U.S. Department of the Interior
Bureau of Land Management
Roseburg District, Oregon

Good Boyd Timber Sale

Decision Document

January 20, 2016

SECTION 1 –THE DECISION

Decision

The Calapooya Creek Harvest Plan Environmental Assessment (EA) (NEPA#: DOI-BLM-OR-R040-2013-0009-EA) proposed variable density thinning of approximately 1,245 acres of young forest stands and variable retention harvest of approximately 63 acres of young forest stands under the Proposed Action Alternative. It is my decision to authorize the Good Boyd Timber Sale (Good Boyd) which will include five units described in the EA (pgs. 12-14) for variable density thinning treatment. Good Boyd units described in the EA for treatment with variable retention harvest and some units described for variable density thinning are not included in this decision.

Good Boyd will apply variable density thinning in five units on approximately 196 acres of second-growth forest approximately 48-62 years old located in the Calapooya Creek and Elk Creek Watersheds in Sections 9, 11 and 15 of T. 24 S., R. 04 W. Willamette Meridian (Figures 1-2). In addition, approximately two acres will be removed for the development of spur roads and rights-of-ways. Approximately 544 acres of the 740 acres analyzed in the EA will not be treated at this time for reasons described below under "Unit Configuration and Treatments". Good Boyd will provide approximately 4.699 million board feet of timber available for auction.

Updated information for this project is described below on pages 2-4.

The Swiftwater Field Office initiated planning and design for this project to conform with the Roseburg District's 1995 Record of Decision and Resource Management Plan (ROD/RMP). Good Boyd includes lands within the General Forest Management Area (GFMA), Connectivity/Diversity Block (C/D) and Riparian Reserve (RR) land use allocations.

The project design features that will be implemented as part of Good Boyd are described on pages 14-29 of the EA under the Proposed Action Alternative. These project design features have been developed into contract stipulations and will be implemented as part of the timber sale contract.

Updated Information

The updated information, described below, is not substantially different from the original proposal in the Action Alternative and does not alter the conclusions of the analysis.

Unit Configuration and Treatments

Of the 740 acres described in the EA (pg. 13-14) as the Good Boyd project, the Good Boyd Timber Sale will implement variable density thinning on 196 acres including approximately 11 acres within GFMA, 154 acres within C/D and 31 acres within the Riparian Reserve land use allocations (Table 1; Figure 2). In addition, approximately 1.7 acres within C/D will be removed for the development of spur roads and right-of-ways on BLM lands (Table 1). There will be no spur road construction within Riparian Reserves.

Within Good Boyd there will be approximately 39 acres of ground-based yarding and approximately 157 acres that will be cable-yarded (Figure 1). The EA proposed a combination of cable and ground-based yarding to harvest the 240 acres proposed for treatment. The two acres removed for development of spur roads and rights-of-way will be accomplished through ground-based yarding. Helicopter logging was considered as an alternative logging method but was determined to not be economically viable at this time (EA, pg. 30).

Approximately 544 acres of the 740 acres considered in the EA (pg. 13-14) will be excluded from this decision for the following reasons:

- Approximately 396 acres proposed for treatment in 12 units will be included in future decisions.
- Approximately 104 acres are included in skips and Riparian Reserves within Units 3, 4 and 5 (EA Units 11B, 11A and 11C, respectively) that will not be treated as shown in Table 2 in the EA (pgs. 13-14).
- Approximately 20 acres will be excluded from thinning because it is within no-harvest stream buffers (i.e. 35, 60 or 100 feet [EA, pg. 18) or within Riparian Reserves that will not be treated in Units 1 and 2.
- Approximately 21 acres will be excluded from thinning because of issues related to low stocking and logging feasibility.
- Approximately 2 acres will be excluded from treatment to protect riparian associated vegetation outside of riparian areas.
- Approximately 1 acre will be excluded from treatment to protect a wildlife area and snags.

Table 1. Good Boyd Units, Roads and Land Use Allocations.

Sale Unit No.	EA Unit	Township-Range-Section	Sale Unit Acres	Land Use Allocation (acres)			Roads/ Right-of-Ways (acres)		
				GFMA	C/D	RR	GFMA	C/D	RR
1	24-4-15A	T24S-R04W-Sec. 15	20	11		9			
2	24-4-9C	T24S-R04W-Sec. 9	131		109	22		1.7	
3	24-4-11B	T24S-R04W-Sec. 11	3		3	0			
4	24-4-11A	T24S-R04W-Sec. 11	39		39	0			
5	24-4-11C	T24S-R04W-Sec. 11	3		3	0			
Total			196	11	154	31	0	1.7	0

Roads and Spurs

The spurs and roads that will be constructed, renovated and decommissioned in Good Boyd are shown in Table 2. Some spurs and roads have been re-numbered, also shown in Table 2.

There will be approximately 1,975 feet (0.4 miles) of new spur road construction in Unit 2 (Table 2; Figure 1) as part of Good Boyd. All new road construction will occur within sale unit boundaries and there will be no new road construction within Riparian Reserves. The EA (Table 4b, pgs. 23-24) proposed approximately 0.5 miles of new construction including 30 feet within Riparian Reserves (Spur GBd) for the units that are included in this Decision. Proposed Spur GBd will not be constructed in Unit 1 (EA Unit 15A). Spur 2 (EA Spur GBa) within Unit 2 will involve only renovation. The 580 feet of construction for proposed Spur GBa will not occur in the Good Boyd timber sale.

Approximately 79 percent of the Good Boyd timber sale will be available for winter operations due to rocked roads that will allow harvest operations to take place outside of seasonal restrictions.

Approximately seven miles of existing roads will be renovated for harvest operations (Table 2). The EA (Table 4b, pg. 23-24) proposed renovation of approximately 8.25 miles of existing roads in Good Boyd that will be included in this sale. The reduced amount of renovation occurring in Good Boyd is because some roads have been renovated recently by private operations and proposed renovation will not occur at this time on roads that will not be needed for this timber sale.

