

Appendix B - Resource Protection Measures for the Selected Action

Primary Resource	Resource Protection Measure Objective	Resource Protection Measure*	Units/Location	RPM#	Sale (C), Service (S), Other ¹	S/P ²	V ³
Soils	Standard Soil Practices <i>To maintain soil productivity, forest floor integrity, and reduce detrimental soil disturbance during project implementation</i>	R1 Soil and Water Conservation Practices, Standard Soil Operating Procedures, Best Management Practices (BMPs) for Forestry and Streamside Management, and Timber Sale Contract language, would be implemented (Soil File 6). Soil Specialist Report Appendix B contains definitions and guidelines for summer ground-based commercial harvest.	All Activity Units	1	C	S	
“	Large Woody Material in YST units <i>To ensure adequate woody material is left on the ground for nutrient cycling</i>	Due to low levels of organic matter, all material cut would be left on site to slowly release nutrients to the soil, improve water retention, and provide future soil organic matter. Prescribed fire or slash piling would not be applied to these units unless the unit is reviewed by the Forest Soil Scientist or fire is prescribed greater than 5 years after the thinning treatment.	Young Stand Thinning Units 80, 81, 82, and 84	2	C	P	
“	LWM in Unit 200 <i>To ensure adequate woody</i>	Due to low levels of organic matter and forest floor development, the site preparation and reforestation prescription would leave large woody	Unit 200	3	C	P	

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	<i>material is left on the ground for nutrient cycling, site amelioration, and forest floor development</i>	material in the 13-18 tons/acre range where available. Large woody material would consist of both down and standing wood.					
“	<p>Commercial Thinning Activities – Harvest Operations</p> <p><i>To maintain soil productivity and reduce detrimental disturbance and weed impacts</i></p>	<p>Summer Operating Conditions</p> <p>Where they exist and are safe, existing skid trails would be used unless approved by the TSA.</p> <p>Operation of skidding equipment off of designated trails would be minimized unless dispersed skidding is approved during winter periods.</p> <p>Harvesting and skidding operations would not occur unless specified conditions (i.e., dry soil) exist over approximately 85% of the harvest unit (including landings). Soil moisture would be evaluated at the bottom of the root-tight layer if one exists or within the top 6-12 inches of the soil surface (Refer to Table B1 in the Soil Specialist’s Report for a definition of dry soil by soil texture).</p> <p>Equipment would be allowed to</p>	Ground-based portions of Unit 1	6	C	S	

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		<p>operate on slopes averaging 35% or less, and would also be allowed to operate on slopes of 35-40% (less than 100 feet in length) as approved by the TSA in coordination with the Soil Scientist.</p> <p>Existing landings would be re-used to the extent possible.</p>					
"	<p>Skid Trail - Location, Construction, Use, Rehabilitation</p> <p><i>To maintain recreation and cultural resources, visual quality, and soil productivity as well as reduce detrimental soil disturbance and improve the recovery of native vegetation</i></p>	<p>During Dry Season Operations. Where they exist and are safe, existing skid trails would be used unless approved by the TSA.</p> <p>Operation of skidding equipment off of designated trails would be minimized unless dispersed skidding is approved by the TSA during winter periods.</p> <p>Any skid trail crossings will be perpendicular to system trails. The skid trail will curve as soon as feasible to minimize the distant view. Slash and debris will be placed within the skid trail for at least the "line-of-sight" to discourage use by recreationists</p>	Within 100 feet of system trails in ground-based portions of Unis 1	7	C C S	S P P	
"	<p>Log Landings - Location, Construction,</p>	Where practicable, landings would be constructed, piled, and burned in areas where detrimental soil	Within 100 feet of system trails in ground-based	8	C	P	

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	<p>Pile Burning, Rehabilitation</p> <p><i>To maintain recreation and cultural resources, visual quality, and soil productivity as well as reduce detrimental soil disturbance and improve the recovery of native vegetation</i></p>	<p>disturbance already exists (i.e., previous log landings, skid trails, and roads associated with past activity). If possible locate landing piles outside of sensitive viewsheds.</p> <p>When activities occur along open trails, whenever possible slash will be treated within 100 feet of the corridor within 6 months and no longer than 1 year.</p> <p>If “curtain” (incinerator) burning is used, locate burning pit in an interior location in the stand where it is not visible from trails or creeks. Do not develop access routes that follow a straight line of sight, curve the route to limit distant view. Use of the access route would occur over a slash mat.</p> <p>Where landing piles will be burned on-site the following rehabilitation is required.</p> <ul style="list-style-type: none"> • Treat the landing for weeds, • After the piles are burned, rehabilitate the landing by site scarification (hand or machine 6-12 inches deep, subsoiling may be prescribed by the 	portions of Unit 1		<p>O</p> <p>O</p> <p>S/C</p>	<p>P</p> <p>P</p> <p>S/P</p>	

