WALDO 2011 THP

Location

The 507 acre Waldo 2011 THP is located approximately 9 miles east and southeast of the community of Fort Bragg, California. The legal description is portions of Sections 33, 34 and 35 Township 18 North, Range 16 West and Sections 3 and 4 Township 17 North, Range 16 West, Mount Diablo Base and Meridian.

Harvest History

Historical harvesting was conducted by the Caspar Lumber Company in the late 1920's, which included harvesting the majority of the old growth trees. Only a few old growth redwood trees were observed during sale preparation activities to date. Selected areas were planted during this time period. Little of the planted stock grew to a significant merchantable size.

Second growth conifers were harvested as a part of the Parlin Creek 1991 Timber Harvest Plan. Conifers, particularly redwood, were mostly harvested in small groups or individual redwood clumps (openings generally no larger than ½ acre). Trees were also selected individually. Douglas-fir and grand fir were also harvested throughout the plan area. This harvest focused on removing most of the poorly formed and slower growing conifers, retaining trees with higher live crowns. Redwood sprouts and Douglas-fir and grand fir seedlings established following the harvest represent the third growth stand component. The intent of this harvesting method was an initial step to create a new age class, moving a stand with even-aged characteristics towards an un-even aged stand. The proposed Waldo 2011 THP plan boundary generally matches the boundary established in 1991.

Silvicultural Prescription: Selection. Complies with the JDSF Forest Management Plan and objectives of the Option A, as per 14CCR 913.11(a).

The targeted residual conifer basal area, as averaged throughout the stand is approximately 180-190 sq. ft. per acre. Trees will be selected individually with the focus on reducing competition to promote increased growth rates and increasing sunlight (and other forest resources) to understory third growth conifers, particularly redwood stump sprouts as well as reducing competition between residual trees. Tanoaks will only be felled where they are directly competing with residual conifers.

Conifer Preharvest Basal Area	*Estimated Conifer Post harvest Basal Area
274 ft^2/acre	180-190 ft^2/acre
hardwood preharvest basal area averages 36 ft^2/acre and will be reduced by ~5%	

*Actual basal areas may change as more accurate data is obtained.
Expressed as a range due to high level of variability. Target conifer retention is estimated at 65% of the preharvest level.

Topography/Soils

Elevation ranges from approximately 200 feet at the lowest southwestern boundary to approximately 920 feet at the ridgetop near the eastern harvest boundary. Nearly half of slopes within plan area are north facing with the remaining roughly equally divided between south and west facing slopes with small areas facing east. Slopes range from <15% to greater than 65% with average slopes in the plan area 35% to 50%. A prominent ridge runs east-west within the sale area, generally located along Road 309. Another similar ridge runs along Road 308. Stream channels are altered, largely due to disturbances created from historic logging. Watercourses vary from moderately incised on the middle and upper slopes to minimally incised on lower slopes. The majority of the harvest area for both young-growth redwood and Douglas-fir is Site Class II, with the remaining Site Class III.

Approximately 78% (395 acres) of the THP area will be cable-yarded and 22% (112 acres) will be tractor-yarded.

Vegetation and Stand Conditions

The current stand is comprised of second growth redwood, Douglas-fir, grand fir, and a hardwood component consisting primarily of tanoak. Major constituents in the understory are regenerating third growth conifers, tanoak, sword fern, evergreen huckleberry, azalea, wax myrtle, wood rose and manzanita. Based on field observations, conifer regeneration success greatly varies throughout the plan area. This variability in poorly to vigorously growing redwood sprouts and Douglas-fir and whitewood seedlings is mostly a function of competition for available sunlight from nearby residual conifers and hardwood seedlings, primarily tanoak. Most vigorous conifer regeneration was observed in areas where small groups of conifers were removed and other areas where available sunlight reaches the forest floor. Overall, conifer regeneration is fairly well established. Tanoak regeneration is also well established, from both seedlings and stump sprouts.

Species	Basal Area (sq. ft./acre)	Gross Conifer Volume (bd. ft./acre)
Young Redwood	239	46,978
Young Douglas-fir	32	12,058
Whitewoods	3	1,218
Hardwoods	36	
Conifer Totals	274	60,254

Current stand estimates were derived from the FORSEE growth model, using 2005 FRI plots within the THP boundary.

