. Motorized and heavy equipment may be permitted by the Incident Commander to assure habitat protection.
- MA5-40 Wildfire prevention should be critical to habitat maintenance. During critical fire danger periods, increased prevention efforts should be undertaken, especially in high use recreation areas within LSRs and in areas adjacent to populated areas.

Range Management

- * MA5-41 Range-related management that does not adversely affect late-successional habitat will be developed in coordination with wildlife and fisheries biologists. Adjust or eliminate grazing practices that retard or prevent attainment of reserve objectives. Evaluate effects of existing and proposed livestock management and handling facilities in reserves to determine if reserve objectives are met. Where objectives cannot be met, relocate livestock management and/or handling facilities.

Cultural Resources Management

- * MA5-42 The exercise of tribal treaty rights will not be restricted by these standards and guidelines unless the Regional Interagency Executive Committee determines that the restriction is (1) reasonable and necessary for preservation of the species at issue, (2) the conservation purpose of the restriction cannot be achieved solely by regulation of non-Indian activities, (3) the restriction is the least restrictive available to achieve the required conservation purpose, (4) the restriction does not discriminate against Indian activities either as stated or as applied and (5) voluntary tribal conservation measures are not adequate to achieve the necessary conservation purpose.

Bald Eagle

Description

The areas designated to be managed for bald eagles include known nest areas and winter roost sites. On the westside of the Forest, these areas occur next to and along major rivers and in later seral stages of open mixed conifer stands. Nests may occur in large emergent pines in younger seral stage stands. In the Klamath and California Cascades, bald eagles appear to be highly selective for large ponderosa pine trees. Foraging habitat consists of large trees and snags within 150 yards of aquatic habitats.

On the Goosenest Ranger District, these areas occur across the District in moderate to open, late-seral stage mixed conifer and ponderosa pine stands. A Pacific Bald Eagle Recovery Plan was approved on August 8, 1986.

Management Goals

Provide bald eagle habitat that will contribute to the recovery of the Pacific bald eagle. Management activities that are consistent with the USFWS's approved Recovery Plan are expected to accomplish this goal.

Manage eagle habitat on the Forest to protect and maintain nesting and roosting sites.

Provide bald eagle wintering habitat over as wide an area as possible to provide for a dispersal of wintering concentrations of eagles.

Develop management strategies for bald eagle nest sites and roost areas within 5 years of Forest Plan completion. These strategies shall be part of an overall plan that identifies site specific habitats for bald eagles. These strategies should be developed in coordination with the CDFG and USFWS.

Desired Future Condition

Eastside winter roost areas: These areas are stands of mature conifers, primarily ponderosa pine. Large snags and live conifers with open crowns and stout lateral limbs for perching are common. The vegetative features of the stands provide for protection from weather. These sites are isolated from areas of excessive human activity.

Eastside nest areas: These areas are open stands of mature conifers, primarily ponderosa pine. Nest trees and alternate nest trees within the stand are tall and large in diameter. They provide a good view of the surrounding landscape. The stands contain thrifty mature and immature trees that are available for future nesting use.

Westside winter roost and nest areas: These areas consist of open, late-seral, mixed conifer forests. Large snags and live conifers with open crowns and stout lateral limbs for perching are common in nesting and roosting sites. Perch trees provide good views of adjacent river corridors.

Standard and Guidelines

Wildlife Management

- MA5-43 Establish nest/roost protection areas and primary protection areas around eagle roost and nest sites. The local topography shall influence the establishment of these areas. Guidelines that should be applied include:

(a) Nest/Roost Protection Area:

These areas should contain the nest and roost stand and surrounding habitat which directly influences nesting/roosting conditions. Management activities within this zone shall be directed toward providing for the biological and physical integrity of the nest/roost site and to minimize human disturbance during periods of use. If necessary, this area may extend out 1/2-mile around the site.

(b) Primary Protection Area:

This area should be located outside the Nest/Roost Protection Area. Management of the area should be designed to increase reproductive success by buffering nesting birds from a variety of human disturbances. The width of this area may be variable depending on the vegetation and terrain. Allow for a wide range of management options in these areas. The timing of the proposed management action may need to be modified depending on the presence and activity of bald eagles.

MA5-44 Monitor bald eagle sites annually.

MA5-45 Survey suitable habitat to locate additional territories.

MA5-46 Where appropriate, use the Section 7 consultation process to coordinate proposed management activities with the USFWS.

Visual Resource Management

MA5-47 Manage these areas to meet the intent of the Forest VQO map. As a minimum, manage for a Partial Retention VQO.

Recreation Management

MA5-48 Develop no new recreation sites in nest protection areas or in eastside winter roost protection areas. Exceptions may occur along westside winter roost areas if they pose no conflict with wintering birds.

MA5-49 Direct dispersed recreational activities away from nesting and roosting habitat.

MA5-50 Maintain the existing developed recreation sites, trails or other existing facilities.

MA5-51 Manage recreational settings to generally achieve semi-primitive or roaded natural ROS conditions.

Lands Program Management

MA5-52 Acquisition efforts should focus on consolidation of bald eagle habitat within areas of mixed ownership.

Transportation and Facilities Management

MA5-53 New roads and facilities may be constructed within bald eagle areas if no other feasible alternatives are available.

MA5-54 Review existing road and facility use to determine if the road or improvement meets the need for which it was constructed. If the development is no longer necessary, plans for removal or rehabilitation efforts should be developed.

Vegetation Management

MA5-55 Schedule no timber harvest from bald eagle areas. Silvicultural practices to maintain, improve or to accelerate the development of suitable bald eagle habitat should be implemented.

MA5-56 Prohibit firewood gathering within primary nest and roost protection zones.

MA5-57 Vegetation removal may be allowed to eliminate public hazards or maintain existing improvements. In cases of natural catastrophes such as wildland fire and pest infestations, timber salvage is permitted if it benefits eagle habitat. Minimize the loss of timber value where possible. Salvage efforts for habitat enhancement, maintenance, or accelerated development will require approval by the USFWS. Reforestation opportunities should be implemented when such actions will improve habitat.

Fire Management

- MA5-58 Report wildfires within primary protection areas to the District and/or Forest biologist. The biologist shall be responsible for contacting the USFWS, if appropriate.
- MA5-59 The appropriate suppression response and minimum impact suppression techniques should be used.
- MA5-60 Use prescribed fire to maintain or improve bald eagle habitat.

Peregrine Falcon

Description

Areas to be managed for peregrine falcon include nest sites and protective zones around nest sites. These nest sites occur on cliffs, generally near riparian habitats. A Peregrine Falcon Recovery Plan was approved in August 1982.

Management Goals

Provide habitat that will contribute to the recovery of the Pacific peregrine falcon. Management activities consistent with the USFWS's approved Recovery Plan are expected to accomplish this goal.

Manage peregrine habitat on the Forest to protect and maintain nesting and foraging sites.

Develop peregrine nest site (eyrie) management strategies within 5 years of completion of the Forest Plan. These strategies should be part of an overall plan that identifies site-specific habitats for peregrines and should be coordinated with the CDFG and USFWS.

Desired Future Condition

Peregrine falcons are nesting on tall cliffs across the Forest. Adjacent habitat areas, especially riparian areas, provide the nesting birds with an adequate supply of prey species. Human disturbance during the breeding season is infrequent.

Standard and Guidelines

Wildlife Management

- MA5-61 Establish nest and primary protection areas around falcon nest sites. Local topography shall influence the establishment of these areas. Guidelines that should be applied include:

(a) Nest Protection Area:

These areas should contain the nest and cliff habitat, which directly influences nesting conditions. Direct management activities within this zone toward providing for the biological and physical integrity of the nest site. Direct management activities to minimize human disturbance during nesting periods. If necessary, this area may be 1/2-mile radius around the site.