Approximately 9,855 feet (1.9 miles) of roads will be decommissioned, including the 24-4-15.0 road (5,220 feet) which will be renovated but will remain a native surface road. The decommissioning will include 1,975 feet (0.4 miles) of new construction and 7,880 feet (1.5 miles) of renovated roads. Decommissioning will include blading, water bars and blocking as described in the EA (pg. 11). The EA (Table 4b, pg. 23) proposed decommissioning of approximately 0.6 miles of roads and spurs that are included in Good Boyd. There will be less road construction than proposed in the EA thus there will be less decommissioning of newly constructed roads.

Table 2. Good Boyd Roads and Spurs

Roads & Spurs		New Construction	Renovation	Surfacing		Decommissioning	
(in Decision)	*(in the EA)*	(feet)	(feet)	Existing	Proposed	(feet)	How Decommissioned
24-4-9.1	24-4-9.1		2,068	Rock	Rock		
24-4-9.5	24-4-9.5		850	Rock	Rock		
24-4-9.6	24-4-9.6		1,465	Rock	Rock		
24-4-11.0	24-4-11.0		1.520	Rock	Rock		
24-4-11.2	24-4-11.2		2,065	Rock	Rock		
24-4-11.4	24-4-11.4		1,045	Rock	Rock		
24-4-11.7	24-4-11.7		595	Rock	Rock		
24-4-14.1	24-4-14.1		4,850	Rock	Rock		
24-4-15.0	24-4-15.0		5,220	Native	Native	5,220	Blade, water bar, block
24-4-23.0	24-4-23.0		14,655	Rock	Rock		
Spur 1	GBc	975			Rock	975	Blade, water bar, block
Spur 2	GBa, GBb	1,000	700	Native	Rock	1,700	Blade, water bar, block
Spur 3	GBe		800	Native	Rock	800	Blade, water bar, block
Spur 4	GBf		1,160	Native	Rock	1,160	Blade, water bar, block
Totals		1,975 (0.4 miles)	36,993 (7.0 miles)			9,855 (1.9 miles)	

Compliance and Monitoring

Compliance with this decision and the project design features described in the EA will be ensured by frequent on-the-ground inspections by the Contract Administrator. Monitoring will be conducted as directed in the Roseburg District's 1995 *Record of Decision and Resource Management Plan* (ROD/RMP) (pgs. 84-86) and as modified, refined, and clarified through plan maintenance as documented in the Roseburg District's *Annual Program Summary and Monitoring Reports.*

SECTION 2 – THE DECISION RATIONALE

Chapter 2 of the EA describes a No Action Alternative and a Proposed Action Alternative. The No Action Alternative was not selected because it did not meet the stated purpose and need to manage Matrix land to: produce forest products in support of the local and regional economy; to promote tree survival and growth; and to control stocking and manage stands in Riparian Reserves to acquire the desired vegetation characteristics to aid in the attainment of ACS objectives (EA pgs. 1-2). The Proposed Action Alternative was selected because it meets the purpose and need of the Calapooya Creek project (EA pgs. 1-2) by providing substantial timber volume in a cost-efficient manner while improving tree survival and growth in the residual stands and by increasing structural and vegetative diversity in Riparian Reserves.

Good Boyd will provide approximately 4.699 million board feet of timber that will be available for auction to local industry and thus provide revenue to support Federal and County governments. Approximately 3.911 million board feet is derived from the thinning in Matrix and is chargeable to the annual sale quantity for the Roseburg District. The remaining volume of 0.788 million board feet is derived from variable density thinning of the Riparian Reserves and is not chargeable to the annual sale quantity. Approximately 79 percent of the Good Boyd timber sale will be available for winter harvest operations outside of seasonal restrictions thus increasing the economic viability of the sale.

The thinning prescription for Good Boyd was designed and trees were marked using management direction for Matrix and Riparian Reserve land use allocations under the 1995 ROD/RMP. The variable density thinning implemented in Good Boyd will improve tree growth and survival as well as promote development of diverse and structurally complex stands to enhance late-successional characteristics in stands within Connectivity/Diversity and Riparian Reserves. The thinning prescription implemented in Good Boyd in GFMA will provide timber volume for the current market and improve tree growth and survival in the young stands for future volume production.

The prescription retains no-harvest buffers of 35 feet along intermittent streams, 60 feet along perennial streams, and 100 feet along fish-bearing stream channels. The outer portions of the Riparian Reserve on some (Figure 2) streams will be thinned to variable densities to improve riparian vegetative and structural diversity, to produce stands that are more resilient to disturbance (EA, pg. 104) and to meet restorative objectives of the Aquatic Conservation Strategy (EA pg. 106). Where thinning does not occur within Riparian Reserves, the stands will continue to produce a supply of small downed wood available to streams however these Riparian Reserves are not expected to develop the vegetative and structural diversity that will occur within treated riparian areas (EA pgs. 97, 99).

Implementation of the project design features described in the Calapooya Creek EA (pgs. 14-29) will minimize soil compaction, limit erosion, and protect slope stability, wildlife habitat, fish habitat, air and water quality, as well as other identified resource values. The resource information contained in the EA and updated information presented in this document were reviewed and considered in selection of the action alternative and the decision to implement the Good Boyd timber sale.

Based on the analysis of potential impacts contained in the Environmental Assessment, a Finding of No Significant Impact (FONSI) has been prepared for Calapooya Creek Harvest Plan EA with a determination that the project, which includes Good Boyd, would not have a significant impact on the human environment; therefore, an environmental impact statement will not be prepared.

Survey & Manage

On February 18, 2014, the District Court for the Western District of Washington issued a remedy order in the case of *Conservation Northwest et al. v. Bonnie et al.*, No. 08-1067- JCC (W.D. Wash.)/No.11-35729 (9th Cir.). This was the latest step in the ongoing litigation challenging the 2007 Record of Decision (ROD) to modify the Survey and Manage (S&M) Standards and Guidelines.

The remedy order contained two components. The order:

1. Vacates the 2007 ROD to Remove or Modify the Survey and Manage S&M Mitigation Measure Standards and Guidelines; and
2. Allows for continued project planning and implementation for projects that relied on the 2011 Consent Decree and were being developed or implemented on or before April 25, 2013 (date of the Ninth Circuit Court ruling invalidating the 2011 Consent Decree).