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		Forest Soil Scientist), <ul style="list-style-type: none"> • Seed the landings in the fall, or as practicable, with native seed composed of species similar to the surrounding area (check with botanist or native plant coordinator), • Place slash over the site to a depth of 2-3 inches covering 65-70 percent of the landing. Ensure the slash is in contact with the soil surface, and • Plant the landing with tree seedlings. • Monitor the landing for the first 5 years to ensure re-vegetation is successful and self-sustaining. 					
"	Hand-Piled Slash - Location, Construction, Use, Rehabilitation <i>To maintain recreation and cultural resources, visual quality, and soil productivity as well as reduce</i>	In areas beyond 50 or 100 feet of system trails and dispersed campsites. Prior to hand piling, slash would be left through one winter after cutting to allow for initial decomposition and nutrient leaching OR , in lieu of this, material less than 1" diameter at breast height would be lopped and scattered and not piled and burned. Exception: units adjacent to private	50 feet for Units 61, 64, and 90-92 100 feet for Units 2, 3, 6, 60, 70 and 71	10	0	P P P	

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	<p><i>detrimental soil disturbance and improve the recovery of native</i></p>	<p>land or those identified in the silviculture prescription with insect concerns may be piled and burned as soon as possible to reduce fire hazard</p> <p>Where practicable, slash would be piled and burned in areas where detrimental soil disturbance already exists (i.e., old log landings, skid trails, and roads associated with past activity).</p> <p>Handpiles would be constructed so they are no larger than about 6 feet in diameter and 6 feet high.</p> <p>For locations within 50 or 100 feet of system trails and dispersed camp sites.</p> <p>Where practicable, slash would be piled and burned in areas where detrimental soil disturbance already exists (i.e. old log landings, skid trails, and roads associated with past activity). To the greatest extent practicable, slash piles would not be constructed on shrubs patches or other areas of dense understory vegetation.</p>			<p>C</p> <p>C</p> <p>C</p>	<p>P</p> <p>P</p> <p>P</p>	

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		<p>Handpiles would be constructed so they are no larger than about 6 feet in diameter and 6 feet high.</p> <p>Locate piles outside of sensitive viewsheds where feasible.</p> <p>When activities occur along open trails, whenever possible slash will be treated within 100 feet of the corridor within 6 months and no longer than 1 year.</p> <p>Slash would not be removed from skid trails or landings to discourage off trail use.</p> <p>After burning, scarify the scorched area (6-8 inches deep without turning over the soil) and seed. Ideally seeding would be done in the fall, or as practicable. Use native seed composed of species similar to the surrounding area (check with botanist or native plant coordinator). Slash would be placed over the burn pile covering 65-70% of the scorched area to a depth of 2-3 inches.</p>			C	S	
					C	P	
					O	P	
					C	P	
					S	P	
Soils, Noxious	Delay	Delay underburning until weed control and vegetation re-seeding is	Unit 64	12	O	S	

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Weeds	Underburning <i>To provide time for weed control and re-seeding efforts to be successful</i>	successful. Prescribed fire would only be allowed once native vegetation is established, effective groundcover exceeds 60% of the surface area, and plants and plant roots can withstand fire.					
Visual Quality	<i>To minimize the visual impacts of skyline corridors</i>	<ul style="list-style-type: none"> To the greatest extent possible, fell trees first and establish corridors in openings. Vary the distance between cable corridors Establish corridors more frequently than every 75 feet to minimize residual damage and allow for narrower (less visible corridors) Retain irregular clumps of leave-trees- leave some larger clumps oriented up and down slope, lay out corridors between, not through the leave-clumps, if feasible, to the greatest extent practicable. 	Skyline harvest portions of Unit 1	14	C	P	
"	<i>To minimize the visibility of tree marking after</i>	<ul style="list-style-type: none"> Use cut tree marking so that no paint will remain visible after 	Unit 1	15	C	P	

