

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
EUGENE DISTRICT OFFICE

ENVIRONMENTAL ASSESSMENT NO. OR090-03-06
Tucker Creek Timber Sale

I. INTRODUCTION

A. BACKGROUND AND HISTORY

This action proposes timber harvest and other forest management activities within a project area located in Section 27, Township 20 South, Range 4 West, Willamette Meridian, Lane County, Oregon in the Siuslaw Resource Area of the Eugene District of the Bureau of Land Management (BLM). This environmental assessment (EA) was originally released for a 30-day public review in July, 2003. Subsequent to its release, an adult and two juvenile northern spotted owls were observed in the project area. Because of the discovery of these owls, BLM upgraded its definition of the habitat in the project area from dispersal habitat to suitable habitat. This EA now reflects this new information and provides new analysis of environmental effects.

B. PURPOSE OF AND NEED FOR THE ACTION

The project area is within the Matrix Land Use Allocation and has management objectives for Connectivity and Riparian Reserves. The purpose of the Proposed Action within Connectivity is to promote the development of late successional forest structure over longer rotations while providing an output of merchantable timber and maintaining forest health and productivity. The need for the action is established in the Eugene District Record of Decision and Resource Management Plan (RMP), June 1995, which directs that timber be harvested from Matrix lands to provide a sustainable supply of timber.

C. CONFORMANCE WITH LAND USE PLAN

The Proposed Action and alternatives are in conformance with the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl, April 1994 (NSO ROD), and the RMP, as amended by the "Record of Decision to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines in Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl" (USDA, Forest Service and USDI, Bureau of Land Management, 2004a) and the "Record of Decision Amending Resource Management Plans for Seven Bureau of Land Management Districts and Land and Resource Management Plans for Nineteen National Forests Within the Range of the Northern Spotted Owl" (USDA, Forest Service and USDI, Bureau of Land Management, 2004b).

Additional site-specific information is available in the Tucker Creek Timber Sale project analysis file. This file and the above referenced documents are available for review at the Eugene District Office.

II. ISSUES

A. ISSUES SELECTED FOR ANALYSIS

Issue 1: *How will timber harvest and related activities affect suitable habitat for northern spotted owls within the home range of owl sites?*

The project area is within the home range of two spotted owl sites, Calico Creek (MSNO Nos. 2529 and 2529A) and Tucker Creek (NSNO No. 4628). The Tucker Creek site was designated because an adult and two juvenile owls were observed in the project area during the summer of 2003. As a result, the habitat in the project area has been redefined as suitable habitat. Given the stand age, it is possible that owls may be using the project area for foraging. Timber harvest could degrade suitable habitat within the home range of active owl sites.

Issue 2: *What are the effects of timber harvest on the attainment of Aquatic Conservation Strategy (ACS) objectives?*

In order for a proposal to comply with the Northwest Forest Plan, it must be shown that the project, at a minimum, does not prevent or retard attainment of the nine Aquatic Conservation Strategy objectives on a watershed or landscape scale. Activities described in alternatives may have some effect on BLM's ability to meet these objectives.

Issue 3: *What are the effects of road construction on the spread of scotch broom?*

Scotch broom is well established in the general vicinity of the project area. Vehicles are a common vector for seed dispersal and the open environment that roadways offer provide good conditions for scotch broom germination and establishment. New road construction can result in scotch broom establishment when heavy equipment transports seed into open areas of freshly exposed mineral soil. Any subsequent traffic over the road presents an ongoing chance of seed transport and scotch broom establishment. Planned mitigation measures include: washing of heavy equipment (including equipment used for road construction, yarding, tilling, and fuel reduction) prior to entering the project area; road decommissioning utilizing tilling, slash scattering, blocking access, tree planting; and post treatment monitoring combined with vegetation management as needed.

III. ALTERNATIVES

The project analysis area is 165 acres. Alternatives A and C consider timber harvest and other forest management activities on 105 acres. Alternative B considers timber harvest and other management activities on 45 acres (see map).

| | Alternative A Proposed Action | Alternative B No New Roads | Alternative C Helicopter Yarding | Alternative D No Action |
|--------------------------------------|-------------------------------------|-------------------------------|--|----------------------------|
| Acres Thinned | 102 | 45 | 104 | 0 |
| New Roads & Landing Feet / Acres | 5000 / 3 | 0 | 600 / 1 | 0 |
| Harvest Volume | 940 Mbf | 360 Mbf | 870 Mbf | 0 |
| Yarding & Road Const. Est Total Cost | \$103,120 | \$35,280 | \$267,130* | 0 |

* This value reflects the use of a Bell 204 helicopter, the size helicopter that would most likely be used for logging timber of this size. Use of larger helicopters would increase fixed daily costs, increasing cost per thousand board feet, and increase service landing size and possibly log landing size.

A. ALTERNATIVE A - Proposed Action

This is a density management alternative designed to provide forest products while promoting stand vigor. Approximately 940 MBF (thousand board feet) or 1960 CCF (cunits or hundred cubic feet) of timber would be offered for sale. Approximately 105 acres would be thinned.

Silviculture

All trees not specifically identified for retention would be cut.

Following harvest, the Purchaser would fall 1.5 Douglas-fir trees per acre, selected from residual trees in the 15 -18 inch diameter at breast height (DBH) range, for down woody debris. Felled trees may be dispersed such that 15 trees are well dispersed across at least one out of ten acres, rather 1-2 trees on every acre. These trees may be felled into the Riparian Reserve and/or Survey and Manage reserves

Fuels reduction would include machine piling with a grapple head, covering and burning roadside slash for 25 feet along both sides of Road No. 20-4-32. Roadside slash adjacent to newly constructed temporary spur roads would be scattered upon the road surface in conjunction with road decommissioning.

Oak trees would be evaluated after harvest for additional release from overtopping conifers if needed. Adjacent conifers would be girdled for snags or felled and left on site in order to create openings around selected oaks.

Retention

Conifers would be thinned from below, varying spacing as needed to reserve the largest, most vigorous trees. Approximately 65 trees per acre (TPA) would be reserved.

All existing snags and hardwoods that do not pose a safety hazard would be retained. Snags and hardwoods that do pose a safety hazard would be felled and retained as coarse woody debris. Downed woody debris of decay classes 3, 4 and 5 would be retained where possible.

Three "Plus trees" from the Genetic Improvement Program would be retained.