In summary, the current status of Survey and Manage is:

1. Follow the 2001 S&M ROD and Standards and Guidelines (S&G);
2. Apply Judge Pechman's Order dated October 11, 2006 known as the "Pechman exemptions"; and
3. Implement the 2001, 2002, and 2003 ASR modifications to the S&M species list, except for the changes made for the red tree vole.

Judge Pechman's Order from October 11, 2006 directs: "Defendants shall not authorize, allow, or permit to continue any logging or other ground-disturbing activities on projects to which the 2004 ROD applied unless such activities are in compliance with the 2001 ROD (as the 2001ROD was amended or modified as of March 21, 2004), except that this order will not apply to:

> *A. Thinning projects in stands younger than 80 years old (emphasis added):*
> *B. Replacing culverts on roads that are in use and part of the road system, and removing culverts if the road is temporary or to be decommissioned;*
> *C. Riparian and stream improvement projects where the riparian work is riparian planting, obtaining material for placing in-stream, and road or trail decommissioning; and where the stream improvement work is the placement of large wood, channel and floodplain reconstruction, or removal of channel diversions; and*
> *D. The portions of project involving hazardous fuel treatments where prescribed fire is applied. Any portion of a hazardous fuel treatment project involving commercial logging will remain subject to the survey and management requirements except for thinning of stands younger than 80 years old under subparagraph A. of this paragraph."*

The Good Boyd project is in conformance with the 2001 ROD (as amended or modified as of March 21, 2004) and applies the Pechman exemptions.

1. The proposed thinning in the Good Boyd project includes no regeneration harvest and includes thinning only in stands less than 80 years old, thus the part of this project that would occur in stands less than 80 years old meets exemption A of the Pechman exemptions.
2. All road construction in the Good Boyd project will occur within unit boundaries.

SECTION 3 – PUBLIC INVOLVEMENT

The BLM solicited comments from affected tribal governments, adjacent landowners, affected State and local government agencies, and the general public on the Calapooya Creek Harvest Plan EA, which included the Good Boyd project, during a 30-day public comment period from April 3, 2015 to May 4, 2015. Three sets of comments from five groups and individuals were received as a result of the public comment period.

Upon reviewing the comments, several topics warrant additional clarification pertinent to the Good Boyd timber sale and are addressed below. The comments are shown in italics followed by the response and clarification. Comments pertinent to other actions analyzed in the Calapooya Creek EA will be addressed in decisions that include those actions.

Prescription Types and Map Display

Comments were received requesting clarification of the prescription proposed for Units 11A, 11B, and 11C and how the prescriptions are shown on the EA maps.

"However, the maps indicate 11A, 11B, and 11C are all aggregate retention or skips. EA Figure 5.". . . . "The maps do not reflect the descriptions of the treatments. Other than identifying where the gaps will be located, the maps seem to suggest that the remainder will be aggregate retention or skips, where levels of thinning are distinguished in other units on the map. EA Figure 5. All other VDT units are labeled on the map as to the level of thinning, from heavy to light. It is confusing why, if the units in section 11 are also VDT, they are not labeled as such on the map and are instead denoted as Aggregate Retention/Skips. Please clarify the prescriptions for the proposed units in section 11 to provide the public an accurate description of what would take place."

The maps do accurately reflect the description of the treatments proposed in the Calapooya Creek project. The EA (pg. 15) clearly describes the treatment prescriptions for the proposed units 11A, 11B, and 11C: "Unit 11A would be treated using light and moderate thinning, skips and gap prescriptions in the uplands but would not incorporate heavy thinning. Units 11B and 11C would be treated with a gap prescription only, located in the uplands." These treatments are also reflected in Table 2 (EA pg. 13). Final development of the treatment prescription did not incorporate moderate thinning in Unit 11A and thus the map (EA Figure 5) displays only light thinning in the uplands along with skips and gaps.

Variable Density Thinning

Comments were received questioning the types and levels of treatment within the variable density thinning prescription.

The EA identifies light thinning as thinning where trees per acres would range from 57 to 201. EA at 9. Moderate thinning is identified as resulting in a range of 42 to 134 trees per acre. Id. A range in trees per acre this large is misleading. 57 trees per acre is not light thinning, where 201 trees per acre can accurately be described as light. This terminology is confusing and does not provide an open and fair discussion of the impacts, when the range of trees left behind is so large.

The thinning prescriptions for the Calapooya Creek project are clearly defined (EA pgs. 9-10) and effects of those prescriptions on the forest stands are described in the EA (pgs. 33-43). Table FV-2 displays the range of current stand conditions for each proposed unit which, when thinned to the specified basal area, results in the range of variability in post-harvest stand conditions, including trees per acre, as shown in Table FV-6 (EA pg. 39).

Thinning captures mortality while these plantation stands are already lacking critical amounts of dead wood due to their history of being clearcut and re-established as Douglas fir plantations. Opening the stand so much will cause a dense layer of regeneration, resulting in a need to thin it again in the future. Instead, the BLM should reduce, not increase, entries into the Riparian Reserve.

The light and moderate thinning prescriptions implemented in the Riparian Reserves in Calapooya units will not open the stands sufficiently to allow for development and survival of regeneration. Long-term survival and growth of understory vegetation, including natural regeneration, would be expected in areas of stands treated with heavy thinning and gaps (EA pg. 38). This understory development adds to the structural and vegetative diversity in the stand which is an objective of variable density thinning in C/D. In the Good Boyd timber sale, gaps and heavy thinning will not occur within Riparian Reserves (EA pg. 14).

The BLM does not have plans to re-enter Riparian Reserves that will be treated in the Good Boyd timber sale.

Gaps

Gaps are essentially a clearcut and impacts from this method should be analyzed as such. The EA should have considered creating gaps through fire, or some other method that keeps the structure in tact,[sic] rather than clearing out the trees, in any place, such as the RRs and C/D areas, where gaps are employed for restoration. The use of gaps is pervasive throughout this project and should be analyzed in the appropriate context.