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	<i>treatment</i>	<p>implementation.</p> <ul style="list-style-type: none"> Use secondary cut tree color (yellow) or tertiary cut tree color (green) (FSH 2409.12 timber cruising handbook.) to be less visible than blue (primary cut tree color). Use alternative unit boundary marking (tree tags) that doesn't use paint or only uses stump marks. 					
"	<i>To minimize slash piles and residue that appears man-made</i>	Flush cut stumps (8" or less in height).	When visible, up to 100' from system roads or trails in ground-based portion of Unit 1.	16	O	P	
"	<i>To reduce visual impacts of bridge abutment re-enforcement</i>	<p>Design will be coordinated with Forest Landscape Architect, and will consider design features such as:</p> <ul style="list-style-type: none"> Use natural materials such as rounded (non-fractured) boulders or timbers with backfill to stabilize road/trail. Avoid use of gabions which are not natural-appearing at close 	Spring Creek Bridge	17	C	P	

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		range. If use of concrete is necessary, integrate color and texture.					
"	<i>To minimize visual impact of culvert replacement in terms of form, line, color and texture</i>	<p>Design will be coordinated with Forest Landscape Architect. Consider design features such as:</p> <ul style="list-style-type: none"> • Culvert will have mitered ends to reduce exposed surface area • Exposed metal surface of the culvert will be painted flat black or brown to reduce visibility and glare or an oxidizing treatment will be applied. • If visible any use of concrete would be colored or textured to appear less dominant in the landscape. 	Marshall Creek Culvert	18	S	P	
TES Plants	<i>To reduce impacts to native flora</i>	If plants of local concern, such as rare or sensitive plants, are detected in the project area, the Forest Botanist would be contacted so that protective measures may be revised or newly prescribed. This could include addition of buffers activity timing	Project Area	19	C	S	

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		restrictions.					
Noxious Weeds	<i>To reduce or eliminate the introduction or spread of weeds</i>	Treat weeds on haul routes, decommissioned roads, landings, and other areas where ground disturbance would occur as a result of this project.	Project area	20	C	S	
“	<i>To reduce or eliminate the introduction or spread of weeds and the impacts of herbicide treatments</i>	Weed treatments will tier to Lolo National Forest Integrated Weed Management Plan (USDA Forest Service, 2007), including approved herbicides, treatment strategies and mitigation measures. Implement mitigation measures 1-48 (starting on page 28 of the Lolo National Forest Integrated Weed Management Plan 2007). These include evaluating the weed site for sensitive plant habitat, implementing Region 1 weed prevention practices and BMPs (FSM 2081.2), revegetating sites with a seed mix that includes native species, following herbicide application law, and posting signs where herbicides are being applied.	Project area	21	C	S	
“	“	Skyline corridors and skid roads will not be located in patches of leafy spurge.	Unit 1	22	C	P	

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“	“	Burn piles will be seeded in the fall, or as practicable, with native seed composed of species similar to the surrounding area (check with botanist or native plant coordinator)	Project area	23	C	S	
Forest Vegetation	<i>To protect at risk and/or large diameter (21"+) trees</i>	Where deemed necessary by a Silviculturist, measures would be taken to protect at risk and/or large diameter (21"+) trees from excessive crown and bole scorch to the extent feasible to avoid unintentional mortality,	All units	24	C	S	
“	<i>To protect desirable natural regeneration</i>	To the extent practicable, protect areas of acceptable natural regeneration that meet stand stocking and species preference objectives from prescribed burning fire effects.	All units	25	O	P	
“	<i>To reduce the potential risk of annosus root disease spread</i>	Treat any susceptible, live ponderosa pine stumps, greater than 12" dbh with Sporax within 24 hours of cutting.	Unit 1	26	O	S	
“	<i>To reduce the likelihood of Ips population buildup</i>	Where deemed necessary by a Silviculturist, slash piles that contain ponderosa or lodgepole pine slash would be burned in a timely fashion or baited	All units	27	O	P	√