(b) Primary Protection Area:

This area should be located outside the Nest Protection Area. Management of the area should be designed to increase reproductive success by buffering nesting birds from a variety of human disturbances and providing enhanced foraging opportunities. The width of this area may be variable, depending on the vegetation and terrain, but will typically extend 1 mile from the nest. Allow for a wide range of management options in these areas. The timing of the proposed management action may need to be modified depending on the presence and activity of peregrine falcons.

- MA5-62 Monitor the success of peregrine nest sites and survey for new territories annually.
- MA5-63 Where appropriate, use the Section 7 consultation process to coordinate proposed management activities with the USFWS.

Visual Resource Management

- MA5-64 Manage these areas to meet the intent of the Forest VQO map. As a minimum, manage the lands within the area to meet a Partial Retention VQO.

Recreation Management

- MA5-65 Develop no new recreation sites in nest protection areas.
- MA5-66 Dispersed recreation activities should be directed away from nesting and foraging habitat.
- MA5-67 Maintain the existing developed recreation sites, trails or other existing facilities.
- MA5-68 Manage recreational settings to generally achieve semi-primitive or roaded natural ROS conditions.

Lands Program Management

- MA5-69 Acquisition efforts should focus on consolidation of peregrine falcon habitat within areas of mixed ownership.

Minerals Management

- MA5-70 Approval of Plans of Operation or Notices of Intent for minerals activities or leases shall incorporate steps to minimize detrimental effects to T&E species and habitat.

Transportation and Facilities Management

- MA5-71 New roads and facilities may be constructed within peregrine areas if no other feasible alternatives are available. Consultation with USFWS is required.
- MA5-72 Review existing road and facility use to determine if the road or improvement meets the need for which it was constructed. If the development is no longer necessary, plans for removal or rehabilitation efforts should be developed.

Vegetation Management

- MA5-73 Schedule no timber harvest from these areas. Silvicultural practices to maintain, improve or to accelerate the development of suitable peregrine habitat should be implemented.
- MA5-74 Vegetation removal may be allowed to eliminate public hazards or maintain existing improvements. Salvage of trees killed by wildland fire, pest infestations, or other natural processes is permitted if it benefits falcon habitat. Minimize the loss of timber value where possible. Salvage efforts for habitat enhancement, maintenance, or accelerated development may require approval by the USFWS. Reforestation opportunities should be implemented when such actions will improve habitat.
- MA5-75 Dead and fallen trees may be removed from these areas if the level of snags and down woody debris exceeds those levels needed to support high quality peregrine falcon habitat.

Fire Management

- MA5-76 Report wildfires within the primary protection areas to the appropriate District and/or Forest biologist. The biologist shall be responsible for contacting the USFWS, if appropriate.
- MA5-77 Implement the appropriate suppression response and minimum impact suppression techniques.
- MA5-78 Design fire prescriptions to maintain or improve peregrine falcon habitat and restore ecological processes.

Calochortus persistens

Description

This 100-acre area consists of dry rocky outcroppings within the westside mixed conifer forest. The habitat for this State-listed Rare perennial species has been managed since 1982 under guidelines developed by the Forest in a species management guide. No other populations of this plant are known to exist on the Forest.

Management Goals

Maintain the currently known, and any newly discovered, *Calochortus* population's habitat in an undisturbed condition. Inventory similar habitats for potential population expansion opportunities.

Manage habitat to provide for a viable population of *Calochortus*. Manage the plant populations and species vigor in a way that would prevent the need to list this species as T&E.

Reduce or eliminate invasive, non-native weedy plant species that compete with *Calochortus* for water, space and nutrients.

Desired Future Condition

Habitat conditions for the *Calochortus persistens* consist primarily of undisturbed rocky outcroppings and openings. Conifers next to the primary habitat hold snow and moisture on the site. Habitat enhancement projects have removed the exotic, invasive weed species. Other management activities occurring within the area does not jeopardize the species or its habitat.

Standards and Guidelines

General

- MA5-77 Prohibit any ground disturbance that would adversely affect the known habitat (by introducing weedy species) or physically disturbing existing plants. Disturbed areas near this habitat should be managed to exclude non-native invasive plant species.
- MA5-78 Conduct programmed or permitted activities within the management area so as not to adversely affect the habitat values for the *Calochortus*.

Visual Resource Management

- MA5-79 Manage to meet the intent of the Forest VQO map. As a minimum, manage the lands within the area to meet a Partial Retention VQO.

Recreation Management

- MA5-80 Recreational settings and facilities shall be managed to achieve the ROS class of adjacent management areas.

Transportation and Facilities Management

- MA5-81 Allow vehicular traffic on established roads. New road construction shall not be allowed in this management area. Off-highway traffic shall not be allowed.

Range Management

- MA5-82 Do not encourage grazing by domestic livestock within the management area. Use water developments or salting areas to pull livestock away from these areas. Do not allow sheep to graze in the area between April 15 and September 1.

Management Area 6 - Managed Wildlife Area

Description

A Managed Wildlife Area has been established on the westside of Indian Creek on the Happy Camp Ranger District, which provides habitat for a broad range of species dependent on structural features common to late-successional vegetation in an ecosystem approach. This area includes one Sensitive wildlife species, fisher (*Martes pennanti*).

The Managed Wildlife Area is at low to mid-elevation (below 4,000 feet). It currently provides open to dense stands of mid- to late-seral stage conifers. The area also has inclusions of early seral stage vegetation.

Table 4-18. Acres Allocated to Managed Wildlife Area

Name	Total Acres
Managed Wildlife Area	6,600

Management Goals

Manage the area to provide for late-successional habitat.

Manage habitat attributes, compatible with ecological processes, to provide moderate to high quality habitat conditions on the Forest as defined in the Fisher Habitat Capability Model (refer to Appendix I of the EIS).

Test and demonstrate the effectiveness of treatments for use in LSRs in an adaptive management approach.

Desired Future Condition

Large stands of mid- to late-seral stage, mixed conifer or Douglas-fir provide habitat for a variety of species. Canopy closures are as dense as the capability of the site allows. Hardwoods occur as a component of the coniferous forest, or as pure stands providing for acorn woodpeckers and squirrels. Many forest stands are multi-layered. Large snags and logs are available, serving as denning and resting habitat for fisher as well as maintaining populations of cavity-dependent species, fungi, arthropods bryophytes, amphibians, and other organisms. Stream riparian areas, where present, are well-developed with dense forest providing travel habitat for fisher as well as maintaining populations of frogs, turtles, and birds. Signs of vegetative management might be noticeable, but do not occur as large openings. Open roads are managed at desired levels.

Standards and Guidelines

Wildlife Management

- MA6-1 Where opportunities exist and the site potential is capable, improve habitat conditions to meet moderate or high habitat capability as described in the Forest Habitat Capability Model for Fisher (refer to Appendix I of the EIS).
- MA6-2 Use Regional survey protocols to document the status and habitat use of fisher.
- MA6-3 Minimize the potential for disturbance during critical periods through delineation of a disturbance zone around known fisher den sites. Impose disturbance restrictions around active den sites between February 1 and May 31.
- MA6-4 Develop a strategy for implementing habitat improvements. Improvement activities may include silvicultural manipulations, the use of prescribed fire, transportation planning adjustments, etc.

Visual Resources Management

- MA6-5 Manage this area to meet the intent of the Forest VQO map. As a minimum, manage the lands to meet a Partial Retention VQO.

Recreation Management

- MA6-6 Manage recreational settings to generally achieve semi-primitive or roaded natural ROS conditions.

Transportation and Facilities Management

- MA6-7 New road and facilities construction may be allowed if no feasible alternatives are available. If development within the area is necessary, develop the trails or roads outside the disturbance zone for fishers whenever possible (refer to Appendix I of the EIS).
- MA6-8 Restrict open road densities to 1/2 to 2 miles of open road per square mile to minimize human disturbance.
- MA6-9 Review existing road and facility use to determine if the road or improvement meets the need for which it was constructed. If the development is no longer necessary, plans for removal or rehabilitation efforts should be developed.

