Forest Health Protection
Pacific Southwest Region

Date: August 30, 2010
File Code: 3420

To: Thomas Contreras, Forest Supervisor, Mendocino National Forest

Subject: Biological Evaluation of Baseball Thin – Upper Lake Ranger District (FHP Report No. N10-014)

On August 17-19, 2010, Cynthia Snyder (Entomologist) and Pete Angwin (Plant Pathologist) from Forest Health Protection visited the Mendocino National Forest to assess future thinning projects requesting FHP funding.

On August 17, Cynthia, Pete and Roger were joined by Nancy Mulligan, Chad Atwood, Catherine Avila and Michelle Zuro-Kreimer (Upper Lake Ranger District) to look at projects being proposed for FY2011 WBBI funding.

Observations and recommendations for the planned projects areas are as follows:

Baseball Stewardship Project
The Mendocino NF plans to thin 613 acres of natural forest stands and plantations within the Baseball Timber Sale Area in FY2011. The Baseball Timber Sale has been in the works for 5 years and has been advertised for commercial sale for 3 consecutive years, but has been unable to sell. The Forest has decided to place the unsold units into stewardship with several new units. The project area is covered under the Baseball TS NEPA. There are landscape-level ecological restoration projects currently being implemented in the immediate and surrounding areas. The stands are all in WUI and near popular Forest Service campgrounds and equestrian trails. The project is adjacent to, and some acres within, two LSRs with some units considered Northern Spotted Owl critical habitat. A 25-acre Forest Service Progeny Test Site is located within the project area. This test site is fenced with a fuel break running through. Trees are pruned up to 6 feet adjacent to the fuel break.

These are primarily mixed-age ponderosa pine stands with a current density of 200-400 square feet per acre. The stands are very dense creating stress to the larger diameter pines. Most stands are approaching an SDI of 450, well above the maximum of 365 set

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by Oliver (1995) at which point bark beetle mortality is imminent. The proposed thinning will reduce densities to 120-150 TPA with 40% of canopy retention within critical habitat. Current diameters range from 1-40 inches DBH with after thinning residuals of 20-40 inches DBH. This level of thinning will meet the Regional Forester's density management policy. The current mix of species is heavy to the ponderosa pine and thinning would favor the healthiest and best formed sugar pine, Douglas-fir, incense cedar and ponderosa pine.

We visited plantation units T6D, T6C (N39º44.927', W122º55.491'), 6E (N39º44.709', W122º55.287') (Figure 2), the Progeny site (N39º46.946', W122º56.884') (Figure 3), a 100-acre fully enclosed LSR (N39º44.319', W122º54.924') (Figure 4) and unit T11 (N39º47.053', W122º56.967'). This includes some old and new units. There were scattered pockets of mortality in larger diameter (>8 inches DBH) ponderosa pine as a result of western pine beetle (*Dendroctonus brevicomis*), as well as pockets of western (*Arceuthobuim vaginatum*) dwarf mistletoe in the stands (Figure 1). Dwarf mistletoe ratings (DMR) often ranged between 1 – 3, with heavier infections in the understory (DMR 4 – 6). Thinning would remove the heaviest mistletoe infections in the overstory and much of the infected understory. This would not totally remove dwarf mistletoe from the stands, but would reduce it to acceptable levels if combined with non-host species retention. Thinning would also reduce both bark beetle and wildfire risk.

Thinning from below would remove much of the competing understory and reduce stress to the residual overstory trees. Wide spacing and preservation of species diversity of the residuals will also reduce stress and increase vigor of the overstory. All would reduce bark beetle risk and make the stands more resilient to disturbance. By retaining a 40% canopy, wildlife habitat would be protected in the LSR/critical habitat acres (Figures 2). The progeny test area would be protected as a valuable resource (Figure 3). Thinning would also reduce wildfire risk and increase resiliency to other disturbance agents.

Figure 1. Western pine beetle has caused scattered pockets of mortality in large diameter ponderosa pine.

Figure 2. LSR within the project area listed as critical habitat for Northern Spotted Owl..

Figure 2. Progeny Test Site within the project area.

Supporting Details	
Forest Type	Natural stand s and Plantations
Location	Matrix, WUI, LSR
Landscape Treatment	4,000 acres of thinning and burning as part of landscape restoration
Proposed Treatment	Hand thinning
NEPA	Baseball TS NEPA completed
Proposed Acres	613
Requested Funding	$625,260
Total Cost Per Acre	$1,020
Matching Funding	~$350,000
Species Composition	PP, DF, IC, SP, Oak
Current Diameters	0-40 inches
Residual Diameters	20-40 inches
Current Stocking	Average of 240 sq.ft./ac.
Target Stocking	120-150 sq.ft./ac.
Agents of Concern	*D. brevicomis, D. ponderosae, Scolytus ventralis,* dwarf mistletoe
Recent Activity	WPB mortality and Scolytus mortality confirmed
Current Susceptibility	High

Summary

The proposed treatments, if fully implemented, will be effective in addressing concerns regarding bark beetles, fire and drought, and will meet the Regional Forester's density management policy that high risk density levels will not be reached again for at least 20 years. I fully support the treatments as described.

If you have any questions regarding this report and/or need additional information please contact Cynthia Snyder at 530-226-2437 or Pete Angwin at 530-226-2436.

/s/ Cynthia Snyder

Cynthia Snyder
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CC: Nancy Mulligan, Chad Atwood, Catherine Avila, Michelle Zuro-Kreimer, Pete Angwin, Sheri Smith, Julie Lydick and Phil Cannon

References:

Oliver, W. W. 1995. Is self-thinning in ponderosa pine ruled by Dendroctonus bark beetles? Proceedings of the 1995 National Silviculture Workshop, May 18–21, Mescalero, New Mexico, 21213–18. General Technical Report RM-GTR-267. Fort Collins, CO: U.S. Forest Service.