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“	“	Where prescribed by a Silviculturist, ponderosa or lodgepole pine slash creating operations may be restricted to July through November.	All non-commercial units	28	O	P	√
“	<i>To repel mountain pine or Douglas-fir bark beetles from individual trees or areas</i>	Verbenone or MCH capsules may be applied	Within the analysis area	29	O	P	√
“	<i>To reduce the potential for mountain pine beetle (MPB) mortality</i>	Where deemed necessary by a Silviculturist or Entomologist, thinning, chipping, or grinding operations may be prohibited during beetle flight (July – August); and underburning may be delayed until MPB populations are at endemic levels.	Units 1-6, 80-84, 60-71 100 A/B, and 101	30	O	P	√
“	<i>To avoid not meeting Opportunity Class 2 in the RNRA</i>	Remove from treatment 10 acres in the northern tip of the unit which was proposed for young stand thinning and prescribed burning.	Unit 81	31	C	P	
Wildlife - Flammulated Owl	<i>To reduce disturbance to mating, nesting, or fledging flammulated owls.</i>	No thinning (commercial or non-commercial) activities will occur in units known to be occupied by flammulated owls from May 1 thru Aug 1.	Units 1, 4, 5, and 6	32	C	P	

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		Burning may occur in May, if necessary, but will not occur June 1 thru Aug 1.					
"	<i>To reduce potential damage to known nest trees.</i>	Known nest trees will be protected using methods deemed most practical during layout.	Units 1, 4, 5, 6	33	C	P	
"	<i>To reduce potential removal or damage of potential nest trees.</i>	Potential nest trees (snags >12" dbh with large 3" or greater cavities) will be identified and marked for retention as wildlife trees. These trees will be retained, to the extent practicable, given logging systems and other logistics. Note: because of flammulated owl nesting presence, snag retentions will likely exceed Forest Plan standards.	Units 1, 4, 5, 6	34	C	P	
"	<i>To promote stand conditions favorable for flammulated owls.</i>	Large, healthy ponderosa pine trees will be favored as leave trees. Any live trees >21" dbh will be retained, regardless of species, to the extent practicable given project objectives and implementation logistics. Due to the importance of large diameter snags for flammulated owls, with the exception of snags near roads, skylines, trails or where public and	Unit 1	35	C	P	

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		operational safety and facility protection is necessary, all dead trees greater than or equal to 21" dbh will be retained within treatment units, to the greatest extent practicable.					
"	<i>To maintain roosting habitat for flammulated owls.</i>	Within 150' of known and potential nest trees (large snags with cavities or those marked as wildlife trees) efforts will be made to retain 3-4 thickets of young dense trees following thinning and burning. A thicket is an approximately 20' diameter clump of sapling trees.	Units 1, 4, 5, 6	36	C	P	
Wildlife – Elk	<i>To reduce the potential for disturbance to elk in areas of particularly high quality winter range.</i>	<ul style="list-style-type: none"> Minimize spatial extent of ground-based disturbance to elk by working in phases, from Dec 1- May 1, thus, allowing for undisturbed areas as refugia for wintering elk. Conduct work in phases (Phase I = Unit 1; Phase II = Units 4, 5, 6, 60-62, 64, 66, 90 and 91). Complete Phase II work before beginning Phase I work, if working in both Phases in the same winter. 	Units 1, 4, 5, 6, 60-62, 64, 66, 90 and 91	37	C	P	
"	<i>To maintain snow-intercept cover in</i>	Favor large, healthy mature trees with	Unit 1	38	C	P	

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	<i>elk winter range habitat.</i>	full crowns as leave trees.					
"	<i>To protect important habitat features for elk.</i>	If any elk wallows are identified during layout, a wildlife biologist will be consulted and the unit will be modified to meet Forest Plan standard #21.	All units	39	C	S	
Wildlife – Mule Deer	<i>To reduce disturbance to mule deer on winter range.</i>	If treatments (including thinning or burning) are to occur in mule deer winter range from Dec 1- May 1, treatment will not occur in units 71 or 65 at the same time that treatment is occurring in units 2 and 3 to ensure mule deer adequate refugia from disturbance.	Units 2, 3, 65, 71	40	C	P	
Wildlife – Goshawk	<i>To protect important habitat features and minimize disturbance to nesting goshawks.</i>	If a goshawk nest is discovered within the project area during implementation, mitigation measures would be implemented to help ensure that nest sites and post-fledgling areas receive minimal disturbance. A 40-acre buffer would be placed around each nest area to provide long-term nesting habitat. In addition, a 420-acres no-activity buffer would be put in place around the nest site from	All units	41	C	S	