Reserves

The height of one site-potential tree has been determined to be 200 feet slope distance in the Upper Siuslaw Watershed. Riparian Reserves 200 feet wide on either side of non-fish bearing streams and 400 feet wide on either side of fish bearing streams would be managed in accordance with the standards and guidelines in the NSO ROD (Appendix C, pp. 31-38). Riparian Reserves in the project area would not be treated because they are already in a desirable condition. Seeps and springs would be reserved to their extent or as determined by the area hydrologist.

Fourteen sites containing the Oregon Megomphix (a terrestrial snail) located within the proposed harvest boundaries would be protected consistent with the Management Recommendations for Terrestrial Mollusk Species, Version 2.0 (November 1999). Each site would be protected by a one-quarter acre reserve, maintaining an adequate level of shade required by this species.

Eugene District personnel would attempt to locate nesting spotted owls prior to any operations within the project area in any year operations are planned. Survey techniques recommended by the US Fish and Wildlife Service (FWS) would be used, and would include three visits conducted between April 15 and June 15 of any year that operations would occur. If a nest tree or juvenile owls are located during the surveys, a 200 foot "no treatment" buffer would be placed in all directions around the nest tree or juvenile owls. The buffer would be maintained until July 7 or until the young are capable of safely dispersing away from the area, whichever is later.

Roads and Yarding

Approximately 5,000 feet of road would be constructed (Spurs A-H), all on BLM land. Roads would have a 14-foot subgrade, a natural surface with no ditch, and be outsloped where possible.

The timber haul would go southeast towards Gowdyville road (County Road 2645). A seasonal restriction on log haul would be required.

Natural surfaced, newly constructed roads would be blocked and waterbarred between logging seasons. Completion of the project would take no more than three years. Upon completion of the project, newly constructed spur roads would be blocked and tilled. Douglas-fir would be planted in the first 200 feet of decommissioned road beds of Spurs A, B, C, D, and E to discourage the encroachment of scotch broom. The decommissioned roads would be monitored for scotch broom encroachment; new scotch broom plants would be pulled if needed.

The area would be logged with both a cable yarding system and a ground-based yarding system while adhering to relevant Best Management Practices (BMP) such as using existing skid trails whenever possible, limiting new skid trails to slopes less than 35%, restricting tractor operations to designated skid trails and during periods of low soil moisture, and limiting the area extent of skid trails and landings to less than 10% of the harvest area. All compacted skid trails would be tilled. Additional BMPs are listed in Appendix C of the RMP.

B. ALTERNATIVE B - No New Roads

This alternative would be similar to Alternative A except no new roads would be built and no ground-based yarding would occur. Approximately 360 MBF or 765 CCF of timber would be offered for sale. Approximately 45 acres would be thinned. All design features would be the same as Alternative A except for the following.

Silviculture

Fuels reduction would include machine piling with a grapple head, covering and burning roadside slash for 25 feet along both sides of Road No. 20-4-32.

Reserves

Under this alternative, three sites containing the Oregon Megomphix (a terrestrial snail) located within the proposed harvest boundaries would be protected consistent with the Management Recommendations for Terrestrial Mollusk Species, Version 2.0 (November 1999). Each site would be protected by a one-quarter acre reserve, maintaining an adequate level of shade required by this species.

Roads and Yarding

No new haul roads or skid trails would be constructed. Mitigation measures for new roads would not be necessary. Timber would be yarded by cable to Road No. 20-4-32.

C. ALTERNATIVE C - Helicopter Yarding

This alternative would be similar to Alternative A except that helicopter yarding would be implemented rather than cable and ground based methods. Approximately 870 MBF or 1,840 CCF of timber would be offered for sale from 105 acres. All design features would be the same as Alternative A except for the following.

Silviculture

Fuels reduction would include machine piling with a grapple head, covering and burning roadside slash for 25 feet along both sides of Road No. 20-4-32. Roadside slash adjacent to spur E and the log and service landings would be scattered upon the road surface in conjunction with road decommissioning. Excess slash on the log landing which is not scattered on tilled surfaces would be piled and burned.

Roads, Landings, and Yarding

This analysis assumes the use of a medium size helicopter. Larger helicopters may increase the size of log landing and would increase the size of service landing required. One log landing and one service landing would be constructed on BLM land.

A log landing would be constructed to dimensions of approximately 75 feet by 120 feet, (0.25 ac) and a service landing would be constructed to approx 120 feet diameter (0.25 ac) with

paths cleared for ingress and egress. The service landing would be rocked for dust abatement.

Approximately 600 feet of road construction (Spur E) would occur. Ground-based yarding operations would not be expected to take place except as needed for the two landings.

Road decommissioning as described in Alternative A would occur on Spur E and on the landings.

D. ALTERNATIVE D - No Action

All timber harvest activities would be deferred; no management activities described under the Proposed Action would occur, and no timber would be offered for sale at this time. Because the project area is within the Matrix land use allocation, it may be considered for future timber harvests even if this alternative is selected at this time.

E. ALTERNATIVES CONSIDERED but Not Analyzed

Treatment of Riparian Reserves: An Alternative to thin Riparian Reserves was considered but not analyzed because current stand conditions in the Riparian Reserves are adequate to maintain Aquatic Conservation Strategy Objectives.

Regeneration Harvest: A regeneration harvest alternative for this project area was considered but not analyzed because the Tucker 2 Timber Sale, a nearby 49 acre regeneration harvest, was completed in 1999, representing two decades of regeneration harvest within this Connectivity block under an area control rotation.

IV. EXISTING CONDITIONS

A. GENERAL SETTING

The project area is in the North Coast Province and in the Upper Siuslaw Watershed. Watershed analysis has been completed (BLM Eugene District, Upper Siuslaw Watershed Analysis, February, 1996). Most forest stands in the vicinity of the project area are currently in early or mid-seral stages.

The plants and animals in this project area do not differ significantly from those discussed in the Eugene District Proposed Resource Management Plan/Environmental Impact Statement (RMP EIS) (Chapter 3). The following resources are also discussed in greater detail in the project file.

B. SPECIFIC RESOURCE DESCRIPTIONS

Vegetation

The project area was logged during the 1930's, with natural regeneration stocking the area with conifers by 1940. There have been no stand management activities in this second growth stand since then.

The common stand condition is a fully stocked overstory of Douglas-fir with minor grand fir, western hemlock and incense cedar components. The stand has a well differentiated range of diameters, from small diameter trees experiencing ongoing suppression mortality providing many small (less than 8 inches DBH) snags and down wood to many large diameter (greater than 20 inches DBH) trees with well developed crowns. Stocking varies from the common condition to include low stocking areas and canopy gaps which are brush dominated. Chinkapin, madrone, bigleaf maple, dogwood, and oak are present in the mid-canopy and are generally suppressed and of poor vigor.

