



United States  
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Forest Service

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# Huckleberry Landscape Restoration Project

*DRAFT ENVIRONMENTAL IMPACT STATEMENT*

*Summary*

*Payette National Forest*



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## Summary

The Payette National Forest (Forest) proposes landscape restoration treatments on approximately 67,000 acres. Proposed restoration activities include timber harvest, biomass harvest, road reconstruction, road realignment, temporary road construction, road decommissioning, culvert removal, culvert replacement, thinning of submerchantable trees, prescribed fire, and other actions. Proposed recreation improvements include developed and dispersed recreation site improvements, motorized and non-motorized trail development and realignment, trailhead improvements, and the conversion of Smith Mountain Lookout to a public rental cabin.

The Project is located 15 miles west of New Meadows, Idaho, in the Management Area (MA) 2 (Snake River) on the Payette National Forest, Council Ranger District, in Adams County. Land ownership within and adjacent to the Project area includes NFS lands, Idaho State lands, and private ownership. Access to the area from the south is via the Council-Cuprum Road, a County road that turns into National Forest System (NFS) Road 50002, which is accessed by U.S. Highway 95, in Council, Idaho. It can also be accessed from the East via Grouse Creek Road (NFS Road 50123) as well as from the west via Kleinschmidt Grade (NFS Road 50050).

The Project area encompasses approximately 67,000 acres and falls within the Brownlee Reservoir Subbasin, and the Indian, Lick, and Bear Creek subwatersheds. The project area includes parts of the Indian Creek, Rapid River, and Hells Canyon/Seven Devils Scenic Inventoried Roadless Areas (IRAs), as well as the Bear Creek Research Natural Area (RNA).

## Background

The Forest's 800,000-acre Weiser-Little Salmon Headwaters Project (WLSH) was accepted in the Collaborative Forest Landscape Restoration Program (CFLRP) in 2012, and the Project is within the WLSH area. The purpose of the CFLRP is to encourage the collaborative, science-based ecosystem restoration of priority forest landscapes. This project is based in part on recommendations provided by the Payette Forest Coalition (PFC) to the Forest Supervisor on August 18, 2016.

As part of the planning process, the PNF Travel Analysis Report (TAR), which was completed in September 2015, provided a recommendation for the Minimum Road System (MRS) for the project area and was considered in the development of alternatives. The MRS identified National Forest System (NFS) roads needed for the protection, administration, and utilization of the NFS lands within the Project area. The MRS is the minimum road system necessary to serve Forest health, emergency access, and public access while complying with resource objectives, reflecting likely funding, and minimizing adverse effects associated with road construction, reconstruction, and maintenance. This DEIS uses information from the TAR and data collected during the NFMA phase of this project as a basis for assessing existing versus desired conditions and the formulation of the Proposed Action.

## Purpose and Need

The *purpose* of the Huckleberry Landscape Restoration Project is to:

- Move vegetation toward the desired conditions defined in the Forest Plan and in the most recent science addressing restoration and management of wildlife habitat, with an emphasis on:
  - Improving habitat for specific wildlife species of concern such as the

- Endangered Species Act (ESA)-listed northern Idaho ground squirrel (NIDGS) and species dependent on dry coniferous forests (e.g., white-headed woodpecker), while maintaining habitat for other Forest sensitive and ESA-listed species;
- Maintaining and promoting large tree forest structure, early seral species composition (e.g., aspen, western larch, ponderosa pine, and Douglas-fir) and forest resiliency;
  - Reducing the risk of uncharacteristic wildland fire, with an emphasis on restoring and maintaining desirable plant community attributes including fuel levels, fire regimes, and other ecological processes;
  - Moving forest stands toward desired conditions as described in the Forest Plan by returning fire to the ecosystem; promoting the development of large tree forest structures mixed with a mosaic of size classes; and improving growth, species composition, and resiliency to insects, disease, and fire.
- Support the development of fire-adapted rural communities.
    - Creating conditions that provide firefighters a higher probability of successfully suppressing fire in the wildland urban interface by reducing potential fire behavior near values at risk (e.g., homes, communication towers, and power lines) and primary ingress/egress routes, essential to firefighter and public access.
    - Creating conditions where rural communities are less reliant on suppression forces.
  - Move all subwatersheds within the project area toward the desired conditions for soil, water, riparian, and aquatic resources (SWRA) as described in the Forest Plan and the Watershed Condition Framework (WCF) (USDA Forest Service 2011b) by:
    - Reducing overall road density, road-related sediment, and other road-related impacts across the project area; restoring riparian vegetation and floodplain function. This includes restoring fish habitat connectivity across the project area, especially in streams in or adjacent to ESA-listed bull trout (*Salvelinus confluentus*) Critical Habitat.
    - Improving soil productivity, quality, and function through decompacting soils, recontouring excavated areas, and adding organic material as cover for stabilization and support for revegetation.
  - Manage recreation use with an emphasis on hardening dispersed recreation sites where needed to reduce impacts and improve existing trail opportunities.
  - Contribute to the economic vitality of the communities adjacent to the PNF.