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		April 15 thru August 15.					
Wildlife	<i>To protect TES species</i>	If any threatened, endangered, or sensitive species or bear dens are located during project layout or implementation, a wildlife biologist will be notified. Management activities would be altered, if necessary, so that proper protection measures can be taken. Timber sale contract provisions that require the protection of threatened, endangered, and sensitive species would be included in the timber sale contract.	All units	42	C	S	
“	<i>To reduce the potential for animal/human conflicts, particularly with bears.</i>	Food and other animal attractant storage would be required for all contract and Forest Service personnel working in the project area from April 1 thru December 1. All personnel are required to follow forest-wide food storage order. The wildlife biologist will be notified of any suspected bear dens so appropriate measures can be determined at that time.	Project Area	43	C	S	
“	<i>To ensure snag retention</i>	Adhere to snag retention standards from the Lolo Forest Plan (1986). Specifically, for units in moderately	All units	44	C	S	

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		warm and dry sites (habitat group 2) retain 4 hard snags/acre (min 10" dbh, 15' tall) with a min. of 1 big snag/acre (20" dbh, 40' tall). For moderately cool and dry sites (habitat group 3), retain 3 hard snags/acre and 1 big snag/acre. Select ponderosa pine, western larch, and Douglas-fir when available, in order of preference.					
Wildlife and Soil	<i>To ensure sufficient large woody debris for structural habitat diversity and forest floor function</i>	Follow Forest Plan standards for downed woody debris retention.	All units except Unit 200 (refer to RPM #3)	45	C	S	
Water Quality and Fisheries	<i>To reduce impacts to water quality/fisheries</i>	Best Management Practices (BMPs) will be met as a minimum for all operations to comply with the Lolo National Forest Plan.	Project Area	46	C	S	
"	<i>To reduce impacts to water quality/fisheries and cultural resources from vegetation treatments and associated road</i>	<ul style="list-style-type: none"> Apply INFISH RHCA buffers (300 feet from perennial fish bearing streams, 150 feet from perennial non-fish bearing streams and wetlands > 1 acre, 100 feet from intermittent streams and wetlands < 1 acre in the Rattlesnake Ck. priority watershed, and 50 feet 	All units	47	C	S	

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	<i>work</i>	<p>from intermittent streams and wetlands < 1 acre in the Marshall Ck. non-priority watershed).). Any variations from these buffers will need to be approved by the project fisheries biologist or hydrologist PRIOR TO implementation.</p> <ul style="list-style-type: none"> • The boundaries of all RHCAs will be flagged PRIOR TO on the ground activities. • Ground-based equipment is excluded from all RHCAs buffers except on existing road surfaces. • Non-commercial thinning treatments must not occur within 50 feet of a scoured channel. • All mechanized hand tools will be refueled outside RHCAs and fuel storage will not occur within an RHCA, unless on existing road surfaces with an approved spill containment plan in place. 					
"	"	<ul style="list-style-type: none"> • Follow mitigation measures outlined within the 2014 DRAFT Bull Trout Programmatic 	Haul routes	48	C	S	

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		<p>Biological Assessment for Road Related Activities (USDA-FS and USDI-BLM 2014).</p> <ul style="list-style-type: none"> • Slash filter windrows will be applied to identified stream crossings and relief culvert outlets on haul routes BEFORE blading and haul are to occur to reduce sediment effects. • If winter hauling is to occur, snow drainage outlets will be created through snow berms PRIOR TO winter haul and kept open throughout the duration of winter hauling. Snow drainage outlets should typically be placed at or near drain-dips or other drainage features on the road. Clear/open culverts and ditches restricted by snow or ice to allow for proper drainage and maintain 2 inches of snow on roadways during winter plowing operations to protect the road surface from mechanical disturbance. • If winter haul will occur before planned road BMPs, the Timber Sale Administrator will contact the 					

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		appropriate Engineer and Hydrologist or Fisheries Biologist prior to winter operations to assure that typical requirements are sufficient to mitigate sediment effects, or if more specific BMPs would be necessary.					
“	<i>To reduce impacts to water quality/fisheries from rehabilitation work</i>	<ul style="list-style-type: none"> • Obliteration of roads or road segments within 300' of stream channels will be fully recontoured, slashed, and seeded (Level V closure). • Where existing crossing structures will be removed, streams will be restored to appropriate dimensions (width, depth, and slope). • Complete instream work between July 15th and September 1st or when stream is dry. • All stream crossings will be designed to meet Q100 flow conditions and Aquatic Organism Passage (AOP) requirements. • Any instream work requires a Stream Protection Act 124 Permit 	Decommissioned roads, stream crossings, and instream work	49	S	P	

