
Appendix E
Project Design Features and
Mitigation Measures

Table E-1 – Watdog Project Design Features and Mitigation Measures.

Mitigation	Responsible Person(s)	Timeframe
Implement Best Management Practices (BMPs):		
Resource Concern: Soils / Fish / Hydrology / Wildlife		
The following BMPs apply to specific treatment units as listed:		
1.14 <i>Special Erosion Prevention Measures on Disturbed Land</i> —To provide appropriate erosion and sedimentation protection for disturbed areas. This is an administrative and preventive treatment. When required by the contract, the purchaser will give adequate treatment by spreading slash, mulch or wood chips (or, by agreement, some other treatment) on portions of tractor roads, skid trails, landings, cable corridors or temporary road fills. This provision is to be used only for sales which contain identified special soil stabilization problems which are not expected to be adequately treated by normal methods prescribed under other contract provisions. Treatment Units 7, 10, 20, 42, 45, 51, 56, 65, 73, 76, 78, 85, 87, 88, 89, 90, 91, 98, 101, 105, 107, 109, 113, 114, 202, 211, 215, 301, 302, 306, and 307.	Prep Officer & Timber Sale Administrator	Prior & during treatment
1.15 <i>Revegetation of Areas Disturbed by Harvest Activities</i> —To establish a vegetative ground cover on disturbed sites to prevent erosion and sedimentation. Where soil has been severely disturbed by the purchaser's operations, and the establishment of vegetation is needed to control accelerated erosion, the purchaser will be required to take appropriate measures normally used to establish an adequate ground cover of grass or other vegetative stabilization measures acceptable to the Forest Service. The type and intensity of treatment to establish ground cover is prescribed by the Sale Administrator, with assistance from earth scientists and botanists as needed. This measure is applied in contracts where it is expected that disturbed soils in parts of the sale area will require vegetative cover for stabilization and other contract provisions will not mitigate problems. Treatment Units 7, 10, 20, 42, 45, 51, 56, 65, 73, 76, 78, 85, 87, 88, 89, 90, 91, 98, 101, 105, 107, 109, 113, 114, 202, 211, 215, 301, 302, 306, and 307.		
The following BMPs apply to all treatment units:		
1.1 <i>Planning Process</i> —To incorporate water quality and hydrological considerations into the timber sale planning process.	Prep Officer & Timber Sale Administrator	Prior & during treatment
1.2 <i>Timber Harvest Area Design</i> —To ensure that timber harvest unit design will secure favorable conditions of water quality and quantity while maintaining desirable stream channel characteristics and watershed conditions.		
1.3 <i>Determination of Surface Erosion for Timber Harvest Unit Design</i> —To identify high erosion hazard areas in order to adjust treatment measures to prevent downstream water quality degradation.		
1.4 <i>Use of Sale Area Maps and/or Project Maps for Designating Water Quality Protection Needs</i> —To ensure recognition and protection of areas related to water quality protection delineated on sale area maps or project map.		
1.6 <i>Protection of Unstable Lands</i> —To provide special treatment of unstable areas to avoid triggering mass slope failure with resultant erosion and sedimentation.		
1.8 <i>Streamside Management Zone (SMZ) Designation</i> —To designate a zone along riparian areas, streams, and wetlands that will minimize potential for adverse effects from adjacent management activities. Management activities within these zones are designed to improve riparian values.		
1.9 <i>Determining Tractor Loggable Ground</i> —To minimize erosion and sedimentation resulting from ground disturbance of tractor logging systems.		
1.13 <i>Erosion Prevention and Control Measures During Timber Sale Operations</i> —To ensure that the purchasers' operations will be conducted reasonably to minimize soil erosion.		
1.18 <i>Meadow Protection During Timber Harvesting</i> —To avoid damage to the ground cover, soil, and the hydrologic function of meadows.		

Mitigation	Responsible Person(s)	Timeframe
1.19 <i>Streamcourse and Aquatic Protection</i> —(a) To conduct management actions within areas in a manner that maintains or improves riparian and aquatic values, (b) to provide unobstructed passage of stormflows, (c) to control sediment and other pollutants entering streamcourses, (d) to restore the natural course of any stream as soon as practicable, where diversion of the stream has resulted from timber management activities.	Prep Officer & Timber Sale Administrator	Prior & during treatment
1.20 <i>Erosion Control Structure Maintenance</i> —To ensure that constructed erosion control structures are stabilized and working. Erosion control structures are only effective when they are in good repair and function as designed. Once the erosion control structures are constructed there is a possibility that they may not become adequately effective, or they will become damaged from subsequent harvest activities. It is necessary to provide follow-up inspection and structural maintenance in order to avoid these problems and ensure adequate erosion control.		
