

# Chapter 5. Management Alternatives



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## Introduction

Several alternative management actions for the Reserve are described in this chapter. A summary list of alternatives is provided in Table 5-1. These alternatives were formulated by an analysis of the management situation, an issue-scoping process directed at affected agencies and the public, and several subsequent planning analyses. A scoping report details the issues raised during the scoping process (Jones & Stokes 2000), and Chapter 2 describes the legal framework within which this plan must fit. The alternatives in this plan are formulated around the major public issues identified. Alternatives described in this chapter would feasibly achieve the management goals stated in Chapter 4, but with different levels of goal attainment and environmental and social impacts. Chapter 4 also describes management actions common to all alternatives. The choices involved in selecting alternatives for implementation are described in this chapter. Chapter 6 is an assessment of the environmental consequences of each of these alternatives.

Potential management alternatives were initially formulated but later eliminated from detailed consideration (Appendix J). Reasons for elimination include significant disturbance to the Reserve's resources, inappropriate use of the Reserve lands, incompatibility with adjoining landownership, inability of the land to support needed infrastructure, and user safety. Key program areas warrant the consideration of alternatives:

- Restoration of Old-Growth and Aquatic Ecosystems,
- Recreation Management,
- Areas with Wilderness Characteristics,
- Special-Area Designations, and
- Management Revenue.

Ten issues have been identified for these program areas, and alternatives have been formulated for each. Alternatives for each program area and issue are separately formulated because they are generally independent of alternatives for other program areas and issues.

Some program areas do not require alternatives, although management direction for them is included in this management plan (Chapter 4). These additional areas are common program areas for all alternatives.

- Species Management (existing requirements for protection of endangered species),
- Research Management,
- Fire Management, and
- Resource Monitoring and Evaluation.

Restrictions on various activities that are required for the conservation and recovery of threatened and endangered species (northern spotted owl, marbled murrelet, steelhead, and salmon) are not considered discretionary and have therefore not been subjected to alternatives formulation. These restrictions are described in the “Species Management” section of Chapter 4.

For all management issues, the No-Action Alternative corresponds to current management as established by the *Federal Register* notice of Interim Management Guidelines (March 19, 1999), *Headwaters Forest Reserve: Public Access (South)* (Environmental Assessment #AR-99-15), and *Watershed Restoration and Sediment Reduction for FY 2000–FY 2002* (Environmental Assessment #AR-00-03). A proposed alternative for each issue is also indicated. It should be noted that flexibility will remain with the Record of Decision (ROD) to adopt a final management alternative for each program issue that is within the range of actions addressed by the particular alternatives formulated in this chapter.

## **Alternatives for Restoration of Old-Growth and Aquatic Ecosystems**

Two issues have been identified for which alternative resolutions are consistent with the overall purpose of forest ecosystem recovery and preservation: intensity of watershed restoration and intensity of forest restoration.

### **Intensity of Watershed Restoration**

#### **Issue**

What level of watershed restoration should generally be pursued?

#### **Alternative 1A: Full-Recontour Watershed Restoration (Proposed)**

Most roads and landings having significant sediment yield would be fully recontoured where appropriate and feasible to natural topography and would be revegetated.

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**Watershed Restoration Alternatives**

- Alternative 1A: Full-Recontour Watershed Restoration (Proposed)
- Alternative 1B: Hydrologic-Stabilization Watershed Restoration
- Alternative 1C: No Additional Watershed Restoration (No Action)

**Forest Restoration Alternatives**

- Alternative 2A: Moderate-Intensity Forest Restoration (Proposed)
- Alternative 2B: Low-Intensity Forest Restoration
- Alternative 2C: No Forest Restoration (No Action)

**Recreation Management Alternatives: Southern Access**

- Alternative 3A: Southern Access Available to Individual Vehicles
- Alternative 3B: Southern Access Confined to BLM Tours (No Action; Proposed)
- Alternative 3C: No Southern Access