Vegetation Management

- MA6-10 Silvicultural practices to maintain, improve, or accelerate the development of late-successional habitat should be implemented. Vegetation removal will be allowed to eliminate public hazards or maintain existing improvements.
- MA6-11 Schedule marginal timber yields, compatible with area goals.
- MA6-12 Salvage of trees killed by wildland fire, pest infestations, or other natural processes is permitted consistent with area goals. Timber salvage or other vegetation removal may be allowed when a high rating can be achieved in the wildlife habitat rating model or when the activity would accelerate the recovery period. Minimize the loss of timber value where possible. Reforestation opportunities should be a high priority and implemented when such actions will improve habitat conditions.
- MA6-13 Manage to provide or maintain suitable numbers and sizes of snags and logs. Where the number and/or sizes of snags and logs is below desired levels, management activities will be implemented to maintain and/or create additional snags and logs (refer to Appendix I of the EIS).

Fire Management

- MA-14 Prescribed fire or biomass utilization may be used to reduce fuel build-ups and to enhance or maintain suitable habitat, consistent with management area objectives and the fire management plan.

Management Area 7 - Special Interest Areas

Description

Special Interest Areas (SIAs) are sites designated for recreational experiences where education and interpretation of unique or special natural resource values are emphasized. Highlighted are botanical and geologic features to increase Forest visitor appreciation of resource values and natural diversity within the Forest.

Table 4-19. Acres Allocated to Special Interest Areas

Name	Total Acres *	Feature/Significance
Botanical and Geologic Areas		
Black Lava Butte and Callahan Lava Flow	2,800	Basalt flow with lava tubes, spatter cones.
China Mountain	900	Hemlock, whitebark pine, foxtail pine community. High elevation. Ultramafic soils.
Cook and Green Pass	200	Diversity of crest zone plant species. Peridotite rock outcrops.
Cory Peak	400	Serpentine crest zone sensitive species. Rock glacier.
Kangaroo Lake	400	Sensitive plants and species diversity. Glacial features.
Preston Peak	3,800	Diversity of conifer species. Glacial features.
Botanical Areas		
Bear Peak	500	Conifer species found in granite glacial cirque.
Grey Pine	400	Northern-most location of this species.
Duck Lake	3,600	Diversity of conifers and endemic species.
Elk Hole	200	Southern-most population of Alaska yellow cedar.
Horse Creek	200	"Old growth" riparian vegetation.
Indian Creek Brewer Spruce	100	Vigorous stand of this endemic species.
Lake Mountain Foxtail Pine	100	Northern-most location of foxtail pine.
Little Shasta Meadow	700	Diverse wet meadow plant community.
Mount Ashland/Siskiyou Peak	800	Endemic plants crest zone community.
Observation Peak	500	Endemic plants crest zone community.
Poker Flat	100	Sensitive plants and species diversity.
Red Mountain	400	Serpentine endemic species.
Rhododendron Patch (Mill Creek)	100	Large inland patch of coastal Rhododendron.
Rock Fence Creek	100	Serpentine riparian plant community.
Scott Mountain	500	Serpentine crest zone endemic plant species.
Seiad Baker Cypress	1,000	Large stand of this rare conifer species.
Sutcliff Creek	100	Example of Port-Orford-cedar.
White Mountain	100	Only population of <i>Sausseria americana</i> in California.
Geologic Areas		
Ash Creek Butte Rock Glacier	300	Unusual rock glacier, glacial cirque.
Bloomer Debris Avalanche	30	Landslide that dammed the Salmon River in 1964.

Table 4-19. Acres Allocated to Special Interest Areas

Name	Total Acres *	Feature/Significance
Cabin Meadow Pillow Lava	20	Pillow lava.
Caeser Peak Perennial Icefield	200	Perennial icefield and glacial terrain.
Cement Banks	200	Barren ridge of cemented gravels.
Coffee Creek Stream Capture	200	Headwaters of ancient Coffee Creek captured by Salmon River.
Condrey Mountain Blueschist	500	Example of rock formed at very high temperature and pressure in the Klamath Mountains.
Condrey Mountain Schist Type Section	50	Type section where Condrey Mountain schist first described.
Deer Creek Landslide	20	Transitional landslide in Cascade volcanic rock at contact between Western Cascade and High Cascade.
Elk Lick	100	Small lake formed by landslides; has diatomite deposits.
Fourmile Hill Tree Molds	10	Hollows formed by trees burning in a lava flow.
Hole in the Ground	200	Volcanic neck exposed by erosion.
Little Glass Mountain	100	Obsidian flow.
Little Grider Debris Avalanche	30	Catastrophic debris avalanche.
McCash Creek Debris Avalanche	20	Catastrophic debris avalanche in granitic rock.
Medicine Lake Glass Flow	30	Glassy dacite lava flow.
Murderers Bar Landslide	50	Large landslide that dammed Salmon River in 1955.
North Russian Landslide Dam	40	Landslide dammed North Russian Creek forming pond.
Pumice Craters	800	Obsidian flows, craters, cinder cones, faults.
West Fork Waterfall and Landslide	300	Glacially formed waterfall and bedrock landslide.
Wooley Creek Batholith Roof Zone	800	Western margin of Wooley Creek Batholith.
Total Acres	22,000	
* Acres for each SIA have been rounded to nearest 100 acres. SIAs less than 50 acres are rounded to the nearest 10 acres.		

Management Goals

Manage for ecological processes and the unique features for which the area was designated.

Promote public use, education, interpretation, and enjoyment of the special interest values of the area when such activities do not harm the values for which the area was designated.

Develop partnerships with local or regional groups to foster public education and enjoyment of these special resources and research opportunities where possible.

Desired Future Condition

The vegetative, geologic and other natural features are enhanced to emphasize the unique resource for which the area was designated. Few signs of management activities are present, other than to provide public access and accommodations. Minor vegetative clearing is evident to allow Forest visitors to see vistas and utilize the areas. Educational or interpretive information on the ecological or scenic values of the area is provided. Sites are developed to various degrees. Sites range from no trails or facilities (fostering an educational, primitive recreational experience) to development of facilities such as parking lots, restrooms, information displays, boardwalks, or trails suitable for heavy visitor use. Visitors are directed to SIAs through maps, signs, and other publicity as appropriate.

Standards and Guidelines

General

- MA7-1 FSM 2360 and the Forest Plan shall provide the general management direction for SIAs. Project developments within each SIA will be provided in individual implementation strategies, which should be completed during this planning period (FSM 2372).
- MA7-2 Promote educational and interpretive opportunities of the unique features within each SIA. Base development of educational and interpretive opportunities on the value of each site, the sensitivity of the resources and recreational opportunities and demands.
- MA7-3 Evaluate SIAs for their potential as National Natural Landmarks (NNLs) in coordination with the National Park Service (FSM 2363.3).
- MA7-4 Control insect or disease outbreaks within or near SIAs, if necessary, to maintain the unique features of the SIA.
- MA7-5 The SIAs along the Siskiyou Crest will be managed jointly with the Rogue River National Forest.

Visual Resource Management

- MA7-6 Manage these areas to meet the intent of the Forest VQO map. As a minimum, manage the lands within the areas to meet a Retention VQO.

Recreation Management

- MA7-7 Develop recreational use that is compatible with the goals and objectives of the SIA. Where there is established recreational use of an area, develop the SIA to accommodate that use.
- MA7-8 Restrict OHV use.
- MA7-9 Emphasize interpretive opportunities where appropriate.
- MA7-10 Manage recreational settings to generally achieve semi-primitive or roaded natural ROS conditions.

Minerals Management

- MA7-11 Where possible, review each plan of operation to assure that SIA values are protected. Require operations to rehabilitate ground-disturbing activities.
- MA7-12 Rock sources shall not be developed within SIAs.
- MA7-13 Where management goals of a SIA are not compatible with mineral entry, the Forest will recommend SIAs for withdrawal from future mineral entry.

Transportation and Facilities Management

- MA7-14 Develop facilities or trails to promote recreational use of SIAs. Facilities may include buildings, information displays, road construction or improvement, restrooms or parking areas.
- MA7-15 Maintain facilities and trails at a level appropriate to the degree of the desired recreational use.