1.21 <i>Acceptance of Timber Sale Erosion Control Measures Before Sale Closure</i> —To ensure the adequacy of required erosion control work on timber sales. The effectiveness of soil erosion prevention and control measures is determined by the conditions found after sale areas have been exposed for one, or more years to the elements as determined by the sale administrator. The evaluation is to ensure that erosion control treatments are in good repair and functioning as designed before releasing the purchaser from the contract responsibility.		
5.1 <i>Soil Disturbing Treatments on the Contour</i> —To decrease sediment production and stream turbidity while mechanically treating slopes. This is a preventive measure that limits surface disturbance activities to preclude water from concentrating by providing means of adequate infiltration and by decreasing the velocity of surface runoff so that infiltration is enhanced.		
5.2 <i>Slope Limitations for Mechanical Equipment Operation</i> —To reduce gully and sheet erosion and associated sediment production by limiting tractor use.		
5.3 <i>Tractor Operation Limitation in Wetlands and Meadows</i> —To limit turbidity and sediment production resulting from compaction, rutting, runoff concentration, and subsequent erosion by excluding the use of mechanical equipment in wetland and meadows except for the purpose of restoring wetland and meadow function.		
5.4 <i>Revegetation of Surface Disturbed Areas</i> —To protect water quality by minimizing soil erosion through the stabilizing influence of vegetation foliage and root network. This is a corrective practice to stabilize an otherwise unstable soil surface during vegetation manipulation projects. The plant species selected will be a mix best suited for site conditions and attainment of multiple management objectives for the area.		
5.6 <i>Soil Moisture Limitations for Mechanical Equipment Operations</i> —The objective of this measure is to prevent compaction, rutting, and gullying, with resultant sediment production and turbidity.		
7.3 <i>Protection of Wetlands</i> —To avoid adverse water quality impacts associated with destruction, disturbance, or modification of wetlands. The Forest Service will not permit the implementation of activities and new construction in wetlands whenever there is a practical alternative.		
7.6 <i>Water Quality Monitoring</i> —To collect representative water data to determine base line conditions for comparison to established water quality standards which are related to beneficial uses for that particular watershed.		
7.8 <i>Cumulative Off-Site Watershed Effects (Practice Needs Improvement)</i> —To protect the identified beneficial uses of water from the combined effects of multiple management activities which individually may not create unacceptable effects but collectively may result in degraded water quality conditions.		
The following BMPs apply to Harvest, Group Selection, and Individual Tree Selection (ITS) Treatment Units		
1.10 <i>Tractor Skidding Design</i> —By designing skidding patterns to best fit the terrain, the volume, velocity, concentration, and direction of runoff water can be controlled in a manner that will minimize erosion and sedimentation.	Prep Officer & Timber Sale Administrator	Prior & during treatment

Mitigation	Responsible Person(s)	Timeframe
1.11 <i>Suspended Log Yarding in Timber Harvest</i> —(a) To protect the soil mantle from excessive disturbance, (b) to maintain the integrity of the SMZ and other sensitive watershed areas, (c) to control erosion on cable corridors.		
1.12 <i>Log Landing Location</i> —To locate new landings or reuse old landings in such a way as to avoid watershed impacts and associated water quality degradation.		
1.16 <i>Log Landing Erosion Control</i> —To reduce the impacts of erosion and subsequent sedimentation associated with log landings by use of mitigating measures.		
1.17 <i>Erosion Control on Skid Trails</i> —To protect water quality by minimizing erosion and sedimentation derived from skid trails.		
The following BMPs apply to prescribed burn units:		
6.1 <i>Fire and Fuel Management Activities</i> —To reduce public and private losses and environmental impacts which result from wildfires and/or subsequent flooding and erosion by reducing or managing the frequency, intensity and extent of wildfire.	Prep Officer & Timber Sale Administrator	Prior & during treatment
6.2 <i>Consideration of Water Quality in Formulating Fire Prescriptions</i> —To provide for water quality protection while achieving the management objectives through the use of prescribed fire. Prescription elements will include, but not be limited to, such factors as fire weather, slope, aspect, soil moisture, and fuel moisture. These elements influence the fire intensity and thus have a direct effect on whether or not a desired ground cover remains after burning, and whether or not a water-repellent layer is formed. The prescription will include at the watershed and subwatershed scale the optimum and maximum burn block size, aggregate burned area, acceptable disturbance for contiguous and aggregate length for the riparian/SMZ; and expected fire return intervals and maximum expected area covered by water repellent soils.		