**Recreation Management Alternatives: Trail System**

- Alternative 4A: Extensive Old-Growth Contact Experience\*
- Alternative 4B: Limited Old-Growth Contact Experience (Proposed)
- Alternative 4C: No Old-Growth Contact Experience; Maximum Preservation of Old-Growth Forests
- Alternative 4D: Existing Trail System (No Action)

**Recreation Management Alternatives: Bicycle Use**

- Alternative 5A: Bicycle Use on Specially-Designed Trails\*
- Alternative 5B: Bicycle Use in Elk River Corridor (Proposed)
- Alternative 5C: No Bicycle Use (No Action)

**Recreation Management Alternatives: Equestrian Use**

- Alternative 6A: Equestrian Use on Trails Accessed from Elk River Trailhead\*
- Alternative 6B: Equestrian Use on Elk River Corridor Trails\*
- Alternative 6C: No Equestrian Use (No Action; Proposed)

**Areas with Wilderness Characteristics**

- Alternative 7A: Entire Inventory Area Managed for Wilderness Characteristics
- Alternative 7B: Exclude Younger Harvested Stands from Management for Wilderness Characteristics (Proposed)
- Alternative 7C: No Management for Wilderness Characteristics (No Action)

**Special-Area Designation Alternatives: Wild and Scenic Rivers**

- Alternative 8A: All Eligible Streams Recommended for Wild and Scenic River Designation
- Alternative 8B: No Stream Recommended for Wild and Scenic River Designation (No Action; Proposed)
- Alternative 8C: Little South Fork Elk River with Tributary and Salmon Creek Recommended for Wild and Scenic River Designation

**Special-Area Designation Alternatives: Ecological Reserve**

- Alternative 9A: Ecological Reserve Designation Recommended (Proposed)
- Alternative 9B: No Ecological Reserve Designation Recommended (No Action)

**Management Revenue Alternatives**

Alternative 10A: Universal User Fee

Alternative 10B: BLM-Sponsored Tour User Fee

Alternative 10C: Non-Tour User Fee

Alternative 10D: No Fees (No Action) (Proposed)

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Note:

Based on impact assessment (Chapter 6), the alternatives marked by an asterisk (\*) are found to require construction of more-than-minimal recreation facilities and are therefore in conflict with legislative direction for management of the Reserve.

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**Alternative 1B: Hydrologic-Stabilization Watershed Restoration**

Roads and landings having significant sediment yield would be reconfigured only as necessary to minimize sediment yield and would be revegetated.

**Alternative 1C: No Additional Watershed Restoration (No Action)**

Beyond watershed restoration actions through Year 2002 in accordance with the environmental assessment and ROD completed August 11, 2000, no further watershed restoration actions would be conducted.

**Intensity of Forest Restoration**

**Issue**

What intensity of density management should be conducted in harvested stands to accelerate restoration of old-growth forests?

**Alternative 2A: Moderate-Intensity Forest Restoration (Proposed)**

Density management would be conducted in pole stands, sapling/shrub stands, and openings in seed-tree harvested stands. Two to three entries on acreage currently in sapling/shrub stands and openings and in revegetated watershed-restoration sites would be made as needed. A single entry would be made on acreage currently in pole stands considered appropriate for such action.

**Alternative 2B: Low-Intensity Forest Restoration**

Density management would be conducted only in sapling/shrub stands and openings in seed-tree harvested stands, and in revegetated watershed-restoration sites, limited to one entry.

**Alternative 2C: No Forest Restoration (No Action)**

No forest restoration actions would be taken.

**Alternatives for Recreation Management**

Four issues have been identified that can be addressed in alternative ways: availability of access to the southern trailheads, the network of trails that support recreation access without compromising ecological integrity of the Reserve, and the extent of use of the trail network by equestrians and bicyclists. The suite of potential trail routes is described in Tables 5-2 and 5-3 and shown in Figure 5-1.

## **Availability of Southern Access**

### **Issue**

Should access to the southern trailhead(s) be limited to escorted vehicles or guided hikes, or should access be available to unescorted individual vehicles at visitors' discretion (during daylight hours in annual periods that avoid disturbance to breeding northern spotted owl and marbled murrelet and damage to roads and trails)?

