

# MEMORANDUM

TO: Chris Rudd  
FROM: Randy Smith  
SUBJECT: Preliminary Biological Assessment for **Fortune Cookie** Timber Sale  
DATE: January 31, 2005

## Purpose

Fortune Cookie is a proposed sale in the Southwest Oregon District 2006 Annual Operations Plan. The Fortune Cookie sale is within 1.3 miles of four northern spotted owl activity centers, Bear Windy, Upper Fortune, Fortune Branch and JBL. This memo presents the relevant biological information needed to assess the potential effects of this thinning sale on northern spotted owls. This sale is outside of the known inland range of the marbled murrelet (>50 miles from the ocean).

## Policy Direction

In the Southwest Oregon 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of northern spotted owls, according to ODF policy (Holloway 2002), is to apply the U.S. Fish and Wildlife Service rescinded Incidental Take Guidelines (ITG) as outlined in "Procedures leading to Endangered Species Act compliance for the northern spotted owl" (U.S. Fish and Wildlife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 province 1.3 miles), approximately 40% suitable habitat (1,336 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 management activity near the site, and other relevant factors.

## Survey Information

The Fortune Cookie timber sale was surveyed to protocol for northern spotted owls in 2003, 2004 and will be surveyed again in 2005, consistent with the survey protocol endorsed by U.S. Fish and Wildlife Service (Anonymous 1991). As a result of these and previous surveys in the area, four northern spotted owl activity centers have been identified within 1.3 miles of the sale. The Bear Windy site is located on BLM land approximately 0.8 miles from the sale. The Upper Fortune site is located on BLM land just over 0.7 miles from the sale. The Fortune Branch site is on BLM land approximately 1.0 miles from the sale. The JBL site is on ODF land approximately 0.9 miles from the sale.

## Site History

### *Bear Windy*

In 1998, the pair nested and fledged two young. They did not nest in 1999. In 2000, the pair nested and fledged one young. The pair nested in a new tree in 2001 and fledged two young. In 2002, the pair nested in a new tree and fledged two young. The pair again nested in 2003 and fledged one young. In 2004, the pair nested in a new tree proximal to the 2001 and 2002 trees and fledged one young.

### *Upper Fortune*

In 2003, a pair of sub-adults attempted to nest and failed. In 2004, the historic male was found paired with a new female but they did not nest. This pair was also found at the Fortune Branch site.

### *Fortune Branch*

A pair was located in 1998 and 1999 at this site but they did not nest. In 2000, they nested and fledged two young. In 2001, the historic male was found with an unidentified female and they did not nest. The

historic pair nested in a new tree and fledged one young in 2002. A pair was detected late in the season in 2003. In 2004, the Upper Fortune male was found with a new female here as well as at the Upper Fortune site. All responses were attributed to the Upper Fortune site. Fortune Branch has one year of vacancy.

#### *JBL*

In 1996 a pair nested and fledged one young. They nested again in 1997 and fledged two young. They did not nest in 1998. They nested in 1999 and fledged one young. In 2000, a new male paired with the historic female but they did not nest. In 2001, a new pair was identified but did not nest. The pair nested in a new tree in 2002 and fledged one young. They did not nest in 2003. The historic male was located one time early in the season in 2004.

#### Habitat Information

The Fortune Cookie timber sale consists of 248 acres of 60-65 year old Douglas-fir, grand fir, incense cedar and mixed hardwood stands with an average DBH of 11-13 inches and approximately 180 TPA. There are approximately 2-3 snags per acre >12 inches DBH in the sale area. The amount of large down woody debris is estimated to be 2100-3500 cu. ft. per acre in decay classes 1-5. I have not yet visited this sale but based on air photo analysis and Stand Level Inventory (SLI) data, my assessment is that the sale area likely contains marginal habitat for spotted owls. This assessment is based on dense, uneven stocking levels, small average stand diameter and sparse amounts of residual trees, snags, and down wood habitat. A site visit is planned for late February 2005.