Gaps are not pervasive in the Calapooya Creek project. The gap prescription is part of VDT and will only be applied in units located within C/D to encourage development of understory vegetation, increase growth of adjacent trees and contribute to the horizontal and vertical structural diversity in the stand (EA pg. 38). The EA (pg. 10) states that gaps will be less than two acres in size and may be created around character or remnant trees to add diversity to the opening. This will maintain existing structures within gaps. Utilization of fire to create gaps would be unreasonable due to the high risk and cost that would be involved.

Gaps in Good Boyd are less than 1.5 acres in size. The gap prescription is located in the uplands, outside of Riparian Reserves and will increase the structural and vegetative diversity in the stands, benefitting the northern spotted owl and its prey species (EA pgs. 62-65), the fisher (EA pg. 78), and landbird species (EA pg. 87).

Thinning in Riparian Reserves

Comments were received concerning the type and quantity of treatment of Riparian Reserves.

Objective 9 [of the ACS] *directs the management of these reserves toward well-distributed populations of native plant, invertebrate and vertebrate riparian-dependent species. A large portion of these native species will be overlooked if the ultimate management direction on these reserves is towards a late-successional forest. The incorporation of gaps in portions of the riparian reserves is an important step toward meeting the diverse set of guidelines outlined in the ACS.*

And:

The EA (page 2) states that "future instream recruitment" is a need for thinning in Riparian Reserves. The Calapooya EA proposes moderate thinning in the Riparian Reserves, which is a range of 42 to 134 trees per acre. EA at 9. Studies have shown that heavy thinning (leaving under 100 trees per acre) did not produce large trees in the long term. These studies question the BLM's conclusion that moderate

thinning is the best alternative for trees in the riparian reserves to "become large trees (≥ 20 inches dbh) and be available for recruitment as large wood in a shorter amount of time than if the stands were not thinned." EA at 104.

The 'studies' referred to in the comment are based, not on published peer-reviewed literature, but on information from an agency (National Marine Fisheries Service) internal white paper that expressed a personal opinion not supported by published research. Published literature and accepted modeling programs for stand development support BLM's implementation of a moderate thinning prescription (retention of approximately 42-134 trees per acre with a relative density of 18-25) as described in the EA (pgs. 10, 38) to achieve tree and understory development that will meet the project's stated purpose and need to acquire desired vegetation characteristics in the Riparian Reserves (EA pg. 2).

The objective of the thinning treatment in Riparian Reserves is to move the stand to a condition that will meet <u>multiple</u> ACS objectives: restore species diversity and composition; restore structural diversity; and provide coarse woody debris for future instream recruitment.

Where Riparian Reserves are not being treated, the stands will continue to produce coarse woody debris but will take longer to attain late-seral characteristics through development of structural and vegetative diversity (EA pg. 99). The EA references (pg. 104) research that shows average growth rates of residual conifers in thinned areas increased by 36 percent when compared to unthinned stands at 10 to 23 years post-thinning. This increased growth would enable the residual trees to attain larger diameters sooner than in the absence of thinning. Thus, trees in the proposed Calapooya thinning units would become large trees (≥ 20 inches dbh) and be available for recruitment as large wood in a shorter amount of time than if the stands were not thinned (EA pg. 104).

The EA also states (pg. 38) that the effects from light thinning "offers minimal opportunity to create diverse, multi-storied (i.e. layered structure) stands before the canopy closes and light becomes unavailable to the forest floor. Understory conifer and hardwood species vigor and survival would diminish as the overstory canopy closes." Published literature cited in the EA (pgs. 38, 104) supports the decision to implement a moderate thinning prescription rather than a light thinning prescription, because the purpose of the density management in Riparian Reserves is to develop diverse, multi-storied stands, as well as coarse woody debris, that a light thinning will not produce.

<u>Suppression Mortality</u>

Comments were received stating that the Calapooya Creek EA did not consider the benefits of suppression mortality.

Some suppression mortality should have been considered beneficial by the EA. The EA should have identified and analyzed the benefits of suppression mortality. The only identified benefit in the EA is that of gap creation, but the EA should also have identified the benefits resulting from suppression mortality to forest structure and habitat such as the apparent need to develop more foraging habitat. Yet, the BLM continues to propose the removal of trees to prevent suppression mortality, when trees lost from suppression would provide a much higher quality of habitat than the slash left behind during thinning and VRH.

The BLM recognized in the EA (pg. 38) that suppression mortality is beneficial and will occur in skips and lightly thinned areas within the VDT stands. The five prescriptions are intermixed in the treated stands so that the diverse effects of each prescription, such as suppression mortality that results in snags and down wood, will add variability across the post-treatment stand. Suppression mortality provides foraging habitat for spotted owl prey species, though limited nesting and denning opportunities, due to the

small size of the trees (EA pg. 60). The no-harvest buffers would maintain existing stand densities and would be the source of small functional wood near streams (EA pg. 104).

Snags

Comments were received indicating that the snag density for the Calapooya Creek project is too low.

The resulting snag density in the proposed action is too low. Based on four stands selected to model projected dead wood in each land use allocation, the snag density will be too low to provide adequate snag habitat for wildlife (EA pg. 43-44).

Direction for retention of snags in the Roseburg RMP (pg. 64-65) is for regeneration harvest and does not specify snag retention within thinning units. The Good Boyd timber sale does not involve variable retention harvest, therefore the RMP guidelines for snag retention do not apply. However, the project design features (EA pg. 16) will be implemented to retain snags and coarse woody debris in the thinning units. The amount of snags and coarse woody debris expected to be present in 20 and 100 years post-harvest are in shown in Table FV-10 (EA pg. 44).

Soils and Economic Viability

Comments questioned the use of downhill yarding in some Calapooya Creek units as an alternative to road construction. Comments also questioned the use of whole-tree yarding, equipment specifications and economic value of the timber sales.

The EA says that downhill yarding would eliminate "additional road construction" and had removed helicopter logging from consideration because "primary roads to the units already exist" and because helicopter yarding would be so costly as to make the project not economically viable. EA at 30.

The EA compared the potential impacts of downhill yarding in the Calapooya project to the impacts that resulted from downhill yarding in the Boyd Howdy commercial thinning project. If Calapooya will be whole tree yarded, and Boyd Howdy was not, there can be no comparison to the impacts.

