CHAPTER ONE
PURPOSE AND NEED FOR ACTION

INTRODUCTION
This Environmental Assessment (EA) documents the analysis of a range of alternatives, including the proposed action, for timber harvest and associated activities in the 42,195-acre Layng Creek subwatershed of the Row River located on the Cottage Grove Ranger District of the Umpqua National Forest.

Chapter One describes the purpose, need, and the proposed action for the Curran Junetta Thin Timber Sale Project. The chapter also identifies the project area, outlines applicable management direction, addresses the scope of the decision, summarizes the scoping process, and lists the issues identified during scoping.

The 6,870 acre Curran Junetta Planning Area is located within the Layng Creek subwatershed, which is a tributary to the Row River (Figure 1). Layng Creek is a municipal watershed for the city of Cottage Grove. A special set of standards and guidelines in the Umpqua National Forest Land and Resource Management Plan (LRMP) addresses watershed management and the protection of water quality (LRMP Appendix G). The lower eight miles of Layng Creek is listed on Oregon Department of Environmental Quality’s Final 2002 303(d) Water Quality Limited Stream List for temperature concerns. Curran Creek flows into Junetta Creek, which enters Layng Creek at river mile 3.4 within the listed section.

The planning area is in the western hemlock climax plant association with highly productive growing conditions. Managed and fire-regenerated stands dominate the landscape. The major overstory tree species are Douglas-fir, western hemlock, western redcedar, red alder and bigleaf maple. Western hemlock and western redcedar are the primary regenerating species. Shrubs species include vine maple, Pacific rhododendron, salal, and Oregon-grape.

ENVIRONMENTAL SETTING AND RELATIONSHIP TO OTHER PLANNING DOCUMENTS AND ANALYSES
The 1990 Umpqua National Forest Land and Resource Management Plan (LRMP) and its amendments to date, including the 1994 Record of Decision (ROD) for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl, provide broad management direction for the Layng Creek subwatershed. This document that amended the LRMP in 1994 is also referred to as the Northwest Forest Plan.

The planning area is within Management Area 10 (MA 10), (Figure 2) as established in the 1990 LRMP. The primary objective of MA 10 is to produce timber on a cost-efficient, sustainable basis consistent with other resource objectives. Another management area relevant to the planning area is the Big Game Winter Range (MA 11). This area is designed to provide for big game winter range and timber production consistent with other resource objectives. Other noteworthy management areas are MA 1 Semi-
Primitive Unroaded Recreation and MA 14 Undeveloped Ecosystem; both are in the northern-most reaches of the planning area. No thinning units are proposed within MAs 1 or 14.

Under the 1994 Northwest Forest Plan, over half of the planning area lays within the Matrix land allocation, where the majority of timber harvest and silviculture treatments are to occur. Less than half of the planning area is in the riparian reserve land allocation where riparian dependant resources receive primary emphasis (Figure 2). An important component of the Northwest Forest Plan is the Aquatic Conservation Strategy, which is a landscape-scale approach based on maintaining the natural disturbance regime (USDA/USDI, 1994). Multiple hundred-acre late-successional reserve areas for the northern spotted owl are located within the planning area; there are no units within these reserves.

This analysis tiers to the Final Environmental Impact Statement of the 1990 Umpqua National Forest LRMP as amended and the 2005 Final Environmental Impact Statement for the Pacific Northwest Region Invasive Plant Program. It also incorporates by reference the recommendations in the 1995 Layng Creek Watershed Analysis (WA) and the 2005 iteration of the Layng Creek Watershed Analysis, along with the 2006 Curran Junetta Roads Analysis.

The U.S. Fish and Wildlife Service has designated Critical Habitat Units (CHU) across the range of the northern spotted owl. The physical and biological features (referred to as the primary constituent elements) that support nesting, roosting, foraging, and dispersal are essential to the conservation of the species (Department of Interior, 1992). Proposed Units 1-4, 6-8 and 21 are partially or entirely within CHU OR-20, and management proposals would be reviewed with respective agencies.
Figure 1. Location of the Curran Junetta Planning Area
Figure 2. Management Direction for the Curran Junetta Planning Area

1 From the 1990 Land and Resource Management Plan including the allocations from 1994 Northwest Forest Plan.
Layng Creek Watershed Analysis