#### *Defining the home range*

We do not have specific information about the home ranges of the northern spotted owl sites affecting this thinning sale. According to "Procedures leading to Endangered Species Act compliance for the northern spotted owl" (U.S. Fish and Wildlife Service 1990), the median home range size for spotted owl pairs in the Klamath Province is 3,340 acres, or the equivalent of the area encompassed by a circle with a radius of 1.3 miles. Although spotted owls generally do not have circular home ranges, in the absence of more specific information about the home ranges of these sites, I will assume that a 1.3 mile radius circle around the nest or activity center approximates the home ranges of these sites.

#### *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 Klamath province. The home ranges of spotted owls in this region contain large percentages of stands in intermediate stages of stand development (Anthony and Wagner 1999). Spotted owls are known to nest in stands as young as 60-80 years old that have suitable structures on state forest lands in the Southwest Oregon District (40% of known nests on ODF lands in the District are in this age class) and to forage in even younger stands.

A complicating factor in identifying suitable spotted owl habitat on this District is the land ownership pattern. The area around the Bear Windy, Upper Fortune, Fortune Branch and JBL spotted owl sites includes lands managed by federal, state, private industrial and private non-industrial landowners. Because specific stand data on private and federal ownership was not available for our use, this assessment of habitat quality within the Bear Windy, Upper Fortune, Fortune Branch and JBL home range circles is based on aerial photos. Determination of habitat status within the owl circles was done by 2002 series air photo analysis and 2004 field assessments.

#### Landscape Condition

The following discussion assesses the habitat situation within 1.3 miles of the Bear Windy, Upper Fortune, Fortune Branch and JBL spotted owl activity centers, as recommended by the ITG (Table 1, Figure 1). No portion of the sale is within any of the 0.7 mile circles. Approximately 1 acre of habitat may be lost due to road construction to the south of the sale within the Fortune Branch and JBL 1.3 mile circles.

The Fortune Cookie timber sale will thin 236 acres within the 1.3 mile circle for the Bear Windy spotted owl site. A habitat analysis of the Bear Windy spotted owl site indicates that there are currently 2,579 acres of suitable habitat within 1.3 miles of the activity center. A previously approved ODF thinning sale, X-road Combo (preliminary BA dated 1/21/03), has been sold but operations have not commenced. The X-road Combo sale will thin approximately 180 acres within the Bear Windy 1.3 mile circle. If the sale area and state acres in notification are excluded from the suitable habitat, 2,203 acres (65%) of suitable habitat are available within 1.3 miles of the activity center. Based on this preliminary habitat analysis, this site will maintain enough unmodified suitable habitat within the 1.3 mile circle after harvest to be consistent with the ITG.

The Fortune Cookie timber sale will thin 90 acres within the 1.3 mile circle for the Upper Fortune spotted owl site. A habitat analysis of the Upper Fortune spotted owl site indicates that there are currently 2,536 acres of suitable habitat within 1.3 miles of the activity center. If the sale area is excluded from the suitable habitat, 2,266 acres (67%) of suitable habitat are available within 1.3 miles of the activity center. Based on this preliminary habitat analysis, this site will maintain enough unmodified suitable habitat within the 1.3 mile circle after harvest to be consistent with the ITG.

The Fortune Cookie timber sale will thin 80 acres within the 1.3 mile circle for the Fortune Branch spotted owl site. A habitat analysis of the Fortune Branch spotted owl site indicates that there are currently 2,623 acres of suitable habitat within 1.3 miles of the activity center. If the sale area and associated road construction are excluded from the suitable habitat, 2,542 acres (75%) of suitable habitat are available within 1.3 miles of the activity center. Based on this preliminary habitat analysis, this site will maintain enough unmodified suitable habitat within the 1.3 mile circle after harvest to be consistent with the ITG.

The Fortune Cookie timber sale will thin 132 acres within the 1.3 mile circle for the JBL spotted owl site. A habitat analysis of the JBL spotted owl site indicates that there are currently 2,933 acres of suitable habitat within 1.3 miles of the activity center. If the sale area and associated road construction are excluded from the suitable habitat, 2,800 acres (83%) of suitable habitat are available within 1.3 miles of the activity center. Based on this preliminary habitat analysis, this site will maintain enough unmodified suitable habitat within the 1.3 mile circle after harvest to be consistent with the ITG.