### **Alternative 3A: Southern Access Available to Individual Vehicles**

Access to the Salmon Pass Trailhead, and to a Universal Access Trail and an Alicia Pass Loop Trail, if those trails were developed (see Issue 4 below), would be unrestricted during appropriate periods, allowing private vehicles to traverse the Felt Springs Road from Humboldt County's Newburg Road and allowing visitors to hike (or possibly bike - see Issue 5) unescorted on Reserve trails served by the southern access route. (Note: Alternative 5A below would require that this alternative be selected). Use of the Felt Springs Road would not be allowed during periods when seasonal or hourly trail closures for the southern trails are in effect.

### **Alternative 3B: Southern Access Confined to BLM Tours (No Action; Proposed)**

Access to the Salmon Pass Trailhead, and to a Universal Access Trail and an Alicia Pass Loop Trail, if those trails were developed (see Issue 4 below), would be available to escorted vehicles that are a part of scheduled, guided interpretive hikes. Trail use would be limited to these guided tours.

### **Alternative 3C: No Southern Access**

Public access to the Reserve would be available to the Elk River Trailhead accessible by Humboldt County's Elk River Road. No access to the southern boundary would be provided, and Humboldt County's Newburg Road and the Felt Springs Road would only be used for administrative purposes. This alternative would not be consistent with the legislation authorizing creation of the Reserve.

## **Extent of Trail System**

### **Issue**

What trail system on the Reserve would best balance the need to provide recreation access to the public, while preserving the unique values of old-growth forests consistent with the purpose for which the Reserve was created?

### **Alternative 4A: Extensive Old-Growth Contact Experience**

Opportunities would be provided for passing through old-growth forest for a considerable distance (Table 5-3, Figure 5-1). All potential trail routes shown in Figure 5-1 would be available to visitors, subject to seasonal and hourly restrictions, with the Historic Military Ridge Trail

**Table 5-2.** Existing and Potential Components of a Recreation Trail System for the Headwaters Forest Reserve

Description	Distance (one-way) (miles)	Gradient <sup>a</sup>
<b>From Elk River Trailhead (Northern Access)</b>		
Existing Elk River Corridor Trail (Trail #1)	A gentle-gradient trail from the Elk River Trailhead (at the terminus of Humboldt County's Elk River Road) along the South Fork of the Elk River to near the confluence of the Little South Fork and the main South Fork. Includes universal access for one mile beyond trailhead.	2.9 Nearly level; 1% average; some variation
New Elk River Corridor Trail (Trail #1)	Under all alternatives except the No-Action Alternative (Alternative 4D), the existing Elk River Trail would be reconstructed and relocated in some segments and short spurs would be added to allow contact with the South Fork Elk River and historical sites along the corridor (e.g., Falk). Picnic tables would be provided at some of these spurs.	2.9 Nearly level; 1% average; some variation
Existing Little South Fork Elk River Trail (Trail #2)	A trail ascending the Little South Fork to near the existing boundary of the primary old-growth forest on the Reserve. The existing route is east of the river.	2.7 Average 10%
New Little South Fork Elk River Trail (Trail #3)	Under all alternatives except the No-Action alternative (Alternative 4D), the existing trail would be relocated to the west side of the creek and a loop would be constructed at the upper end that extends through an island of old-growth forest, disjunct from the primary old-growth grove. A round-trip hike around the loop from the Elk River Corridor Trail would be 3.7 miles.	2.0, east loop; 1.7, west loop Average 15%
<b>From Felt Springs Road (Southern Access)</b>		
Existing Salmon Creek Trail (Trail #6)	An existing trail descending from the Salmon Pass Trailhead to above the inner gorge of Salmon Creek, then extending up the canyon of Salmon Creek where the primary old-growth grove can be continuously viewed. Entire roundtrip is nearly 4 miles.	1.9 (1.3 to river overlook; 0.6 up river canyon) 3% average, 12% maximum to river overlook; 2% up canyon
Salmon Creek Spur Trail (Trail #7)	A new trail from the existing Salmon Creek Trail, down a steep slope to a crossing of Salmon Creek at the edge of the primary old-growth grove.	0.1 50% ground slope requires switchbacks