The Northwest Forest Plan states that a watershed analysis is an on-going, iterative process that should expand as appropriate to consider additional available information. The federal guide for watershed analysis describes it as a stage-setting process; the results of a watershed analysis establish the context for subsequent decision making processes (USDA/USDI 1994). The original 1995 Layng Creek Watershed Analysis was updated in 2005 with its first iteration. This iteration expands upon the original WA by incorporating new information. The main changes are associated with a landscape analysis (recommended in the 1995 WA) and an assessment of fire risk prompted by national direction to assess fire regime condition class. These new land strata were also used as the basis for updating certain recommendations for snags and down wood in conjunction with the results of an inventory of these habitat structures and the use of the decayed wood advisor (DecAID). Original WA recommendations related to the Aquatic Conservation Strategy (ACS), were clarified, deleted, or replaced based on recent literature regarding riparian area management.

Silviculture objectives for matrix land, as described in the 1995 Layng WA include: implementing a sustainable harvest program for this very productive subwatershed while stressing species diversity, and stand structural diversity. The 1995 Layng WA also recommended the use of landscape level techniques to determine priorities, connectivity, and patch size.

Landscape Objectives

The Layng Creek subwatershed consists of four broad landscape areas that are based on relationships between forest vegetation, climate, and physiography (Figure 3). The delineations in Figure 3 represent broad areas of land that tend to have similar disturbance processes. Inclusions of landforms that differ from this rule can be found at this scale of mapping. The units in the Curran Junetta thinning project primarily fall into three of the landscape areas—the gentle valley bottom, gentle mountain slope, and the steep landscape areas.

The gentle valley bottom landscape area is the most likely area to be a refuge from fire. The ancient landslide deposits that filled valley bottom areas retain high moisture levels through the growing season. Historically, surface fire dominated with limited amounts of crown fire. The gentle mountain slope areas are upper slope areas with lower moisture levels, fewer barriers to fire spread, and historic evidence of larger patches of stand replacement fire compared to the gentle valley bottoms. The steep landscape area is dominated by steep slopes where fire intensity is generally greater and stand replacement fire is more frequent than in the other landscape areas.

The landscape analysis provides information about landscape scale disturbance and vegetation patterns. This information is useful in developing management strategies that consider disturbance processes. This approach is based on the principle that when an ecosystem element moves outside its historic range the element, and those elements depending upon it, may not be sustained. This is in keeping with the Aquatic Conservation Strategy of restoring disturbance regimes and managing landscape-scale features.
Two recommendations from the WA iteration are relevant for the Curran Junetta project:

- At the landscape scale, enlarge patches\(^2\) to approximate the acreage of large-scale disturbance events in order to reduce the current amount of landscape fragmentation. Treat groups of adjacent patches simultaneously to accelerate structural development and ultimately reduce the effects of fragmentation.

- At the stand scale, focus vegetation treatments in the mature and stem exclusion stages to restore missing species and structural diversity.

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**Figure 3. Landscape Areas in the Federal ownership of Layng Creek\(^3\).**

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\(^2\) Landscape patches are patches of vegetation that differ from one another by their vegetative structure. For instance an area may contain several scattered 20-50 acre plantations (patches) embedded in a matrix of old-growth forest.

\(^3\) The area to the west of the vertical line equates to about 5,000 acres of private ownership in the Layng Creek subwatershed.
The following 2005 WA recommendations are relevant to proposed treatments in the following landscape areas:

**Gentle Valley Bottom Landscape Area**

1) Thin stem exclusion patches that are adjacent to late-successional patches in order to accelerate stand development and decrease fragmentation.

2) Apply thinning treatments and create small canopy gaps (¼ to ½ acres) in early seral, stem exclusion, and mature structural stages in order to restore species and structural diversity that is characteristic of a mixed (moderate) severity fire regime.

3) Where appropriate, initiate an uneven-aged management strategy that would culture a shade tolerant understory layer.

4) Allow higher levels of larger diameter fuels relative to the other landscape areas based on the results of the Layng Creek Coarse Woody Debris (CWD) inventory (USDA, Umpqua NF, 2005a).

**Gentle Mountain Slope Landscape Area**

1) Apply thinning, canopy gap creation (¼ to ½ acres), and underburning to restore structural and species diversity characteristic of a mixed (moderate) severity fire regime in areas of stem exclusion, mature, and unnaturally dense understories of older stands.