Vegetation Management

- MA7-16 Collection of plants, plant parts, or animals may be permitted by the Forest Supervisor for scientific or educational purposes only.
- MA7-17 Schedule no timber harvest in SIAs.
- MA7-18 Salvage of burned or pest-killed trees may be allowed to promote the management goals and objectives of the SIA. This also may be allowed for the control of insects or disease, removal of safety hazards to visitors, for new construction or maintenance of improvements. Reforestation of these areas to meet SIA objectives shall be a high priority.

- MA7-19 The cutting or removal of standing live vegetation, including firewood, from botanical SIAs may be permitted when consistent with SIA objectives. Dead and down vegetation may be removed from geologic SIAs.

Fire Management

- MA7-20 Manage prescribed natural fire, prescribed fire and biomass utilization to maintain the ecological processes within the SIA. Protect all facilities and developments.

Range Management

- MA7-21 Permit existing livestock grazing within SIAs to continue. As project decisions are revised and updated, modify the project decisions and AOI to be consistent with SIA objectives.
- MA7-22 Exclude SIAs from new grazing allotments if SIA objectives are adversely affected by grazing use.

Management Area 8 - Cultural Areas

Description

This management area includes the Inam area on the Happy Camp Ranger District and the Cottimien and Helkau areas on the Ukonom Ranger District. These areas have significant historic, as well as contemporary, spiritual values for the Karuk Tribe of California. These areas are to be managed to maintain special Native American ceremonial values.

Table 4-20. Acres Allocated to Cultural Areas

Name	Total Area
Inam	7,227
Cottimien	2,600
Helkau	700
Total Acres	10,527

Management Goals

Provide protection of the ceremonial values that exist in these areas.

Manage to preserve and protect the solitude and privacy of Native American users.

Desired Future Condition

The area is generally forested and influenced primarily by ecological processes. Signs of management activities are not readily apparent. The integrity of the area for use by the Karuk Tribe of California is maintained in a manner consistent with their custom and culture.

Standards and Guidelines

General

- MA8-1 All coordination will be facilitated through the Tribal Government Program.
- MA8-2 Prepare a Memorandum of Understanding (MOU) with the Karuk Tribe of California for each of the cultural areas. Develop the agreement jointly, between the Forest Service and Karuk Tribe of California. At a minimum, the MOU should address Forest management activities that may affect religious ceremonies. Also, wildfire management options and opportunities, timber salvage opportunities and cultural resource protection should be addressed.
- MA8-3 Coordinate planned Forest management activities for areas immediately next to cultural areas with the Tribe. Determine if the activities would affect ceremonies occurring within the cultural area. Mitigation measures should be used to avoid conflicts with ceremonial activities.

Visual Resource Management

- MA8-4 Manage these areas to meet the intent of the Forest VQO map. As a minimum, manage the lands within the areas to meet a Partial Retention VQO.

Recreation Management

- MA8-5 Do not direct recreational use to Native American cultural areas. River-related recreational use will be managed to minimize conflicts.

MA8-6 Developed recreational activities shall not be planned within cultural areas.

MA8-7 Manage recreational settings to generally achieve semi-primitive or roaded natural ROS conditions.

Lands Program Management

MA8-8 Maintain these areas in Forest ownership. Where appropriate, provide for selected acquisition of lands by Federally recognized tribes. Coordinate land acquisition or disposal which may affect tribes with the proper Tribal Council.

Law Enforcement Program Management

MA8-9 Law enforcement personnel should be aware that these cultural areas represent significant values to Native Americans that cannot be measured by material worth. Protection of these areas from religious intrusions or damage to the area should be coordinated with the Karuk Tribe of California.

Minerals Management

MA8-10 Manage mineral exploration within the cultural areas to maintain identified cultural values. Surface disturbances that adversely impact Native American values shall be mitigated wherever possible. The Forest Supervisor may consider recommending withdrawal of the lands from mineral entry.

Transportation and Facilities Management

MA8-11 No new facilities (roads, etc.) shall be constructed within these areas. When opportunities arise to remove existing facilities from the areas, a high priority should be placed on the removal of the facility. Existing roads and trails may be maintained at their present level, or at a lower level, depending on the direction presented in the MOU with the Karuk Tribe of California.

Vegetation Management

MA8-12 Schedule no timber harvest from these areas. Salvage activities may occur within these areas under special circumstances (for example, in response to catastrophic events). Salvage efforts shall be closely coordinated with the Karuk Tribe of California. Reforestation efforts shall also be closely coordinated with the Karuk Tribe of California and will be a moderate priority. Firewood cutting should not be encouraged within the areas.

Fire Management

MA8-13 If a fire escapes initial attack, a tribal representative should be requested to work with the Forest Service during the fire containment efforts.

MA8-14 Use wildland fire managed for resource benefits, prescribed fire and biomass utilization to reduce fuels buildups or for the management of vegetation, such as beargrass. Coordinate prescribed fire activities with the Karuk Tribe of California.

Management Area 9 - Backcountry Areas (Semi-Primitive Non-Motorized)

Description

These areas support forest, brush, rock outcrops, and meadows with a wide range of soil types, topography, and elevations. Much of the area was burned in the 1987 fires and shows a varying response to those fires. The Kangaroo area is next to an established wilderness. These areas were examined during the RARE II process for potential wilderness designation and were released for multiple use management by the California Wilderness Act of 1984.

They include:

- The upper portions of the Condrey Mountain area next to the Pacific Crest Trail,
- The Kangaroo area from the Oak Knoll and Happy Camp Ranger District boundary on the west to the East Fork of Seiad Creek on the east.

Table 4-21. Acres Allocated to Backcountry Areas

Name	Total Acres
Condrey Mountain	2,700
Kangaroo	26,300
Total Acres	29,000

Management Goals

Provide a high quality semi-primitive non-motorized recreational setting.

Develop primitive recreational facilities to emphasize the semi-primitive non-motorized recreational setting.

Develop and maintain a trail system that provides efficient access for non-motorized recreation.

Desired Future Condition

Within these areas there are infrequent contacts between Forest visitors. A developed trail system provides convenient access to the area within limits imposed by the terrain. Occasionally there are camping areas or other recreational opportunities, but they are primitive developments. Old roads are apparent in some locations but have vegetation growing on the roadbeds as though they had not been used in some time. Human activities do not dominate the landscape.

Signs of vegetative manipulations are infrequent. The vegetation shows signs of past burns, recovered to a variety of levels. A mixture of seral stages provides habitat for a host of wildlife species. Some forested areas are just sprouting and other vegetation appears very old.

Standards and Guidelines

Wildlife Management

- MA9-1 Encourage fish and wildlife habitat enhancement opportunities consistent with semi-primitive non-motorized recreation values. Construct projects using native materials whenever possible to enhance the undeveloped setting.

Visual Resource Management

- MA9-2 Manage these lands to meet a Retention VQO.

Recreation Management

- MA9-3 Close these areas to OHV use. Non-motorized opportunities (such as mountain biking, hiking, cross country skiing, horseback riding) should be encouraged.
- MA9-4 Manage recreational settings to generally achieve semi-primitive non-motorized ROS conditions.

Minerals Management

- MA9-5 Incorporate reasonable mitigating measures into approved plans of operations to meet the management goals of the area. Make on-site reviews before authorizing ground-disturbing activities proposed in the plans of operation. Recommend backcountry recreation areas be withdrawn from mineral entry if mineral development is incompatible with maintenance of the semi-primitive values.

Transportation and Facilities Management

- MA9-6 Existing roads within the management area should be closed, placed in a self-maintaining condition and revegetated. Rehabilitated roads may be used for trails where appropriate. Roads used for trailhead access should be maintained to accommodate recreation users.
- MA9-7 Facilities other than roads and trails shall be primitive in nature to protect the semi-primitive recreational experience in these areas. Native materials should be used to construct the facilities whenever possible. Such facilities include primitive toilets, shelters, campfire rings, recreational stock control structures (corrals), and signs.

