

# Pre-Operations Report

**Operation Name: Nelson Junction**  
**County: Lane**  
**Management Basin: Western Lane**  
**Legal Description: Sec 11&14, T17S, R8W**

**Table 1. Operation Areas, Types and Acres**

Area	Type of Operation	Gross Acres	Net Acres
4	Medium Thinning	31	30
3	Medium Thinning	36	35
Subtotal		67	65
2	Modified Clear Cut	21	20
1	Modified Clear Cut	22	20
Subtotal		43	40
<b>Total Units</b>		<b>111</b>	<b>105</b>
	Leave Area	4	0

Net acres do not include in-unit stream buffers or existing roads within units.

## **I. PHYSICAL DESCRIPTION OF OPERATION AREA:**

The sale area is 25 miles from the coast and 26 miles west of downtown Eugene. Elevation is approximately 600 feet. The climate is cooler and wetter than Eugene. Eocene age sedimentary geology underlies the area. The soils are Drain and Valino. Slopes are gentle to moderate.

## **II. CURRENT STAND CONDITION:**

The entire area is stands originating after wildfires the first part of the 20<sup>th</sup> century. Most residual trees were destroyed by the fires or harvested years ago. The average age of the overstory timber is about 70 years. Timber type is primarily DF with bigleaf maple and alder scattered and in patches.

All of the area is UDS structure with heavy brush, much down wood, and some snags.

Some of Area I may have been lightly thinned sometime before ODF acquired the land in 1993.

**Table 2. Stand Inventory Information (Net Acres)**

Area	Prescription	Stand ID <sup>1</sup>	Species	Age	DBH	BA	TPA	SDI	Acres <sup>2</sup>
1	Modified Clearcut	216	DF	68	16	297	219	74	5
1	Modified Clearcut	220	DF	71	16	298	203	73	15
2	Modified Clearcut	216	DF	68	16	297	219	74	5
2	Modified Clearcut	220	DF	71	16	298	203	73	15
3	Medium Thinning	254	DF	72	19	193	97	44	11
3	Medium Thinning	226	DF	68	19	205	101	46	24
			Area 3Target	20 to 22	135 to160	50 to 75	29 to 36	35	
4	Medium Thinning	221	DF	72	20	297	143	67	30
			Area 4Target	20 to 22	135 to 160	50 to 75	29 to 36	30	

- 1 The source of stand inventory information is OSCUR grown forward to 1999 with a growth model. Age has been updated to 2008. The entire area, plus associated hardwoods, is SLI stand 15108 and has been cruised. However, the OSCUR data is more specific and probably better for this purpose.
- 2 Net acres, unless otherwise noted, are based on orthophotos and do not include stream buffers or roads within partial cut units.
- 3 Target data for partial cuts is based on conifer trees over 8 inches DBH.

### III. DESIRED STAND CONDITION and VISION:

The entire sale area has a Desired Future Condition of General, and plans are to manage the area with an emphasis on Douglas-fir commercial forest.

**Table 3. Stand Structure Information (Net Acres)**

Area	Stand ID	Current	Post Harvest	Desired Future	Acres
1,2	216,220	UDS	UDS	GEN	40
3,4	221,226,254	UDS	REG	GEN	65

#### **IV. PROPOSED MANAGEMENT PRESCRIPTION and ANTICIPATED PATHWAY:**

**Areas 1 & 2:** Modified clear cut. Three overstory conifer per acre will be left scattered within the units and a 4 acre leave unit will be left between Areas 1 and 2. In addition, all other conifer and all bigleaf maple which are not safety issues will be left.

60 snags will be left or created within the units and 20 snags will be left or created in the 4 acre leave unit. SLI for stand 15108 (the entire timber sale area) shows the stand currently has over 6 snags per acre over 24" DBH. These snags will be left if not hazardous.

The areas probably will be aerially sprayed prior to planting with an Accord/Arsenal mix to reduce brush competition to the new seedlings. The year following site preparation, the areas will be planted with a Douglas-fir/cedar mix.