6.3 <i>Protection of Water Quality from Prescribed Burning Effects</i> —To maintain soil productivity, minimize erosion, and minimize ash, sediment, nutrients, and debris from entering water bodies.		
6.4 <i>Minimizing Watershed Damage from Fire Suppression Efforts</i> —To avoid watershed damage in excess of that already caused by the wild fire. Avoid heavy equipment operation on fragile soils and steep slopes whenever possible.		
6.5 <i>Repair or Stabilization of Fire Suppression Related Watershed Damage</i> —To stabilize all areas that have had their erosion potential significantly increased, or their drainage pattern altered by suppression related activities. Treatments for fire-suppression damages include, but are not limited to, installing water bars and other drainage diversions in fire roads, firelines, and other cleared areas; seeding, planting and fertilizing to provide vegetative cover; spreading slash, or mulch to protect bare soil; repairing damaged road drainage facilities; clearing stream channels or structures and removing debris deposited by suppression activities which can have adverse life, property and environmental impacts.		
The following BMPs apply to Temporary road locations, Haul Routes, Road Reconstruction, Road Decommissioning, and Stream Crossing Upgrade or Removals:		
2.1 <i>General Guidelines for the Location and Design of Roads</i> —To locate and design roads with minimal resource damage.	Prep Officer & Timber Sale Administrator	Prior & during treatment
2.2 <i>Erosion Control Plan</i> —To limit and mitigate erosion and sedimentation through effective planning prior to initiation of construction activities and through effective contract administration during construction.		
2.3 <i>Timing of Construction Activities</i> —To minimize erosion by conducting operations during minimal runoff periods.		
2.4 <i>Stabilization of Road Slope Surfaces and Spoil Disposal Areas</i> —To minimize erosion from exposed cut slopes, fill slopes, and spoil disposal areas.		
2.5 <i>Road Slope Stabilization Construction Practices</i> —To reduce sedimentation by minimizing erosion from road slopes and slope failure along roads.		

Mitigation	Responsible Person(s)	Timeframe		
2.6 <i>Dispersion of Subsurface Drainage from Cut and Fill Slopes</i> —To minimize the possibilities of cut or fill slope failure and the subsequent production of sediment.				
The following BMPs apply to Temporary road locations, Haul Routes, Road Reconstruction, Road Decommissioning, and Stream Crossing Upgrade or Removals:				
2.7 <i>Control of Road Drainage</i> —To minimize the erosive effects of water concentrated by road drainage features; to disperse runoff from disturbances within the road clearing limits; to lessen the sediment yield from roaded areas; to minimize erosion of the road prism by runoff from road surfaces and from uphill areas.				
2.9 <i>Timely Erosion Control Measures on Incomplete Roads and Stream Crossing Projects</i> —To minimize erosion and sedimentation from disturbed ground on incomplete projects.				
2.10 <i>Construction of Stable Embankments (Fills)</i> —To construct embankments with materials and methods, which minimize the possibility of failure and subsequent water quality degradation.				
2.11 <i>Control of Sidecast Material During Construction and Maintenance</i> —To minimize sediment production originating from sidecast material during road construction or maintenance.				
2.12 <i>Servicing and Refueling of Equipment</i> —To prevent pollutants such as fuels, lubricants, bitumens and other harmful materials from being discharged into or near rivers, streams and impoundments, or into natural or man-made channels.				
2.13 <i>Control of Construction and Maintenance Activities Adjacent to SMZs</i> —To protect water quality by controlling construction and maintenance actions within and adjacent to any SMZ so that the following SMZ and riparian habitat conservation area (RHCA) functions are not impaired: (a) Acting as an effective filter for sediment generated by erosion from bare surfaces, road fills, dust drift, and oil traces; (b) Maintaining shade, riparian habitat (aquatic and terrestrial), and channel stabilizing effects; and (c) Keeping the floodplain surface in a resistant, undisturbed condition to slow water velocities and limit erosion by flood flows.				
2.14 <i>Controlling In-Channel Excavation</i> —To minimize stream channel disturbances and related sediment production. During construction, heavy equipment may need to cross, or work in and near streams or lakes. This is permitted only as necessary in the construction, or removal of culverts and bridges and other facilities (e.g., water sources, boat ramp/launching sites, etc.) and only under specific protection requirements. The Engineering Representative (ER) is authorized to designate the location of crossings or work sites and coordinate with the contractor to manage heavy equipment. Excavation during the installation of instream structures must follow all of the minimum water quality protection requirements listed with this BMP.				
