

CHAPTER 2 – ALTERNATIVES

This chapter is intended to describe the alternatives and how they were formulated for the Billy Bob Hazardous Fuels Reduction project. This chapter is the heart of the document and provides readers and the line officer with a description of the project, displaying the alternatives, design criteria and mitigation measures, monitoring requirements and a comparison of effects of the alternatives. Alternatives considered, but eliminated from detailed study are also included. This chapter provides a clear basis for choice among options by the line officer.

ALTERNATIVE FORMULATION

Since this project is being prepared under the Health Forest Restoration Act (HFRA) authorities and the emphasis is to reduce hazardous fuels in the area around Camp Baldwin Boy Scout Camp, no alternatives to the proposed action are required unless proposed during scoping or collaboration [HR 1904, Section 104(c)(1)]. Instead, the Interdisciplinary Team (IDT) considered all of the issues proposed during scoping (see scoping letters and content analysis in the project file), and where feasible, adjusted the original proposed action to resolve those issues the agency considered significant. In some cases, this was handled by adding mitigation measures to the project and in other cases the design of the project was modified.

ALTERNATIVES CONSIDERED, BUT ELIMINATED FROM DETAILED STUDY

Minimal Fuel Reduction within Scenic Viewshed

An alternative was considered that would minimize fuel reduction within the scenic viewshed. Dufur Mill Road is designated as a scenic viewshed. This alternative would not have any evidence of management activities within the scenic viewshed, including evidence of thinning or underburning. Meeting the visual quality retention standards would not meet one of the stated goals for this land allocation: “Provide attractive, visually appealing forest scenery with a wide variety of natural appearing landscape features. Utilize vegetation management activities to create and maintain a long term desired landscape character.” Currently, the existing condition is not meeting the stated goal for the land allocation.

The foreground has a visual quality objective (VQO) of retention, and the middle ground and background have a VQO of partial retention (Forest Plan, page Four-222). The visual management intensity applies to all lands visible up to a distance of 0.5-mile from selected travelways, water bodies or public use areas. For the Dufur Mill Road, the selected travelway is Road 44. The desired future conditions for foreground retention are as follows (Forest Plan, page Four-219).

- Vegetation is composed primarily of multi-age, multi-species stands with a diverse understory of natural plan associations.
- Numerous large diameter, old trees are a major component of the stands.
- Small, natural appearing openings provide diversity and a sense of depth.
- The ground is generally free of unnatural forms and patterns of debris and litter.
- Seasonal changes in vegetation color and texture are noticeable.
- The target tree diameters for mature trees with the following vegetation types are:
 - grand fir (Ponderosa pine), 24 inches dbh (diameter at breast height)
 - Pacific silver fir, 26 inches dbh
 - western hemlock, 32 inches dbh
 - Mountain hemlock, 24 inches dbh

Design criteria and mitigation measures included in the Proposed Action would minimize the impacts to the foreground to the largest extent possible.

Diameter-Limit Plantation Thinning

An alternative was considered that would use variable-density thinning of plantations that focuses on trees less than 12-inch dbh coupled with fuels abatement, as recommended by the collaborative working group. Thinning would only occur in plantations. For the purposes of the recommendations, plantations were defined as follows: “Stand of trees initiated-(A) through direct or indirect seeding; or (B) by planting seedlings following any harvest method, including salvage logging, that removed more than 90 percent of the over story of the original stand on contiguous areas larger than 5 acres.”

For example, the severity of dwarf mistletoe infection is very high in older age classes of Douglas-fir, as well as in western larch and ponderosa pine. Many of the older (150+ year) Douglas-fir in the stands within the project area are infected with dwarf mistletoe, most with 100 percent of the crown affected, creating huge witches’ brooms. Many western larch and Douglas-fir are already dead. The level of mistletoe infection in the younger Douglas-fir trees (<120 years) varies across the project area, from very low levels in some stands to very high levels in others. Also, the dense, multi-canopied Douglas-fir and grand fir dominated forests in the area are also desired habitat for root diseases. Most of the stands on the eastside of Mt. Hood have some level of root disease present. All these organisms can cause increased stress, severe reduction in tree growth, and direct or indirect mortality to trees. Though the organisms themselves are a natural and integral part of the ecosystem, the condition of the vegetation across the landscape and within individual stands is in many cases not “natural”. Selective logging, fire exclusion and mortality caused by white pine blister rust have resulted in less tolerant forests. Insects, diseases and parasitic organisms now have far more of their favored habitat available to them – dense, multi-canopied Douglas-fir and grand fir forest – and therefore, may cause more

severe effects to the forests than has typically occurred in the past.

In some cases, trees over 12-inch dbh have insect and disease problems that are contributing to the overall hazardous fuels problems. Thus limiting treatments to trees less than 12-inch dbh does not meet the purpose and need: (1) to reduce hazardous fuel loads and fuel ladders to reduce fire behavior on National Forest System lands adjacent to Camp Baldwin and nearby private land as well as adjacent lands to the east of the National Forest System boundary; or (2) changing existing fire condition class around Camp Baldwin, private lands, and adjacent private land east of National Forest System boundary to a more historic condition. Whenever possible, large ponderosa pine, western larch, white pine, and Douglas-fir trees were retained in the unit prescriptions.

ALTERNATIVES CONSIDERED IN DETAIL

No Action Alternative

Under this alternative, no hazardous fuels reduction treatments would be implemented. No thinning, prescribed burning, brush removal, mowing, or pruning would occur. There would be no landings, skid trails or temporary roads built to facilitate removal of fuels. No fire suppression openings would be created; therefore interagency fire suppression efforts would continue as they operate currently. None of the mitigation measures would be implemented. There would be no improvements made to the National Forest road system. The fuel hazard would not be reduced. Dead or dying trees would not be removed and may contribute to the fuel hazard. Natural fuels (downed wood and other dead vegetation) would not be removed and would continue to accumulate. Natural processes of decay are not likely to remove the down and dead woody debris before the next fire cycle. As the available fuel increases, so would the potential for a large stand-replacing wildfire event. Effects of the No Action alternative are analyzed by resource in Chapter 3.

Proposed Action Alternative

The location of the proposed action is approximately 12 air miles west of Dufur, Oregon, and is located around the area of Camp Baldwin Boy Scout Camp. The legal description for the project area is: T 2s, R 11e, sections 1, 2, 3, 4, 8, 9, 10, 11, 12, 13, 14, 15, and 16. The proposed action is within the Wildland Urban Interface (WUI) for the Camp Baldwin area and identified in the Wasco County Community Wildfire Protection Plan.

The proposed action is designed to reduce fuel loading in the Billy Bob project area by reducing fuels in the three fuel layers: crown or canopy fuels, ladder fuels and surface fuels. Crown and ladder fuels would be reduced by commercial and non-commercial thinning treatments. Surface fuels would be reduced through hand or excavator piling and burning piles, and/or underburning. Underburning can also accomplish additional crown and ladder fuel reduction. Hazardous fuels would be reduced with mechanical treatments on approximately 1000 acres, and underburn approximately 3000 acres around the area of Camp Baldwin Boy Scout Camp.

The project area was divided into treatment zones and Priority areas were developed for treatment based on where the Forest Service was to concentrate efforts depending on available funding. Priority area 1 is to be treated first for immediate protection of Camp Baldwin and adjacent private lands, with Priority area 2 as re-enforcement of treatments to Priority 1. Priority area 3 is not an immediate treatment area, but maintenance underburning would be done for areas previously treated using prescribed fire, and mechanical treatments would be looked at in a separate document. The mechanical treatments in Priority 1 and 2 areas include commercial and non-commercial thinning, pruning, and girdling. Underburning also is proposed in Priority 1 and 2 areas. Figure 2-1 displays the priority areas within the project area.