Vegetation Management

- MA9-8 Schedule no timber harvest from these areas. Vegetative manipulations, such as brushing of trails, falling dead snags for public safety and other activities, may occur to promote recreation opportunities, develop primitive facilities or maintain public health and safety.
- MA9-9 If a catastrophic event occurs, such as fire, widespread insect damage or disease, actions necessary to recover the overall Forest health of the area are appropriate. This may include salvage and revegetation. Reforestation of the area following a catastrophic event shall be a moderate priority, especially within areas that have been salvaged. Measures to avoid catastrophic events within the area may be implemented if consistent with meeting the area goals.
- MA9-10 Logging systems used in salvage operations will favor aerial methods over road construction. Should roads be constructed, they will be closed to all use immediately after recovery operations are completed.

Fire Management

- MA9-11 Fire shall play an important role in the management of the backcountry recreation area. Wildland fires that are not within the desired prescription shall receive the appropriate fire suppression response (see Forest-wide standards and guidelines). Prescribed fire shall be aggressively used to promote ecological processes.

- MA9-12 All lightning-started fires will be wildland fire managed for resource benefits unless declared wildfires. Permit lightning-caused fires to play, as near as possible, their ecological role.
- MA9-12 Each wildland fire managed for resource benefits will have a Burn Plan prepared within 48 hours of discovery. Review the Burn Plan needs daily to assure validity based on current and projected conditions.
- MA9-13 A Wildland Fire Coordinator should be assigned to gather and send out information and aid the National Forests and Region in establishing the status of new starts. The Coordinator also should set priorities for on-going fires. The Coordinator should be at least a Nationally qualified Prescribed Fire Manager. As a minimum, the wildland fire managed for resource benefits should have 1 Fire Information Officer and a Backcountry Resource Advisor.
- MA9-14 Consider all person-caused fires (not management-lighted prescribed fires) as wildland fires and use the appropriate suppression response.
- MA9-15 Reduce to an acceptable level the risks and consequences of a wildland fire within backcountry areas. Assessments of consequences should emphasize potential impacts on residential intermixes, mixed or adjacent landowners, Endangered or Threatened species etc.
- MA9-16 Planned ignitions or management lighted prescribed fire is permitted. This will allow fire to return in a more natural role so managers can select meteorological and fuel situations for future wildland fires managed for resource benefits.
- MA9-17 Suppression of wildland fire should use appropriate suppression response and the Minimum Impact Suppression Techniques as outlined in the Forest-wide Fire Management Standards and Guidelines.
- MA9-18 Fire prevention shall be an important practice within backcountry areas. Fire prevention activities, such as signing, should concentrate on entrance portals so as to not diminish the visitor's backcountry experience. Visitor contacts within the backcountry shall occur when there is a threat to backcountry preservation or resource protection.
- MA9-19 Develop a wildland fire managed for resource benefits implementation schedule. For all the resources, develop the decision flow charts and prescription parameters that meet the resource standards and guidelines.

Management Area 10 - Riparian Reserves

Description

Riparian Reserves (RRs) generally include an aquatic ecosystem and adjacent upland areas that directly affect it. They can also include unstable and potentially unstable areas that are not associated with a riparian area, but are primary sources for wood and sediment. RRs occur at the margins of standing and flowing water, intermittent stream channels, ephemeral ponds, seeps, springs and wetlands. RRs generally parallel the stream network but also include other areas necessary for maintaining hydrologic, geomorphic, and ecologic processes. These areas encompass a wide range of environmental factors, ecological processes, and ecological communities.

RRs are portions of watersheds where riparian-dependent resources receive primary emphasis and where special standards and guidelines apply. Standards and guidelines prohibit and regulate activities in RRs that retard or prevent attainment of the Aquatic Conservation Strategy objectives.

Riparian ecosystems include terrestrial, semi-aquatic (land/water interface) and aquatic components, and habitats. Whole-system analysis is crucial, pulling individual system components together and attempting to evaluate important influences, interconnections, and interactions.

Table 4-22. Acres Allocated to Riparian Reserves

Name	Acres of Management Area 10
Mapped Areas *	233,000
Intermittent Streams **	225,000
Total Acres	458,000
<p>Note: * This estimate includes only the following areas that are currently mapped: inner gorges, active landslides, toe zones of dormant landslides and portions of the most severely dissected granitic terrane. An unknown amount of floodplains, meadows, ponds, reservoirs, other riparian vegetation, unstable and potentially unstable areas will result in additional areas within this management area.</p> <p>** This is an estimate of the intermittent streams as defined in these standards and guidelines based on several samples throughout the Forest.</p>	

Management Goals

- * Maintain and restore riparian-dependent structures and functions of intermittent streams.
- * Provide benefits to riparian-dependent and associated species other than fish, enhance habitat conservation for organisms that are dependent on the transition zone between upslope and riparian areas, improve travel and dispersal corridors for many terrestrial animals and plants and provide for greater connectivity of the watershed. Provide connectivity corridors among the LSRs.
- * Be consistent with Aquatic Conservation Strategy goals.

Desired Future Condition

The vegetative communities within forest and rangeland RRs contain native and desirable non-native species that are in a good ecological condition. A multi-layered, vegetative canopy is present in forested RRs, the exception being where the soils are shallow or unproductive. In meadow areas, overhanging banks with herbaceous and/or shrubby vegetation provide canopy cover. An overstory of conifers provides shade and thermal cover to the streams and lakes. An intermediate layer of deciduous vegetation provides thermal buffering, nutrient cycling, and bank stability. On the ground a mixture of brush, grass, forbs, sedges, etc. provides for bank stability and integrity, sediment filtering and habitat characteristics necessary to contribute to the viability of riparian-dependent species.

The riparian plant community includes all ages and sizes. Plants are at various stages of their growth. Some of the mature and decadent conifers have broken tops and large pieces of wood have fallen into

the streams and lakes. Log jams are distributed along the stream channel. Other conifers nearing decadence will eventually provide woody material to the channel.

Occasional openings in the vegetation are apparent where road crossings, trails, camping, fishing access, or other recreational pursuits occur. The road crossings within riparian areas are stable with vegetated roadsides.

In wet meadow areas without a conifer overstory, the RRs primarily support grass, forbs, and shrub species with willows, alders, and overhanging grasses providing much of the shade to the stream or lake. The water table is near the meadow surface with the stream often meandering through the meadow. Few signs of gullyng are apparent. Domestic livestock use meadows and streamsides, but do not degrade the systems.

The riparian vegetation is diverse and dense enough that it stabilizes the stream banks and adjacent hillslopes, providing an area that catches sediment and contributes large wood to the RRs. Large woody material, rocks and live vegetation are present along stream and lake edges to help provide stability to the riparian areas and complexity (differing habitat opportunities) to the semi-aquatic and aquatic habitats. Large, deep pools are intermixed with riffles in a beneficial mix for the fish species of primary emphasis in a given stream. The stream maintains itself through normal channel processes with few signs of management improvements.

Riparian restoration projects, such as plantings of willows or alders along stream banks, help restore the ecological processes and diversity of the RRs. The quality of wildlife habitat in RRs is stable or improving over time.

In lakes and streams within forested ecosystems large pieces of wood provide cover, substrate and habitat structure for desired species. Clear, clean water is capable of supporting desired aquatic species.

Stream flows and natural lake levels are adequate to protect semi-aquatic and aquatic habitat and maintain the natural hydrologic processes.

The water quality in streams and lakes meets or exceeds State water quality requirements. Fine sediment from management activities is not adversely affecting stream channels. Macro-invertebrates that represent the desired water quality conditions are present. Fish habitats in perennial waters are in good condition, with stable populations of fish present at various times of the year. Projects that effectively improve habitats for aquatic species and fish stocks at risk have been given high priority.