**Table 5-2.** Continued

	Description	Distance (one-way) (miles)	Gradient <sup>a</sup>
Salmon Creek Trail Loops (Trail #8)	Two loops would be added to the Existing Salmon Creek Trail, returning visitors to the Salmon Creek Trailhead by different routes, while offering a shorter loop option from the parking area. These loops would allow round trips ranging from 2 to 3.6 miles. Contact with an isolated grove of old-growth forest would be provided for 0.4 miles along the shortest and longest loops.	0.7 and 1.0 new trail	Average 15%
Universal Access Trail (Trail #9)	From the road between Salmon Pass and Alicia Pass, a new trail about 400 feet long into the edge of southern old-growth grove, providing wheelchair and walking access. A parking area would be developed at the trailhead.	0.1	Nearly level
Alicia Pass Loop Trail (Trail #10)	A gentle to moderately sloping loop trail, originating at Alicia Pass, passing through the southern old-growth grove for 0.6 mile, and returning to Alicia Pass.	0.8	Average 15%
<b>North-south through routes connecting Elk River Trailhead to Salmon Pass Trailhead</b>			
Western Periphery Trail (Trail #5)	Connecting the New Little South Fork Elk River Trail to the Salmon Creek Spur Trail along the western boundary of the Reserve, passing through the edge of the main old-growth grove for 0.3 mile, with a designated primitive camping site in harvested forest near the junction with the New Little South Fork Elk River Trail.	1.6	9% between ridgetop and Salmon Creek
Historic Military Ridge Trail (Trail #4)	Connecting the Western Periphery Trail, at the edge of the main old-growth grove, to Alicia Pass, passing through the main old-growth grove for 2.4 miles along the ridge between the Elk River and Salmon Creek watersheds.	4.5	Gentle slopes on ridgetop; up to 15% across Salmon Creek canyon
<b>Exhibition Routes</b>			
Exhibition Routes	At various locations after marbled murrelet nesting season and prior to winter closure, to allow BLM-led tours to view various restoration project areas or other specific features, consistent with marbled murrelet and northern spotted owl nesting seasons and winter closure; would not involve physical trail development.	Various	Various

**Table 5-3.** Trail Routes of the Recreation Access Alternatives

Alternative	Trail										
	Northern Access				Southern Access					North-South Connecting Trails	
	Existing Elk River Corridor Trail <sup>c</sup> (#1)	New Elk River Corridor Trail <sup>a,c,e</sup> (#1)	Existing Little South Fork Elk River Trail (#2)	New Little South Fork Elk River Trail <sup>d</sup> (#3)	Existing Salmon Creek Trail (#6)	Salmon Creek Spur Trail (#7)	Salmon Creek Trail Loops (#8)	Universal Access Trail <sup>c</sup> (#9)	Alicia Pass Loop Trail (#10)	Western Periphery Trail <sup>b</sup> (#5)	Historic Military Ridge Trail <sup>b</sup> (#4)
4A: Extensive Old-Growth Contact Experience		✓		✓	✓	✓	✓	✓	✓	✓	✓
4B: Limited Old-Growth Contact Experience (Proposed)		✓		✓	✓	✓	✓				
4C: No Old-Growth Contact Experience; Maximum Preservation		✓									
4D: Existing Trail System (No Action)	✓		✓		✓						

Note: Table 5-2 describes the trail routes and figure 5-1 depicts trail locations.

<sup>a</sup> Picnic sites would be provided along the New Elk River Corridor Trail.

<sup>b</sup> A primitive campsite would be provided near the junction with the New Little South Fork Elk River Trail.

<sup>c</sup> Wheelchair accessible; applies to the Elk River Corridor Trail (existing or new) to the historic townsite of Falk and to the Universal Access Trail.