2) Use prescribed fire (i.e. underburning) to create snags and coarse woody debris.

3) Manage for moderate levels of larger diameter fuels based on the results of the Layng Creek CWD inventory (USDA, Umpqua NF, 2005a).

**Steep Landscape Area**

1) Manage all forest stages to improve resilience to fire by opening canopies and raising canopy base heights.

2) Manage stands to maintain even-aged characteristics.

3) Manage for lower levels of larger diameter fuels based on the Layng Creek CWD inventory (USDA, Umpqua NF, 2005a).

Not every project would implement all watershed analysis recommendations and objectives, and the desired condition may not be reached with the implementation of a single project. In addition, some of the watershed analysis objectives may not be implemented consistently across the land. The Curran Junetta project focuses primarily on the watershed analysis objectives and recommendations for stands of second growth timber in the stem exclusion stage of development.

4 The stem exclusion stage occurs in 20 to 80 year old stands where new species do not appear and some present species are dying from competition. The average tree diameter is about 10" DBH and canopy closure is ≥53%. Thinning accelerates stand development out of this stage.
NEED FOR ACTION

The purpose of the project is to reduce tree density in second growth timber (stem exclusion stands) in order to restore species and structural diversity, and to improve the condition class in the municipal watershed by improving stand fire resiliency, while providing wood products to the local community. Previous clearcutting and fire suppression practices over the last several decades have created young forests that lack the structure and species diversity they would otherwise have if exposed to the natural processes of a moderate severity fire regime (USDA, Umpqua NF 2005).

A goal of the Aquatic Conservation Strategy of the Northwest Forest Plan is to maintain the natural disturbance regime (ROD B-9). As recommended in the 2005 Layng Creek watershed analysis, management practices would include the use of timber harvest and fuels treatments to restore a pattern of vegetation structure and composition that approximates landscape patterns associated with a moderate severity fire. Conducting thinning and fuel treatments on larger, more contiguous blocks of land would be more economically efficient than the individual, fragmented patches established by the past pattern of clearcutting (USDA, Umpqua NF 2005).

The difference between the existing and desired conditions defines the need for action in terms of elements that can be measured. These elements are:

Element 1: Stand Density

The 40-50 year old stands in the Curran Junetta planning area (both in the uplands and in the riparian reserves) are densely-stocked and dominated by Douglas-fir trees of the same age class. In the stands that were pre-commercially thinned, shade tolerant conifers and hardwoods were routinely cut, leaving most of today’s stands in simplified conditions. Stand densities exceed 500 trees per acre. Most stands lack natural canopy gaps and associated understory diversity. Some stands, located on the most productive moist sites, and have receding tree crowns that are susceptible to toppling.

The desired condition for both upland and riparian second-growth stands is for more open conditions that approximate what would typically exist in a moderate severity fire regime. Removing some of the standing trees in the matrix and riparian reserve land allocations would reduce stand density and canopy closure, open up the stands and allow the development of understory layers. This would in turn improve stand stability in the wettest locations, and improve fire resiliency in the drier locations.

Element 1 would be measured by:

• Acres of second growth thinned to improve conditions for species and structural diversity.
• Acres of improved fire resiliency.

Element 2: Timber Production

In order to produce a sustained yield of timber from the matrix land allocation, harvest needs to occur on a regular basis. This is particularly true in stem exclusion stands where salvaging the predicted suppression mortality improves the growth potential of the leave trees. If left untreated, increased suppression mortality, declines in growth, and
lost economic opportunities would continue in these unnaturally dense, stem exclusion stands.

**Element 2 would be measured by:**

- Board feet of timber produced by commercial thinning.
- Cost-efficient thinning measured by benefit/cost ratio and net present value.

**PROPOSED ACTION**

The proposed action (Alternative Two, Figure 4) was designed to meet the purpose and need of reducing tree density within second growth stands in order to restore species and structural diversity and improve stand fire resiliency, while providing wood products to the local community. Applicable Standards and Guidelines were applied as the proposed action and its alternatives were developed. The most relevant Standards and Guidelines are listed in Chapter Three; others are incorporated by reference.