The mechanical treatment methods would consist of tree thinning from below (including the sale of vegetative material), machine piling, hand thinning, pruning by hand, machine mastication, and manual brush removal. A total of approximately 1100 acres would be treated by mechanical methods and up to 630 of these acres may be underburned in the future. The remaining acres occur in areas to the south and east of Camp Baldwin and underburning would maintain their current desirable condition.

Thinning from below for the purpose of hazardous fuels reduction means that smaller diameter trees growing in lower crown positions would be removed, leaving more space around remaining larger trees. To further reduce fuel loadings, trees would be selected for removal if their spacing facilitates the spread of a crown fire (canopy closure), or a tree form contributes to the initiation of a crown fire (crown base height) such as low growing tree branches over brush, which if ignited, could lead to crown fire initiation. Trees heavily infected with dwarf mistletoe would also be removed, since these trees contribute to ladder fuels (low hanging “brooms”), to low crown base height (distance from surface fuels to bottom of tree crowns), and to torching. These trees may be removed through mechanical means or girdled to provide for snags and wildlife trees. Tall brush, which may contribute to the initiation of a crown fire, would also be reduced. Activity fuels (residue from mechanical treatments such as masticated material, thinning, etc.) as well as residual fuels from natural accumulation would be treated by piling and burning, to reach a target fuel loading of between 7 and 15 tons per acre in the zero to three-inch in diameter downed woody material. Stands where the dominant species and fire regime are appropriate, such as ponderosa pine and western larch in a low intensity, frequent fire return interval, would be treated so that future underburning could occur to maintain stand conditions. Variable density thinning would be completed as appropriate.

The stands proposed for fuel reduction would average 40 to 60 trees per acre after treatment. The target canopy closure of remaining overstory would be 40 percent to 60 percent, depending on slope and the condition of potential trees to be retained within a stand. Achieving this canopy closure would be extremely difficult in many areas. The largest trees were removed from the entire project area many decades ago, and the residual stands are heavily infected with dwarf mistletoe and most have centers of root disease. It is unlikely that these stands would be in their present condition if fire had played its natural (i.e., sanitizing) role in this landscape. Fuel reduction activities through root disease centers is likely to result in some patch openings. Where root disease is identified, disease resistant species would be left. Stand density would vary with the availability of healthy leave trees. Some pruning of trees may occur in or around entrances and camping areas to the three campgrounds in the project area (Eight Mile and Lower Eight

Mile Campground, and the Underhill site) after thinning activity fuels, to further reduce ladder fuels in remaining overstory.

Table 2-1 summarizes of the proposed treatments, and Table 2-2 and Figure 2-2 provide detailed treatments by Priority areas for each unit.

Table 2-1: Summary of Proposed Treatments

TREATMENT	ACRES
Thin and prune (CTP)	304
Thin, prune and underburn (CTPU)	407
Thin and underburn (CTU)	5
Hand thin	36
Thin saplings (PCT)	94
Thin saplings and prune (PCTP)	13
Thin saplings, prune, and underburn (PCTPU)	9
Thin saplings and underburn (PCTU)	98
Prune	97
Stewardship	65
Underburn	276
TOTAL	1406

Unit 21 is the 40-acre National Forest System parcel within the privately-owned boundary of Camp Baldwin. Unit 21 includes established, semi-permanent camp sites that are managed through a special use permit issued to Boy Scouts of America. The Forest Service is responsible for the vegetation management within the special use area. Previous treatments had provided most of the fuels reduction needed for the unit; however, the Forest Service would remove hazard trees and snags in the camping areas and horse trail. The trees would be left on the ground for down woody material or used for Boy Scout activities. There is approximately a five to ten acre unit along the eastern boundary that may need treatments involving thinning of small diameter material and hand piling, then burning the piles. Some or all of these areas could be underburned in the future, depending on stand conditions, after hand/mechanical treatment. The emphasis within this area would be to ensure the future safety of the campers and camp sites. All vegetation management operations would be coordinated with the Boy Scouts and would not occur from June until August while camp is in session, as indicated in the design criteria/mitigation measures for this project.

Treatment within 100-feet of an intermittent stream would be limited to hand treatment or left untreated completely. Similarly, within 150-feet of a perennial stream, activities would be limited to hand treatment or left untreated completely. These riparian treatments apply to all units. Snags would be retained to meet habitat requirements for the Northern spotted owl. Also, snags would be created through the girdling of trees infected with dwarf mistletoe. A minimum of 110 linear feet of down woody material and an average of four snags/acre would be retained. Snags to be created by girdling trees infected with dwarf mistletoe are included in this number.

To improve the habitat for the Northern spotted owls, the 100-acre Late-Successional Reserve (LSR) within the project area was moved as part of the proposed action (see Figure 2-3). The owls were not occupying the originally designated habitat because younger stands and the 4400 road fragmented the LSR. The LSR was moved to the west side of the road to include the historic activity center for a pair of spotted owls and to include more unfragmented suitable habitat. Lastly, moving the 100-acre LSR separated the habitat from harvest activities on adjacent lands, which provides better habitat for the owls and is more compatible with the goals and objectives of the LSR.

The area is moderately roaded from past forest management activities and recreation use. Most areas would use available roads and skid trails existing from past activities. A few temporary roads may be constructed for removal of vegetation, but these roads would be rehabilitated at the end of the project. No more than 3-miles of temporary roads would be constructed for this project. Figure 2-4 is a map of the proposed temporary roads. The proposed temporary roads may change as the project implemented, in order to minimize any potential damage to natural resources.