Watershed and Stream Conditions

The Parlin Creek watershed was impacted by the logging of the old growth forest about 90 years ago. Cable logging with steam donkeys to railroads along the river banks displaced soil and deposited material in the river and its tributaries. Parlin Creek is described as a second order stream draining a watershed of approximately 4.3 square miles. The creek supports steelhead trout, coho salmon, and sculpin. There are several main Class II channels within the plan area and they are downcutting through material that was likely concentrated during the early logging; old logging debris is becoming exposed. The Class II gradient typically varies between 5% and 15%, with several reaches up to 50%. The watercourses are well shaded throughout their lengths.

Watercourse Protection

- Class I streams have a 150' Water/Lake Protection Zone (WLPZ). No trees will be marked for harvest in the first 100 feet of the WLPZ. Trees will be marked for harvest within the remaining 50 feet.
- Watercourses typed as Class II – (Large) watercourses within 1,000 feet of a Class I are afforded a 100' WLPZ, where no trees will be marked for harvest within the entire WLPZ. The remaining Class II watercourses have a 100' WLPZ, where no trees will be marked for harvest in the first 25 feet of the WLPZ. Trees will be marked for harvest within the remaining 75 feet.

For all WLPZs where trees will be marked for harvest, a light harvest aimed at increasing growth on larger diameter trees will occur. Harvest of trees is allowed for the need to conduct safe cable operations in WLPZ areas where no trees are designated for harvest.

Roads and Landings

- No new road construction is proposed. Existing roads were constructed during the 1991 harvest and will be utilized to facilitate cable yarding from the ridgetops. The existing road system is very stable and there are no watercourse crossings. New landing construction will be allowed, however, may not be necessary as existing landings will also be utilized.
- Hauling restrictions apply any time of year that it rains 1/4" as measured near McGuire's Pond.

Wildlife

The plan contains habitat suitable for Northern Spotted Owl (NSO) (*Strix occidentalis caurina*). There are no NSO activity centers within 1,000 feet of the plan boundary. MEN 550 and MEN 311 are the nearest owl activity centers, approximately 0.25 miles from the plan boundary.

Northern red-legged frogs have been seen in the SF Noyo River. One sighting was within the plan boundary along an unnamed tributary to the SF Noyo River. The CNDDB contains a report of a Western Tailed Frog in Parlin Creek near the boundary of the plan area. Other notable wildlife seen near or within the plan area during either owl surveys or plan preparation includes: red-tailed hawk, pileated woodpecker, belted kingfisher, river otter, western screech owl and northern saw-whet owl.

Botany

A botanical survey is being conducted during 2010. Initial results (early season survey) have not found any special status plant species.

Demonstration & Research:

- Individual tree selection in a stand comprised of 80-90 year old second growth and young third growth trees. Harvesting to promote growth and structure development and maintain growth of understory conifers.
- A demonstration in specified areas focusing on release and enhanced growth of third-growth redwood sprouts by reducing tanoak competition. Manual release (i.e cutting tanoak < 18" dbh) is the proposed treatment. The demonstration will include a no treatment area so that the response can be compared.
- An additional replicate of Dr. John-Pascal Berrill's "Managing Coast Redwood Forests for Continuous Cover: Testing Different Multi-aged Stand Structures" research project will likely be implemented in the THP area. In concert with the other two JDSF areas already designated, the additional application of the research plots will serve to demonstrate and validate model predictions indicating that the resultant multi-aged forest structures will have enhanced: (i) growth and vigor, (ii) carbon sequestration, and (iii) sustained yield of forest products, while protecting watershed resources. Currently, eight 5-acre plots are proposed to be installed within the THP area. Two replicates of the study, one with a north-facing aspect and one with a south-facing aspect. Details are still being developed and may lead to reducing the study area to a single slope aspect (only 4, 5-acre plots). Target basal area removal is unknown at this time. The study plots size and location has been designed to ensure large statistically-sound sampling of complex uneven-aged stand structure. Each replicate would include a control plot with a 2.5 acre group opening.

Recreational Considerations:

- Road access to the sale area is limited to the public. Haul roads within the plan area intersect roads that are locked year-round due to their vicinity to the Parlin Fork Conservation Camp located just downslope from the southwest plan area and private timberlands adjacent to the eastern plan boundary.
- The sale area is available for public recreational, including hiking, bicycle riding, and equestrian use. No specifically designated recreations facilities are within the area. Use of firearms is not allowed within a portion of the sale area due to its proximity to Parlin Fork Camp.

Heritage Resources:

Sites have been recorded and measures will be incorporated within the THP to protect significant sites.