Treatment of competing vegetation may be necessary a few years after planting. This treatment probably will be hack and squirt.

**Areas 3 & 4:** Thin to an RD of about 29 to 36, counting only conifer trees over 8 inches. Leave the largest conifer and all the hardwood. No brush control or planting will be done. Twenty wildlife trees will be created by topping Douglas-fir over 18" DBH above the 2<sup>nd</sup> whorl of live limbs and twenty wildlife trees will be created by girdling. Existing snags will be left if not hazardous. The next commercial entry will be at least 15 years in the future.

**All Areas:** Down Wood. SLI shows the stand currently has over 3500 cubic feet per acre of down wood. Additional down wood will come from broken pieces and missed logs. No trees will be felled specifically to create additional down wood.

**V. ESTIMATED TIMBER AND REVENUE INFORMATION:**

**Table 4. Timber and Revenue**

Ownership		Sale Type	
BOF	CSL	Cash	Recovery
100%	%	<input type="checkbox"/>	X
Planned Quarter: 4			

	Conifer	Hardwood	Total
Net Volume (MBF)	2200	0	2200
Stumpage Value (\$/MBF)	\$325	NA	
Estimated Gross Value	\$708,500	0	\$708,500
		Project Costs:	\$111,000
		Estimated Net Value:	\$597,500

**VI. TRANSPORTATION PLANNING AND HARVESTING:**

About 65% of the partial cut units can be tractor logged, but all of the clearcut units are cable.

2.3 miles of new construction will be required and 0.8 miles of road improvement (culverts and rocking). All new construction will be low use spur roads. Spurs 1 & 2 and the improvement leading to Spur 1 will be rocked to allow winter logging to capture the high winter log prices and to encourage logging during periods of low fire danger. Spur 7 is being constructed for a conifer/hardwood sale planned for 2011. This spur and the improvement leading to it will be rocked. Rocking will not be required for the other spurs. The dirt roads will be waterbarred and blocked after construction.

All road construction and improvement is on gentle to moderate ground.

The sale area except for Spur 7 will be open to the public. The sale requires R/W from BLM and private. A gate will be required for the private R/W on Spur 7.

**Table 5. Transportation Planning Summary (Miles).**

Activity	Mainline	Collector	Rocked Spur	Dirt Spur
Construct	0	0	1.4	0.9
Improve	0	0.8	0	0
Maintain	0	1.6	1.4	0.9
Close/Block	0	0	0	0.9

## **VII. AQUATIC RESOURCES AND WATER QUALITY:**

The sale area contains small streams. Portions of the stream between Areas 1 and 2 and the stream between 2 and 4 may be Type F. We will assume these segments are Type F and protect them accordingly. In the clearcuts, 100 foot no cut buffers will be marked, and 15 conifer between 100 and 170 feet of the streams will be marked for retention.

Between Areas 1 and 2, a four acre leave area will be established to protect a very steep slope adjacent to the stream past the point where it becomes Type N.

For perennial Type N streams, no-cut buffers 25 to 40 feet wide on each side will be marked.

## **VIII. T&E SPECIES CONSIDERATIONS:**

**T&E Birds:** The SOA Wildlife Biologist has determined that the sale area is suitable habitat for northern spotted owls due to the age and size of the trees. Surveys for NSO's have taken place in this area over several years and will continue in 2008. As a result of these surveys, 1 northern spotted owl site (Knapp Cr.) has been identified within 1.5 miles of this sale.

A preliminary Biological Assessment will be prepared by the ODF SOA Biologist to assure that the appropriate measures are taken to provide sufficient habitat on the landscape consistent with ODF's policy on northern spotted owls.

Potential habitat for marbled murrelets was surveyed according to protocol in 2007 and will be surveyed again in 2008.

**T&E Plants:** The sale area was checked against the Oregon Natural Heritage Program (OHNP) database of known listed plant locations. The sale area was also checked against district knowledge for any listed plant location. No listed plant records were identified within the sale area.