In Chapter Two of this EA, Alternative Two is thoroughly detailed and terms used are defined. Alternative Two includes:

- Commercial thinning of 1,236 acres of 1,549 acres of timber stands using helicopter, ground-based, and skyline logging systems in both the matrix and riparian reserve land allocations generating about 14.0 million board feet of timber. No thinning would occur on 313 acres of riparian or unique habitat areas, or where protection of rare plant species and soils are a concern.

- Treating activity-created fuels on 783 of thinned acres by underburning, machine piling, and hand pile and burning.

- Building five new landings for helicopter logging.

- Building a total of 0.24 miles of new system roads to provide access for long-term stand management.

- Building 3.42 miles of temporary spur road to access thinning areas then obliterating them (subsoiling and pulling displaced soil and woody debris over the surface) after use, as necessary.

- Reconstructing five miles of existing system roads including the replacement of surface rock and undersized or deteriorated stream crossings, the addition or replacement of ditch relief culverts, and the reconstruction of ditches as needed in portions of the roads.

- Maintaining 41.74 miles of existing roads including the grading and shaping of existing road surfaces, ditch maintenance as needed, and the cutting of intruding vegetation along roadsides.

- Utilizing the existing Doris rock pit as the rock source for the road work.

- Implementing numerous similar and connected actions such as tree planting in canopy gaps, precommercial thinning, road decommissioning, road inactivation,

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5Subsoiling is the process of loosening soil that has been compacted from previous ground-based logging or road building.
subsoiling, instream large wood placement, culvert upgrades, snag creation, and invasive weed management methods (including herbicide use).

- Implementing two project-level amendments to the 1990 Forest Plan:
  1. Thinning up to the boundary of hardwoods stands designated as unique habitat, and
  2. Conducting thinning that differs from several of the guidelines in the Layng Creek Municipal Watershed Plan (LRMP Appendix G) that was designed primarily for old-growth harvest rather than second-growth thinning.
Figure 4. Curran Junetta Proposed Action – Alternative Two
DECISION TO BE MADE

Based on the analysis documented in this environmental assessment, the Forest Supervisor of the Umpqua National Forest will decide the following:

- To implement the project as proposed, to implement a modified version of the project (an alternative) that addresses unresolved issues, or to not implement the project at this time (no action).
- If the project is implemented, the mitigation measures, management requirements, monitoring, and water quality best management practices that are necessary to achieve resource goals, objectives, and the desired future condition.
- Whether to amend the Forest Plan as proposed.
- Whether there is a significant effect on the human environment that would require preparation of an Environmental Impact Statement.

SCOPING

The Forest Service listened to all input and addressed as many concerns as possible during development of the proposed action. An early involvement process was initiated concurrently with the Shrimp Stewardship Project, and potential restoration projects were generated for the Curran Junetta area (See Chapter Four). Formal scoping (a process used to surface issues) began after the proposed action was developed when the project was first listed in the January 2007 Umpqua National Forest Quarterly Schedule of Proposed Actions (SOPA). A scoping notice and field trip announcement was sent to the public in early January 2007 with the intent of introducing the proposed action and soliciting issues. Seven members of the public attended a January 2007 field trip, which resulted in numerous comments and concerns that were raised that day, as well as follow-up letters, e-mails and phone conversations. The Curran Junetta project Project File contains a scoping summary that details the scoping comments received for the project.

ISSUES

Significant issues associated with a proposed action are the focus of an environmental assessment because they provide the basis for formulating and comparing alternatives to the proposed action (40 CFR 1502.14). Significant issues may also be used to prescribe mitigation and monitoring measures, and may be used for analyzing environmental effects. Significant issues are based on unresolved conflicts concerning alternative uses of available resources. An issue is a point of disagreement, debate, or dispute about the proposed action based on effects identified through scoping. Scoping identified a number of issues and concerns (non-issues) related to the proposed thinning in the planning area.
The following significant issue was used to develop an alternative to the proposed action:

**Issue 1: Less Road Building**
Cascadia Wildlands Project, and Oregon Wild (formerly ONRC) state that building 0.24 miles of new system road and 3.4 miles of new temporary spur roads may cause numerous environmental impacts including erosion, channeling water, spreading noxious weeds, and reducing wildlife habitat. To help quantify and track this issue through the analysis, the following indicator were developed:

- Miles of temporary road and system road built.

