

Riley Ridge 2011 THP

Area: 438 acres

Silvicultural Prescription: Older Forest Structure Zone

Harvesting System:

The harvesting system design for this timber harvest plan has not yet been finalized. Consideration of alternatives is ongoing. Preliminary evaluation indicates that a portion of the area, up to 40%, may require helicopter logging. Approximately 56% of the THP area will be cable-yarded and 4% will be tractor-yarded.

	Conifer Pre-harvest Basal Area	Conifer Post-harvest Basal Area (≥ 70% retention)
Helicopter Area	351	228
Cable and Tractor	289	207

* Data taken from 2005 FRI plots.

Location/Topography

The THP area is located approximately 8.5 miles east of the community of Fort Bragg, California. The legal description is portions of Sections 15, 22, 23, and 26, Township 18 North, Range 16 West, Mount Diablo Base and Meridian. The elevation ranges from 280 feet to 1,560 feet above sea level. The slope aspect of harvest units is variable throughout.

Stand History

Initial harvesting in the Riley Ridge area began prior to 1920 and continued until the late 1920's. Nearly all the old growth timber was removed during this entry. Caspar Lumber Company maps identify most of the harvest area as having burned around 1945. Vegetation at the time was described as consisting of brush and poles. No significant events have been recorded since.

Vegetation and Stand Conditions

Two age classes exist within this stand comprised of 80 to 90 year-old trees which regenerated after the initial harvest and 65 year-old trees which came in after the 1945 fire. However, the stand appears evenaged in structure as the two cohorts present are similar, are largely codominant and no ongoing regeneration has occurred. Little to no understory growth and regeneration is found within the stand.

Conifer stocking ranges from moderate to heavy. Hardwoods and Douglas-fir become the dominant stand component as one moves east in the harvest area and in the eastern most area, Douglas-fir comprises approximately 40% of the stand. These trees are of poor vigor and most are live culls.

Watershed and Stream Conditions

The Riley Ridge 2011 THP lies in the Brandon Gulch Planning Watershed which drains to the Noyo River. Early harvesting activities in this drainage utilized railcar transportation systems supplied with logs yarded with stream donkeys. The watercourses in Brandon Gulch planning watershed bear evidence of these early activities which left the channels in a highly modified condition. The North Fork of the South Fork Noyo River is a fish bearing watercourse that lies adjacent to the THP and at least one other fish bearing watercourse has been identified in the area to date. Numerous non-fish bearing streams are found throughout the harvest area. Larger streams which support non-fish aquatic life range from high gradient to low gradient watercourses. Some of the streams contain surprising amounts of water into late summer and fall. Smaller streams which are highly seasonal and do not support aquatic life are largely high gradient.

Silviculture

The entire harvest area has been designated as Older Forest Structure Zone (OFSZ). Management will be aimed at producing structural characteristics of older forest, which include large trees, snags, down logs (LWD), multiple canopy layers and a high level of structural diversity while coincidentally growing and producing timber through thinning and periodic replacement of large trees. The entry currently under planning will focus on reducing competition in codominant trees to increase growth rates and maintain large trees overtime. Thinning levels will be adequate to recruit minor amounts of regeneration to promote vertical diversity while carrying a significant portion of the stand forward.

A large portion of the area will likely need to be harvested using helicopters as alternatives for road construction are limited due to topographic barriers. Accordingly, two prescriptions have been developed to aide in the feasibility of such an entry. In areas where harvesting systems are helicopter based approximately 35% of the preharvest conifer BA will be removed and the next entry would be delayed until approximately 30 years post harvest. In all other areas approximately 30% of the preharvest conifer BA will be removed and the next entry would occur in approximately 20 years. These entry periods are estimates based on board foot volume recovery from growth model outputs. The actual entry periods may be different if conditions, guidance or reevaluation determines other more appropriate periods. Approximately 10-15% of the pre harvest hardwood BA less than 20 inches DBH will be removed in both areas. This will help reduce competition from hardwoods while retaining the largest hardwoods for ecological values.