The *need* for the project is based on the difference between the existing and desired conditions. These differences include:

- Higher canopy cover in the large tree size class than desired in all forest types,

especially in stands within and adjacent to occupied NIDGS colonies;

- Fewer early seral species (i.e., ponderosa pine and western larch) than desired;
- Fewer fire resilient species than desired;
- More ground, surface, and canopy fuels than desired including within areas of Wildland Urban Interface (WUI);
- Less than desired watershed function and integrity as a result of past and current disturbances, road-related erosion and sediment, floodplain and riparian area encroachment, and fish habitat fragmentation;
- Less than desired maintenance levels to meet standards on trails and at developed recreation facilities.

The desired conditions for this project are based upon the Forest Plan.

### **Collaboration and Public Involvement Efforts**

The Proposed Action was developed in response to agency direction and policy, input from interested members of the public, and from recommendations received in comments provided by the PFC to the Forest Supervisor on November 11, 2016.

The PFC's objectives are to collaborate on the design of a project at a landscape scale that would restore and improve wildlife habitat, forest resiliency to wildfire, and watershed health; enhance forest access and recreation; and recommend actions that are financially responsible and contribute to the economic vitality of communities adjacent to the Forest.

The IDT developed the Proposed Action, and on September 26, 2016, a scoping letter describing the Project was sent via email over the GovDelivery system (Project record) to approximately 263 individuals, livestock permittees, and other agencies and groups. In addition, a Notice of Intent to prepare an EIS was published in the September 30, 2016, edition of the Federal Register (Volume 81, Number 190), and a Request for Comments was published in *The Idaho Statesman*, the newspaper of record, on September 30, 2016. Nine public comment letters were received during the scoping period.

Using the information gathered from public and internal scoping and field-related resource information, the IDT formulated alternatives based on vegetation treatments that meet desired conditions in the Forest Plan for the long term versus the short term, with watershed improvement treatments and transportation management that best matches each vegetation management strategy. The IDT also created mitigation measures or project design features to address the effects of the proposed activities for each alternative. The alternatives are briefly summarized below. This Draft EIS contains the analysis for the three alternatives; the issues and alternatives are described in greater detail in Chapters 1 and 2, respectively.

### **Alternative 1—No Action**

The No Action Alternative provides a baseline against which impacts of the various action alternatives can be measured and compared and represents the existing condition in the Project area. Under Alternative 1, none of the specific management activities proposed in this Draft EIS would be implemented to accomplish Project goals and objectives. Ongoing activities, such as recreation, public fuelwood gathering, fire suppression, ongoing road maintenance, and existing road closures, would continue at current levels.

## Alternative 2—Proposed Action

### Vegetation Treatments

This alternative has been designed to move toward the desired vegetation conditions specified in Appendix A of the Forest Plan in the long term (e.g., >50-100 years) within this planning cycle within MPC 5.2. In the temporary to short term (e.g., <15 years) this alternative would incorporate ecological restoration elements that emphasize managing for wildlife species of greatest conservation concern and emphasizing the resilience to natural disturbance events including wildfire and insects and disease in all forested and nonforested stands within the project area. This is being done in order to re-establish historical fire return intervals, reduce the risk of economic loss due to large scale wildfire and insect outbreaks, and to aid in conserving habitat for the species of greatest concern.

In the short term, this alternative would emphasize managing for a distribution of the large tree size class on the higher end of Forest Plan range of desired conditions and on the high end of the distribution for low canopy cover within Management Prescription Category (MPC) 5.2 (Commodity Production Emphasis in Forested Landscapes). Forested Lands outside of MPC 5.2 would receive treatments that meet Forest Plan desired conditions in the short term. Treatments would also retain old forest characteristics (e.g., legacy trees) and increase spatial heterogeneity (e.g., clumps, skips, gaps) in all MPCs. The management actions in this alternative would move stands within the Project area closer to the Historical Range of Variability.