## **IX. SLOPE STABILITY AND GEOTECHNICAL ISSUES:**

There are a few isolated areas over 70% slope in Areas 1, 2, & 3. No houses or public roads are threatened. Road construction will avoid these locations.

## **X. RECREATION RESOURCES:**

Hunters, mushroom pickers, and backroad drivers occasionally use the existing roads. New roads will increase recreational opportunity.

**XI. CULTURAL RESOURCES:**

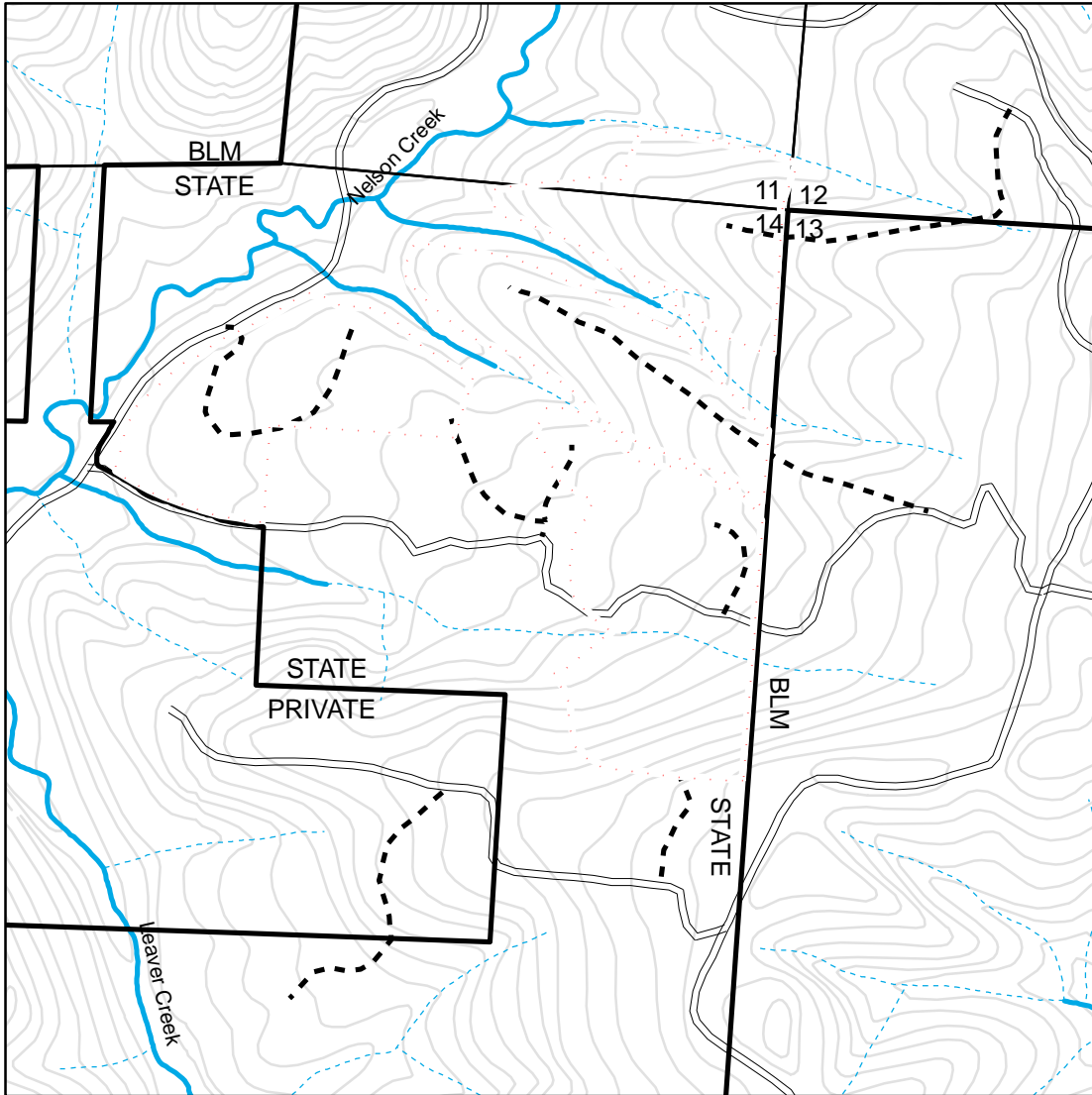
No cultural resources sites are known to exist within the sale area. However, a homestead cabin existed NW of Area 4 across Nelson Creek, and portions of the sale area were part of a homestead claim. During sale preparation, foresters will be alert for any evidence of homestead activity.