**Issues that did not drive alternatives**
Several other issues were resolved by clarifying the proposed action, developing mitigation measures to address them, or in further discussions with the people who raised them. As such these issues did not drive the development of an alternative to the proposed action. These are discussed below by category:

**Issues resolved by clarifying the proposed action:**

**Snag Protection**
The stands proposed for thinning lack snags due to past clearcutting practices. However, some remnant snags may be present. One such snag was viewed on the January 26, 2007 field trip in Unit 19. The District personnel who visited this stand believe the snag was used as a spar pole tree for the original logging operation in the 1950s. General practice in those days was to fall these trees after use. Consequently, few of these snags remain or have been found in other stands. A landing is planned at the site the snag in unit 19 was found.

This issue was resolved by modifying the proposed action; the landing was moved to another location. Mitigation measures would address snag maintenance by requiring the operator to fall thinned trees away from this and any other snags when feasible during logging operations. However, Oregon OSHA rules require safe working conditions during harvest operations and snags may occasionally need to be felled.

**Issue resolved through the development of mitigation measures:**

**Large Down Woody Debris Protection**
Matthew Hall stated “Large woody debris on the forest floor should be disturbed as little as possible. Fuel treatments should be undertaken so that large woody debris is not burned up in the process, wherever possible.” The proposed action includes fuels treatments of underburning and grapple piling which may impact large woody debris.

This issue is resolved by the standard practices of spring burning and by utilizing slash specifications that omit piling of large diameter CWD.
Issues resolved as a result of further discussion and clarification:

Road Decommissioning, Inactivation and Reconstruction

Oregon Wild would like the Forest Service to consider closing or decommissioning some of the unneeded roads in the project area.

In a phone conversation with Chandra LeGue, Pat Williams clarified the proposed action. In addition to decommissioning 0.82 miles of road it includes approximately 16 miles of road inactivation. Road 1751-422 is currently not drivable due to vegetation growth and lack of maintenance. This road was evaluated for providing access for fire suppression activities and other resource issues and was determined to be unnecessary; it would be decommissioned. Road decommissioning includes removing all culverts where practical, and re-contouring to natural slope and subsoiling for revegetation requirements. Inactivation of roads means they would be closed to vehicular travel and the culverts removed. Though this would reduce the need for continued road maintenance costs, they would still be able to be reopened for potential future resource needs and fire access.

Another concern raised discussed by Oregon Wild was the reconstruction of five miles of the 1751 road. The Forest Service clarified that the proposal is to only add a four inch lift of rock on this section of road and not rebuild it.

Large Gap Sizes for Big Game

Jacob Groves, field forester for American Forest Resource Council was contacted regarding his comments about creating larger gap sizes to provide forage for big game within the CJ Planning area. The District wildlife biologist provided information on the current condition of habitat for the existing big game within the planning area and some of the benefiting factors expected for big game from the existing proposed action. His reply was that this is something that they include in all their comments because they believe big game forage production should be considered based on the projected trend for future forest management and what has occurred over the last decade on the National Forest lands throughout western Oregon (generally a reduction in early seral habitat). He did not believe this should be a driving issue for another alternative, but would like the Forest Service to consider increasing big game forage whenever opportunities arise in this or future projects.

A proposed solution for this planning area is to convert temporary roads and helicopter landings to long-term forage openings for big game; these openings can also be used again in the future as helispots for logging and fire suppression.

False Brome Noxious Weed Eradication and Herbicide Use

Jim Delapp suggested contacting the City of Cottage Grove and to explain the proposal and demonstrate the safeguards the Forest Service would be taking to minimize any potential impacts to water quality. This suggestion was made in the context of maintaining a good working relationship with the City of Cottage Grove and others who might be skeptical of herbicide use in Layng Creek, which is presently a major component of the City’s water supply.
This issue was resolved in further discussion with Ray Pardee and Jan Wellman. In
general, they do not want the Forest Service to use herbicides in wet areas. The City of
Cottage Grove wants to be notified when spraying would occur.

Variable Density Thinning

The proposed variable density thinning would be accomplished through the placement of
canopy gaps within areas that are thinned from below (harvesting the smaller trees and
leaving the largest trees), and by varying the levels of leave trees. Under the proposed
action, harvest prescriptions would vary between units based on a site’s disturbance
regime and other resource concerns such as spotted owl habitat needs and fuels
reduction requirements.