Standards and Guidelines

General

Boundaries

- *MA10-1 Interim widths for RRs necessary to meet Aquatic Conservation Strategy objectives are established based on ecologic and geomorphic factors. These interim widths are designed to provide a high level of aquatic species habitat and riparian protection until watershed and site analysis can be completed. Watershed analysis will identify critical hillslope, riparian and channel processes that must be evaluated in order to delineate RR boundaries that assure protection of riparian and aquatic functions.

R Rs are delineated during implementation of site-specific projects based on analysis of the critical hillslope, riparian and channel processes and features. Although RR boundaries may be adjusted on permanently-flowing streams, the prescribed widths are considered to approximate those necessary for attaining Aquatic Conservation Strategy objectives. Post-watershed analysis RR boundaries for permanently-flowing streams should approximate the boundaries prescribed in these standards and guidelines. However, post-watershed analysis RR boundaries for intermittent streams may be different from the existing boundaries. The reason for the difference is the high variability of hydrologic, geomorphic and ecologic processes in a watershed affecting intermittent streams. At the same time, any analysis of RR widths must also consider the contribution of these reserves to other, including terrestrial, species. Watershed analysis should take into account all species that were intended to be benefited by the prescribed RR widths. Those species include fish, mollusks, amphibians, lichens, fungi, bryophytes, vascular plants, American marten, red tree voles, bats, marbled murrelets, and northern spotted owls. The specific issue for spotted owls is

retention of adequate habitat conditions for dispersal.

The prescribed widths of RRs apply to all watersheds until watershed analysis is completed, a site-specific analysis is conducted and described, and the rationale for final RR boundaries is presented through the appropriate NEPA decision-making process.

Interim Widths

- *MA10-2 **Fish-bearing streams** - RRs consist of the stream and the area on each side of the stream extending from the edges of the active stream channel to the top of the inner gorge, or to the outer edges of the 100-year floodplain, or to the outer edges of riparian vegetation, or to a distance equal to the height of two site-potential trees, or 300 feet slope distance (600 feet total, including both sides of the stream channel), whichever is greatest.

Permanently flowing nonfish-bearing streams - RRs consist of the stream and the area on each side of the stream extending from the edges of the active stream channel to the top of the inner gorge, or to the outer edges of the 100-year floodplain, or to the outer edges of riparian vegetation, or to a distance equal to the height of one site-potential tree, or 150 feet slope distance (300 feet total, including both sides of the stream channel), whichever is greatest.

Constructed ponds and reservoirs, and wetlands greater than 1 acre - RRs consist of the body of water or wetland and: the area to the outer edges of the riparian vegetation, or to the extent of seasonally saturated soil, or the extent of unstable and potentially unstable areas, or to a distance equal to the height of one site-potential tree, or 150 feet slope distance from the edge of the wetland greater than 1 acre or the maximum pool elevation of constructed ponds and reservoirs, whichever is greatest.

Lakes and natural ponds - RRs consist of the body of water and: the area to the outer edges of the riparian vegetation, or to the extent of seasonally saturated soil, or to the extent of unstable and potentially unstable areas, or to a distance equal to the height of two site-potential trees, or 300 feet slope distance, whichever is greatest.

Seasonally flowing or intermittent streams, wetlands less than 1 acre, and unstable and potentially unstable areas - This category applies to features with high variability in size and site-specific characteristics. At a minimum, the RRs must include:

The extent of unstable and potentially unstable areas (including earthflows),

The stream channel and extend to the top of the inner gorge,

The stream channel or wetland and the area from the edges of the stream channel or wetland to the outer edges of the riparian vegetation, and

Extension from the edges of the stream channel to a distance equal to the height of one site-potential tree, or 100 feet slope distance, whichever is greatest.

A site-potential tree height is the average maximum height of the tallest dominant trees (200 years or older) for a given site class.

Intermittent streams are defined as any nonpermanent flowing drainage feature having a definable channel and evidence of annual scour or deposition. This includes what are sometimes referred to as ephemeral streams if they meet these 2 physical criteria.

- MA10-3 As a general rule, standards and guidelines for RRs prohibit or regulate activities in RRs that retard or prevent attainment of the Aquatic Conservation Strategy objectives. Watershed analysis and appropriate NEPA compliance is required to change RR boundaries in all watersheds.
- MA10-4 Coordinate the planning, implementation and monitoring of watershed, fisheries, wildlife, and other habitat restoration projects in RRs to ensure that they are integrated and that Aquatic Conservation Strategy objectives are met.
- MA10-5 Program projects on a watershed scale to maximize benefits and increase the cost-effectiveness of restoration projects.
- MA10-6 Identify and control the cause of riparian area degradation before initiating restoration projects.
- MA10-7 The use of heavy equipment within RRs for riparian habitat restoration may be approved after interdisciplinary review.

Research

- *MA10-8 A variety of research activities may be ongoing and proposed in Key Watersheds and RRs. These activities must be analyzed to ensure that significant risk to the watershed values does not exist. If significant risk is present and cannot be mitigated, study sites must be relocated. Some activities not otherwise consistent with the objectives may be appropriate, particularly if the activities will test critical assumptions of these standards and guidelines; will produce results important for establishing or accelerating vegetation and structural characteristics for maintaining or restoring aquatic and riparian ecosystems; or the activities represent continuation of long-term research. These activities should be considered only if there are no equivalent opportunities outside of Key Watersheds and RRs.
- *MA10-9 Current, funded, agency-approved research, which meets the above criteria, is assumed to continue if analysis ensures that a significant risk to Aquatic Conservation Strategy objectives does not exist. Research Stations and other Forest Service and BLM units will, within 180 days of the signing of the Record of Decision adopting these standards and guidelines, submit a brief project summary to the Regional Ecosystem Office of ongoing research projects that are potentially inconsistent with other standards and guidelines but are expected to continue under the above research exception. The Regional Ecosystem Office may choose to more formally review specific projects and may recommend to the Regional Interagency Executive Committee modification, up to and including cancellation, of those projects having an unacceptable risk to Key Watersheds and RRs. Risk will be considered within the context of the Aquatic Conservation Strategy objectives.

Watershed and Habitat Restoration

- *MA10-10 Design and implement watershed restoration projects in a manner that promotes long-term ecological integrity of ecosystems, conserves the genetic integrity of native species and attains Aquatic Conservation Strategy objectives.
- *MA10-11 Cooperate with Federal, state, local and tribal agencies, and private landowners to develop watershed-based Coordinated Resource Management Plans or other cooperative agreements to meet Aquatic Conservation Strategy objectives.
- *MA10-12 Do not use mitigation or planned restoration as a substitute for preventing habitat degradation.

Fisheries and Wildlife

- *MA10-13 Design and implement fish and wildlife habitat restoration and enhancement activities in a manner that contributes to attainment of Aquatic Conservation Strategy objectives.
- *MA10-14 Design, construct, and operate fish and wildlife interpretive and other user-enhancement facilities in a manner that does not retard or prevent attainment of Aquatic Conservation Strategy objectives. For existing fish and wildlife interpretive and other user-enhancement facilities inside RRs, ensure that Aquatic Conservation Strategy objectives are met. Where Aquatic Conservation Strategy objectives cannot be met, relocate or close such facilities.
- *MA10-15 Cooperate with Federal, tribal and state wildlife management agencies to identify and eliminate wild ungulate impacts that are inconsistent with attainment of Aquatic Conservation Strategy objectives.
- *MA10-16 Cooperate with Federal, tribal and state fish management agencies to identify and eliminate impacts associated with habitat manipulation, fish stocking, harvest and poaching that threaten the continued existence and distribution of native fish stocks occurring on Federal lands.
- *MA10-17 Identify and attempt to secure in-stream flows needed to maintain riparian resources, channel conditions, and aquatic habitat.
- MA10-18 Where possible, manage stream environments to keep summer water temperatures below 68 degrees F wherever anadromous fish are present.
- MA10-19 Manage for high quality anadromous fish habitat to meet the following conditions: less than 15% of the stream bottom is composed of fine sediment and less than 20% of stream riffles are embedded (3rd to 5th order streams).
- MA10-20 Avoid activities at critical periods that would prevent attainment of the Aquatic Conservation

Strategy objectives. Of particular concern are critical low flow periods; when warm water temperatures may result in adverse effects to fish; and during periods of migration, spawning or egg incubation. Discourage activities that may result in disturbance by managing road and trail access through cooperative measures with CDFG and sharing information with the public.