Understory conifer regeneration consists of grand fir and incense cedar. Vine maple is well established, particularly in the south portion and in the draws, while a hazel/oceanspray community occurs on drier upland sites. Other common understory vegetation includes salal, swordfern, and oregon grape.

Large snags and large down wood are generally absent from this stand.

Stand exam records from 1997 show an average stand age of 61 years, average stand diameter of 18 inches DBH, 200 sq. ft. of basal area, and 117 trees per acre.

Vascular plant surveys for the project area identified no threatened, endangered, or sensitive species. Surveys for Survey and Manage lichens and bryophytes and other sensitive non-vascular plants were conducted in fall of 2002. No Survey and Manage or other species of concern were located.

This project area occurs near several populations of *Aster vialis*, a "Bureau sensitive" plant having its greatest known concentrations in this township. However, a thorough search of appropriate habitats located no *Aster vialis* within the project area.

Scotch broom has been observed along roadsides, and it is commonly seen along BLM road No. 20-4-32, in adjacent young conifer plantations, and in canopy gaps.

Wildlife (including Special Status and Special Attention Species)

The project area is defined as suitable habitat for northern spotted owls. A general definition (as recommended by the USFWS) of northern spotted owl suitable habitat is mixed Douglas-fir stands 80 years old or older (late-successional forest) that provides nesting, roosting, and foraging habitat. If the amount of late-successional forest is low within the home range of a spotted owl pair, the owls will forage in younger forest stands (generally at least 40 years old) that can support prey within their home range. These younger stands become essential foraging habitat for the owl sites and are considered suitable habitat when determining effects to the owl site.

The project area lies within the home range of two owl sites—Calico Creek (Master Site Nos. 2529 and 2529A) and Tucker Creek (Master Site No. 4628). The Tucker Creek owl site was designated as a result of the observation of an adult and two juvenile owls in the project area during the summer of 2003. The project area was originally considered to be dispersal only habitat, but because the age of the juvenile owls (indicating a high probability that nesting occurred within or near the project area), the habitat was redefined as "suitable."

The USFWS considers an owl site to be at risk (reproductive failure or mortality) when it contains less than 40% suitable habitat (1,906 acres) within its home range. There is approximately 188 acres of late-successional nesting habitat within the 1.5 mile provincial home range of the Tucker Creek owl site. The home ranges of the Tucker Creek and Calico Creek owl sites overlap; consequently, both include the 188 acres of suitable habitat. The home range of the Tucker Creek owl site also includes approximately 1,144 acres of dispersal and foraging habitat ranging from 40 to 79 years old. It is unknown whether all of the 40-79 year old stands in the Tucker Creek home range would be defined as foraging habitat. However, it is clear that there is less than 40% suitable habitat within this home range.

After consultation with the USFWS, and as required by the biological opinion, three visits to the project area occurred during the critical nesting period in 2004. One night visit resulted in an owl sighting, but a day-time follow-up visit did not result in an owl sighting, nor were there any sightings from two other subsequent visits. In addition, no nest tree was located within the project area.

The proposed project area also falls within the Southern Willamette-North Umpqua Area of Concern (AOC). This AOC was delineated to provide a "habitat bridge" for spotted owls and other species dispersing between the Coast Range and Cascade Mountains. Section 27 lies four miles west of the town of Cottage Grove which effectively interrupts potential owl dispersal eastward. Federal lands constituting this AOC are more consolidated south and east of the proposed action and provide a more continuous dispersal corridor for spotted owls in that direction.

Although red tree voles occur more frequently in old-growth or mature coniferous stands, they have been documented in younger forests similar to those in the proposed project area. Red tree vole surveys were completed to protocol during 2002. Three inactive nests were

located; because of the absence of active nests, no reserves are required according to current Management Recommendations.

The project area contains suitable habitat and is within the expected range of a former Survey and Manage mollusk species, *Megomphix hemphilli* (Oregon megomphix). Fourteen sites containing this land snail were located within the proposed harvest boundaries and would be protected consistent with the Management Recommendations for Terrestrial Mollusk Species, Version 2.0 (November 1999). Each site would be protected by a one quarter acre reserve that maintained the amount of shade at the site.

Other wildlife species documented within and near the proposed project area include: black-tailed deer, elk, black bear, red-tailed hawk, raven, pileated woodpecker, Douglas squirrel, winter wren and nuthatches. A more complete list of terrestrial vertebrate species suspected to occur in the area may be found in Tables E-10 and 11 of the Siuslaw Watershed Analysis (February, 1996).

Aquatic and Riparian Resources and Fisheries

The proposed project is located in the Tucker Creek 7th field drainage which flows into the South Fork of the Siuslaw River 6th field drainage, a tributary to the Upper Siuslaw 5th Field Watershed.

The proposed harvest area ranges in elevation from 720 to 1560 feet, with much of the area below 1200 feet, and having gentle to moderate slopes. This is considered lowland elevation, which would be expected to experience rain-on-snow events very infrequently.

The closest filed water right is for instream use for fisheries in the South Fork of the Siuslaw at the confluence with Tucker Creek (approximately 1½ miles downstream of the proposed project area). The closest extraction water right use is for irrigation located in the South Fork of the Siuslaw approximately 3½ miles down stream of the proposed project area.

The main stream near the sale (Stream #4), located along the south edge of the project area, is a 3rd order perennial tributary of Tucker Creek. Four other 1st order intermittent streams and three small springs are located within or immediately adjacent to the project area. Stream #4 is a relatively low gradient stream up to the confluence with Stream #2 (approximately 450 feet east of the west property line), and is considered coho habitat up to this point. A BLM fish survey conducted in the summer of 2002 documented presence of coho in Stream #4 up to the confluence with Stream #2. Just beyond Stream #2 is a steep (40%+) 30 feet bedrock chute which is considered a total barrier to fish; however, a sustaining population of sculpin species was found above this barrier as well as a large, unconstrained wetland area formed by a beaver dam.

The channel is well shaded throughout by a mix of second growth conifers and hardwoods. There is a moderate amount of instream large wood structure in the later stages of decay. Future recruitment of large woody debris is adequate. The riparian area is predominately Douglas-fir (DBH ranges from 8-24 inches), western hemlock (12-18 inches DBH), red alder (8-16 inches DBH). Sideslopes are in stable condition. Some channel incision has occurred over the last decade. The south side of the channel, where sideslopes are steeper, recent bank failures have contributed to moderate sediment levels to the system.