Whole tree yarding appears to be common, allowing the entire tree to be yarded to the landing where it is limbed and bucked, resulting in huge road-side slash piles. Whole tree yarding has the potential to be more damaging to soils than limbing and bucking the trees in the units. For instance, it can require wider yarding corridors that can't be as strategically placed because they cannot bend around corners. When ground-based equipment is used, such as a feller-buncher, the equipment can't work over slash, causing more soil disturbance.

And:

We would like to see all timber sales be economically viable. We would like to see flexibility in the contract to allow a variety of equipment access to the sale areas. We feel that there are several ways to properly harvest any piece of ground, and certain restrictive language can limit some potential bidders, thus driving the bid value down.

The EA states (pg. 91) that monitoring of uphill and downhill cable yarding systems on the Roseburg District has shown that the amount of ground showing extensive soil displacement or compaction ranged from 2-3 percent of the harvest units. Monitoring of similar downhill yarding operations in the 2010 Boyd Howdy timber sale near Good Boyd units of the Calapooya Creek project showed less than one percent of that harvest area being affected by extensive soil displacement or compaction. This monitoring is applicable to the analysis of effects of yarding operations in the Calapooya Creek units because the

same project design features will be implemented and monitored during Calapooya Creek harvest operations with expectation of similar results.

However, the Good Boyd timber sale units included in this decision will not be harvested using downhill yarding. The alternative of helicopter logging was eliminated due to it being economically unviable for a thinning (EA pg. 30). The use of traditional cable and ground-based yarding, with some road construction, to harvest the Calapooya Creek units was shown to be the most economically viable means to treat young, overstocked stands and meet the purpose and need of the project (EA pg. 1-2).

Whole-tree yarding is not a common practice on Roseburg BLM timber sales. Skid trail and yarding corridor widths, as well as stipulations for using mechanical felling equipment for harvest, are included in the timber sale contract. Skid trails are limited to 12 feet and cable yarding corridors are limited to 15 feet in width. Use of mechanical fellers must be approved by the Authorizing Officer and trees are to be limbed and bucked to log lengths less than 42 feet prior to yarding. This stipulation results in tops and branches remaining in the stand instead of being yarded to the landing, thus returning nutrients and providing protection to soils. Harvester-forwarder and shovel systems are required to operate over as much slash as can be safely negotiated (EA pg. 20) to protect soils.

Roads

Comments were received on the amount of road construction proposed in Calapooya Creek EA.

Further, the project proposes 1.8 miles of new roads. This is a substantial amount of construction on a landscape that is currently riddled with roads in every condition. The EA did not analyze which of these 1.8 miles is most needed as other districts do in new road analyses in their EAs.

Also:

Constructing forest roads is essential if active management is desired, and we are glad that the BLM is proposing the roads that are needed to access and treat as much of the project area as possible in an economically feasible way.
The ability to yard and haul timber in the winter months will often make the difference between a sale selling and not.

The proposed construction of 1.8 miles of road in the Calapooya Creek EA would impact nine acres, or less than one percent, of the project area of 1245 acres (EA pg. 94). This additional 1.8 miles of road would change the amount of area covered by roads within the seven drainages analyzed for hydrologic impacts from 3.5 to approximately 3.6 percent, a 0.1 percent increase, and would remain less than the 12 percent threshold for peak flow effects (EA pgs. 96, 101).

Construction of 0.4 miles of roads to access Good Boyd timber sale units will follow project design features described in the EA (pg. 20). The EA proposed construction of 0.5 miles of road in Good Boyd. Final design and layout of units reduced the amount of road construction necessary to access units and to reduce yarding impacts to the residual stands. Road construction will occur within timber sale units which are 48-62 years old and will avoid removal of older, remnant trees that may be present in the stands.

Subsoiling
Comments were received concerning subsoiling of skid roads and decommissioned roads.

Since compacted skid trails within DRA's (sic) *would be subsoiled and main skid roads and landings may be subsoiled if deemed necessary, it seems prudent to subsoil the roads to be decommissioned.*

Roads planned for decommissioning will not be subsoiled in the Calapooya Creek project. The planned decommissioning of new roads will leave them in an erosion resistant condition, reduce off-highway vehicle use, reduce maintenance costs and leave the roads in place for future management actions.

Wildlife: Fisher
Comments questioned the analysis of effects to the Fisher and its habitat by the project.

The EA states (page 77) that the fisher is expected to use the 1,245 acres of forest habitat within the proposed units for dispersal and foraging activities. The fisher needs older forest for denning, resting and foraging. EA at 75-76. Vegetation management, or logging, is the primary threat to the fisher, especially logging that reduces crown cover, as the Calapooya project will. EA at 76.
Yet, the EA claims that all the logging and regeneration harvests will benefit the fisher. There is no basis provided for these claims, as harvesting will remove these stands from potentially providing habitat as they age.

The commenter does not recognize that the project is outside the West Coast DPS (Distinct Population Segment) which is located 55 miles to the south-southwest of the Calapooya Creek area (EA pg. 77). The fisher is not known to be breeding on the Roseburg District but may be dispersing within the District and the proposed project area.

The EA states (pg. 78) that "While the *Proposed Action Alternative* may affect unknown individuals, harvest activities are unlikely to affect the population of fisher. Fisher, in the long term, would benefit from harvest treatments under the *Proposed Action Alternative*."

The Proposed Action Alternative (EA pgs. 76-77) incorporates conservation measures suggested by scientific research for the development of habitat structure for the fisher including:
- retention of existing large decadent trees, snags and down wood.
- improvement of foraging opportunities by promoting the development of understory and shade-tolerant tree species, and;
- retention of no-harvest areas (including Riparian Reserves) to provide travel corridors from adjacent late-seral habitats and across the landscape.

The EA states (pg. 78): "The proposed thinning treatments would remove canopy cover, however canopy cover would remain above the thirty percent level associated with fisher home ranges. Any existing down wood and large snags would remain on site after treatment. Snags felled for safety reasons would be left to function as coarse down wood." The no-harvest buffers and Riparian Reserves would provide travel corridors across the landscape between late-successional and mid-seral stands.