Under Alternative 2 a variety of vegetation treatments are proposed on 53,570 acres, of which 2,190 acres are within RCAs.

Vegetation treatments are designed to promote early seral species, create a mosaic pattern at the fine and large scales (e.g., structural diversity, density, and canopy cover), maintain and promote large tree structure (including legacy trees), and reduce fuel loading.

Vegetation treatments include:

- Noncommercial thinning (17,810 acres; 880 acres in RCAs);
- Noncommercial Meadow Restoration (17,410 acres);
- Whitebark pine Restoration (580 acres);
- Commercial treatments consisting of commercial thin-free thin (14,300 acres; 1,100 acres in RCAs) and regeneration prescriptions including Patch cuts and Modified Shelterwood (3,470 acres);
- WUI treatments within CPZs (noncommercial RCA thinning within 25 feet of streams for 50 feet along private property boundaries);
- SFB treatments (20 miles);
- Prescribed Fire treatment (67,000).

All treatments will be considered for Prescribed Fire and Associated Actions.

Associated Actions include:

- Project induced road maintenance;
- Temporary roads newly constructed and located on existing prisms;
- Harvest residue management;
- Site preparation;
- Planting;
- Firewood availability

### Watershed Improvement, Restoration Treatments, and Transportation Management

These treatments include:

- Road decommissioning, improvements, and reconstruction;
- Road and trail reroutes;
- Culvert replacement or removal to provide aquatic organism passage (AOP);
- Long term closure of roads;
- Unauthorized routes added to the NFS road atlas (Add to System);
- New road construction
- Material sources identified for use and/or development;
- Dispersed recreation site improvements within the Lick Creek RCA.

See Comparison of Alternatives table for mileages and numbers.

### Recreation

Recreation improvements include:

- Improve water system, fencing, fee tube, tables, and driving loop at Huckleberry campground;
- Improve dispersed sites by hardening in RCAs;
- Trail improvement, trail realignments, trail reestablishments, trail reroutes, and installation of drainage and erosion mitigation structures will all be used as necessary to bring trails back to NFS standards;
- Trailheads for trails 226, 231, and 229 will be improved with signage, small delineated parking areas, and establishment of distinct trailheads;
- Convert Smith Mountain Lookout to a rental cabin.

## **Alternative 3**

### Vegetation Treatments

Under Alternative 3 a variety of vegetation treatments are proposed on 53,580 acres, of which 2,200 acres are within RCAs.

From a vegetation perspective, in comparison to Alternative 2, within Management Prescription Categories (MPC) 5.2 Alternative 3 would move closer to desired conditions as described in Appendix A of the Forest Plan in the short term (3 to 10 years) and would:

- Reduce the amount of large tree size class and increase the amount of grass/forb/shrub/seedling (GFSS), sapling, small, and medium size classes in PVGs 5, 6, and 7.
- Retain fewer decadent trees (legacy trees)
- Maintain higher canopy covers of healthy, vigorous trees with the intent of producing more growth.
- Focus less on landscape heterogeneity (less clumps skips, gaps, etc.).

Noncommercial Treatments would be 10 Acres (Shaded Fuel Break) more than Alternative 2, but no skips (nonthinned areas) would be left in young stands.

Alternative 3 would have fewer acres of CT and more acres of regeneration (PC and MSw) and more miles of Shaded Fuel Break.

Vegetation treatments include:

- Noncommercial thinning (17,820 acres; 890 acres in RCAs);
- Noncommercial Meadow Restoration (17,410 acres);
- Whitebark pine Restoration (580 acres);
- Commercial treatments consisting of commercial thin-free thin (11,980 acres; 1,100 acres in RCAs)
- Regeneration prescriptions including Patch cuts (2,320 acres) and Patch cuts or Modified Shelterwood (3,470 acres);
- WUI treatments within CPZs (noncommercial RCA thinning within 25 feet of streams for 50 feet along private property boundaries);
- SFB treatments (39 miles);
- Prescribed Fire treatment (67,000).

All treatments will be considered for Prescribed Fire and Associated Actions. Associated Actions would be the same in Alternative 3.