Visual Resource Management

- MA10-21 Manage these areas to meet the intent of the Forest VQO map. As a minimum, manage the lands within the areas to meet a Partial Retention VQO.

Recreation Management

- *MA10-22 New recreational facilities within RRs, including trails and dispersed sites, should be designed to not prevent meeting Aquatic Conservation Strategy objectives. Construction of these facilities should not prevent future attainment of these objectives. For existing recreation facilities within RRs, evaluate and mitigate impact to ensure that these do not prevent and, to the extent practicable, contribute to attainment of Aquatic Conservation Strategy objectives.
- *MA10-23 Adjust dispersed and developed recreation practices that retard or prevent attainment of Aquatic Conservation Strategy objectives. Where adjustment measures such as education, use limitations, traffic control devices, increased maintenance, relocation of facilities and/or specific site closures are not effective, eliminate the practice or occupancy.
- *MA10-24 Wild and Scenic Rivers and Wilderness management plans will address attainment of Aquatic Conservation Strategy objectives.
- MA10-25 Recreation facilities within the 100-year flood plain shall be guided by Executive Order 11990 and 11988 (Floodplain Management) with any exceptions consistent with requirements of FSM 2527 (Wetlands Management).
- MA10-26 Manage recreational settings to generally achieve semi-primitive or roaded natural ROS conditions.

Lands Program Management

- *MA10-27 Identify in-stream flows needed to maintain riparian resources, channel conditions and fish passage.
- *MA10-28 *Key Watersheds:* For hydroelectric and other surface water development proposals, require in-stream flows and habitat conditions that maintain or restore riparian resources, favorable channel conditions and fish passage. Coordinate this process with the appropriate state agencies. During relicensing of hydroelectric projects, provide written and timely license conditions to the Federal Energy Regulatory Commission (FERC) that require flows and habitat conditions that maintain or restore riparian resources and channel integrity. Coordinate relicensing projects with the appropriate state agencies.
- For all other watersheds:* For hydroelectric and other surface water development proposals, give priority emphasis to in-stream flows and habitat conditions that maintain or restore riparian resources, favorable channel conditions and fish passage. Coordinate this process with the appropriate state agencies. During relicensing of hydroelectric projects, provide written and timely license conditions to FERC that emphasize in-stream flows and habitat conditions that maintain or restore riparian resources and channel integrity. Coordinate relicensing projects with the appropriate state agencies.
- *MA10-29 Locate new support facilities outside RRs. For existing support facilities inside RRs that are essential to proper management, provide recommendations to FERC that ensure Aquatic Conservation Strategy objectives are met. Where these objectives cannot be met, provide recommendations to FERC that such support facilities should be relocated. Existing support facilities that must be located in the RRs will be located, operated and maintained with an emphasis to eliminate adverse effects that retard or prevent attainment of Aquatic Conservation Strategy objectives.

- *MA10-30 For activities other than surface water developments, issue leases, permits, rights-of-way and easements to avoid adverse effects that retard or prevent attainment of Aquatic Conservation Strategy objectives. Adjust existing leases, permits, rights-of-way, and easements to eliminate adverse effects that retard or prevent the attainment of Aquatic Conservation Strategy objectives. If adjustments are not effective, eliminate the activity. Priority for modifying existing leases, permits, rights-of-way, and easements will be based on the actual or potential impact and the ecological value of the riparian resources affected.
- *MA10-31 Use land acquisition, exchange, and conservation easements to meet Aquatic Conservation Strategy objectives and facilitate restoration of fish stocks and other species at risk of extinction.
- MA10-32 Coordinate the development of hydroelectric power projects with the CDFG and the State Division of Water Rights. Provide feedback to hydroelectric projects regarding the need to maintain instream flows for fish, water quality, riparian vegetation, and channel integrity.

Minerals Management

- MA10-33 Mineral operations proposed within RRs shall require a written authorization before the start of development as part of the plan of operation, lease, sale contract or permit. Notices of intent for mineral operations under 36 CFR 228 shall not constitute authorization to operate within a RR.
- *MA10-34 Require a reclamation plan, approved Plan of Operations and reclamation bond for all minerals operations that include RRs. Such plans and bonds must address the costs of removing facilities, equipment and materials; recontouring disturbed areas to near pre-mining topography; isolating and neutralizing or removing toxic or potentially toxic materials; salvage and replacement of topsoil; and seedbed preparation and revegetation to meet Aquatic Conservation Strategy objectives.
- *MA10-35 Locate structures, support facilities, and roads outside RRs. Where no alternative to siting facilities in RRs exists; locate them in a way compatible with Aquatic Conservation Strategy objectives. Road construction will be kept to the minimum necessary for the approved mineral activity. Such roads will be constructed and maintained to meet roads management standards and to minimize damage to resources in the RR. When a road is no longer required for mineral or land management activities, it will be closed, obliterated, and stabilized.
- *MA10-36 Prohibit solid and sanitary waste facilities in RRs. If no alternative to locating mine waste (waste rock, spent ore, tailings) facilities in RRs exists and releases can be prevented, and stability can be ensured, then:
 - a) Analyze the waste material using the best conventional sampling methods and analytic techniques to determine its chemical and physical stability characteristics.
 - b) Locate and design the waste facilities using best conventional techniques to ensure mass stability and prevent the release of acid or toxic materials. If the best conventional technology is not sufficient to prevent such releases and ensure stability over the long term, prohibit such facilities in RRs.
 - c) Monitor waste and waste facilities after operations to ensure chemical and physical stability and to meet Aquatic Conservation Strategy objectives.
 - d) Reclaim waste facilities after operations to ensure chemical and physical stability and to meet Aquatic Conservation Strategy objectives.
 - e) Require reclamation bonds adequate to ensure long-term chemical and physical stability of mine waste facilities.
- *MA10-37 For leasable minerals, prohibit surface occupancy within RRs for oil, gas and geothermal exploration and development activities where leases do not already exist. Where possible, adjust the operating plans of existing contracts to eliminate impacts that retard or prevent the attainment of Aquatic Conservation Strategy objectives.
- *MA10-38 Salable mineral activities such as sand and gravel mining and extraction within RRs will occur only if Aquatic Conservation Strategy objectives can be met.
- *MA10-39 Include inspection and monitoring requirements in mineral plans, leases, or permits. Evaluate the results of inspection and monitoring to effect the modification of mineral plans, leases and permits as needed to eliminate impacts that retard or prevent attainment of Aquatic Conservation Strategy

objectives.

- MA10-40 Coordinate mining activities within RRs with the appropriate State and Federal agencies.