Soils

Predominant soils found in the Tucker Creek Timber Sale include Bellpine and Jory . These are clay soils that are highly erodible, compact easily, and, when soils are disturbed, tend to stay in suspension longer. The soils are moderately deep and have high a Site Index that correlates to a high amount of on-site nitrogen and potential site productivity.

Bellpine soils are moderately deep (20-40 inches) and are well-drained. The surface layer is a silty clay loam, the subsoil is silty clay with soil horizons containing between 40-55% clay. Roads constructed through these soils are subject to slumping. Rock fragment content in the soil profile is typically less than 15%. Permeability is slow due to the heavy textures and

absence of coarse fragments. These soils are susceptible to compaction. The use of ground-based equipment could result in reductions in long-term soil productivity if unmitigated, indiscriminate tractor logging occurs.

Jory soils are deep (up to 60 inches) and are well-drained. The surface layer is a silty clay loam, the subsoil is dark reddish brown silty clay with soil horizons containing between 50-60% clay. Road construction is generally easy in these soils; however, compaction on these soils could reduce the volume and height growth of Douglas-fir resulting in a reduction in timber site class. Runoff is rapid and hazard of water erosion is high. The use of ground-based equipment could result in reductions in long-term soil productivity if unmitigated, indiscriminate tractor logging occurs.

V. DIRECT AND INDIRECT EFFECTS

A. UNAFFECTED RESOURCES

The following resources are either not present or would not be affected by either of the alternatives: Areas of Critical Environmental Concern; prime or unique farm lands; Native American religious concerns; solid or hazardous wastes; Wild and Scenic Rivers; Wilderness; minority populations; cultural resources, and low income populations.

B. ISSUE 1: *How would timber harvest and related activities affect suitable habitat for northern spotted owls?*

Alternative A - Proposed Action

Under the Proposed Action, thinning would occur within the home range of the two owl sites. The Proposed Action would downgrade habitat from suitable to dispersal on 102 acres by opening the forest canopy and disturbing the forest floor. The amount of suitable habitat available within the two owl home ranges would be further reduced below the 40% threshold. As a result, the existing spotted owls would be more vulnerable to predation, and habitat for their prime prey species (flying squirrels, red tree voles, and red-backed voles) may diminish for 10-20 years, potentially decreasing the owls' survival. Research has shown that spotted owls may avoid foraging and roosting in thinned stands and may shift their home range away from the thinned area (Meiman et al. 2003).

Disturbance to nesting spotted owls could occur from harvest activities during the critical nesting period, if a nest tree is located within 65 yards (approximately 200 feet) of active operations. No nest trees were found during field surveys in 2004. However, because of the age of the juvenile owls observed in 2003, there is a high probability that nesting occurred within or near the project area. Harvest activities could cause spotted owls to flush from their nest site, could cause a juvenile to prematurely fledge or could interrupt foraging activity. While the effects of disturbance are not clear, any of these impacts could result in the reduced fitness or even death of an individual bird due to missed feedings, or reduced protection of the young if adults are disturbed or abandon the site (USFWS 2004). If a nest tree is found during the annual surveys required in the Biological Opinion, disturbance would be minimized by placing a 200-foot buffer around the nest tree.

As the stand grows and the forest canopy closes, nesting and foraging habitat would improve. Thinning the stand would increase growing space for residual trees, accelerate diameter growth and crown complexity, and in general, increase the complexity of tree structure throughout the stand. These changes would improve habitat for owl prey species, improve roosting cover for owls, and improve owl nesting habitat. Accelerating the development of late-successional structural characteristics as a result of the density management thinning would ultimately benefit this species.

Alternative B - No New Roads

There would be no loss of habitat due to new road construction. The effects of harvest under this alternative would be similar to the proposed action, except that suitable habitat would be downgraded to dispersal habitat on only 45 acres.

Alternative C -Helicopter Yarding

Effects due to harvest would be similar to the Proposed Action, except new road construction would be limited to Spur E and adjacent log and service landings. Because of elevated noise created by helicopters (as opposed to a cable yard system), the potential for audio disturbance to wildlife during the breeding season would be greater.

Alternative D - No Action

Habitat within the action area would continue to function as it has in the past, gradually developing characteristics capable of providing foraging and nesting habitat for the northern spotted owl and other species reliant on such environments. There would be no short-term downgrading of suitable habitat, but late-successional structure would not develop as rapidly.

C. ISSUE 2: *What are the effects of timber harvest on the attainment of Aquatic Conservation Strategy (ACS) objectives?*

Alternative A - DM (Proposed Action)

Objective 1: The Proposed Action would maintain the distribution, diversity, and complexity of watershed and landscape-scale features. There would be no treatment in any of the Riparian Reserves. There would be no yarding corridors, skid trails, landings, or roads located within the Riparian Reserves.

Objective 2: The Proposed Action would maintain spatial and temporal connectivity within and between watersheds. All non-fish bearing streams within the sale area would have unthinned buffers of 200 feet or greater on either side of streams. All fish bearing streams would have unthinned buffers of 400 feet or greater on either side of streams. Protection of all other hydrology features would be in compliance with the ROD/RMP Standards and Guidelines. The uncut areas within the Riparian Reserves around all streams and other hydrology features would protect drainage network connections. The existing chemical and physical routes would be retained. There would be no new stream crossings or yarding corridors through hydrology features associated with the Proposed Action. The thinned stands up slope of riparian areas would retain adequate supplies of future large woody material.

Objective 3: The Proposed Action would maintain the physical integrity of the aquatic system. The unthinned buffers would ensure that the thinning would not affect stream bank integrity or tree/shrub root strength within the riparian areas. It is unlikely that management activities within the project area would cause alteration of peak water flows that would affect channel morphology.

Objective 4: The Proposed Action would maintain the water quality necessary to support healthy aquatic, riparian, and wetland ecosystems. The action is unlikely to have an impact on stream temperatures because of the large untreated buffers around all the streams. In addition, the retention of approximately 65 trees per acre in the areas up slope of the Riparian Reserves would further minimize the change to existing shading conditions. As stated above, no new stream crossings or yarding corridors would be part of the Proposed Action. This would eliminate direct physical impacts to stream channels that could impact water quality.