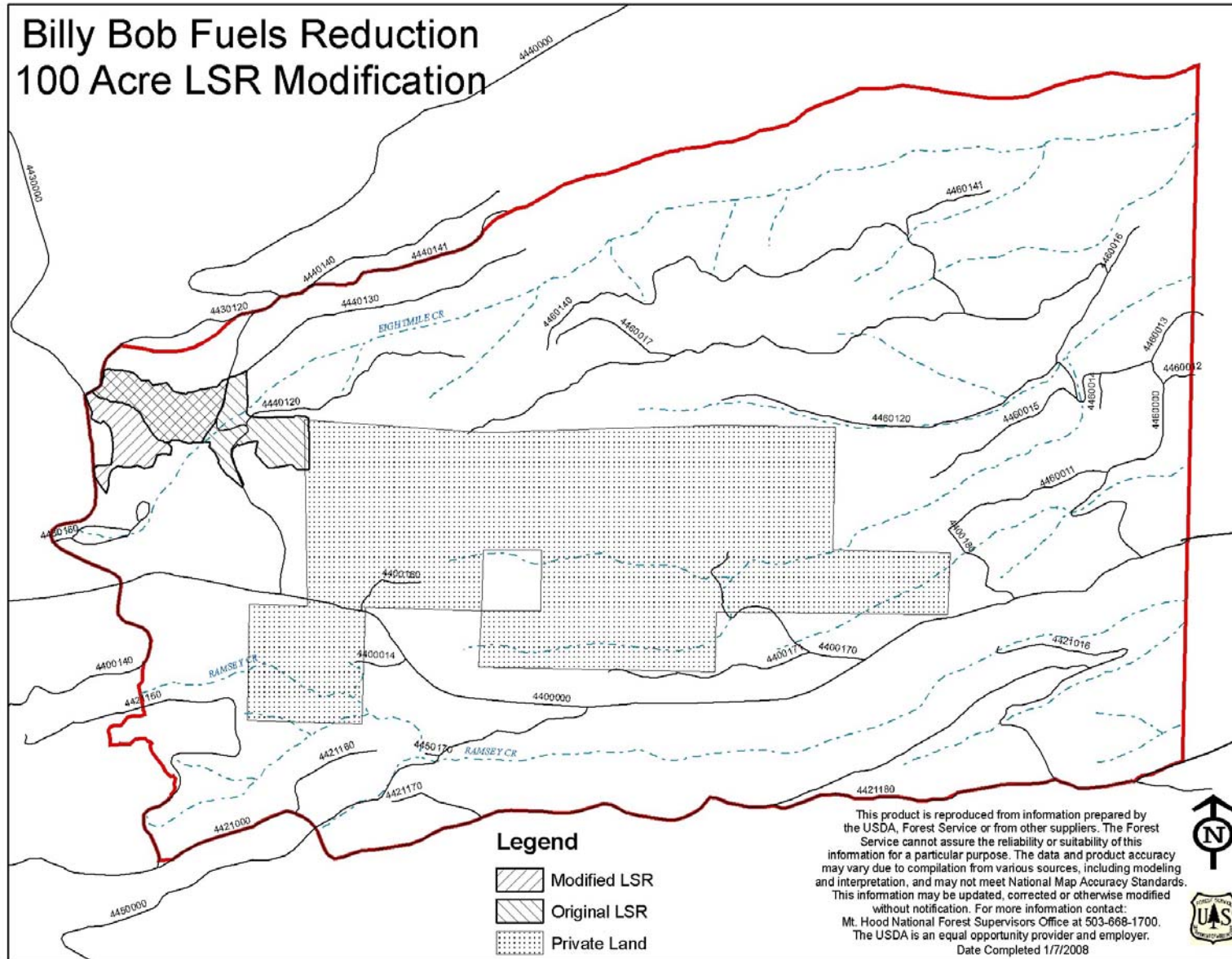


Figure 2-3: Map of Proposed Temporary Roads within the Billy Bob project area.

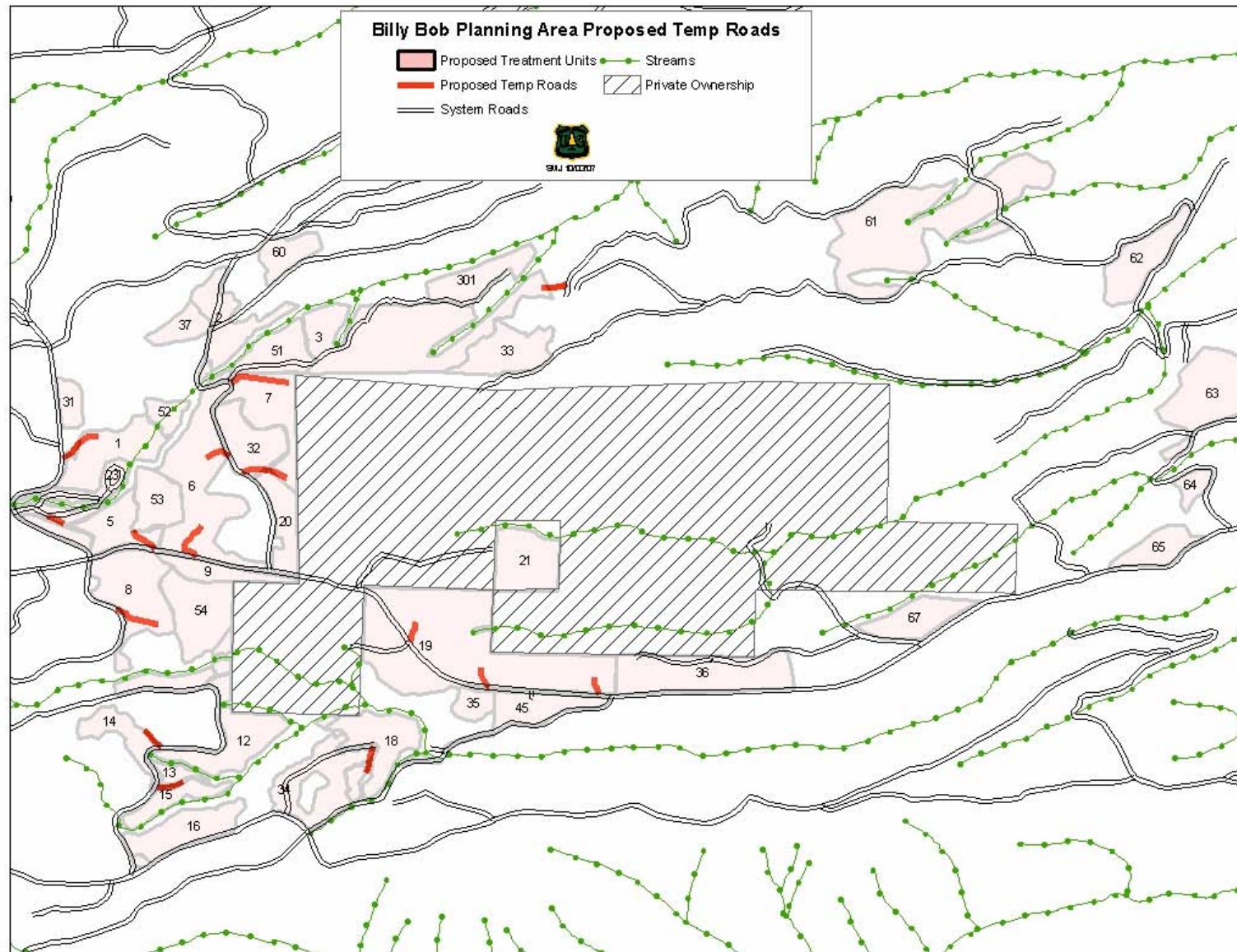


Figure 2-4: Map of Proposed Temporary Roads within the Billy Bob project area.

Table 2-2: Treatment prescriptions by priority and treatment units. The abbreviations used in the table are defined as follows. Treatment: CTPU = Thin, prune and underburn; CTP = Thin and prune; CTU = Thin and underburn; CT = Thin; PCTP = thin saplings and prune; PCT = thin saplings; PCTU = Thin saplings and underburn; UB = Underburn. DMT = dwarf mistletoe. Species: DF = Douglas-fir; WL = western larch; PP = ponderosa pine

Priority	Unit	Treatment	Yarding	Underburn	Comments	Girdle Dwarf Mistletoe trees	Approx Acres	Target Canopy Cover (%)
1	3	CTP	Tractor		DF DMT heavy; WL; Root disease; Plant PP	Yes	105	40
1	7	CTPU	Tractor	Yes	DF, WL, PP DMT; Root disease; Plant PP	Yes	37	50
1	12	CTPU	Cable	1/2	DF DMT	Yes	35	40
1	17	CTU	Tractor	Yes	Root disease; DMT DF, PP, WL	Yes	5	40
1	18	CTP	Cable	Defer	DF DMT; Root disease; Stem decay		33	40
1	19	CTPU	Tractor	Yes			155	40
1	20	CTPU	Tractor	Yes	Protect larch regeneration patches		22	40
1	21	CTP	Tractor		Boy Scout use		34	60
1	22	CTP	N/A		Reach from road		1	50
1	32	PCT	Non-commercial Mechanical				29	50
1	33	PCT	Non-commercial Mechanical		WL DMT	Yes	31	50
1	34	PCTU	Non-commercial Mechanical	Defer	DMT in overstory	Yes	40	50
1	35	PCT	Non-commercial Mechanical				10	50
1	43	Hand Thin	Handpile	No	Riparian, adjacent to private lands; suitable northern spotted owls		2	60
1	44	Hand Thin	Handpile		Riparian; DMT in WL, DF Overstory		2	60
1	45	Hand Thin	Handpile		Underhill Site, Archaeological site		24	60
1	51	Prune		Defer	Underburn in 3 to 5 years		25	n/a