Throughout the harvest area management will focus on reducing competition between co-dominant crown classes. Spacing, live crown ratios and vigor of trees will be the primary factors in choosing trees for retention. Trees with unique structural characteristics will be retained when feasible. Option A modeling of the Older Forest Structure Zone sets the maximum harvest diameter at 60 inches. Given rotations of 20 to 30 years and the Forest Management Plans description of the Older Forest Structure Zone providing structural elements while coincidentally growing and producing timber through thinning and periodic replacement of large trees non old-growth trees 54 inches and greater will be harvested. If these are not harvested they will likely exceed 60 inches by the next harvest and would no longer be available under the current Option A which in turn could lead to a loss of harvestable volume/acreage and consequently problems with long term sustainability.

Smaller, well growing intermediate trees will be retained to contribute to vertical diversity and overtime, when combined with regeneration, a multilayered stand. Some harvesting will occur in these intermediate classes but will likely be limited to trees of poor form.

It is likely that the next planned entry (20-30 years) will need to assess regeneration concerns to maintain the stand. The Option A (i.e. version of a sustained yield plan) and Forest Management Plan indicate that the Older Forest Structure Zone will be maintained while growing and producing timber. While this entry is focused on maintaining large diameter trees while shaping a multilayered stand, future entries are intended to remove some larger trees to further the objective of growing trees into larger diameter classes.

Snags and LWD are viewed as significant structural components of the Older Forest Structure Zone and as such, sampling will occur during sale preparation to evaluate snag densities within the harvest area.

Watercourse Protection

Class I

- Class I Water Lake Protection Zone (WLPZ) is 150 feet, 0 to 30 feet no-cut* from the watercourse transition line, 30 to 100 feet 80% canopy retention, 100-150 feet 70% canopy retention.
- Minimum 240 sq. ft. conifer basal area/acre retention and the 13 largest conifers per 330 feet of stream channel

Class II

- Class II Water Lake Protection Zone (WLPZ) is 100 feet; 0 to 30 feet no-cut* from the watercourse transition line.
- Minimum 240 sq. ft. conifer basal area/acre retention and the ten largest conifers per 330 feet (13 for large class II streams) of stream channel.

Class III

- Class III watercourses have 30 to 50 foot Equipment Limitation Zones where ground based equipment will be utilized. Except for the necessary removal of trees for safe cable yarding operations, no harvest shall occur within the channel area.

*No-cut WLPZ allows for the exception of harvesting cable corridor trees where needed.

Roads

New road systems are necessary to facilitate cable yarding operations. These new roads will be located on or near ridgetops.

Demonstration and Research Values

- Maintaining elements of the Older Forest Structure Zone while producing timber products.
- Sampling to determine snag densities in the harvest area.
- Hardwood removal project (*details under development*)
 - Selective removal of hardwoods around conifers to evaluate effectiveness for treatment in areas not being harvested.

Aesthetic and Recreational Considerations

- The plan area is adjacent to Road 1000 in several areas. This road is periodically used by the public for hiking, mountain biking and horseback riding.
- Harvesting near the road will retain aesthetic values and significant shade canopy.

Marbled Murrelet

Potential Marbled Murrelet habitat is known to occur within 0.25 miles of the THP boundary. The area is being surveyed to protocol and no detections have occurred to date.

Northern Spotted Owl

The plan contains habitat suitable for Northern Spotted Owl (NSO) (*Strix occidentalis caurina*). There is one recorded NSO activity center within the plan boundary. One additional NSO activity center is known within .25 miles of the plan boundary. Northern Spotted Owl surveys will be conducted as required by protocol.

Botany

A partial botanical survey has been conducted. No special status plant species have been found within the THP area. A full botanical survey will be conducted and amended into the harvest plan prior to operations. Any required mitigations will be amended into the plan as enforceable protection measures.

Additional Information Included with Summary (DRAFT THP Map and Stand data)

Preharvest condition stand data is from FRI plot data (dbh.>11 inches) measured in 2005. Post harvest estimates for trees greater than 11 inches can generally be estimated by reducing the preharvest basal area by 35% for helicopter areas and 30% for cable/tractor areas. Estimates provided above are for all trees in the inventory and therefore are different from FRI outputs. Post harvest estimates will be obtained for each unit during THP preparation.