#### Sale Prescription

The prescription for the Fortune Cookie timber sale is a thinning to a SDI of 30-35%. The prescription will primarily be a basal area thinning from below to remove the suppressed, intermediate and some co-dominant trees from these overstocked Understory and Closed Single Canopy structure stands. Hardwood patches will be thinned and interplanted with conifer species to promote layering and greater species diversity. Some of the healthy advanced understory will be reserved to promote layering. Approximately 10% of the sale area will remain in un-thinned patches at least 1 acre in size. In addition, opportunities to create small ¼ to 1 acre patch cuts throughout the sale will be explored during sale layout with the Area Biologist for added diversity. All minor conifer and hardwood species will be reserved from cutting. Trees greater than 32 inches DBH will be reserved from cutting unless they are a safety hazard. This will preserve the largest and healthiest trees in the stands. The basal area target and upper diameter limit will preserve the diversity of these stands while permitting density management for increased growth and development of the overstory and understory. Thinning these stands will increase the health and vigor of the residual hardwood and conifer as well as reduce the likelihood of insect damage, disease, wildfire, windthrow, or other stand replacing event. An estimated 1 to 1.5 snags per acre will occur as a result of logging and natural mortality. An additional 1 snag per 2 acres will be created. All snags that are not safety or fire hazards will be reserved. Any snags that are felled will be retained for down woody debris. Approximately 100 cu. ft./acre of class 1 downed wood will be added through normal logging operations including trees that are damaged and eventually blow down and cull log segments required to be left on the ground. No yarding of down woody debris will be permitted. Most open patches will be underplanted with a combination of Douglas-fir, ponderosa pine, sugar pine, and incense cedar.

### Assessment

The Bear Windy spotted owl site is approximately 0.8 miles from the proposed Fortune Cookie timber sale. Approximately 236 acres of the sale are within 1.3 miles of the activity center. This sale does not affect the 0.7 mile circle. The Bear Windy owl activity center is on BLM land and is not located in a LSR. Federally managed land makes up 41% of the area within 1.3 miles of the spotted owl activity center, 38% is managed by ODF and 21% is managed by other landowners. The habitat analysis of this site indicates that the ITG will be met within 1.3 miles of the activity center after harvest of the sale area.

The Upper Fortune spotted owl site is just over 0.7 miles from the proposed Fortune Cookie timber sale. Based on the latest survey information, I would speculate that the Upper Fortune pair is most likely utilizing the habitat in the vicinity of the sale. Approximately 90 acres of the sale are within 1.3 miles of the activity center. This sale does not affect the 0.7 mile circle. The Upper Fortune owl activity center is on BLM land and is not located in a LSR. Federally managed land makes up 54% of the area within 1.3 miles of the spotted owl activity center, 7% is managed by ODF and 39% is managed by other landowners. The habitat analysis of this site indicates that the ITG will be met within 1.3 miles of the activity center after harvest of the sale area.

The Fortune Branch spotted owl site is 1.0 miles from the proposed Fortune Cookie timber sale. Approximately 80 acres of the sale are within 1.3 miles of the activity center. This sale does not affect the 0.7 mile circle. The Fortune Branch owl activity center is on BLM land and is not located in a LSR. Federally managed land makes up 41% of the area within 1.3 miles of the spotted owl activity center, 6% is managed by ODF and 53% is managed by other landowners. The habitat analysis of this site indicates that the ITG will be met within 1.3 miles of the activity center after harvest of the sale area.

The JBL spotted owl site is approximately 0.9 miles from the proposed Fortune Cookie timber sale. Approximately 132 acres of the sale are within 1.3 miles of the activity center. This sale does not affect the 0.7 mile circle. The JBL owl activity center is on ODF land. Federally managed land makes up 34% of the area within 1.3 miles of the spotted owl activity center, 45% is managed by ODF and 21% is managed by other landowners. The habitat analysis of this site indicates that the ITG will be met within 1.3 miles of the activity center after harvest of the sale area.