<sup>d</sup> The existing trail following an old road on the east side of the Little South Fork would be abandoned and a new trail would be constructed on the west side of the creek. A trail loop would be provided in the upper portion that enters old-growth forest.

<sup>e</sup> The existing trail width would be narrowed, with some relocated alignments.

providing sustained contact with the old-growth forest, and the Alicia Pass Loop Trail and the Western Periphery Trail also providing considerable contact. Overnight camping at a designated primitive campsite would be allowed.

Because of the extensive trail system required, this alternative is now considered to conflict with the legislated restriction of construction to only “minimal necessary facilities”.

**Alternative 4B: Limited Old-Growth Contact Experience (Proposed)**

Opportunities would be provided for limited contact with old-growth groves at both the north and south portions of the Reserve, subject to seasonal and hourly restrictions (Table 5-3, Figures 5-1 and 5-2). The Salmon Creek Trail, Salmon Creek Trail loops, and the New Little South Fork Elk River Trail would provide contact with old-growth forests.

**Alternative 4C: No Old-Growth Contact Experience; Maximum Preservation of Old-Growth Forests**

Opportunities would be provided for experiencing riparian habitats of the Reserve, while preventing access to old-growth groves (Table 5-3, Figure 5-1). The New Elk River Corridor Trail would provide access to the riparian corridors in the northern portion of the Reserve. Use of the Little South Fork Elk River Trail and the Salmon Creek trail would be discontinued, as well as visitor access from the Newburg Road to the southern portion of the Reserve. This alternative would not be consistent with the legislation authorizing creation of the Reserve.

**Alternative 4D: Existing Trail System (No Action)**

The Existing Elk River Corridor Trail, Existing Little South Fork Elk River Trail, and the Salmon Creek Trail would continue to be available for Reserve access (Table 5-3, Figure 5-1).

**Bicycle Use**

**Issue**

Is bicycle use in portions of the Reserve consistent with ecosystem preservation and general public access for recreation purposes?

**Alternative 5A: Bicycle Use on Specially-Designed Trails**

Bicycling would be accommodated on specially-designed sloping trails where speed must be checked for biker safety and to minimize user conflicts. Trails that would be open to bicycle use include the Elk River Corridor Trail (existing or new), the new Little South Fork Elk Trail, and the existing Salmon Creek Trail. (This alternative requires that Alternative 3A above be selected.) Trail widths would be 36”–48” compared to 18–24” for pedestrians.

Because of the more extensive planforms required for bicycling trails (i.e. wider tread, increased sinuosity, and larger switchbacks, this alternative is now considered to conflict with the legislated restriction of construction to only “minimal necessary facilities”.

**Alternative 5B: Bicycle Use in Elk River Corridor (Proposed)**

Bicycling would be accommodated on trails with gentle slope, i.e. the Elk River Corridor Trail (existing or new). The wider clear width would need to be maintained.

**Alternative 5C: No Bicycle Use (No Action)**

Bicycle use would not be accommodated in the Reserve.

## **Equestrian Use**

### **Issue**

Is equestrian use in portions of the Reserve accessible from the Elk River Trailhead consistent with ecosystem preservation and general public access for recreation purposes?

**Alternative 6A: Equestrian Use on Trails Accessed from Elk River Trailhead**

Horseback riding would be accommodated on the network of trails accessible from the Elk River Trailhead, except the North-South Connecting Trails (Historic and Periphery Trails), if these trails are constructed. Available routes would therefore include the Elk River Corridor Trail (existing or new) and the Little South Fork Elk River Trail (existing or new). Trail widths would be 36"–48", compared to 18"–24" for pedestrians.

Because of the wider vegetation and obstacle clearing required for equestrian-use trails, this alternative is now considered to conflict with the legislated restriction of construction to only "minimal necessary facilities".

**Alternative 6B: Equestrian Use on Elk River Corridor Trails**

Horseback riding would be accommodated on trails with gentle slope that parallel the Elk River, i.e., the Elk River Corridor Trail (existing or new). The wider clear width would need to be maintained.

**Alternative 6C: No Equestrian Use (No Action; Proposed)**

Horseback riding would not be accommodated in the Reserve.