Priority	Unit	Treatment	Yarding	Underburn	Comments	Girdle Dwarf Mistletoe trees	Approx Acres	Target Canopy Cover (%)
2	1	CTPU	Tractor	Yes	DF DMT; 8-Mile Creek; trail	Yes	38	60
2	4	CT	Tractor		DF DMT heavy; Root disease; Plant PP	Yes	8	40
2	5	CTP	Tractor	Defer	DMT DF; Dead GF	Yes	24	40
2	6	CTP	Tractor	Defer	DF DMT heavy; Root disease; Plant PP, WL; 8-Mile Creek	Yes	73	60
2	8	CTPU	Tractor	Yes	Root disease; Plant PP, WL; DMT WL; Hand thin larch patches	Yes	49	40
2	9	CTPU	Tractor	Yes	DF DMT heavy; Root disease; Plant PP	Yes	17	60
2	10	CTP	Cable		DF DMT; Root disease	Yes	13	60
2	11	CTPU	Tractor	Yes			4	40
2	13	CTPU	Cable	Defer	DF DMT	Yes	6	60
2	14	CTPU	Tractor	Yes	DF DMT heavy	Yes	20	60
2	15	CTPU	Tractor	Yes	DMT in DF, PP	Yes	16	40
2	16	CTPU	Tractor	Yes	DF, WL, PP DMT; Root disease; Plant PP	Yes	32	40
2	23	CTP	Tractor, lightly		Eightmile Campground, Riparian; DF DMT		25	60
2	31	PCTP	Non-commercial Mechanical		DMT in DF overstory	Yes	9	50
2	41	Hand Thin	Handpile		Lower Eightmile Campground, Riparian; DF DMT		3	60
2	42	Hand Thin	Handpile		Riparian, adjacent to private lands		5	60
2	53	Prune					22	n/a
2	54	Prune		Defer			40	n/a
2	55	Prune					2	n/a
3	2	CTP	Tractor	Defer	8-Mile Creek		31	60
3	36	PCTU		Yes			58	40
3	37	PCTP			DMT in DF overstory	Yes	13	50

Priority	Unit	Treatment	Yarding	Underburn	Comments	Girdle Dwarf Mistletoe trees	Approx Acres	Target Canopy Cover (%)
3	52	Prune	Defer		Plant and Defer pruning five years		9	n/a
3	60	Underburn		Yes			16	n/a
3	61	Underburn		Yes			118	n/a
3	62	Underburn		Yes			31	n/a
3	63	Underburn		Yes			59	n/a
3	64	Underburn		Yes			8	n/a
3	65	Underburn		Yes			19	n/a
3	67	Underburn		Yes			25	n/a
3	301	CTP	Cable		DMT DF	Yes	25	40

Other Activities Proposed

Natural fuels (litter, brush, and trees) would be treated in the Proposed Action. Treatment methods would be handpiling, pile burning, underburning, mowing/mastication, fireline construction, and maintenance treatments. The treatments would be used over a large area to reduce the fuel loadings and modify the fuel profiles of the unit.

Hand Piling

Handpiling is the piling of understory brush, small trees, and down dead woody material by hand crews into piles of woody debris that may be later burned or utilized. Chainsaws and hand tools would be used to cut the material to aid in the piling operation. Ladder fuels are reduced as a result of the piling of brush and small trees. The fuel loading is reduced by the piling and subsequent burning of the down dead woody material. The piles are burned in the fall season.

Machine Piling

Machine piling is the use of mechanical devices to pile activity and residual fuels. Bulldozers are generally more efficient in collecting and piling vegetative debris and creating compact piles. Typical mechanical use on the Mt. Hood National Forest is grapple piling to reduce soil disturbance.

Pile Burning

Pile burning is the consumption of landing, hand and/or mechanical piles. The hand piles would contain woody material from brush, small trees, and other dead woody material found on the surface. Mechanical piles would contain woody material from within a treatment unit consisting of residual and activity fuels. The landing piles would contain the woody material (limbs, needles, bark and portions of the trunk) removed from the tree during the harvesting procedure. Landing piles are much larger than hand piles to dispose of the piled fuel concentrations. Pile burning would occur in the fall season. A burn plan would be written which outlines the parameters under which the burning would occur.

When possible, utilization of piles would be encouraged rather than burning. Utilization is dependent on existing market conditions. After thinning operations, there is a small amount of clean up remaining, which consists of burning the residual piles. Burning the pile eliminates the high concentrations (fuel loading) of woody material.

Mowing/Mastication

The treatment consists of mowing the understory of brush, small trees, and other vegetation. A mowing attachment is towed behind a dozer or tractor, or attached to the head of an excavator. The vegetation is chopped into small pieces and left on the surface. Ladder fuels are reduced by mowing thus reducing potential for crown fire initiation.

Underburning

Underburning is the use of prescribed fire underneath existing or residual trees to treat natural and /or created fuels, such as dead woody material, needle litter and dead brush. The majority of the units in the project area would require thinning and/or mowing before underburning can be done safely and effectively. Underburning unit boundaries would be coordinated with individuals

from archaeology, silviculture, and fire management. In most of the units needing to be underburned, the burning would be completed one to four years after the original hand piling or mowing is completed. The underburning is conducted in the spring and fall seasons. A burn plan would be written which outlines the parameters under which the burning would occur.

Underburning would occur in stands classified as existing in Fire Regime 1, as described in the Fire and Fuels section. A post-treatment review would determine the need for implementing the underburns.

Leave Tops Attached Yard

This method is used to harvest trees. Commercial harvest would occur in trees four inches to 21 inches diameter breast height (DBH). Trees would be thinned from below to approximately 50-60% canopy closure, and to a basal area per acre determined for the stand type and future stand structure. A mechanized feller buncher or similar machinery, restricted to designated skid trails, or cable systems on steeper slopes would be used to remove any vegetative material to meet silvicultural and fuels needs. The tops and limbs are left attached to the last log of each tree as it is yarded to the landing. The tops and limbs are machine piled and burned at the landing or utilized as chips or fuel wood. Vegetation removal may be done over frozen ground or when soil conditions allow.

Fireline Construction

In the units to be underburned, firelines would need to be constructed to serve as control lines during burning operations. The firelines would be constructed either with hand crews with hand tools, with a small plow pulled by an ATV (all-terrain vehicle) or with another form of mechanized equipment (if needed due to fuels or topography). Firelines would be constructed to minimum standards needed to control the burns. Normally a 4 to 6 foot clearing with a 1 to 1.5 foot wide mineral soil line would be sufficient. All downed woody fuels would be cleared, but no duff, grasses or other ground cover would need to be removed. Brush may need to be cut out if line locations cannot avoid them.