Wildlife: Northern spotted owl

Comments questioned the analysis of effects on the northern spotted owl and its habitats.

Thinning degrades NSO habitat to the point where owls will no longer use it. Additionally, thinning in core areas increases the susceptibility of the area to barred owl invasion, as barred owls will more readily use logged, degraded habitat.

The EA did not consider these impacts from the proposed thinning. BLM is required to design projects in the Matrix to reduce impacts from natural disturbance. The EA acknowledges that the quality of NSO dispersal habitat will be temporarily degraded, some to the point that it will no longer qualify as dispersal.

The EA should include new information since the NWFP was developed two decades ago. For instance, barred owls were not adequately considered in the NWFP. The EA should consider that, since the barred owl invasion, the NSO needs more mature forests than originally thought. The EA should consider that these scattered mature forests could be critical as refugia for spotted owl until a resolution with the barred owl is implemented.

The Northern Spotted Owl 2014 Demography Study relayed alarming statistics about the current owl populations in the Roseburg BLM area. The report found a 4% decrease in NSO sites over one year in the southern Oregon cascades near the Calapooya project area. In 2014, in the Tyee Density Study Area, which includes the Calapooya project area, the NSO population fell below 50% of the 1990 population for the first time. The owls in the project area are "an aging population, with low recruitment of young owls in recent years." In light of demography study, the fact that there were two fledglings in the project area in 2014 is remarkable. The BLM must not treat these sites.

The BLM used the most recent data available for analysis of effects to northern spotted owls in the Calapooya Creek project area. Current occupation, nesting and reproduction information, as well as habitat condition, is incorporated into the baseline analysis (EA pgs. 47-54). The EA (pgs. 53-54, 69-70) addresses the effects of the proposed action on barred owls and their interaction with northern spotted owls in the project area.

The Good Boyd timber sale will thin dispersal habitat in Unit 4 within the home range of one northern spotted owl site, maintaining greater than 44 percent canopy cover (EA pg. 62, Table W-7), which is above the 40 percent threshold where dispersal function is maintained. Two gaps in each of Units 3 and 5 will be created to add diversity and variability within the stands (EA pg. 64). The stands surrounding these gaps will continue to function as dispersal habitat while the gaps develop understory and shrub components that will benefit spotted owl prey species (EA pg. 65). The Good Boyd timber sale units in Sections 9 and 15 will thin dispersal habitat outside of known northern spotted owl home ranges and will maintain approximately 60 percent canopy cover (EA pg. 62, Table W-7).

The Roseburg BLM incorporates spotted owl information from the Tyee Demography study area into analysis for consultation on its timber sale program with the U.S. Fish and Wildlife Service. However, the Calapooya Creek project, which includes Good Boyd, is NOT within the Tyee Demography study area.

Cumulative Impacts

Comments were received stating that the analysis of cumulative impacts from the Back in Black project, a reasonably foreseeable action, were not adequate, specifically peak flow analysis.

"The EA identifies the Back in Black harvest plan as a reasonably foreseeable action considered in cumulative effects. But the analysis is lacking. There is no discussion of increased road usage that will result from road construction in the Calapooya project. Additionally, there is no discussion of the overall acres of new clearcuts that will result from these two projects. The EA says (page 96):

Increases in peak flow can also occur when roads and other impermeable areas occupy more than 12 percent of a drainage that is in a rain-on-snow hydroregion (2008 Final EIS p. 355). Within the project area, roads occupy approximately three to four percent of the drainages and do not pose a risk of increased peak flows.

This is not an adequate discussion of the cumulative impacts on peak flows and sedimentation from the Back in Black project."

The commenter mis-quoted the EA. The peak flow analysis quoted from page 96 of the EA is baseline information for the Affected Environment not cumulative effects. Analysis of peak flows for the Calapooya Creek project is presented on pages 100-101 of the EA and Cumulative Effects addressing the Back in Black project for Hydrology, Aquatic Habitat and Fisheries is presented on pages 105-106. Cumulative Effects addressing the Back in Black project are included in the EA: Forest Vegetation (pg. 44), Wildlife (pgs. 73, 78, 82, 85, 88), and Soils (pg. 94).

Carbon Analysis

Comments were received questioning the accuracy and quality of the carbon analysis in the Calapooya Creek EA.

However, the EA is lacking in analysis in several respects. First, the EA must use new information on Forest Carbon and Climate Change, not the 2008 Western Oregon Plan Revision (WOPR) EIS calculations to determine the carbon impact of this project. Second, the EA's analysis of carbon should show carbon impacts that extend into the future, past the expected rotation age. The EA speaks of the carbon impact in the terms of the time over which the carbon released due to treatment would be re-sequestered. EA at 116. However, the EA does not acknowledge the amount of carbon that could be sequestered were the treatment to not take place, only the current storage.

The EA's conclusions regarding carbon storage capacity of the units after thinning conflict with scientific data. The EA, in Table C-3, asserts that VDT will result in the current carbon of 159.31 tonnes being lost and then all regained, and even doubled after 50 years. EA at 117. Table C-4 states that only 6 tonnes of carbon will be lost through VRH, and that amount will be almost doubled. An OSU study on the carbon impacts from thinning in Oregon found that carbon pools always decrease after thinning forests, and that "after thinning, forest carbon pools remain lower through a 50-year period . . . even after accounting for carbon transfer wood products and avoided emissions from fossil fuels for energy production.". The BLM must recalculate carbon loss using the latest scientific methods.

The BLM has fulfilled its requirement to address climate change and greenhouse gas emissions for the Calapooya Creek project as directed by Secretarial Order No. 3226 (EA pg. 114). Analysis in the Calapooya Creek EA has used current science and analytical methodologies to determine the impacts to carbon for both the No Action and Proposed Action Alternatives.

As stated in the EA (pg. 114), the USGS concluded that it is beyond the scope of existing science to identify a specific source of greenhouse gas emissions or sequestration that is the cause of specific climate impacts at a specific location. Given this uncertainty, the EA analysis focused upon carbon emissions and storage, in the context of release and sequestration.