There is a low risk of hazardous material spills (petroleum products) during the transportation of logs over existing roads in this alternative. New roads, landings, and skid trails would be a minimum of 200 feet from streams. The risk of hazardous material reaching a hydrologic feature is very low.

Objective 5: The Proposed Action would maintain the sediment regime under which this aquatic ecosystem evolved. The new roads pose a low risk of sedimentation because they would all be more than one site tree from streams and because of the road design features. These design features include: outsloping the new roads; building roads and landings to minimum size for safe operations; using roads temporarily (1 to 3 years);

blocking and waterbarring new roads between logging seasons; and blocking, waterbarring, and tilling all new roads upon completion of the project. No new road construction would occur within the Riparian Reserves. Most of the new road construction would be on ridgetops or gentle topography with little cut and fill construction.

The design features in the yarding of logs would help minimize the potential for sedimentation. Yarding would be by tractor yarding and by high lead systems with a minimum of one-end suspension. Tractor yarding would be restricted by slope (less than 35%), soil moisture (dry conditions), extent (less than 10% of tractor yarded area in skid trails), and location (skid trails would be a minimum of 200 feet from stream channels). Skid trails would also be pre-designated and would be sub-soiled upon completion of the project. Some erosion is possible from the temporary roads and skid trails over the short term (1 to 3 years) but this is likely to be minor. The large untreated buffers around all streams would likely filter erosion that might be created from yarding or new roads.

The use of existing roads for timber haul could produce a short-term increase in sedimentation because existing roads route sediment/flow via ditch lines to cross drains and stream crossings. Some surface erosion occurs from nearly all roads. Existing roads are gravel and paved surface. Erosion from paved roads is usually minimal due to the protective cover of the running surface. Haul over existing gravel roads would be 3½ miles to 9 miles (one way) depending on the exact haul route. The haul route east towards Cottage Grove would involve little risk of sedimentation during summer haul as there are no perennial stream crossings on this gravel segment of road. The haul route west towards Lorane would have a higher potential for sedimentation as it includes several stream crossings on the gravel segment of road. The amount of erosion and sedimentation from timber haul during the dry season is expected to be low with either route.

The increased use of roads is expected to be short and sporadic in duration and not greatly different from long-term existing use. There would be minimal to no disturbance of cut and fill slope vegetation of existing roads is expected. Maintaining the running gravel surfaces with an adequate surface of rock within the haul route during the length of the contract and following best management practices in the maintenance and use of these roads could help minimize the increase in erosion/sedimentation.

Objective 6: The Proposed Action might contribute to an increase in summer low flows and overall water yield. This is possible because of the reduction in evapotranspiration and interception from the removal of some of the trees. The sale area would have a retention level of about 65 trees per acre. The Riparian Reserves would remain at existing stocking levels.

Effects on the timing and magnitude of peak flows are expected to be low as a result of this action. New roads would be temporary use. Most of the new roads would be located on ridge tops or gently sloping topography with little cut and fill construction. These roads would not extend the length of drainage networks or appreciably alter the routing of precipitation because they would not drain via ditch-line towards the stream network. All new roads would be out-sloped. The new roads, landings, and skid trails would be tilled upon completion of the project to reduce compaction effects. The majority of the unit is at elevations that are usually too low for snow accumulation associated with rain-on-snow events. The retention of a moderate amount of canopy would also reduce the extent of rain-on-snow effects. The reduction in evapotranspiration and interception could have some effect on peak flows. The changes most likely to peak flows from this effect are increases to small, frequent flow events from late summer to early winter when less precipitation is needed to recharge soil moisture. It is unlikely that this action would increase large peak flows associated with flooding and channel morphology altering events.

Approximately 1½ to 2½ acres of temporarily compacted road surface is possible from building proposed roads. A large percentage of the unit could be tractor yarded. Tractor skid trails would likely cause greater surface disturbance and temporary compaction than cable yarding. Tractor skid trails could temporarily compact up to approximately 10 acres depending on the amount of area yarded by this method. All compacted tractor skid trails would be tilled upon completion of the project. Tilling of the trails is likely to ameliorate much of the compaction impacts. It is estimated that approximately ½ to 1½ acres would be temporarily compacted by constructing new landings. All new landings would be tilled upon completion of the project to minimize compaction impacts.

Objective 7: The Proposed Action would maintain the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands. Much of the vegetative cover of the project area would be retained. Riparian vegetation would remain undisturbed. No new roads or yarding corridors are proposed across these features.

Objective 8: The Proposed Action would maintain the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration and to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability. No disturbance to riparian vegetation would occur, therefore no impact to riparian thermal regulation, nutrient filtering, surface erosion, bank erosion, and channel migration would occur. Existing forest stand conditions in the riparian reserves are adequate to supply sufficient coarse woody debris to sustain physical complexity and stability.

Objective 9: The Proposed action would maintain habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian-dependant species. Aquatic Conservation Strategy objectives discussed above would be maintained, therefore habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian-dependant species would be maintained.

Alternative B - DM No New Roads

Impacts to Aquatic Conservation Strategy objectives under this alternative would be almost identical to those listed for the Proposed Action for ACS objectives 1-4 and 7-9.

Objective 5: This alternative is likely to have similar or lower increases in erosion and sedimentation than the Proposed Action. Much less area would be disturbed and no ground based yarding would occur under this alternative versus the Proposed Action. This is expected to reduce the potential amount of erosion. The amount of sedimentation from harvesting the unit is expected to be similar to slightly lower than the Proposed Action. There is a slightly lower potential for delivery in the transportation of logs under this alternative. This is primarily due to a smaller change in temporary traffic levels (much less volume harvested) under this alternative than under the Proposed Action.

Objective 6: This alternative is likely to have similar to lower impacts on low flows, peak flows, and water yield than the Proposed Action. Under this alternative, approximately 60 acres less area would be partially harvested than under the Proposed Action. This represents approximately 60% less area and volume harvested than under the Proposed Action. The higher retention of vegetation would indicate similar to lower potential response to unusual rain-on-snow events. Changes in evapotranspiration and interception would be less under this alternative than the Proposed Action. The potential would be less for temporary and permanent compaction under this alternative than under the Proposed Action because no new roads or skid trails would be constructed and much less area would be harvested (less disturbance).

Alternative C - DM Helicopter Yarding

Impacts to ACS objectives 1-4 and 7-9 would be almost identical to those listed for the Proposed Action and Alternative B.