Combined Fuel Treatments

In some instances, a combination of treatments would occur in the same unit, such as mowing/mastication, thinning, piling, pile burning, and underburning. Underburning would occur at least one year or possibly several years, after other treatments (hand pile, pile burn, thinning, and/or mastication).

All prescribed burning would occur under the guidance of a site-specific plan that would be developed for each burn area prior to ignition. The burn plan includes the weather and fire behavior prescriptions, resource needs, contingency plans, mitigations, smoke management requirements, lighting techniques, risk assessment, hazard analysis, and site specific resource objectives. Burn plans are written in accordance with the current 5140 directive (FM-5140), and must meet all required elements prior to approval of the plan by the District Ranger or Forest Supervisor.

Maintenance Treatments

It is expected that vegetation would return at varying rates, which would facilitate a staggered maintenance program. Most of the maintenance would include brush removal. Triggers would be established to determine when an area was ready for future treatment (e.g. when grass or trees get to a certain height). Tall shrubs are reduced significantly after a thinning, but may return to pre-thin levels within 5-7 years (Wilson and Puettmann 2006). Prescribed burning and pile burning would be included as part of the maintenance plan.

Road Reconstruction and Maintenance Activities

No new permanent road construction would be necessary. Some short temporary spurs would be needed to access landings. Road reconstruction and maintenance is necessary on haul routes identified for this project. Weak areas would be reconstructed as needed. These activities are described in Table 2-3. Snowplowing may occur on all roads within the project area, if needed for implementation, with the following exceptions. Snow plowing would not be allowed on Roads 44 and 4430 from December 15 to April 15 to allow for winter recreational uses. Snowplowing would not be allowed on Road 4460120 to minimize the effects to aquatic species and habitat.

Table 2-3 list routes along with the length that could be used for haul. The table includes four categories for maintenance and reconstruction work that are recommended to be accomplished prior to commercial haul. The majority of the work would be accomplished with standard road maintenance specifications, including brushing, drainage maintenance and routine blading.

Table 2-3: Road reconstruction and maintenance needs for identified haul routes.

Road¹	Miles	Brushing	Drainage²	Surface³	Blading³
4400000 From MP 9.78 to MP 14.57	4.79	X	X	X	
4400014 From MP 0.00 to MP 0.30	0.30	X	X	X	
4400140 From MP 0.00 to MP 1.27	0.20	X	X	X	
4400170 From MP 0.00 to MP 0.70	0.70	X	X	X	X
4400180 From MP 0.00 to MP 0.25 Decommissioned (94)	0.25	X	X	X	X
4421000 From MP 2.07 to MP 7.80 at Forest Service Boundary	5.73	X	X	X	X
4421016 From MP 0.00 to MP 0.30	0.30	X	X	X	X
4421150 From MP 0.00 to MP 1.10	1.10	X	X	X	X
4421160 From MP 0.00 to MP 0.50	0.50	X	X	X	X
4421170 From MP 0.00 to MP 0.40	0.40	X	X	X	X
4421180 From MP 0.00 to MP 1.20	1.20	X	X	X	X

Road ¹	Miles	Brushing	Drainage ²	Surface ³	Blading ³
4430000 From MP 0.00 to MP 1.10	1.10	X	X	X	X
4430120 From MP 0.00 to MP 0.56	0.56	X	X	X	X
4430150 From MP 0.00 to MP 0.82	0.82	X	X	X	X
4440000 From MP 0.00 to MP 1.42	1.42	X	X	X	X
4440120 From MP 0.00 to MP 0.20	0.20	X	X	X	X
4440130 From MP 0.00 to MP 1.50	1.50	X	X	X	X
4440140 From MP 0.00 to MP 1.10	1.10	X	X	X	X
4450000 From MP 0.00 to MP 1.32	1.32	X	X	X	X
4460000 From MP 0.00 to MP 6.20	4.45	X	X	X	X
4460120 From MP 0.00 to MP 1.60	1.60	X	X	X	X
4460140 From MP 0.00 to MP 2.60	2.60	X	X	X	X
4460141 From MP 0.00 to MP 0.54	0.54	X	X	X	X
TOTAL MILES	32.68				

1 Roads are asphalt, gravel, and native surface.

2 Road drainage consists of ditch to culverts or insloped or outsloped surface to draindrips or berms.

3 Deep patching, patching and reconditioning of aggregate surface roads would use standard construction specifications. All work would be within the existing road structure.

Mt. Hood Land and Resource Management Plan Consistency

Standards and guidelines in the Mt. Hood Forest Plan were not written to address hazardous fuels reduction. When the Mt. Hood Forest Plan was written, it emphasized traditional timber sales, rather than fuels reduction projects. The following standards would not be met with this proposal.

- Detrimental Soil Impacts (FW-022): The combined cumulative detrimental impacts, occurring from both past and planned activities, of detrimental soil compaction, puddling, displacement, erosion or severely burned soil should not exceed 15 percent of the activity area.

Units 19 is adjacent to Road 44 and/or surrounded by lands belonging to the Boy Scouts. It is likely these units already exceed the 15 percent standard due to impacts such as vegetation management, installation of a buried irrigation pipeline parallel to Forest Road 4400, and extensive crisscrossing pathways caused by campers. In Unit 19, the amount and resulting effect from detrimental soil condition would be very similar in appearance to the vegetation treatments and burning that occurred east of this area adjacent to the

north side of Forest Road 4400 (Document O1, Soils Productivity Repose, pages 9 and 11). The only area expected to receive additional impacts and not meet Forest Plan Standard FW-022 is Unit 19. See Chapter 3, Soil Productivity section for more details.

- **Organic Matter (FW-033):** At least 15 tons per acre of dead and down woody material in east side vegetation communities...should be maintained and evenly distributed across managed sites.

It is likely organic matter tonnage would be reduced to levels below Forest Plan Standard FW-033, especially in the higher fire frequency areas. Since the overarching goal of the hazardous fuel reduction project is to reduce organic matter available to burn, it is a trade-off to meet the purpose and need. Fine organic matter levels should trend upward as the forest floor in higher fire frequency areas increase in shrubs, forbs, and grasses. Also, it is likely localized acreage would be lower than Forest Plan standards for organic matter, which is an intention of the proposed action for a hazardous fuel reduction project. When this occurs, it is not expected to be a substantial impact to nutrient cycling because these are not clearcuts followed by intense burning and extreme loss of current and future organic matter, and many of the soils impacted would retain substantial organic matter reserves in the mineral topsoil due the way in which they have developed. See Chapter 3, Soil Productivity section for more details.

- **Snags (FW-215):** Where new timber harvest units occur, wildlife trees (i.e., snags and green reserve trees) should be maintained in sufficient quantity and quality to support over time at least 60 percent of the maximum biological potential of primary cavity nesting species.

Tree removal would reduce snags, down wood and canopy closure. The project does not impact any designated marten or pileated woodpecker habitat areas (B5) designated in the Mt. Hood Forest Plan. The proposed project would reduce snags and down wood to the 30 percent level. This would impact these species negatively within the planning area; however, adequate snags and down wood would still persist within the watershed. The trade-off for not meeting is Forest Plan Standard FW-215 is reducing the hazardous fuels within the project area and meeting the purpose and need for action. Mitigation measures are incorporated into the proposed action to ensure that there is no major impact because adequate snags and down wood would be retained within the watershed. See Chapter 3, Wildlife Resources section for more details.

- **Down Wood Material (FW-219):** An average total of at least 6 logs per acre in decomposition classes 1, 2 and 3 should be retained in all project activity areas.