Cascadia Wildlands Project and Oregon Wild wrote that variable density thinning should
result in “skips and gaps” (i.e. no-thin areas), and varying densities within every stand.

This issue was resolved in discussion with Josh Laughlin of Cascadia Wildlands Project
and Fabian Lawrence during the field review of an unthinned area. It was determined
that the between-unit variability was appropriately scaled given the different disturbance
regimes used to apply the unit prescriptions. Furthermore, it was determined that the
unthinned areas scattered throughout each stand, intermixed with thinned areas and
gaps, would achieve the desired within-unit variability.

Non-significant issues:

There was one main issue raised during scoping that were dismissed as non-significant
issues. Non-significant issues include those that are outside the scope of the proposed
action, are already decided by law, regulation, Forest Plan, or other higher level
decision.

The issue was a desire to use the stewardship authority. The District, along with
interested private parties has invested time and implemented a stewardship project, and
may propose another stewardship project in the future. However, according to FSH
2409.19, 61.1g “Stewardship contracting is a tool for meeting resource objectives and
should not be included in the NEPA document and decision notice as a requirement of
the project.” Therefore, requiring stewardship contracting as a part of this NEPA
process is outside the scope of the project.

PROJECT-LEVEL FOREST PLAN AMENDMENTS

Two project-level Forest Plan amendments are proposed to be implemented. Most of the
standards and guidelines in the 1990 Umpqua LRMP were developed in the context of
even-aged harvest of most of the remaining old-growth forest. They were crafted to
protect areas from high impacts of logging and site preparation, and to retain areas of
old growth timber to help mitigate loss of habitat and risks associated with disturbance.
The level of disturbance associated with thinning and gap creation in dense second-
growth stands is substantially less than that of clearcutting and broadcast burning old
growth. With this changed context, the following project-level Forest Plan amendments
are proposed in order to meet the purpose and need in practical and cost-effective ways.
The first project level Forest Plan amendment would allow thinning up to the boundary of hardwood stands designated as unique habitat. Yarding through these stands may occur. Currently, prescription C5-1 states that no timber harvest is permitted within 150 feet of inventoried openings; hardwood stands are included in the Umpqua LRMP as unique habitat. Vegetation manipulation or structural improvement may occur if it is designed to enhance wildlife (LRMP IV-200). In the case of the hardwood stands within the harvest units, leaving a 150 foot no cut buffer adjacent to the hardwood stands would arbitrarily exclude these areas from thinning, which would preclude and or retard development of the larger diameter trees that may otherwise enhance structural diversity. The project level Forest Plan amendment would allow for thinning adjacent to and yarding through these hardwood habitats to help develop the desired condition described in the Propose and Need.

The second proposed amendment applies to four of the management guidelines in the Layng Creek Municipal Watershed Plan (Appendix G of the LRMP). The guidelines to limit turbidity in Layng Creek were developed in the context of old-growth, even-aged management. The following guidelines would be amended for the Curran Junetta project:

1) Disturbed Area guidelines E2 and E3 of the Municipal Watershed Plan (LRMP Appendix G-7) established an annual threshold of no more than 350 acres of newly disturbed area. Disturbed area acres include all new activities where new areas of soil exposure would have less than 50% residual ground cover vegetation the first winter following the creation of new cut and fill slopes on roads, rock pit work, landings, waste disposal sites and any harvest areas where less than 50% crown closure exists. No more than 20% (70 acres) of such new disturbance is to occur as a result of road or landing construction or road reconstruction. Approximately 798 acres of the 1,236 acres proposed for thinning and gap creation would potentially result in overall unit canopy closures of less than 50%. In these units canopy closures would likely range from about 40%-47%, including the areas in gaps, and the thinned and unthinned areas within each unit. In addition, thinned overstory canopies begin to close at an average of two percent per year (Chan, et al. 2006).

The proposed Forest Plan amendment increases the threshold to 800 aces of area disturbance associated with the thinning acres, while the annual acres of disturbance associated with road construction, reconstruction, and landing construction would remain under 70 acres as detailed in Appendix G. These disturbed areas would receive treatments (best management practices) as described in Chapter Two to further mitigate the likelihood of sedimentation.