Objective 5: This alternative is likely to have similar to slightly lower increases in erosion and sedimentation than the Proposed Action. The harvest area would be similar in size but there would be less ground disturbance due to fewer landings and roads because there would be no ground based yarding. This is expected to reduce the potential risk of erosion. The amount of sedimentation from harvesting the unit is expected to be similar to slightly lower than the Proposed Action.

Objective 6: This alternative is likely to have similar to slightly lower impacts on low flows, peak flows, and water yield than the Proposed Action. This alternative is likely to have similar to higher impacts on low flows, peak flows, and water yield than Alternative B. The harvest area would be identical to the Proposed Action. The volume removed would be slightly lower than under the Proposed Action because of less landing, skid trail, and road construction. The volume removed would be much higher than under Alternative B. Changes in evapotranspiration and interception would be slightly lower under this alternative than under the Proposed Action and higher than Alternative B. There would be less potential for temporary and permanent compaction under this alternative than the Proposed Action because much less road, landing, and skid trail construction would be involved. There would be similar potential for temporary and permanent compaction to Alternative B. There would be slightly more road construction under this alternative than under Alternative B. There would be less yarding compaction under this alternative than under Alternative B.

Alternative D - No Action

Objective 5: No risk of increased erosion or short-term sedimentation would occur under this alternative.

Objective 6: No alteration to the timing and magnitude of flow would occur under this alternative. No additional compaction would occur under this alternative.

The impacts to the remaining ACS Objectives are expected to be very similar under this alternative as under the Proposed Action, and Alternatives B, and C.

D. ISSUE 3: *What are the effects road construction on the spread of scotch broom?*

Alternative A - DM (Proposed Action)

Construction of nearly 5000 ft of roads would result in approximately 3 acres of right-of-way opportunity for scotch broom establishment. Tractor skid trails used for ground based yarding would cause additional of soil disturbance with potential for scotch broom establishment. While equipment washing would be expected to limit seed transport, log trucks, skidders and other vehicles would be a potential vector for seed dispersal into these areas. After harvest, road decommissioning and tree planting would be expected to nearly eliminate the chance of vehicular transport of seed. Post harvest monitoring and vegetation management would ensure this weed does not become established in the proposed project area.

Alternative B - DM No New Roads

There is no road construction under this alternative. It is possible that cable yarding corridors could become vectors for scotch broom to enter the stand. However, the residual stand would not allow sufficient sunlight to reach the forest floor. It is unlikely that scotch broom would flourish in the stand.

Alternative C - DM Helicopter Yarding

Construction of 600 ft of road and two landings would result in approximately 1 acre of right-of-way opportunity for scotch broom establishment. After harvest, road decommissioning and tree planting would be expected to nearly eliminate the chance of vehicular transport of seed. Post harvest monitoring and vegetation management would ensure this weed does not become established in the proposed project area.

Alternative D - No Action

There is no activity under this alternative. Scotch broom would continue to survive along roads but would not flourish within the stand.

VI. CUMULATIVE EFFECTS

This analysis incorporates by reference the analysis of cumulative effects in 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 (NSO FSEIS) (Chapter 3 & 4, pp. 4-10), the RMP EIS (Chapter 4), and the S&M ROD. Those documents analyze most cumulative effects of timber harvest and other related management activities. Neither of the alternatives analyzed here would have cumulative effects on soils or air quality beyond those effects analyzed in the above documents. The following section supplements those analyses, providing site-specific information and analysis particular to the alternatives considered here.

The proposed project area falls on the eastern edge of the Siuslaw Watershed and less than one mile west of the Cottage Grove Lake/Big River (CGL/BR) Watershed boundary. It is also located within the Southern Willamette/North Umpqua Area of Concern (AOC). The AOC as delineated to provide a "habitat bridge" for spotted owls dispersing between the Coast Range and the Cascade Mountains.

The Action Alternatives would cause the degradation, but not elimination, of 45 to 105 acres of spotted owl dispersal habitat within the South Willamette/North Umpqua Area of Concern (AOC). In the short term, the Action Alternatives, together with concurrent harvests and other disturbances, would contribute to a cumulative degradation of dispersal habitat for spotted owls. Transitory owls may consequently be concentrated into smaller, fragmented dispersal habitat that may already be occupied. Competition for limited resources, such as food and nesting sites, would increase and could cause population declines. Over the decade, within this AOC, harvests are being offset by the growth of young forest stands into dispersal habitat. Between 1996 and 2004, the AOC would gain a 9% increase in dispersal habitat if no harvests take place. If planned harvests do occur, the AOC would gain an 8% increase in dispersal habitat. Dispersal habitat for spotted owls on federal land in the quarter township is presently at 71%. Since the action area would still serve transitory owls, the amount of this habitat would remain the same and not cumulatively contribute to a reduction in this habitat type. In the long-term (40 plus years) this project could accelerate the development of mature and late-successional forest characteristics, thereby improving spotted owl habitat.

Private forest lands within the watershed will most likely continue to be subject to intensive forest management, including clear cutting and burning. Also, it is possible that some forest stands on private land will be converted to nonforest land.

Alternatives A and C, along with past and reasonably foreseeable future timber harvests, would cumulatively contribute toward the amount of surface disturbance from road construction and decommissioning. This type of activity would increase vectors for scotch broom and other noxious weed invasion across the watershed.

Measures designed to prevent the establishment of scotch broom, such as planting trees in tilled roadbeds, washing vehicles prior to entry, and monitoring disturbed sites for scotch broom establishment followed by control measures would help limit further expansion of scotch broom on public lands.

VII. CONSULTATION AND COORDINATION

A. LIST OF PREPARERS

The proposed action and alternatives were developed and analyzed by the following interdisciplinary team of BLM specialists:

| | |
|---------------|--|
| Jeff Apel | Engineering |
| Alison Center | Threatened and Endangered Wildlife Species |
| Dan Crannell | Threatened and Endangered Wildlife Species |
| Rick Colvin | Landscape Planner |
| Janet Zentner | Forestry |
| Richard Hardt | Ecology |
| Pete O'Toole | Silviculture |
| Mike Southard | Cultural Resources |
| Steve Steiner | Hydrology |
| Chuck Vostal | Fisheries |
| Molly Widmer | Botany |
| Karin Baitis | Soils |

B. CONSULTATION

Pursuant to the Endangered Species Act, a Biological Assessment (BA) describing this and other FY 2003 and 2004 actions proposed by the Eugene and Salem Districts of BLM and the Siuslaw National Forest was submitted to the Fish and Wildlife Service on July 24, 2002. A response from the Service in the form of a Biological Opinion (BO) was received on September 30, 2002. Formal consultation was reinitiated upon observation of owls within the project area. The Service issued a new BO on April 12, 2004. All terms and conditions required within the BO to mitigate impacts to Threatened or Endangered species would be incorporated into the Proposed Action or other Alternatives.