Like many dynamic processes, soils form and can change as other ecological processes are altered, such as fire return interval. Nature will store organic matter reserves in the mineral soil or on top of it. This project would reduce our medium to coarse woody debris levels to below the Forest Plan Standard FW-219 (above ground storage); however, over the longer term as forest floor vegetation responds to additional sunlight and more frequent fire, there should be more below ground storage in the fine roots of

grasses, forbs, and non-woody stemmed plants. Soils developed under more frequent fire returns tend to have a more developed, darker topsoil that 'stores and protects' site organic matter from loss during fire. Like many of the ecological processes, this is as it should be in terms of soil development, which does not mesh well with our blanket standard for tonnage levels on the far eastside of the Forest. See Chapter 3, Soil Productivity section for more details.

- Silvicultural Systems (FW-333): Uneven-age management should not be applied on slopes where cable logging systems would be necessary (30+% slopes).
- Silvicultural Systems (FW-337). Uneven-aged management should not be applied where stands are moderately to heavily infected with dwarf mistletoe.

Silvicultural systems refer to whether even-aged or uneven-aged management should be applied. Even-aged systems are regeneration harvests, including clearcutting, seed tree, and shelterwood cuts. The Forest Plan recommends an even-aged system on slopes over 30 percent because the residual trees in an uneven aged harvest system are often damaged with cable logging systems. Even-aged management is also the preferred approach when treating stands with dwarf mistletoe because of the spread of the parasitic plants to healthy trees under the canopy of infected trees. These Standards (FW-333 and FW-337) are not being met because the silvicultural prescriptions specify appropriate mitigation measures in management areas where uneven-aged management is being considered to fulfill resource objectives other than timber production (Forest Plan, Four-88). The objective of this project is fuels reduction while maintaining structure for aesthetics, wildlife, nutrient cycling, future stand composition and health. Mitigation measures create patch openings, girdle mistletoe-infected trees, underburn, and use directional falling techniques to limit residual tree damage on cable logged slopes which are part of the design of the proposed action. The expected condition after harvest is reduced mistletoe infestation creating a more open forest with a greater grass, forb, and shrub undergrowth. See Chapter 3, Vegetation Resources section for more details.

- Visual Resource Management (FW-556): The prescribed VQO [visual quality objective] should be achieved within one year after completion of any project activities.
- Visual Resource Management (B2-015): Unacceptable changes in form, line, color and/or texture resultant from management activities should be corrected with the first year after the activity.

Experience has shown it is not possible to attain the visual quality objective of retention when such large quantities of fuel need to be removed. The foreground of Dufur Mill Road is designated as a retention visual quality objective (VQO). Even if landings, skid trails, and temporary roads are not evident, stumps, slash and disturbed ground make management activities obvious for a period of time. The trade-off for not meeting Visual Quality Standards FW-556 and B2-015 for a 5 to 10 year period is that a long-term improvement can be achieved much more quickly by treating all of the stands right up in to the visible foreground now. Mitigation measures to hide skid roads, landings and slash

piles from the foreground view would aid in meeting objectives; however, given the prescribed treatments, the views in the project area would most likely only meet the visual quality objective of partial retention, with many areas only meeting modification following treatment, not retention as prescribed in the Forest Plan. With careful implementation and management, it should be possible to meet partial retention over most of the project area within five years, and retention over most of the area in 10 years or less. The visual resource management is described more in the “Alternatives Considered, but Eliminated from Detailed Analysis” section of this chapter and the Visual Quality section of Chapter 3.

Exceptions to these standards are required to meet the purpose and need of effective fuel reduction. These exceptions were identified during the interdisciplinary planning analysis and the IDT process concluded that these exceptions were within the purpose and need for action. All other standards and guidelines are expected to be met with this proposal.

Design Criteria/Mitigation Measures for Proposed Action

The National Environmental Policy Act defines “mitigation” as avoiding, minimizing, rectifying, reducing, eliminating or compensating project impacts. The following mitigation measures are an integral part of this project and would be carried out if the project is implemented. In most cases, the effects analysis in Chapter 3 is based on these mitigation measures being implemented.

Fuels:

1. Any mechanical slash piling would be done with a grapple piler/excavator. Grapple piles would be covered with plastic to facilitate consumption of piled fuels. Piles need to be 8-foot wide at base, 6-foot high as a minimum*.
2. Hand piles would be constructed with enough fine fuels to allow for ignition during fall and winter months, and covered with plastic to facilitate consumption of piled fuels. Piles need to be 8-foot wide at base, 6-foot high as a minimum¹.
3. Soil in mechanized piles would be minimized to facilitate efficient burning.

Vegetation:

1. Patch openings would be created in root disease pockets. These openings would be planted with root disease resistant species native to the area.
2. Retained trees with a dwarf mistletoe rating of 2 or more would be girdled within unit boundaries.
3. Unit 21 would not be entered once summer camp starts at Camp Baldwin in June until summer camp ends in August. Operations in Unit 21 would be coordinated with the Boy Scouts.
4. Fuels will be removed from beneath legacy ponderosa pine before underburning.

¹ The Forest Service will meet an *average* width of 8-feet and height of 6-feet for mechanical and hand piles. From past experience with implementation, it is virtually impossible to maintain an exact dimension of fuel piles, so allowance for a small deviation will be made as long as this deviation doesn't jeopardize meeting the above stated goals.

Roads:

1. Haul would be restricted to the normal operating season, unless weather conditions permit operating outside of this window.
2. Snowplowing would be restricted when a freeze/thaw condition is expected or when a saturated base and subgrade would result.
3. Snowplowing would not be allowed on Roads 44 and 4430 from December 15 to April 15 to allow for winter recreational use.
4. Snowplowing would not be allowed on Road 4460120 to minimize the effects to aquatic species and associated habitat.
5. The contractor or permittee would be responsible for snow removal in a manner which would protect roads and adjacent resources.
6. Rocking or other special surfacing and drainage measures may be necessary before the operator would be allowed to use the roads after snowplowing.
7. After snowplowing, snow berms shall be removed or breached to avoid accumulation or channelization of melt water on the road and prevent water concentration on erosive slopes or soils. If the road surface is damaged, the contractor or permittee shall replace lost surface material with similar quality material and repair structures damaged in the operations, unless otherwise agreed to in writing.

Soil Resource:

1. All temporary roads, skid trails, and landings would be rehabilitated after project activities are completed in each unit.
2. In commercial units, ground-based harvest systems should not be used on slopes greater than 30 percent to avoid detrimental soil and/or watershed impacts.

Riparian Areas:

1. No vegetation removal or manipulation would occur within 60 feet[†] of any perennial and 30 feet[†] of any intermittent streams, seeps, springs or wetlands. This would ensure current stream shading would remain unchanged and protect stream temperatures as well as reduce the likelihood of eroded material entering streams.
2. No mechanized equipment would be allowed within 100-feet[†] of perennial streams, seeps, springs or wetlands. Equipment that may be used in the Riparian Reserves is as follows: chainsaws, pruning shears, winch machinery, and slash-busters. The use of feller-buncher machinery is excluded in Riparian Reserves. This would reduce the chance of sediment delivery to surface water.
3. Fueling of gas-powered machinery would not occur within 150-feet of any live waters to maintain water quality.
4. Use erosion control measures (e.g., silt fence, native grass seeding) where de-vegetation may result in delivery of sediment to adjacent surface water. Soil scientists or hydrologists would assist in evaluation of sites to determine if treatment is necessary and the type of treatment needed to stabilize soils.
5. Locate new temporary roads and landings outside of Riparian Reserves.
6. New temporary roads would not exceed a total of 3 miles in the Billy Bob Planning Area.