**XII. SCENIC RESOURCES:**

The thinnings will be visible from the Nelson Mountain County Road. No adverse reaction is expected.

**XIII. OTHER RESOURCE CONSIDERATIONS:**

The sale area is bisected by telephone and power lines.



**Legend**

- · - · Sale Boundary
- Existing Roads
- Planned Roads
- Section Lines
- ODF Ownership

**Streams**

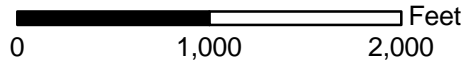
**FISHPRES**

- Fish
- - - Nonfish
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## Nelson Junction

### Western Lane District - 2009 Annual Operations Plan

T.17S., R. 8W., Sec. 11 and 14, W.M.  
Lane County, Oregon



Contour Interval : 40 Feet

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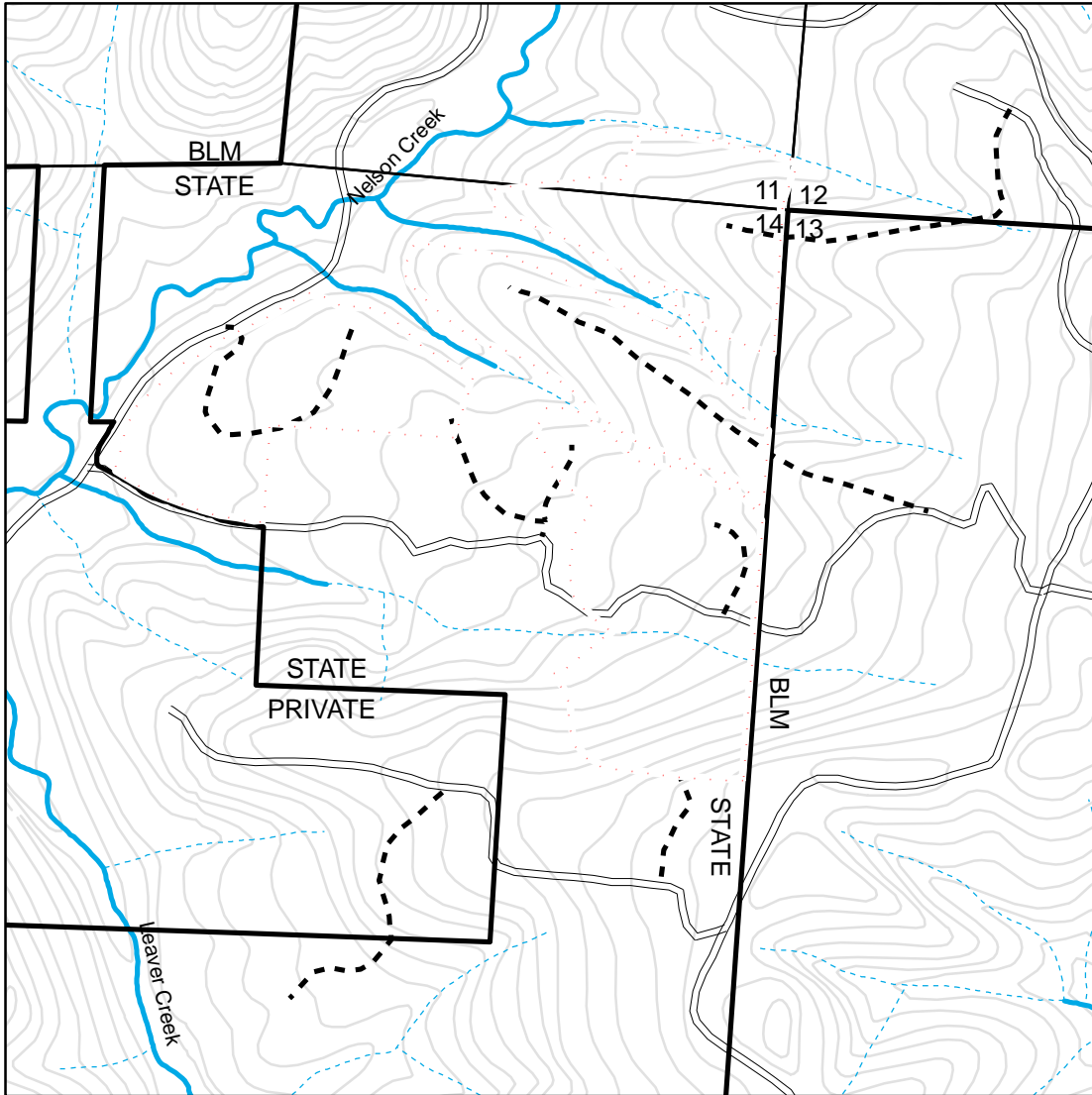
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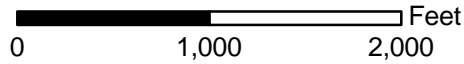
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## Nelson Junction