The Proposed Action and Alternatives contain design features that would maintain ecosystem health at watershed and landscape scales to protect habitat for fish and other riparian-dependent species. These design features include: 1) no harvest activity within 400 feet of fish bearing streams and 200 feet of non-fish bearing streams; 2) all new roads, landing, and skid trails would be located outside of Riparian Reserves and would not be hydrologically connected to any streams; and 3) all project activities (road construction, timber harvest, and log haul) would be restricted to the dry season of the year. Based on the analysis for the Tucker Creek Forest Management project, this action is determined to be "No Effect" for Oregon Coast coho salmon and designated critical habitat.

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) requires Federal agencies to consult with the Secretary of Commerce regarding any action or proposed action authorized, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH) under the Act. The Proposed Action and Alternatives, as described and analyzed in the Tucker Creek Forest Management Environmental Assessment would have "No Effect" on waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.

The project area was surveyed for cultural resources in 1999. No cultural resources were found. The State Historic Preservation Office (SHPO) was notified of a harvest proposal in this section and determined, in accordance with 36 CFR 800.5(b), that the proposed undertaking would have no effect on cultural resources.

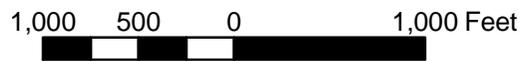
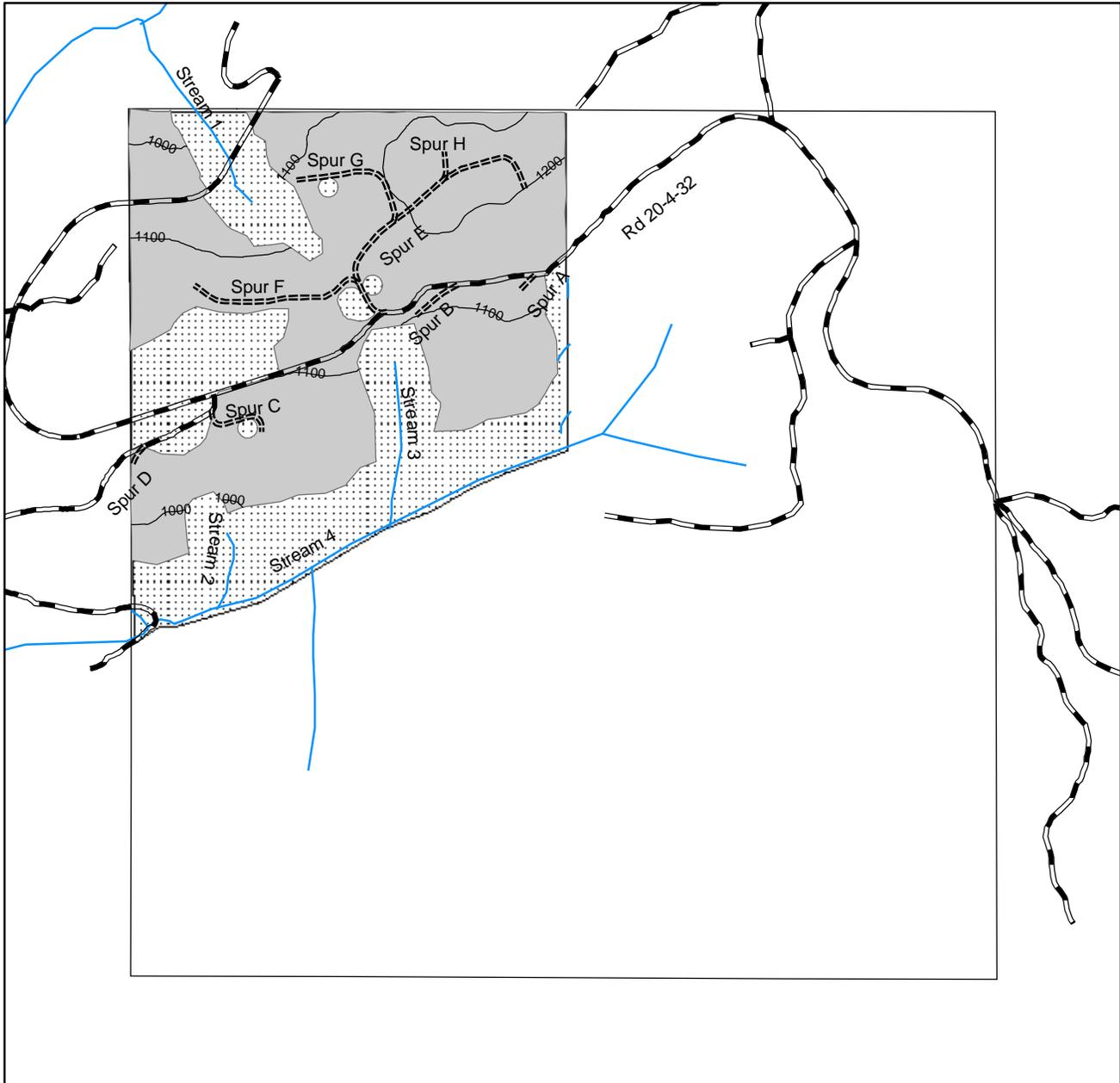
C. PUBLIC PARTICIPATION

A public notice advertising the availability of this EA and preliminary FONSI will appear in the Eugene Register-Guard on August 18, 2004. Additionally, the environmental assessment will be sent to eight groups or businesses, six state or local government agencies, and 11 individuals. A 30-day public comment period for the EA closes on September 17, 2004.