The EA has evaluated, to the extent that current science allows, the general effects of the Calapooya Creek project on carbon emissions and sequestration. The commenter misinterprets Tables C-1 through C-4 in the EA (pgs. 116-117). Table C-3, for example, does not indicate, as the reader states, that VDT results in the loss of 159.31 tonnes [per acre] of carbon. Instead, Table C-3 shows that the standing live carbon (i.e. in trees) is reduced through harvest from 89.73 tonnes per acre to 41.07 tonnes per acre.

The commenter mis-read the column that shows the Carbon Balance, which is a total per acre for the several carbon pools shown. The rows in the table display the carbon pool totals at intervals of time post-harvest out to 50 years. An explanation of the calculation assumptions and definitions of the carbon pools listed in Tables C-1 through C-4 is found in Appendix G of the EA (pgs. 170-176).

Conclusions in the EA (pg. 116) indicate that the total carbon balance at 50 years following harvest (593.71 tonnes per acre) is less than the balance determined for the No Action (i.e. no harvest) Alternative at 50 years (738.77 tonnes per acre). These conclusions are in line with those found in Clark et al.[1] as referenced in the EA and alluded to by the commenter. However, the total carbon balance at 50 years following harvest (593.71 tonnes per acre) is also greater than the current balance of 315.31 tonnes per acre, thus showing that a net gain in carbon storage occurs under both the No Action and Proposed Action Alternatives.

[1] Clark, Joshua, John Sessions, Olga Krakina, and Thomas Maness. 2011. Impacts of Thinning on Carbon Stores in the PNW: A Plot Level Analysis. Oregon State University. 72 pages.

SECTION 4 – PROTEST PROCEDURES

The decision described in this document is a forest management decision and is subject to protest by the public. In accordance with Forest Management Regulations at 43 CFR Subpart 5003 Administrative Remedies, protests of this decision may be filed with the authorized officer (Max Yager) within 15 days of the first publication date of the notice of decision notice/timber sale advertisement in *The News-Review*, Roseburg, Oregon on January 26, 2016.

43 CFR § 5003.3 subsection (b) states: "Protests shall be filed with the authorized officer and shall contain a written statement of reasons for protesting the decision." This precludes the acceptance of electronic mail (email) or facsimile (fax) protests. Only written and signed hard copies of protests that are delivered to the Roseburg District office will be accepted. The protest must clearly and concisely state which portion or element of the decision is being protested and the reasons why the decision is believed to be in error.

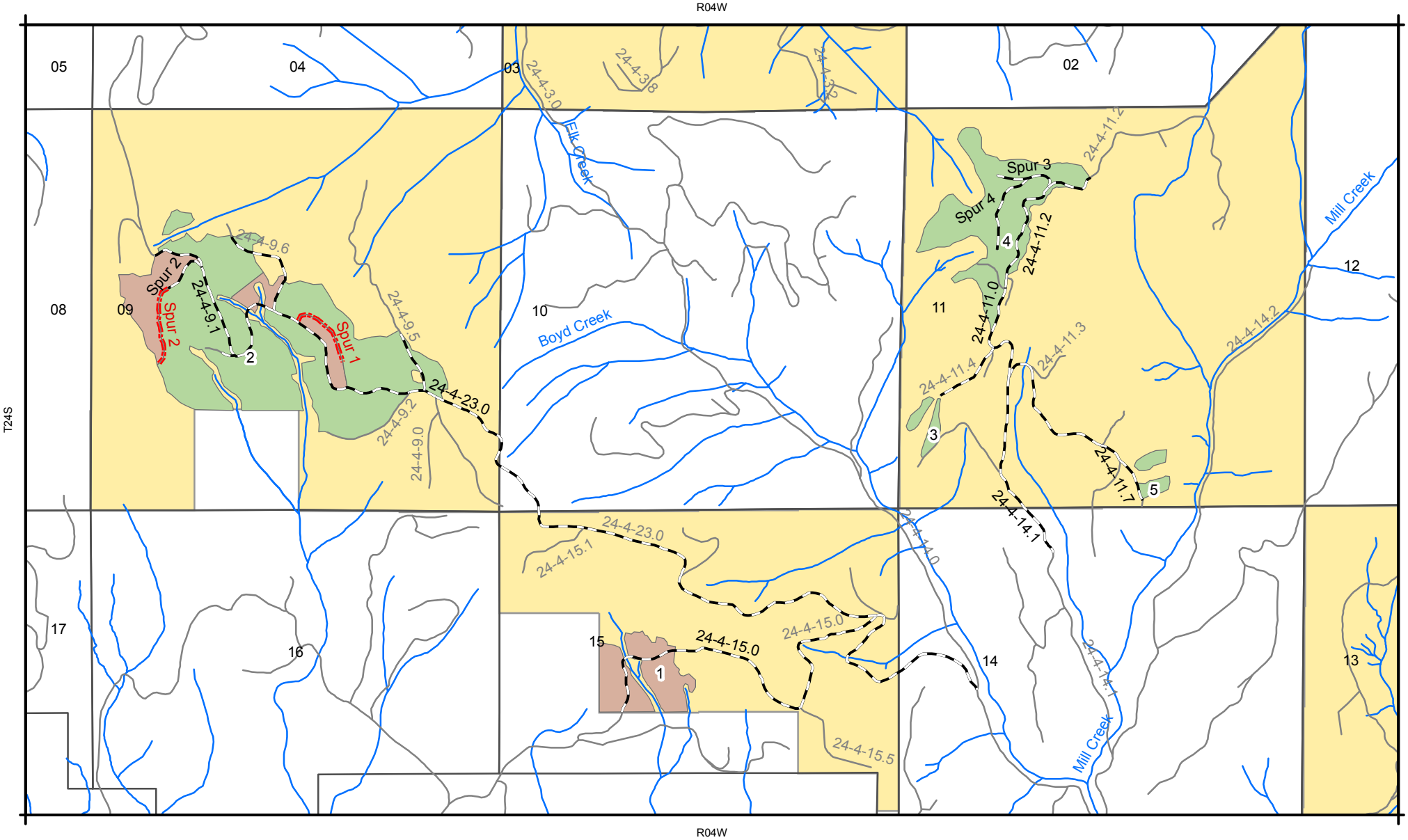
43 CFR § 5003.3 subsection (c) states: "Protests received more than 15 days after the publication of the notice of decision or the notice of sale are not timely filed and shall not be considered." Upon timely filing of a protest, the authorized officer shall reconsider the project decision to be implemented in light of the statement of reasons for the protest and other pertinent information available to him. The authorized officer shall, at the conclusion of the review, serve the protest decision in writing to the protesting party(ies). Upon denial of a protest, the authorized officer may proceed with the implementation of the decision as permitted by regulations at 5003.3(f).