[†]

7. Any felled trees which fall into the 60-foot “no touch” area of perennial and 30-foot “no touch” area of intermittent streams, seeps, springs or wetlands would be bucked at the “no touch” edge and only the portion of tree outside this area can be removed.
8. Low severity burns shall constitute the dominant type of controlled burn within the Riparian Reserve, resulting in a mosaic pattern of burned and unburned landscape.
9. Moderate-severity burns are permitted in no more than 20 percent of the riparian area to invigorate decadent willows, and other relevant deciduous species.
10. Ignition can occur anywhere in the riparian area as long as project design criteria are met.
11. Hand piling slash in Riparian Reserves is permitted.
12. Burning activities excluded in the Riparian Reserves are as follows: No mechanical piles, fire line construction, and chemical fire retardants.
13. Any mechanical slash piling would be done with a grapple piler.

Wildlife:

1. If a spotted owl activity center is located in the project area, a seasonal operating restriction (March 1- July 15) would be placed in the area impacted.
2. A seasonal operating restriction (restricting harvest and fuels treatment activities) for winter range would be implemented with this project from December 1 through April 1 for Units 1-9, 18-20, 33, 35, and 45.
3. Survey and Manage species found during 2007 surveys would have the location protected.

Invasive Species:

1. It is recommended that “pre-treatment” occur before any harvest activities are implemented along the 44, 4430, 4440, 4450, 4460, 4440-120, 4421 roads. The effects of treatment type (hand pulling, mechanical, and/or herbicide treatment) were analyzed in the Barlow Noxious Weed Environmental Assessment and are included in the final Mt. Hood National Forest Invasive Species Environmental Impact Statement.
2. In order to prevent any introduction of noxious weed and/or seeds onto National Forest System lands, the actions conducted or authorized by written permit by a purchaser/contractor (if operating outside the road prism) require the cleaning of all heavy equipment prior to entering National Forest System lands. Only construction and maintenance equipment and the equipment necessary to transport said equipment would be allowed to operate within the project area. All subsequent move-ins of equipment to the project area shall be treated in the same manner as the initial move-in. This requirement does not apply to service vehicles, water trucks, log trucks, pickups, cars, and/or similar vehicles.
3. The purchaser/contractor shall give the Forest Service at least 48 hours notice of when equipment is ready for inspection. Notification would include an agreed upon location where the equipment would be available for inspection by the Forest Service. Inspection would be required after every cleaning. The Forest Service shall approve the methods of cleaning and the locations for the cleaning.
4. The process for locating all skid trails and landings would be coordinated with a noxious weed specialist so as to insure these locations are not within any currently established noxious weed populations.

5. If at all possible schedule the implementation of work from infestation-free areas into infested areas rather than vice-versa.
6. If the need for restoration/revegetation of skid trails and landings is identified, the use of native plant materials are the first choice for meeting this objective where timely natural regeneration of the native plant community is not likely to occur. Non-native, non-invasive plant species may be used in any of the following situations: 1) when needed in emergency conditions to protect basic resource values (e.g., soil stability, water quality and to help prevent the establishment of invasive species), 2) as an interim, non-persistent measure designed to aid in the re-establishment of native plants, 3) if native plant materials are not available, or 4) in permanently altered plant communities.
7. Under no circumstances would non-native invasive plant species be used for revegetation.
8. If using straw, hay or mulch for restoration/revegetation in any areas, use only certified, weed-free materials.

Recreation (Trails and Campgrounds):

1. Trees harvested within the 50-feet of trails 459, 459A, and 683 would be felled directionally away from the trail. No trees would be felled over trails.
2. All brush piles, landings and skid trails would be located at least 100 feet from trails 459 and 459A unless blocked by topography from view.
3. All stumps within 100 feet of trails 459, 459A, and 683 would be cut to 6 inches in height or less.
4. Prescriptions would ensure that small islands of trees and shrubs would be interspersed along trails 459, 459A, and 683 to aid in holding visual quality.
5. The methods used to rehabilitate landings, skid trails and temporary roads would be designed to meet visual quality standards within foreground of both trail 459 and 459A, and modification on trail 683.
6. Retain at least 3 to 5 large trees per acre in the immediate foreground of trails 459 and 459A where stands contain suitable trees.
7. Ground disturbance and activity debris resulting from project activities would remain visually subordinate in the immediate foreground trails 459 and 459A.
8. All trees in campgrounds would be removed before Memorial Day or after Labor Day, unless removal is specifically approved by a recreation staff person.
9. Screening between campsites at Lower Eightmile and Upper Eightmile campgrounds would be maintained, where possible.
10. Trees would be left in a 100-foot-wide edge around the campgrounds, in order to prevent off-highway vehicle and vehicle traffic from entering or leaving the campgrounds via cross-country paths.

Visual Quality:

1. New landings, skid roads, and temporary roads should not be visible from Forest Road 44.
2. Any rehabilitation or road closure activities for skid trails, temporary roads and/or landings should not be visible from Forest Road 44.
3. All machine brush piles should be located at least 150 feet from Forest Road 44 and should be completely consumed when burned if visible from the road.

4. Hand piles should be located at least 100 feet from Forest Road 44 and should be completely consumed when burned if visible from the road.
5. All stumps within 150 feet of Forest Road 44 should be cut to less than 6 inches in height during felling operations.
6. Any trees less than 6 inches diameter within 100 feet of Forest Road 44 should be cut off at ground level.
7. Root wads, log chunks, rounds and other wood residue that does not appear natural should be placed in burn piles and consumed.
8. Any major ground disturbance visible from Highway 44 from project operations should be returned to natural grades while machinery is present.
9. Prescriptions would ensure that small islands of trees and shrubs would be interspersed in the foreground of Forest Road 44 to aid in holding visual quality. Plants left in the islands should be natural in appearance.
10. Prescribed burning should be designed to avoid scorching large trees in the foreground and browning out crowns of smaller live trees in the retention islands.

Heritage Resource Sites:

1. A 100-foot buffer zone for the exclusion of heavy machinery would be flagged around all designated heritage structural remains or significant designated cultural resource sites.
2. Prescribed burning may occur, but machine piling may not occur within the flagged buffer zones.
3. A 50-foot buffer zone for the exclusion of heavy machinery would be flagged on both sides of historic ditches.
4. All trees with insulator mountings would be avoided during harvest activities, unless otherwise specified by the archaeologist.

REGULATORY FRAMEWORK

Best Management Practices included in the Proposed Action

According to the Northwest Forest Plan, Best Management Practices (BMP) would be incorporated into the implementation of the project. BMP are drawn from General Water Quality Best Management Practices, Pacific Northwest Region (November 1988) and the Draft Environmental Protection Agency Region 10 Source Water Protection Best Management Practices for USFS, BLM (April 2005).

Consistency with the Healthy Forest Restoration Act and the Northwest Forest Plan

The Healthy Forest Restoration Act (H. R. 1904-8) requires that projects designed under its authority fully maintain, or contribute toward the restoration of, the structure and composition of old growth stands according to the pre-fire suppression old growth conditions characteristic of the forest type, taking into account the contribution of the stand to landscape fire adaptation and watershed health, and retaining the large trees contributing to old growth structure. This project would retain the structure and composition of pre-fire suppression old growth by promoting fire-adapted species where their health condition does not threaten the overall health of the stand.