### Western Lane District - 2009 Annual Operations Plan

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Lane County, Oregon



Contour Interval : 40 Feet

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# MEMORANDUM

TO: Art McCoy  
FROM: Randy Smith  
SUBJECT: Preliminary Biological Assessment for the **Nelson Junction** Timber Sale  
DATE: January 31, 2008

## Executive Summary

Nelson Junction is a proposed sale in the 2009 Annual Operations Plan of the Western Lane District and is located within the home range of the Knapp Creek northern spotted owl site. After harvest of the sale, 66% suitable habitat will remain post harvest within the 0.7 mile circle and 66% suitable habitat will remain within the 1.5 mile Knapp Creek circle. Suitable habitat within both circles will exceed the ITG. No spotted owls have been observed within the sale area during protocol surveys. No marbled murrelets have been observed within this sale during first year protocol surveys in 2007. Second year surveys will be conducted in 2008. As currently proposed, the Nelson Junction timber sale is expected to have a low risk of negatively affecting the occupancy and productivity of the Knapp Creek northern spotted owl site.

## **Introduction**

### Purpose

The Western Lane District is proposing the Nelson Junction timber sale in their 2009 Annual Operations Plan. This sale area contains potentially suitable habitat for northern spotted owls. Portions of the sale are within the 0.7 and 1.5 mile circles for the Knapp Creek northern spotted owl activity center. This memo presents the relevant biological information needed to assess the potential effects of the Nelson Junction timber sale on northern spotted owls.

### Policy Direction

#### *Northern Spotted Owls*

In the Western Lane District, the standard for protection of northern spotted owls, according to ODF policy (Holloway 2002), is to apply the U.S. Fish and Wildlife Service rescinded Incidental Take Guidelines (ITG) as outlined in "Procedures leading to Endangered Species Act compliance for the northern spotted owl" (U.S. Fish and Wildlife Service 1990). According to the ITG, the best available habitat is identified for a 70 acre core area; at least 500 acres of suitable habitat should be maintained within a 0.7 miles radius, and within the home range circle (in this case 1.5 miles), approximately 40% suitable habitat (1,906 acres) should be maintained. Additional factors to be considered and documented in this biological assessment include proximity of the operation to a site, the prescription proposed, the size of the operation, the history of activity near the site, and other relevant factors.