### Risk Assessment

The Fortune Cookie timber sale includes 248 acres of thinning in mixed conifer/hardwood stands consisting of Douglas-fir, grand fir, incense cedar, big leaf maple and pacific madrone. This activity will take place within 1.3 miles of the Bear Windy, Upper Fortune, Fortune Branch and JBL activity centers. I believe the Fortune Cookie sale as currently planned will have a low risk of negatively affecting the occupancy and productivity of the Bear Windy, Upper Fortune, Fortune Branch and JBL spotted owl pairs. This assessment is based on the following factors:

#### Bear Windy:

- ◆ The sale is located 0.8 miles from the Bear Windy activity center;
- ◆ Approximately 236 acres of the sale area are within 1.3 miles of this activity center;
- ◆ Approximately 65% of the 1.3 mile circle will remain as unmodified suitable habitat after harvest of the sale, exceeding the ITG;
- ◆ The proposed sale prescription is a moderate thinning that will retain habitat elements and enhance future development of habitat important to northern spotted owls.

Upper Fortune:

- ◆ The sale is located just over 0.7 miles from the Upper Fortune activity center;
- ◆ Approximately 90 acres of the sale area are within 1.3 miles of this activity center;
- ◆ Approximately 67% of the 1.3 mile circle will remain as unmodified suitable habitat after harvest of the sale, exceeding the ITG;
- ◆ The proposed sale prescription is a moderate thinning that will retain habitat elements and enhance future development of habitat important to northern spotted owls.

Fortune Branch:

- ◆ The sale is located 1.0 miles from the Fortune Branch activity center;
- ◆ Approximately 80 acres of the sale are within 1.3 miles of this activity center;
- ◆ Approximately 75% of the 1.3 mile circle will remain as unmodified suitable habitat after harvest of the sale, exceeding the ITG;
- ◆ The proposed sale prescription is a moderate thinning that will retain habitat elements and enhance future development of habitat important to northern spotted owls.

JBL:

- ◆ The sale is located 0.9 miles from the JBL activity center;
- ◆ Approximately 132 acres of the sale area are within 1.3 miles of this activity center;
- ◆ Approximately 83% of the 1.3 mile circle will remain as unmodified suitable habitat after harvest of the sale, exceeding the ITG;
- ◆ The proposed sale prescription is a moderate thinning that will retain habitat elements and enhance future development of habitat important to northern spotted owls.

Literature Cited

Anonymous. 1991. Protocol for surveying proposed management activities that may impact northern spotted owls. Revised – March 17, 1992. 15 pp.

Anthony, R.G., F.F. Wagner 1999. Reanalysis of northern spotted owl habitat use on the Miller Mountain study area. Report to the Bureau of Land Management, Medford District, October 1999. 71 pp.

Holloway, R. "Northern Spotted Owl Management Measures." ODF Internal Memorandum to Area Directors, District Foresters, Assistant District Foresters. October 23, 2000.

U.S. Fish & Wildlife Service. 1990. Procedures leading to endangered species compliance for the northern spotted owl. U.S. Fish and Wildlife Service, Region 1, July 1990. 15 pp.

Cc: Rosemary Mannix  
Marcia Humes  
Dan Thorpe

Table 1. Acres of suitable habitat within the 1.3 mile circles of Bear Windy, Upper Fortune, Fortune Branch and JBL northern spotted owl activity centers. Suitable habitat was determined through 2002 air-photo analysis and a 2004 field assessment.

	<b>Acres</b>	<b>Bear Windy</b>	<b>Upper Fortune</b>	<b>Fortune Branch</b>	<b>JBL</b>
		<b>1.3</b>	<b>1.3</b>	<b>1.3</b>	<b>1.3</b>
<b>Suitable Habitat</b>					
<b>State</b>		1046	156	147	1364
<b>Federal</b>		927	1226	1153	987
<b>Private</b>		606	974	1323	582
<b>Total</b>		2579	2356	2623	2933
<b>Sale area</b>	248	236	90	80	132
<b>State Acres in Notification (X-road Combo)</b>		140			
<b>Acres lost for road construction</b>				1	1
<b>Unmodified suitable habitat remaining</b>		2203	2266	2542	2800
<b>% suitable remaining post harvest</b>		65%	67%	75%	83%

**Figure 1. Suitable habitat on state and federal lands within 1.3 miles of four northern spotted owl activity centers relative to the Fortune Cookie timber sale.\***