Watershed Improvement, Restoration Treatments, and Transportation Management

Proposed watershed improvement restoration treatments would be the same as under Alternative 2 with additions and changes as noted below.

- Less road decommissioning;
- More roads left as maintenance level one closures without long term closure treatments;
- More seasonally opened roads;
- Same number of culverts replaced or removed to provide AOP;
- Same number of Add to System roads;
- Same new road construction;
- Same material sources identified;
- Same dispersed recreation improvements in RCAs.

See Comparison of Alternatives table for mileages and numbers.

Recreation

All recreation improvements proposed under Alternative 3 are identical to those proposed under Alternative 2 with the following exceptions.

- Convert an unauthorized route to a trail open to all vehicles (TOAV) at Lynes point connecting to Kleinschmidt Grade;
- Adding unauthorized routes to the System to form a seasonally open OHV loop opportunity between Butterfield Gulch and Grouse Creek;
- Leaves more miles of road open seasonally than the current condition (71 miles vs. 62 miles, respectively)

### Comparison of Alternatives

Table 1. Comparison of alternatives by activity.

Proposed Treatments	Alternatives		
	Alternative 1	Alternative 2	Alternative 3
<b>Commercial and Noncommercial Vegetation Treatment (acres)</b>			
Noncommercial Thinning	0	35,800	35,810
Within RCAs	0	1,090	1,100
<b>Commercial Treatments</b>	<b>0</b>	<b>17,770</b>	<b>17,770</b>
Commercial Thin-Free Thin	0	14,300	11,980
Within RCAs	0	1,100	1,100
Regeneration	0	3,470	3,470
Within RCAs	0	0	0
Regeneration Patch Cut	0	0	2,320
Within RCAs	0	0	0
<b>Total Acres of Vegetation Treatments</b>	<b>0</b>	<b>53,580</b>	<b>53,580</b>
<b>Total Acres of Vegetation Treatments Within RCAs</b>	<b>0</b>	<b>2,190</b>	<b>2,200</b>
<b>Prescribed Fire (acres)</b>			
Prescribed Fire	0	67,000	67,000
<b>Temporary Roads (miles)</b>			
Existing Prism (existing unauthorized routes that would be used in harvest then decommissioned)	0	40.5	40.5
New Temporary Road Construction	0	27.0	27.0
<b>Soil, Water, Riparian, and Aquatic Resource Improvement Treatment (miles)</b>			
Long-term Closure	0	62.3	21.6
Long-term Closure within RCAs	0	9.8	1.3
Maintenance Level One Closure	0	0	52.8
Maintenance Level One Closure in RCAs	0	0	11.9
NFS Road Decommissioning	0	50.9	27.6
Unauthorized Route Decommissioning	0	116.9	114.1
Total Road Decommissioning (includes the unauthorized routes used as temporary roads listed above)	0	167.8	141.7

Proposed Treatments	Alternatives		
	Alternative 1	Alternative 2	Alternative 3
<b>Road Decommissioning within Riparian Conservation Areas (miles)</b>			
NFS Road Decommissioning in RCAs	0	13.6	7.9
Unauthorized Route Decommissioning in RCAs	0	41.4	41.1
Total Miles (included in the miles of road decommissioning listed above)	0	55.0	49.0
<b>Aquatic Organism Passage (AOP)/Habitat Connectivity</b>			
Number of Stream Crossings Improved	0	8	8
<b>Transportation Management (miles)</b>			
Road Realignment (Reroutes)	0	4.1	3.2
Add to System Roads	0	6.0	6.0
Road Surfacing (Adding gravel)	0	18.9	18.9
Total Road Reconstruction (includes road realignment, surfacing, and Add to System roads)	0	29.1	28.5
Ensure Effective Closure on Year-round and Seasonally Closed National Forest System Roads <sup>a</sup>	0	All	All
<b>Recreation and Trails Improvements<sup>b</sup></b>			
NFS Trail Converted from Two-wheel Motorized to Non-Motorized (miles)	0	1.4	1.4
NFS Trail Converted from Open to 50" or less to open NFS road (open to all vehicles) <sup>c</sup> (miles)	0	2.7	2.7
New Trail Open to All Vehicles (miles)	0	0.0	2.2
Convert roads to trails (miles)	0	0.2	2.4