#### *Marbled Murrelets*

The sale area is approximately 25 miles from the Pacific Ocean. There are patches of apparent suitable habitat surrounding some of the sale areas. These areas are being surveyed for murrelets according to Pacific Seabird Group protocol (Evans et al., 2003). Surveys for murrelets were conducted in 2007 with no detections observed. Second year surveys will be conducted in 2008. The nearest known occupied marbled murrelet site on ODF land is approximately 0.4 miles southeast of sale area 3.

## **Background**

### Survey History and Site Information

#### *Knapp Creek*

Potential spotted owl habitat within and surrounding the timber sale was surveyed according to protocol endorsed by the USFWS (Anonymous, 1991). This site is currently being monitored by an ODF contract crew. This site was established in 1991 with a pair occupying the site. There were no responses from 1992-1996 and the site was changed to historic. A female was heard in 1997 but was attributed to an adjacent site. There were no responses from 1998-2004. A male was captured at this site in 2005 and the site was upgraded to resident single. This male was banded at Walker Creek West as a juvenile in 2004 and he was also confirmed at the Miller Creek (AKA Liebre Creek) site in 2005. A single male night response was heard in 2006. In 2007, the 2005 male was found paired but non-nesting with a female who was banded as a juvenile at January Creek in 2004. The site was upgraded to pair status and the activity center (AC) moved to the day pair location. Barred owls have been detected annually at this site since 2002 (Kingfisher, 2007). This AC is approximately 0.7 miles from the Nelson Junction timber sale.

### Sale Area Information

The Nelson Junction timber sale consists of 105 net acres of approximately 70 year-old second growth Douglas-fir and scattered big-leaf maple that originated after fires that began in 1910 and ended in the 1930's. All sale areas are dominated by Douglas-fir stands and have DBH ranging from 16-20 inches and a range of 200-300 TPA. There are a few, widely scattered, large residual Douglas-fir trees within the sale areas. The riparian areas are primarily red alder and big-leaf maple and the brush layer consists of vine maple, cherry, salal, and evergreen huckleberry. Stand Level Inventory (SLI) information has been collected for several of the sale areas and there are roughly 6 snags per acre over 24" DBH. These sale areas have approximately 3,500 cubic feet per acre of existing down wood of which a majority is from past fire history and is in older decay classes. The entire sale is considered suitable habitat for northern spotted owls.

### Prescription

The Nelson Junction timber sale consists of 2 modified clear cut areas of 40 acres (Areas 1 & 2) and 2 partial cut areas of 65 acres (Areas 3 & 4) for the total of 105 net acres in the sale. Stands in the sale are currently classified as understory (UDS) and the desired future condition of ODF ownership in this area is general (GEN). All hemlock, cedar, chinquapin, big-leaf maple and residual Douglas-fir trees with old growth characteristics which are not safety hazards or operational impediments will be retained as well as existing snags that are not safety hazards. Three overstory conifers per acre will be left scattered within the Areas 1 & 2 and a 4 acre leave unit will be left between the clear cut areas. Sixty snags will be left or created by topping and girdling within these units and 20 snags will be left or created in the 4 acre leave unit. For the partial cut areas, the prescription will be to thin to a relative density (RD) of 29-36 including only conifer trees over 8 inches DBH. The largest conifer and all hardwoods will be retained. Thirty eight snags will be created by topping and girdling Douglas-fir trees > 18" DBH. For all areas, snags, and down wood will be left in the sale area consistent or exceeding the guidance in the Northwest Forest Management Plan. Approximately 3 acres of suitable habitat outside the sale areas within the 1.5 mile circle will be lost due to new road construction.

## **Assumptions**

### Defining the Home Range

According to "Procedures leading to Endangered Species Act compliance for the northern spotted owl" (USFWS 1990), the median home range size (based on 95% minimum convex polygon) for spotted owl pairs in the Oregon Coast Range is 4,766 acres, or the approximate equivalent of the area encompassed by a circle with a radius of 1.5 miles. Although spotted owls generally do not

have circular home ranges, in the absence of more specific information about the home ranges of this site, I will assume that a 1.5 mile radius circle around the nest or activity center approximates the home range of this site. All stands for this analysis were digitized and circle radii/acreages were calculated using ArcMap 9.2 software.