It is unlikely that all 798 acres of the heavier thinning prescription would be thinned within one year; if it were, the unit canopy closures would not be substantially lower than the 50% level. The Municipal Watershed Plan estimated an average removal of 55,000 board feet of timber per acre. The heaviest thinning prescriptions in the Curran Junetta units would remove about 20,000 board feet per acre under partial harvest conditions, which is less than half of what was assumed in the Plan. Based on observations following similar types of thinning prescriptions and site preparation, adequate levels of effective ground cover in the form of slash and residual undisturbed ground cover has been present. This in conjunction with the no treatment stream buffers paralleling all perennial streams helps mitigate the delivery of surface erosion to streams. This
project-level Forest Plan amendment would allow the disturbed acres (from thinning) to exceed 350 acres in any one year in order to achieve the desired riparian and upland stand density conditions in an economically feasible way, while meeting the watershed protection objectives set forth in the Plan.

2) Yarding guideline #3 of the Municipal Watershed Plan (LRMP Appendix G-12) requires a no-equipment zone of 100 feet on each side of stream channels. However, heavy equipment would be allowed in riparian units (RU)\(^6\) “at designated crossings or for specifically planned and authorized activities” (Riparian Unit Guidelines – Part I; Constraints #2 – Heavy Equipment).

Ground based yarding would generally be restricted to designated skid trails located on existing skid trails created in the last harvest entry of the 1950s and 1960s. Other safe guards are: operations restricted to slopes less than 30 percent and during dry weather conditions. An amendment proposes allowing such operations within 100 feet of streams during the dry operating periods, thereby achieving desired riparian stand conditions in an economically feasible way.

3) Timber guideline #3B of the Municipal Watershed Management Plan (LRMP Appendix G-12, G-27) requires directional felling in riparian areas to place slash as far uphill as possible and to minimize tree breakage and logging debris in streams. This guideline is applicable for the harvest of old-growth timber, not second-growth timber of the size proposed in the Curran Junetta project. Directional felling (tree lining) is typically cost-prohibitive in second-growth stands. Second-growth timber is not as susceptible to breakage as larger, taller, heavier old-growth. Moreover, the smaller tree crowns of these younger partially harvested stands would result in substantially less logging debris entering streams. The proposed amendment would allow falling to be conducted in a manner that would limit trees and slash from entering streams by falling trees across the slope to the extent feasible, thus attaining desired riparian stand conditions in an economically feasible way.

**PROJECT IMPLEMENTATION**

Should one of the action alternatives be selected, the Forest Service would implement most of the timber harvest, road construction and reconstruction through timber sale contracts. Either action alternative would likely result in two separate timber sale contracts.

The Forest Service may also choose to use a new contracting tool. Stewardship contracting was authorized by Congress and spelled out under the December 12, 2005 Forest Service Washington Office Directive (FSH 2409.19, Chapter 60). Stewardship contracting is used to accomplish resource restoration management projects in collaboration with interested parties, where goods are exchanged for services.

Service contracts or construction contracts can also be used to accomplish some of the connected actions funded by timber sale receipts or other sources. Examples of these

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6 Riparian Units are defined in the Layng Creek Municipal Watershed Plan (Appendix G of the 1990 Umpqua National Forest Land and Resource Management Plan) as riparian areas designated to protect watercourses from the impacts of soil and vegetation disturbances adjacent to watercourses as well as upslope from disturbed areas.
include fish passage improvement project on Curran Creek, noxious weed control and precommercial thinning.

In the course of implementing complex projects with many acres of harvest, fuel treatment, and several connected actions, minor changes may be needed during implementation to better meet on-site resource management and protection objectives. For example, fuels prescriptions may be modified if site conditions dictate and other resource objectives can be met. Minor adjustments to unit boundaries may be needed during final layout for resource protection, to improve logging system efficiency, or to better meet the intent of the resource prescriptions. Changes in logging systems, including locations of temporary spur roads, may be required to better facilitate logging systems and provide for resource protection. Many of these minor changes would not present sufficient potential impacts to require any specific documentation or action to comply with applicable laws.

In determining whether and what kind of further NEPA action is required to document any changes, the criteria for whether to supplement an existing Environmental Assessment (FSH 1909.15, sec. 18) would be followed.