**Table 2. Comparison of alternatives by objective.**

Vegetation Resource Objective 1: Move vegetation toward the desired future conditions defined in the Forest Plan, with an emphasis on promoting large tree forest structure, early seral species composition, and forest resiliency.			
Measurement	Alternative 1	Alternative 2	Alternative 3
Tree Size Class			
Acres treated to promote the large tree size class	0	7,610	7,630
Acres treated to maintain the large tree size class	0	10,050	7,080
Tree Canopy Cover	Varies by Potential Vegetation Groups (PVGs); see Table 3.2 17 for comparison of alternatives for canopy cover.		
Percentage of area (acres) in each canopy cover class within the large tree size class			
Tree Species Composition			
Acres treated to maintain and/or promote desired species composition	0	34,320	34,320
<b>Fire and Fuels Resource Objective 3: Restore and maintain desirable fuel levels, fire regimes, and ecological processes.</b>			
Measurement	Alternative 1	Alternative 2	Alternative 3
Acres Moved towards Historical Fire Regimes	0	48,890	48,890
<b>Fire and Fuels Resource Objective 4: Establish and maintain strategically placed shaded fuelbreaks to improve firefighter and public safety, improve the defensible space adjacent to private lands, and provide protection to infrastructure to the east of the Project area.</b>			
Measurement	Alternative 1	Alternative 2	Alternative 3
Miles of Shaded Fuelbreak	0	20	39
Wildlife Objective 5: Improve habitat for Family 1 wildlife species, as represented by the white-headed woodpecker, a Region 4 Sensitive Species (USDA Forest Service 2011b) and Forest MIS, by restoring forest conditions that contribute to source habitat for these species. Forested stands providing these source habitats should be restored to conditions within, or near, the HRV.			
Measurement	Alternative 1	Alternative 2	Alternative 3
Quantity and quality of Family 1 – white-headed woodpecker habitat restored to conditions within HRV. Quantity is measured by acres of PVGs 1, 2, 3, 5, or 6, in the large tree size class and low canopy cover class. Quality is measured by the presence of old forest characteristics (e.g., legacy trees, snags, coarse woody debris (CWD), canopy gaps, and understory patchiness), as described in the Forest Plan (USDA Forest Service 2003a).	0 (742 current total)	11,609	6,396
<b>SWRA Resources Objective 6: Improve watershed and aquatic function and integrity by moving all watersheds within the Project area towards the desired condition for the soil, water, aquatic, and riparian resources.</b>			
<b>Road Density by Subwatershed (miles/square miles); All Ownership/National Forest Land Only</b>			
Subwatershed	Alternative 1	Alternative 2	Alternative 3
Indian Creek	3.6/3.2	2.8/2.2	2.8/2.3
Bear Creek	3.8/3.7	2.9/2.5	3.1/2.8
Lick Creek	5.3/5.6	3.0/2.9	3.3/3.3

Total	4.5/4.2	2.8/2.5	3.1/2.7
<b>RCA Road Density by Subwatershed (miles/square miles); National Forest Land Only</b>			
<b>Subwatershed</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
Indian Creek	3.3	2.2	2.2
Bear Creek	4.8	3.1	3.4
Lick Creek	9.7	3.7	4.2
Total	6.1	2.8	3.2
<b>Number of Fish Barriers Replaced</b>			
<b>Subwatershed</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
Indian Creek	0	1	1
Bear Creek	0	1	1
Lick Creek	0	6	6
Total	0	8	8
<b>Stream Miles Improved – includes miles of fish habitat reconnected and miles of stream enhanced through road decommissioning and graveling within RCAs.</b>			
<b>Subwatershed</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
Indian Creek	0	10	10
Bear Creek	0	18.9	16.3
Lick Creek	0	44.1	40.7
Total	0	73.0	67.0
<b>Miles of Roads within RCAs by Subwatershed (National Forest Land Only)</b>			
<b>Subwatershed</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
Indian Creek	17.5	11.6	11.6
Bear Creek	30.6	26.2	28.8
Lick Creek	64.7	24.4	27.7
Total	112.8	52.7	58.6
<b>Percent of total road-generated sediment reduced over the long term modeled by Geomorphic Road Analysis and Inventory Package (GRAIP Lite)</b>			
<b>Subwatershed</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
Indian Creek	0%	33.4%	30.0%
Bear Creek	0%	38.9%	36.0%
Lick Creek	0%	68.6%	61.0%
Number of harvest units meeting Appendix A desired conditions for CWD, both in general and in the large (greater than 15 inches diameter) size class.	No harvest planned	Trend toward Forest Plan desired conditions as described in Appendix A more quickly than Alternative 1 in proposed harvest units.	