If no protest is received by the close of business (4:30 P.M.; Pacific Standard Time) within 15 days after first publication of the decision notice on January 26, 2016, this decision will become final. For further information, contact Max Yager, Field Manager, Swiftwater Field Office, Roseburg District, Bureau of Land Management, 777 NW Garden Valley Blvd; Roseburg, OR 97471; (541) 440-4930.

Max Yager, Field Manager
Swiftwater Field Office

JAN. 7th, 2016
Date

Figure 1. Good Boyd Units and Roads



Legend

Good Boyd Units

- Cable Yarding
- Ground-based Yarding
- BLM Administered Lands
- Road Construction
- Road Renovation
- Roads
- Streams

0 0.25 0.5 0.75 1 Miles

N W E S

Date: 12/30/2015

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

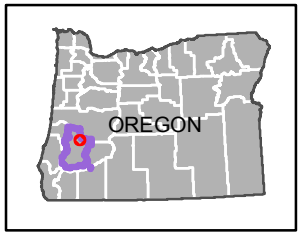
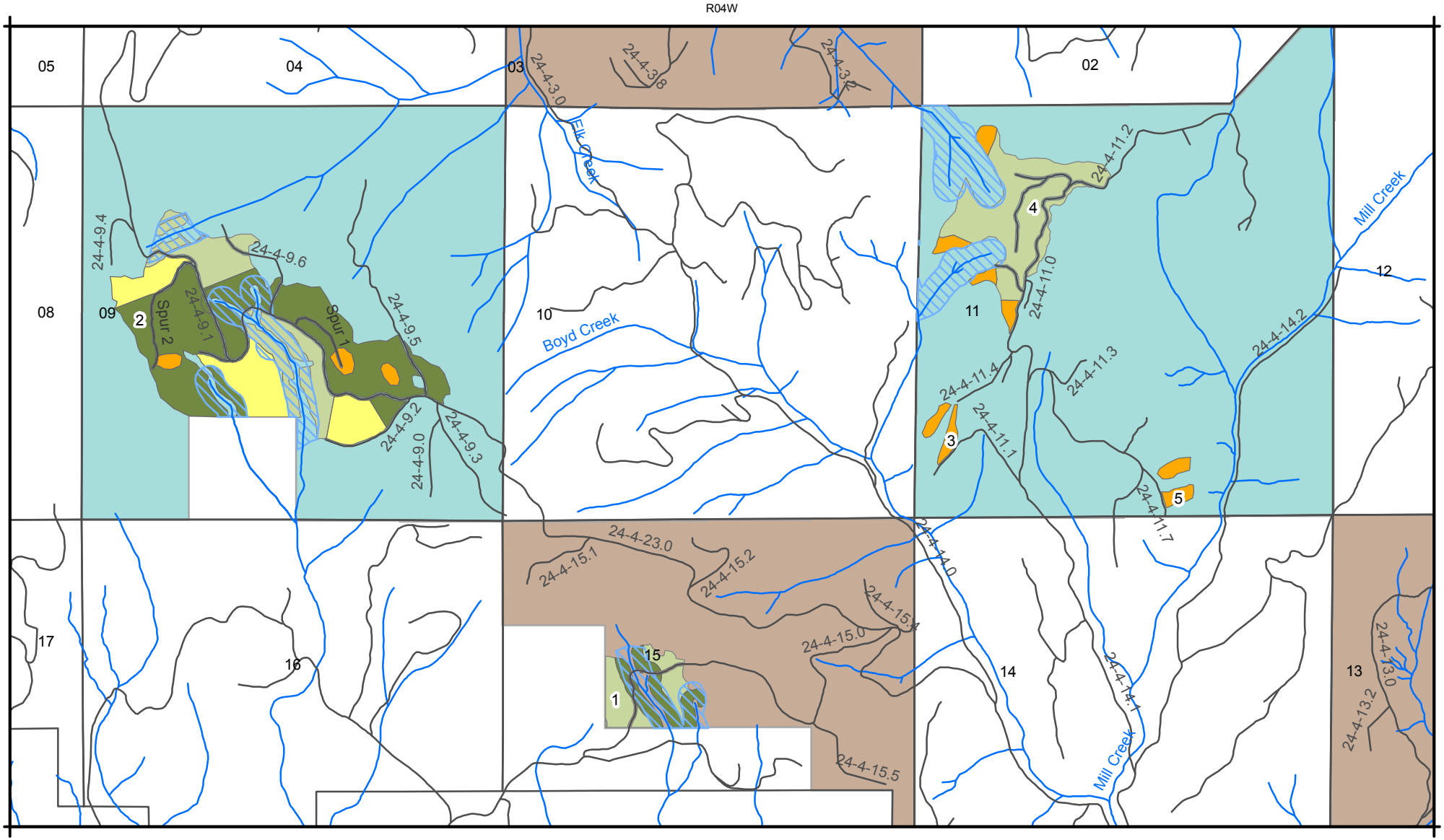


Figure 2. Good Boyd Silvicultural Prescription



Legend

Silvicultural Prescription

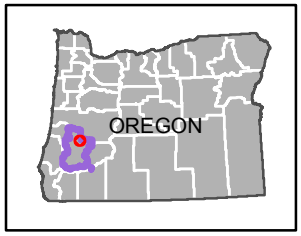
- Gaps
- Heavy Thinning
- Light Thinning
- Moderate Thinning

Land Use Allocations

- Connectivity
- General Forest Management Area
- Riparian Reserve
- Streams
- Roads

0 0.25 0.5 0.75 1 Miles

N W E S

Date: 1/7/2016

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.