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		through Montana Fish, Wildlife and Parks					
“	<i>To reduce impacts to water quality/fisheries from prescribed burning</i>	<ul style="list-style-type: none"> • Follow mitigation measures outlined within the Programmatic Biological Assessment for Prescribed Fire (USDA-FS and USDI-BLM 2001), which includes specific measures regarding storage and handling of toxic materials/fuels and drafting water from streams. • Retain a duff layer within riparian/wetland areas. • No aerial ignition within RHCAs and no ground ignition within 50 feet of a scoured channel; however, incidental prescribed fire is allowed to creep into these areas. • Fire line will be allowed to anchor with RHCA but not to parallel within. • Burn piles are restricted within RHCAs. 	Project Area	50	C/0	S	

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Air Quality	<i>To assure that air quality standards are met</i>	<ul style="list-style-type: none"> All prescribed burning would be conducted in compliance with State, Federal, and County air quality standards. Prescribed burning ignition days would be regulated by ID/MT Airshed Group and Missoula County Air Quality Regulations for Airshed 3A and 3A/M to mitigate the smoke effects. Fire Management staff would generate public notice information just prior to burn days 	Project area	51	0	S	
“	“	All prescribed burning generated by this project would be accompanied by an approved prescribed burn plan.	Prescribed burning including landing and pile burning	52	0	S	
Recreation Wildlife	<i>To minimize impacts to recreational users and wildlife</i>	Stage implementation in phases (for example, treatments would not occur in the Woods Gulch units at the same time as the main Rattlesnake corridor units.	Project area	53	C	P	
Recreation	<i>To keep the public informed and reduce safety</i>	Notify the public of area, road or trail closures due to project activities that will be occurring. Use signing, local newspapers, news broadcasts, and	Project area	54	0	S	√

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	<i>concerns</i>	Forest Web page and other social media platforms. Direct contact will be made with cooperators/partners to inform them of ongoing activities and closures.					
		Additional permanent signs will not be permitted without prior approval from the Missoula Ranger District Resource staff. Educational material will be provided in brochure or fieldtrip form (keeping within group size limits).	Project area	55	0	P	√
	<i>To minimize both short and long term impacts to recreation use and public safety</i>	<ul style="list-style-type: none"> • Coordinate treatment and timing with Missoula Ranger District Resource Staff to minimize conflicts with recreation use (including other recreation areas). • Warning signs will be placed on all trail access points and along the trail where activities are occurring. Warning sign placement must be coordinated with and approved by Missoula Ranger District Resource Staff. No placement of signs on trees or existing signs and information boards. 	Project area	56	C/O	P	

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		Dust abatement will occur where deemed necessary by the Timber Sale Administrator.	Unit 1	57	C	S	
		Avoid removal of ponderosa pine or western larch with a diameter larger than 21 inch dbh (to the greatest extent possible) when locating landings, skid trails and skyline corridors. Unique character trees (e.g., "Three Larches", trees along TR515) would be featured and retained within the project. If mature trees must be removed along TR515 to accommodate large vehicles, the recreation specialist will coordinate with the contract administrator to agree to the clearing limits and brushing to ensure character trees and the character of the trail are maintained to the greatest extent practicable.	Project area	58	C	P	
		All flagging and boundary signs will be removed upon completion of each phase of the project.	Project area	59	S	P	
Recreation (Rattlesnake Limits of	<i>To be in compliance with the Management</i>	Recreation and silviculture staff will flag specific areas of concern within 100 feet from where trails intersect in	RNRA	61	C	P	

Primary Resource	Resource Protection Measure Objective	Resource Protection Measure*	Units/Location	RPM#	Sale (C), Service (S), Other ¹	S/P ²	V ³
Acceptable Change)	<i>Direction in the RNRA</i>	order to reduce encounters between recreationists and to prevent new trails from forming by “trail cutting” between trails. Thinning or brushing will not occur in these flagged areas					
	“	Maintain visual separation between dispersed campsites; it is recommended that a 100 foot buffer be maintained around each campsite (see map in PF).	Unit 3 (Poe Meadows)	62	C	P	
	<i>To be in compliance with the Management Direction in the RNRA and to minimize impacts to wildlife and visual quality</i>	Feather vegetation, slash, or large woody debris within 100 feet of the trail corridors to provide screening and discourage off-trail use.	RNRA	63	C	P	
	“	Trails locations, alignment and surfacing will be retained. Trails will not be straightened or have their surface changed to an alternate material unless such actions are needed to enhance the trail and protect resources. If these actions are needed they must be coordinated with the Missoula Ranger District Resource	Project area	65	C	P	