<b>Manage recreation use in the Project area with an emphasis on identifying and hardening primary dispersed recreation areas, improving Huckleberry Campground, and improving existing trail</b>			
<b>Measurement</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
Miles of NFS trail <sup>a b</sup>	34.7	33.9	36.1
Miles of NFS trail open to motorcycle use (2-wheel motorized) <sup>a b</sup>	25.0	24.3	26.5
Miles of NFS trail open to vehicles < 50" width (ATV trails) <sup>a b</sup>	0.7	0.0	2.2
Miles of NFS trail open to vehicles > 50" width (trails open to all vehicles) <sup>a</sup>	0.0	0.0	2.2
Miles of open and seasonally open NFS roads	141.9	130.9	148.5
<b>Economics Objective 8: Contribute to the economic vitality of local communities.</b>			
<b>Measurement</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
Employment contribution (number of jobs on annual average).	0	233	200
Income contribution (\$ thousands)	\$0	\$8,208	\$7,036

<sup>a</sup>Trail mileages shown in Alternatives 2 and 3 do not reflect small changes in length expected to result from trail reroutes; exact reroutes mileages are unknown since these will be determined during implementation.

<sup>b</sup>Trail 293, Decorah, which is currently open to vehicles 50" or less in width, would be removed from the system in Alternatives 2 and 3 because the underlying NFS road (50362) is opened to year-round public use; this accounts for a 0.7 mile reduction in overall trails mileage but does not constitute a lost recreational travel/access opportunity.

**Table 3. Comparison of alternatives by issue.**

<b>Wildlife Issue: High open road densities affect wildlife (e.g., elk) security and can lead to the removal of important habitat components (e.g., snags).</b>			
<b>Indicators</b>	<b>Alt 1</b>	<b>Alt 2</b>	<b>Alt 3</b>
Change in elk security areas (Hillis et al. 1991). (Open and Seasonal roads, and motorized trails buffered 0.5 mile and polygons greater than 250 acres. See elk section in Wildlife Resources for additional analysis.	Current Condition 4 areas 9,772 acres	4 areas 10,571 acres (no change in number of areas, increase of 799 acres)	3 areas 8,026 acres (change in number of areas, decrease of 1,746 acres)
Miles of NFS roads and unauthorized roads a) closed by physical closure, including LTC or b) decommissioned by treatments described in Chapter 2.	a) 0 b) 0	a) 91.4 b) 167.8	a) 98.3 b) 141.7
Miles of open roads	79.8	77.1	77.1
Miles of seasonal roads	62.1	53.8	71.4
<b>Wildlife Issue: Treatments may adversely affect source habitat for wildlife species dependent on mixed conifer forests with multilayer structural characteristics. Such forests are associated with mixed-to-lethal fire regimes and associated processes (larger scales of insect and disease outbreaks and fire effects). Species of concern include listed and sensitive species and management indicator species.</b>			
<b>Indicators</b>			
Quantity (acres) and distribution of habitat for species of concern.	See discussion in Wildlife Resources section of Chapter 3.		
Quality (specifically old forest, snags, patch and pattern) and distribution of habitat for species of concern.	See discussion in Wildlife Resources section of Chapter 3.		
<b>Wildlife Issue: Project activities (logging, log haul, prescribed fire, and temporary road construction) may cause disturbance to wildlife species of concern.</b>			
<b>Indicator</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
Disturbance effects on species of concern	See discussion in Wildlife Resources section of Chapter 3.		

<b>SWRA: Treatments that propose thinning of vegetation in RCAs may affect stream temperatures and LWD.</b>				
<b>Indicators</b>		<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
Acres of vegetation treatment within RCAs		0	2,190	2,200
Acres treated within one site potential tree height		0	527	531
<b>SWRA: Proposed activities may change timing and duration of peak runoff, which may affect bank stability in sensitive channels.</b>				
<b>Indicators</b>		<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
Total Road Density by subwatershed mi/mi <sup>2</sup> (all ownership)	Indian Creek	3.6	2.6	2.8
	Bear Creek	3.8	2.9	3.1
	Lick Creek	5.3	3.0	3.3