VIII. REFERENCES

- Meiman, S., R. Anthony, E. Glenn, T. Bayless, A. Ellingson, M.C. Hansen, and C. Smith. 2003. Effects of commercial thinning on home-range and habitat-use patterns of a male spotted owl: a cast study. *Wildlife Society Bulletin*. 31(4):1254-1262.
- USDA, Forest Service and USDI Bureau of Land Management. February 1994. 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. Portland, Oregon.
- USDA, Forest Service and USDI Bureau of Land Management. April 1994. Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl.
- USDI, Bureau of Land Management. November 1994. Eugene District Proposed Resource Management Plan/Environmental Impact Statement. Eugene District Office, Eugene, Oregon.
- USDI, Bureau of Land Management. June 1994. Eugene District Record of Decision and Resource Management Plan. Eugene District Office, Eugene, Oregon.
- USDI Bureau of Land Management. February 1996. Upper Siuslaw Watershed Analysis. Eugene, Oregon: Eugene District Office.
- USDA Forest Service and USDI Bureau of Land Management. March 2004a. Record of Decision to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines in Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl.
- USDA Forest Service and USDI Bureau of Land Management. March 2004b. Record of Decision Amending Resource Management Plans for Seven Bureau of Land Management Districts and Land and Resource Management Plans for Nineteen National Forests Within the Range of the Northern Spotted Owl.
- Washington Forest Practices Board. 1997. Standard Methodology for conducting Watershed Analysis. Version 4.0.

T. 20 S., R. 4 W., Sec. 27
Proposed Action
Tucker Creek Alternative A

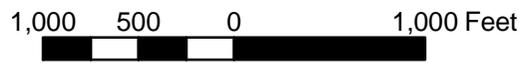
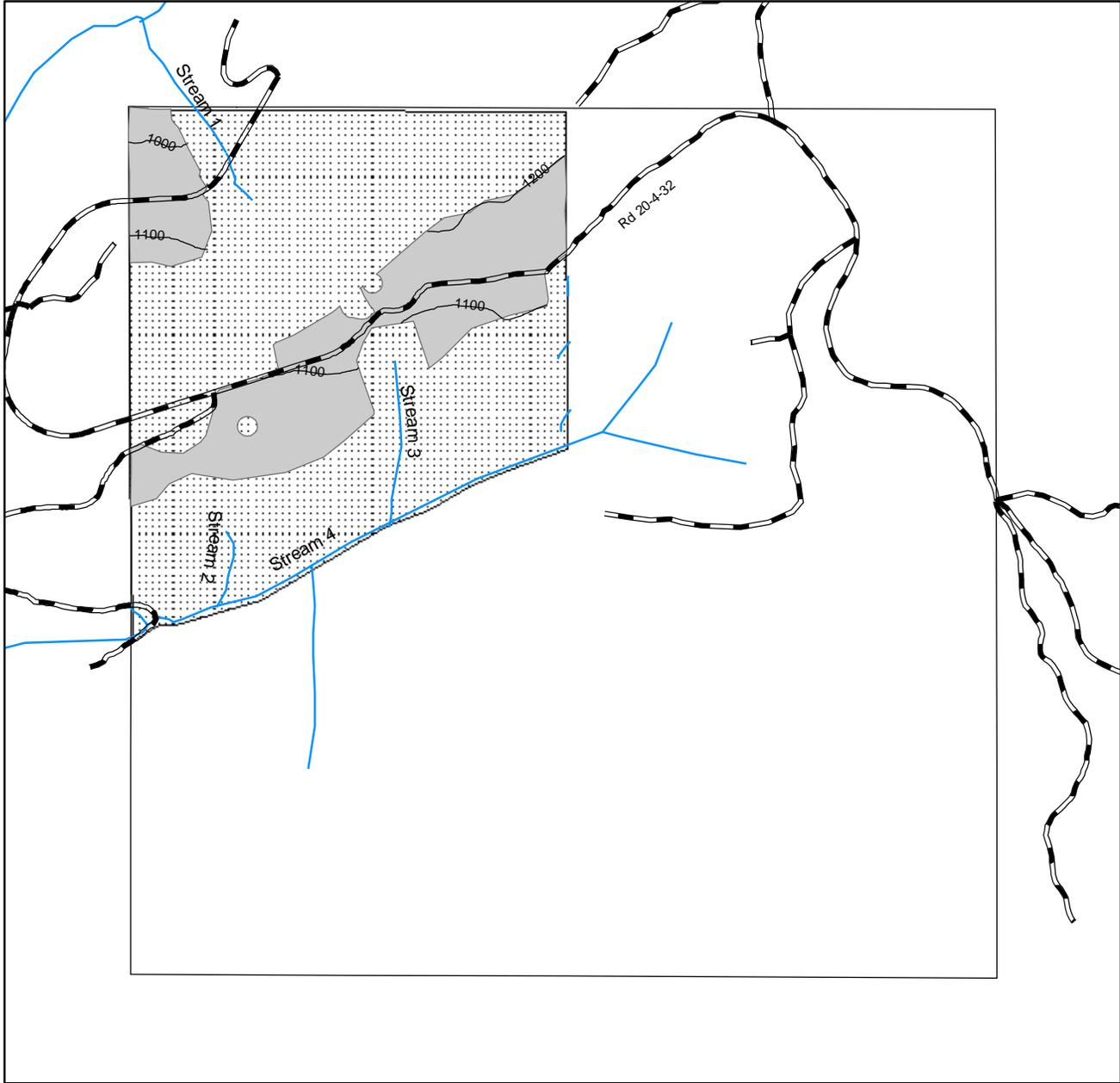


Legend

- Road to be Constructed
- Rock Surfaced Road
- stream
- Harvest Area
- ▨ Reserve Area

T. 20 S., R. 4 W., Sec. 27

Tucker Creek Alternative B



Legend

-  Rock Surfaced Road
-  Stream
-  Harvest - No New Roads
-  Reserve Area

UNITED STATES DEPARTMENT OF INTERIOR
BUREAU OF LAND MANAGEMENT
EUGENE DISTRICT OFFICE

Finding of No Significant Impact
for
Tucker Creek Timber Sale

Determination:

On the basis of the information contained in the EA (OR090-EA-03-06), and all other information available to me, it is my determination that: (1) the implementation of the Proposed Action or alternatives will not have significant environmental impacts beyond those already addressed in the "Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl," (April 1994) and the "Eugene District Record of Decision and Resource Management Plan," (June 1995), as amended; (2) the Proposed Action and alternatives are in conformance with the Eugene District Record of Decision and Resource Management Plan; and (3) the Proposed Action and alternatives do not constitute a major federal action having a significant effect on the human environment. Therefore, an environmental impact statement or a supplement to the existing environmental impact statement is not necessary and will not be prepared.

Steven Calish
Field Manager
Siuslaw Resource Area

Date

ENVIRONMENTAL ASSESSMENT NO. OR090-03-06

Tucker Creek
Timber Sale Tract No. E-01-305

Prepared by
Peter O'Toole
Forester

August 2004

United States Department of the Interior
Bureau of Land Management
Eugene District Office
Siuslaw Resource Area