#### Defining Suitable Habitat

Although spotted owl habitat has generally been described as old growth, spotted owls are known to use a variety of forest types in this part of the Oregon Coast Range. Spotted owls are known to nest in stands as young as 60-80-years-old on state forest lands in the Western Lane District that have suitable nesting structures (33% of known nests on ODF lands in the District are located in stands in this age class) and to forage in even younger stands (Glenn and Anthony, 2000).

For the purposes of this discussion, suitable spotted owl habitat is considered to be stands at least 55 years old from inventory data, younger stands that have known owl use, or stands that appear to be suitable habitat from structural inventory data or an assessment of aerial photographs (taken in 2005) and/or ground verification in 2007.

### **Impact Assessment and Discussion**

#### Landscape Analysis

The following discussion assesses the habitat situation within 0.7 and 1.5 mile circles of the Knapp Creek spotted owl activity center, as recommended by the ITG (Table 1, Figure 1).

*Knapp Creek.* The Nelson Junction timber sale will partial cut 1 acre within the 0.7 mile circle for the Knapp Creek spotted owl site. A habitat analysis of the Knapp Creek spotted owl site indicates that there are approximately 648 acres of state and federal suitable habitat within 0.7 miles of the activity center. If the sale area is excluded from the suitable habitat, 647 acres (66%) of suitable habitat are available within 0.7 miles of the activity center. The Nelson Junction timber sale will clear cut 40 acres and partial cut 65 acres for a total of 105 acres within the 1.5 mile circle for the Knapp Creek spotted owl site. A habitat analysis of the Knapp Creek spotted owl site indicates that there are approximately 3183 acres of state and federal suitable habitat within 1.5 miles of the activity center. The approved 2008 AOP Center 8 timber sale has 94 sale acres within the Knapp Creek 1.5 mile circle. If the sale area, acres in the approved Center 8 timber sale, and acres lost due to road construction are removed, 2981 acres (66%) of suitable habitat are available within 1.5 miles of the activity center. Based on this preliminary habitat analysis, this site will maintain enough unmodified suitable habitat within both the 0.7 and 1.5 mile circles after harvest to be consistent with the ITG.

#### Effects of the Prescription

Following completion of the modified clear cut operation in Areas 1 & 2, the sale area will not be suitable northern spotted owl habitat for many years. The green trees, snags and down wood retained post-harvest will provide valuable habitat components during the development of the next stand.

For Areas 3 & 4 after the medium density thinning, I do not anticipate the sale area will be immediately utilized by spotted owls in the short term. The thinning prescription and disturbance from harvest operations will temporarily result in a simplified understory and brush component in the sale area.

The prescription will reduce the density of Douglas-fir within the stand increasing rate of stand growth and survival while promoting improved stand health and vigor over the longer term. A less dense and patchier, diverse stand will provide improved foraging habitat and accessibility for owls while still providing shelter and cover from predators. This prescription will promote growth and move the stand more quickly towards development of habitat elements important to spotted owls and prey species.

#### Discussion and Assessment of Other Relevant Factors

No spotted owls have been observed within the proposed sale areas during protocol surveys. The Nelson Junction timber sale is 0.7 miles from the Knapp Creek AC. Approximately 1 acre of the sale is within the 0.7 mile Knapp Creek circle and 105 acres are within the 1.5 mile circle. These acres are largely located outside the 0.7 mile circle and are near the outer perimeter of the 1.5 mile circle. The sale acres do not appear to fragment suitable habitat. The Knapp Creek spotted owl activity center is on BLM ownership and is located within a Late Successional Reserve (LSR). There has been limited recent timber harvest activity within the 0.7 and 1.5 mile circles and a majority of federal ownership is in reserves or administratively withdrawn and may not have harvest activities for some time. Private lands comprise a small proportion of the ownership within the 1.5 mile circle. Habitat surrounding the Knapp Creek AC is of high quality and quantity and has little fragmentation within either the 0.7 or 1.5 mile circles. Federally managed land makes up 41% of the area within 1.5 miles of the Knapp Creek spotted owl activity center, 47% is managed by ODF and 12% is managed by other landowners. The habitat analysis within 1.5 miles of this activity center indicates that the ITG will be met after harvest of the sale area.