Primary Resource	Resource Protection Measure Objective	Resource Protection Measure*	Units/Location	RPM#	Sale (C), Service (S), Other ¹	S/P ²	V ³
		Staff.					
	“	If trails are temporarily closed due to project activities, trail tread will be cleared of all slash immediately upon the trail being re-opened and cessation of harvest and thinning activities.	Project area	66	C	P	
	“	To minimize losses of vegetation and reduce trail width expansion, equipment will not be staged off the main trail (TR515) within 0.8 miles of the main trailhead unless in the parking lot on graveled surfaces. No equipment will be staged within 100 feet of the restrooms at Spring Gulch Junction, School House Junction or Poe Meadows. Existing open areas, which will be recommended by Recreation staff, will be used for staging.	Project area	67	C	P	
		User created non-system trails will not be re-opened if lost due to project activities	Project area	68	O	P	
		A parking plan for use along Road 99/Trail 515 will be developed and required for vehicles that are operating in conjunction with treatments. This will include agency	Road 99/Trail 515	69	O	P	

Primary Resource	Resource Protection Measure Objective	Resource Protection Measure*	Units/Location	RPM#	Sale (C), Service (S), Other ¹	S/P ²	V ³
		vehicles used during hand thinning and burning operations.					
		Ensure access for Road 99 road and dam maintenance/inspections and maintain administrative access.	Road 99/Trail 515	70	C	P	
		A landing and pile plan will be developed prior to implementation through coordination with the Contracting Officer's Representative, Recreation Staff and Timber Sale Administrator, and Contractor.	Project area	71	C	P	
Heritage	<i>To protect cultural and heritage resources</i>	During burning operations along Trail #99 protect historic telephone poles up the creek and along Rd 99 that look in some cases like old tall stumps or broken off snags.	Unit 71	72	C	P	√
"	"	If previously unknown heritage resources are encountered during project implementation, activities in that area will be halted and the Archeologist will be notified immediately.	Project area	73	C	S	
	<i>Cultural Resource protection flagging</i>	All site features within areas of potential disturbance will be flagged prior to implementation and avoided during implementation. Flagging will	Project area	74	C	S	

Primary Resource	Resource Protection Measure Objective	Resource Protection Measure*	Units/Location	RPM#	Sale (C), Service (S), Other ¹	S/P ²	V ³
		occur by archaeologist within a reasonable time period prior to implementation, to reduce attention and possible removal of feature/flagging by recreationalists.					
	<i>Tree Cutting</i>	Do not cut large ponderosa pine with barbed wire grown into them.	Unit 71	75	C	P	
	<i>Hand Piling</i>	Avoid piling on cultural resource features (e.g. can dumps, foundation remains, ditches, root cellar depressions)	Units 2, 3, 65, 70, 71, 100a, and 100b	76	O	P	
	<i>Burning</i>	Apply fire suppression activities during prescribed burning treatments near ponderosa pine with barbed wire grown into the bark and telephone poles.	Units 2,3,65,70,71, 100a, 100b	77	O	P	
Other	<i>To protect an ongoing research site during project implementation</i>	Apply a 200-foot buffer around site.	Near Spring Gulch (see Project File)	78	O	P	

*A resource protection measure may be a design feature that was identified before the project was developed to eliminate or avoid potential undesired effects, or it may be a project-specific design feature or mitigation measure developed to minimize or eliminate a known potential effect of this particular action. Another method, determined to be equally or more effective in meeting the resource protection measure objective recommended by a resource specialist and approved by a line officer, could be used.

¹ C = timber sale or other contract; S = service; O = other such as FS force account crew, silvicultural prescription, or treatment unit layout. ² S = standard operating procedure, meaning it is something the Missoula Ranger District routinely does. P = project-specific measure meaning this is a resource protection measure developed by the ID Team specifically for the Marshall Woods Restoration Project. ³ V = potential volunteer or partnership opportunity