## Alternatives for Lands Having Wilderness Characteristics

### Issue

Should some portions or all of the Reserve be managed to maintain and enhance wilderness characteristics under provisions of Sections 201 and 202 of the Federal Land Policy Management Act?

### **Alternative 7A: Entire Inventory Area Managed for Wilderness Characteristics**

The entire inventory area would be managed to maintain and enhance wilderness characteristics, comprising approximately 5,885 acres (80% of the Reserve) (Figure 5-3). This alternative would preclude bicycle use on the Salmon Creek Trail (Alternative 5A).

### **Alternative 7B: Exclude Younger Harvested Stands and Intensive Watershed Restoration Areas From Management for Wilderness Characteristics (Proposed)**

The old-growth groves, other undisturbed forests, and older harvested stands in early-mature or later successional seral stages, approximately 4,400 acres (60% of the Reserve), would be managed to maintain and enhance wilderness characteristics (Figure 5-3) with second-growth areas of continuing forest and watershed restoration excluded.

### **Alternative 7C: No Management for Wilderness Characteristics (No Action)**

No portion (0%) of the Reserve would be managed to maintain and enhance wilderness characteristics.

## Alternatives for Special-Area Designations

### **National Wild and Scenic Rivers**

#### Issue

Should eligible streams in the Reserve be recommended for inclusion in the National Wild and Scenic Rivers?

### **Alternative 8A: All Eligible Streams Would be Determined Suitable and Recommended for Wild and Scenic River Designation**

All streams on the Reserve that meet eligibility requirements for consideration for Wild and Scenic River designation—Salmon Creek, South Fork Elk River, and Little South Fork Elk River with tributary—would be recommended for inclusion in the National Wild and Scenic Rivers System.

**Alternative 8B: No Stream Recommended for Wild and Scenic River Designation**

None of the streams in the Reserve would be recommended for inclusion in the National Wild and Scenic Rivers System.

**Alternative 8C: Little South Fork Elk river with Tributary and Salmon Creek Recommended for Wild and Scenic River Designation (Proposed)**

The Little South Fork Elk River and its major tributary, together with Salmon Creek would be found suitable and recommended for inclusion in the National Wild and Scenic River System.

**State of California Ecological Reserve**

**Issue**

Should the Reserve be recommended to the California Fish and Game Commission for designation as an Ecological Reserve under provisions of Title 14 Section 630 of the California Fish and Game Code?

**Alternative 9A: Ecological Reserve Designation Recommended (Proposed)**

The applicable general rules (Appendix I) for this designation would have the effect of precluding possession of firearms (including bows), camping, fires, swimming, and operation of aircraft or hovercraft in the Reserve, in addition to other management requirements that are already part of the proposed management direction of this plan. The following exceptions to the normally-applicable general rules for state designations would be recommended:

- The managing agency may authorize aircraft operation and motorized vehicle use for emergency operations, monitoring, research, and other management functions.
- Pet prohibitions on the Elk River Trail are modified as specified in Chapter 4 under Recreation Access Management, General Access Provisions of this document.
- The managing agency may authorize swimming associated with research and monitoring activities.
- Controlled overnight camping may be authorized for research and monitoring.

**Alternative 9B: No Ecological Reserve Designation Recommended (No Action)**

The Reserve would not be recommended for Ecological Reserve designation.

## **Alternatives for Management Revenue**

### **User Fees (or In-Lieu Donations)**

#### **Issue**

Should access fees (or in-lieu labor donation) be charged to users of the Reserve?

#### **Alternative 10A: Universal User Fee**

All users of the Reserve would be charged a daily user fee (or would donate labor).

#### **Alternative 10B: BLM-Sponsored Tour User Fee**

Reserve visitors participating in guided hikes would be charged a fee.

#### **Alternative 10C: Non-Tour User Fee**

All users of the Reserve, except participants in guided hikes, would be charged a daily user fee.

#### **Alternative 10D: No Fees (No Action) (Proposed)**

Fees would not be assessed for entry into the Reserve.