As stated earlier, the Center 8 timber sale in the approved 2008 AOP will remove suitable habitat from within the Knapp Creek 1.5 mile circle. In Western Lane's 2009 AOP, 3 sales will also remove suitable habitat within the 0.7 and 1.5 mile Knapp Creek circles. Table 2 provides a summary of the acres of suitable habitat that will be removed after implementation of the 2008 and 2009 AOP within each circle. The applicable sale acres are also shown in Figure 1 to provide context of activity within each circle. If all sale areas are harvested, there will still remain large blocks of contiguous habitat and each circle will maintain enough suitable habitat to exceed the ITG.

## **Conclusions and Risk Assessment**

### Biological Risk

As currently proposed, the Nelson Junction sale is expected to have a low risk of negatively affecting the occupancy and productivity of the Knapp Creek spotted owl sites. This assessment is based on the following factors:

- ◆ The sale is located 0.7 miles from the activity center;
- ◆ 1 partial cut acre is within the 0.7 mile circle and the total 105 sale acres are within the 1.5 mile circle;
- ◆ Habitat quality and quantity immediately surrounding the activity center is high along with good connectivity to habitat elsewhere within the activity center;
- ◆ The 65 acre moderate thinning portion of the sale will retain habitat elements important to spotted owls post-harvest and promote accelerated development of habitat elements in the future.
- ◆ Approximately 66% of the 0.7 and 66% of the 1.5 mile circle will remain as unmodified suitable habitat after harvest of the sale, exceeding the ITG.

### Compliance with Policy

After completion of harvest operations associated with the Nelson Junction timber sale, the remaining suitable habitat within the Knapp Creek owl circle will exceed the standards identified in the U.S. Fish and Wildlife Service rescinded Incidental Take Guidelines. Assessment of other relevant factors indicates that risk of negatively impacting this owl site is low.

### **Consultation**

Doug Cottam, District Wildlife Biologist with the Oregon Department of Fish and Wildlife, did not provide comments on this BA.

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Table 1. Acres of suitable habitat on state and federal ownership within the 0.7 and 1.5 mile circles of the Knapp Creek northern spotted owl activity center. Suitable habitat determined through 2005 air-photo analysis and 2007 field assessment.

	Acres	Knapp Creek	
		0.7 mi	1.5 mi
Suitable Habitat:			
Federal		476	1378
State		172	1805
<b>Total</b>		<b>648</b>	<b>3183</b>
Sale area	105	1	105
Suitable habitat removed due to new road construction within circles		0	3
State acres in notification within circles (Center 8)		0	94
Unmodified suitable habitat remaining		647	2981
% suitable post harvest		66%	66%

Table 2. Acres of suitable habitat in the Knapp Creek circles after ODF harvest of 2008 and 2009 AOP sales.

Circle	Knapp Creek	
	0.7	1.5
Current Suitable Habitat	648	3183
Minus acres in notification Center 8-2008 AOP	0	94
Minus acres in Knapp Nose-2009 AOP	33	123
Minus acres in Nelson Junction-2009 AOP	1	115
Minus acres in Miller Hardwood-2009 AOP	0	38
Minus acres in Two Knobs-2009 AOP	0	0
After harvest of '08 and '09 sales, total suitable acres remaining in circle	614	2813
% Habitat remaining	62%	62%

**Figure 1. Suitable habitat on state and federal lands within 0.7 and 1.5 miles of the Knapp Creek spotted owl activity center relative to the Nelson Junction timber sale.\***