Transportation and Facilities Management

- *MA10-41 Federal, state, and county agencies should cooperate to achieve consistency in road design, operation, and maintenance necessary to attain Aquatic Conservation Strategy objectives.
- *MA10-42 For each existing or planned road, meet Aquatic Conservation Strategy objectives by:
- a) Minimizing road and landing locations in RRs.
 - b) Completing watershed analyses (including appropriate geotechnical analyses) prior to construction of new roads or landings in RRs.
 - c) Preparing road design criteria, elements, and standards that govern construction and reconstruction.
 - d) Preparing operation and maintenance criteria that govern road operation, maintenance and management.
 - e) Minimizing disruption of natural hydrologic flow paths, including diversion of streamflow and interception of surface and subsurface flow.
 - f) Restricting sidecasting as necessary to prevent the introduction of sediment to streams.
 - g) Avoiding wetlands entirely when constructing new roads.
- *MA10-43 Determine the influence of each road on the Aquatic Conservation Strategy objectives through watershed analysis. Meet Aquatic Conservation Strategy objectives by:
- a) Reconstructing roads and associated drainage features that pose a substantial risk.
 - b) Prioritizing reconstruction based on current and potential impact to riparian resources and the ecological value of the riparian resources affected.
 - c) Closing and stabilizing, or obliterating and stabilizing roads based on the ongoing and potential effects to Aquatic Conservation Strategy objectives and considering short-term and long-term transportation needs.
- *MA10-44 New culverts, bridges and other stream crossings shall be constructed, and existing culverts, bridges and other stream crossings determined to pose a substantial risk to riparian conditions will be improved, to accommodate at least the 100-year flood, including associated bedload and debris. Priority for upgrading will be based on the potential impact and the ecological value of the riparian resources affected. Crossings will be constructed and maintained to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.
- *MA10-45 Minimize sediment delivery to streams from roads. Road design measures may include minimum impact location, appropriate road surfacing, armoring of ditchlines, controlled compaction of fills, outsloping of roads, mechanical and vegetative slope protection, wet weather traffic control, annual maintenance and inspection. Outsloping of the roadway surface is preferred, except in cases where outsloping would increase sediment delivery to streams or where outsloping is unfeasible or unsafe. Route road drainage away from potentially unstable channels, fills, and hillslopes.
- *MA10-46 Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams. Construct stream crossings to not divert streamflow out of the channel and down the road alignment.
- *MA10-47 Develop and implement a Road Management Plan or a Transportation Management Plan that will meet the Aquatic Conservation Strategy objectives. As a minimum, this plan shall include provisions for the following activities:
- a) Inspections and maintenance during storm events.
 - b) Inspections and maintenance after storm events.
 - c) Road operation and maintenance, giving high priority to identifying and correcting road

drainage problems that contribute to degrading riparian resources.

- d) Traffic regulation during wet periods to prevent damage to riparian resources.
- e) Establish the purpose of each road by developing the Road Management Objective.

- MA10-48 Give high maintenance priority to road drainage problems that contribute to a degraded riparian resource.
- MA10-49 Designed road fills may extend beyond the cleared roadway when the management action is less detrimental to riparian resources.
- MA10-50 Closed and restored roads should be configured for long-term drainage and stability.
- MA10-51 Close temporary roads and landings, configure them for long-term drainage and stability, and restore them to productivity.
- MA10-52 Work with private landowners, or other entities, to reduce road-related impacts. Use the necessary permits, easements, or cooperative agreements to reduce impacts from sedimentation or stream shade removal.
- MA10-53 Fall roadside safety hazard trees. Allow the removal of these trees where woody debris requirements have been met.

Vegetation Management

- *MA10-54 Prohibit timber harvest, including fuelwood cutting, in RRs, except as described below. RR acres shall not be included in calculations of the timber base.
 - a) Where catastrophic events such as fire, flooding, volcanic, wind, or insect damage result in degraded riparian conditions, allow salvage and fuelwood cutting if required to attain Aquatic Conservation Strategy objectives.
 - b) Salvage trees only when watershed analysis determines that present and future CWD needs are met and other Aquatic Conservation Strategy objectives are not adversely affected.
 - c) Apply silvicultural practices for RRs to control stocking, reestablish and manage stands, and acquire desired vegetation characteristics needed to attain Aquatic Conservation Strategy objectives.
- MA10-55 Maintain or restore riparian vegetation to provide summer and winter thermal regulation within the riparian area.
- MA10-56 Maintain 20 pieces of large wood (40 cubic feet or larger) per 1,000 lineal feet within 3rd to 5th order channels, or as identified in the ecosystem management process at the watershed level.
- MA10-57 Where possible, manage the conifer vegetation for a basal area greater than or equal to 250 square feet per acre.
- *MA10-58 Fell trees in RRs when they pose a safety risk. Keep felled trees on-site when needed to meet CWD objectives.
- MA10-59 Use directional felling to protect stream banks in cases where felling trees is used to benefit riparian-dependent resources.
- MA10-60 Locate skid trails, cableways and skyline corridors to minimize impacts to RRs from adjacent management activities.
- MA10-61 Protect stream banks from adjacent timber management activities by fully suspending logs above stream banks during yarding.
- MA10-62 Design silvicultural prescriptions for existing regenerated stands to achieve Aquatic Conservation Strategy objectives.
- MA10-63 Restore RRs to meet Aquatic Conservation Strategy. Design prescriptions to re-establish stands that provide the desired vegetation characteristics (for example, species composition and age class structure).
- *MA10-64 Herbicides, insecticides and other toxicants, and other chemicals shall be applied only in a

manner that avoids impacts that retard or prevent attainment of Aquatic Conservation Strategy objectives.

Fire Management

- *MA10-65 Design fuel treatment and fire suppression strategies, practices, and activities to meet Aquatic Conservation Strategy objectives, and to minimize disturbance of riparian ground cover and vegetation. Strategies should recognize the role of fire in ecosystem function and identify those instances where fire suppression or fuels management activities could be damaging to long-term ecosystem function.
- *MA10-66 Locate incident bases, camps, helibases, staging areas, helispots, and other centers for incident activities outside RRS. If the only suitable location for such activities is within the RR, an exemption may be granted following review and recommendation by a resource advisor. The advisor will prescribe the location, use conditions, and rehabilitation requirements. Use an interdisciplinary team to predetermine suitable incident base and helibase locations.
- *MA10-67 Minimize delivery of chemical retardant, foam, or additives to surface waters. An exception may be warranted in situations where overriding immediate safety imperatives exist, or, following review and recommendation by a resource advisor, when an escape would cause more long-term damage.
- *MA10-68 Design prescribed burn projects and prescriptions to contribute to attainment of Aquatic Conservation Strategy objectives and to maintain ecological processes.
- *MA10-69 Immediately establish an emergency team to develop a rehabilitation treatment plan needed to attain Aquatic Conservation Strategy objectives whenever RRs are significantly damaged by wildfire or a prescribed fire is burning outside prescribed parameters.
- *MA10-70 In RRs, the goal of wildfire suppression is to limit the size of all fires. When watershed and/or landscape analysis, or province-level plans are completed and approved, some natural fires may be allowed to burn under prescribed conditions. Rapidly extinguishing smoldering CWD and duff should be considered to preserve these ecosystem elements. In RRs, water drafting sites should be located and managed to minimize adverse effects on riparian habitat and water quality, as consistent with Aquatic Conservation Strategy objectives.
- *MA10-71 Locate water drafting sites to minimize adverse effects on stream channel stability, sedimentation and in-stream flows needed to maintain riparian resources, channel conditions and fish habitat.
- MA10-72 Do not construct dozer lines parallel to stream channels or shorelines within RRs. Extend dozer lines through RRs perpendicular to the channel or shoreline where they are essential to safe control of the fire.

Range Management

- *MA10-73 Adjust grazing practices to eliminate impacts that retard or prevent attainment of Aquatic Conservation Strategy objectives. If adjusting practices is not effective, eliminate grazing.
- *MA10-74 Locate new livestock handling and/or management facilities outside RRs. For existing livestock handling facilities inside the RR, ensure that Aquatic Conservation Strategy objectives are met. Where these objectives cannot be met, require relocation or removal of such facilities.
- *MA10-75 Limit livestock trailing, bedding, watering, loading, and other handling efforts to those areas and times that will ensure Aquatic Conservation Strategy objectives are met.
- MA10-76 Monitor livestock utilization levels. If monitoring indicates the need, utilize the AOI to adjust grazing practices. If this is not feasible, consider putting the allotment into non-use status until it is determined that grazing practices can resume in a manner that would allow attainment of the Aquatic Conservation Strategy objectives.
- MA10-77 The use of vegetation reference areas is strongly encouraged as a way to measure potential site productivity and stream channel morphology in the absence of grazing, as well as the condition of the ecosystem. Reference areas may include exclusion plots, larger exclosures or other sites with a low disturbance history. They should be placed in areas representative of the vegetative community and stream channel types to be managed. Design exclosures to exclude both wild and domestic ungulates so a forage use comparison may be made.