HFRA provides that old growth direction in the Northwest Forest Plan Record of Decision is sufficient to meet the requirements of the Act. The Northwest Forest Plan Record of Decision recognizes that large-scale disturbances, such as fire, can eliminate spotted owl habitat on hundreds or thousands of acres. Elevated risk levels are attributed to changes in the characteristics and distribution of the mixed conifer forests resulting from past fire protection. Management activities designed to reduce risk levels are encouraged in Late Successional Reserves even if a portion of the activities must take place in currently late successional habitat (S &G C-13, ROD).

Large tree retention: The proposed treatments meet this requirement by retaining large trees suitable to the site in mature stands, and reducing stand density that has increased since the exclusion of fire. Large trees would be retained where they do not threaten the overall health of the stand. Trees with dwarf mistletoe threaten the overall health of the stand and would either not be retained or would be girdled. The HFRA states that the large tree retention requirement must not prevent agencies from reducing wildland fire risk to communities, municipal water supplies, and at-risk Federal land.

NFMA Findings for Vegetation Manipulation

As required by regulations (FSH 1909.12 5.31a), “all proposals that involve vegetative manipulation of tree cover for any purpose must comply with the seven requirements found at 36 CFR 219.27(b).” All of these requirements are met by the project.

Suitability for Timber Production: The primary objective of the proposal is fuel reduction rather than timber production. However, as a pre-cursor to the silvicultural diagnosis process, stand reconnaissance is conducted to determine existing stand conditions, and a determination of suitability (in regard to management of the stand for timber production) is made for each stand. Stands proposed for harvest treatment in Billy Bob Hazardous Fuel Reduction area were examined for suitability in accordance with 36 CFR 219.13, Timber resource land suitability. Stands were found to be suitable for timber management based upon the following:

- Meet the definition of forestland as described in 36 CFR 219.3.
- Technological feasibility exists to ensure soil productivity and watershed protection. All sites considered for treatment would use established harvesting and site preparation methods. In combination with resource protection standards in the Forest Plan and applicable Best Management Practices, these methods would be sufficient to protect soil and water resource values.
- There is reasonable assurance that lands can be restocked within 5 years of final harvest (this generally does not apply to the proposed fuel reduction units, as they would be thinned. Openings in root disease pockets would be regenerated with rot resistant species.).

The Forest Plan has identified and mapped lands that are unsuitable for timber production based on the above listed criteria.

Suitability for uneven-aged management: Forest Plan guidelines advise against uneven aged management in stands with dwarf mistletoe and/or root disease. It states “However, silvicultural prescriptions may specify appropriate mitigation measures in Management Areas where uneven-

aged management is being considered to fulfill resource objectives other than timber production.” (Forest Plan, page Four-88). The resource objective here is fuel reduction while maintaining structure for aesthetics, wildlife, nutrient cycling, and future stand composition and health. Mitigation measures such as patch openings, girdling and underburning are written into the design of the proposed action to meet Forest Plan direction.

COMPARISON OF ALTERNATIVES

This section provides a summary of the effects and trade-offs of No Action Alternative versus implementing the Proposed Action. It compares the two alternatives in terms of how they meet project objectives (purpose and need as stated in Chapter 1) and how they address concerns/issues identified during public scoping. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Table 2-4: Comparison of Alternatives in Relation to Identified Objectives and/or Issues Identified by the Public

Objective or Issue	No Action	Proposed Action
<p><i>Objective</i> Protect the structures and improvements on the Camp Baldwin Boy Scout Camp from uncharacteristically severe wildfire.</p>	<p>High fuel loads exist directly adjacent to Camp Baldwin, which makes the structures and improvements difficult to protect.</p>	<p>Fuel loads reduced directly adjacent Camp Baldwin on National Forest System lands, and adjacent stands treated to help fire crews suppress fires in adjacent stands before they reach the Camp. Treatments within Unit 21 meet this objective.</p>
<p><i>Objective</i> Reduce hazardous fuel loadings and fuel ladders to reduce fire behavior on National Forest System lands adjacent to Camp Baldwin and nearby private land as well as adjacent lands to the east of the National Forest System boundary.</p>	<p>High fuel loads on National Forest System lands provide for the potential of an uncharacteristically severe wildfire directly adjacent to Camp Baldwin and nearby private lands.</p>	<p>Treatments in all units focus on reducing the hazardous fuel lands and fuel ladders to reduce fire behavior. The percent remaining canopy cover adjacent to Camp Baldwin is 50 to 60 percent, as requested by the Boys Scouts. The percent remaining canopy cover on units adjacent to other private lands is 40 to 60 percent.</p>
<p><i>Objective</i> Change existing fire condition class around Camp Baldwin, private lands, and adjacent private land east of National Forest System boundary to a more historic condition.</p>	<p>Most units are Condition Class 3, where fire regimes/vegetation patterns have been substantially altered from historic ranges, the risk of loss of key ecosystem components from fire is high, fire frequencies have departed from historic frequencies in size/ frequency/ intensity/ severity and landscape patterns. Forest ecosystems at risk from current infestations of insects, disease and tree density.</p>	<p>Moves Priority 1 and 2 areas from Condition Class 3 to Condition Class 1 (the more historic condition)</p> <p>Forest ecosystems moved from multi-canopy structure to single canopy structure in keeping with historic patterns, allowing remaining trees more water and nutrients, enabling them to better survive drought, insects and disease, and stand replacing fire.</p>

Objective or Issue	No Action	Proposed Action
<p><i>Issue</i> <u>Large Tree Retention:</u> The fuels reduction project by removing all diseased trees with mistletoe would not adequately protect the largest trees. All old growth characteristics and trees with older qualities (thick bark, yellowing bark, flat top, asymmetric crown, broken tops, forked tops, etc.) should be maintained.</p>	<p>No treatments. No change in existing conditions, as described in the Vegetation Resource section of Chapter 3.</p>	<p>Large trees would be retained where appropriate. Leaving all large trees would not meet the purpose and need for this project due to the infestations of dwarf mistletoe. Many of the older (150+ year) Douglas-fir in the stands within the project area are infected with dwarf mistletoe, most with 100 percent of the crown affected, creating huge witches' brooms.</p>
<p><i>Issue</i> <u>Temporary Roads:</u> Creating temporary roads may lead to resource damage, especially if these roads are not successfully obliterated upon completion of the project.</p>	<p>No temporary roads would be constructed.</p>	<p>Temporary roads would be rehabilitated after project implementation. New temporary roads would not exceed a total of 3-miles in the Billy Bob Planning Area.</p>
<p><i>Issue</i> <u>Visual Quality:</u> The visual aspect of the Mt. Hood Forest seen from hiking trails is very important to hikers. Maintain the visual quality objectives in the scenic viewshed of Dufur Mill Road as seen from Road 44.</p>	<p>Area within the Dufur Mill scenic viewshed is allocated as retention in foreground and partial retention in the middle and backgrounds. All trails in project area are classified as Level II with a visual quality objective of Partial Retention in the Forest Plan. Area is currently densely forested, and stand conditions have changed from past fire suppression.</p>	<p>Visual quality objectives of retention and partial retention are met in the middle ground and background of the Dufur Mill Scenic Viewshed. The visual quality objectives are met for all trails. A Forest Plan exception is included because the Proposed Action would not meet the visual quality objective of retention in the foreground of the Dufur Mill Road within one-year as suggested by the Forest Plan.</p>