2.16 <i>Stream Crossings on Temporary Roads</i> —To ensure that temporary roads do not unduly damage stream channels and to ensure that fish passage is unimpeded by stream crossing structures. Contact Hydrologist for verification.			Prep Officer & Timber Sale Administrator	Prior & during treatment
2.17 <i>Bridge and Culvert Installation</i> —To minimize sedimentation and turbidity resulting from excavation for in-channel structures.				
2.19 <i>Disposal of Right-of-Way and Roadside Debris</i> —(a) To ensure that organic debris generated during road construction is kept out of streams so that channels and downstream facilities are not obstructed, (b) to ensure debris dams are not formed which obstruct fish passage, or which could result in downstream damage from high water flow surges after dam failure.				
2.20 <i>Specifying Riprap Composition</i> —To minimize sediment production associated with the installation and utilization of riprap material.				
2.21 <i>Water Source Development Consistent with Water Quality Protection</i> —To supply water for roads and fire protection while maintaining existing water quality.				

Mitigation	Responsible Person(s)	Timeframe
2.22 <i>Maintenance of Roads</i> —To maintain roads in a manner which provides for water quality protection by minimizing rutting, failures, sidecasting, and blockage of drainage facilities all of which can cause erosion and sedimentation, and deteriorating watershed conditions.		
2.23 <i>Road Surface Treatment to Prevent Loss of Materials</i> —To minimize the erosion of road surface materials and consequently reduce the likelihood of sediment production from those areas.		
2.24 <i>Traffic Control During Wet Periods</i> —(a) To reduce road surface disturbance and rutting of roads, (b) to minimize sediment washing from disturbed road surfaces.		
2.26 <i>Obliteration or Decommissioning of Roads</i> —To reduce sediment generated from temporary roads or unneeded system roads by obliterating or decommissioning them at the completion of their intended use.		
The following BMPs apply to Meadow Restoration, Streambank Stabilization, Fish Barrier Removals, Road Decommissioning		
7.1 <i>Watershed Restoration</i> —To repair degraded watershed conditions and improve water quality and soil stability.	Prep Officer & Timber Sale Administrator	Prior & during treatment
Resource Concern: Wildlife		
The following Contract Provisions will be included in the project Timber Sale Contracts, with corresponding contract provisions in Service Contracts, to protect potentially affected resources.	Prep Officer, Timber Sale Administrator, Hydrologist, Soil Scientist, Botanist, Fisheries Biologist, Wildlife Biologist	Prior & during treatment
<i>CT6.25 - Protection of Habitat of Threatened, Endangered and Sensitive (TES) Species (10/78)</i> —Location of areas needing special measures for protection of animals (or plants) as Threatened, Endangered, or species under the <i>Endangered Species Act of 1973</i> and Forest Service Region 5 (R5) Sensitive Species are shown on map and or discussed in this document. If protection measures prove inadequate, if other such areas are discovered, or if new species are listed on the Endangered Species List, Forest Service may either cancel under CT8.2 or unilaterally modify this contract to provide additional protection regardless of when such facts become known. Discovery of such areas by either party shall be promptly reported to the other party.		
<i>CT6.313 - Limited Operating Period (1/84)</i> —Except when agreed otherwise, Purchaser's operations shall be "limited" as described within this document.		
<i>CT6.7</i> —Logs not meeting utilization standards shall be used to meet the Land and Resource Management Plan as amended requirements. Logs should be evenly distributed within the units (stands) to the extent possible.		
Resource Concern: Hydrology (RHCA's)		
<i>Riparian Habitat Conservation Area</i> —To provide protection of riparian area, streams, lakes, wetlands, and ponds, apply: (a) 300 foot buffer on each side of fish bearing streams and lakes, and ponds with western pond turtle habitat and (b) 150 foot buffer on each side of perennial non-fish bearing streams, intermittent and ephemeral channels with annual scour, meadows, ponds, wetlands, and lakes greater than 1 acre.	Prep Officer, Hydrologist, and Timber Sale Administrator	Prior, during, & post treatment
RHCA's in plantations can be treated in accordance with Scientific Analysis Team Standard and Guideline TM-3 from the Herger-Feinstein Quincy Library Group (HFQLG) Final Environmental Impact Statement (FEIS). RHCA Treatments in Plantation Units on slopes less than 35 percent with unstable channels: (a) 150 foot buffer or extent of riparian vegetation, which ever is greatest, applied on each side of fish-bearing streams and (b) 50 foot buffer or extent of riparian vegetation, which ever is greatest, applied on each side of non-fish bearing streams. In treatment units, equipment may reach into RHCA's in the no-tractor equipment zone. Trees in streambank areas will be retained to ensure continued bank stability.	Prep Officer, Hydrologist, and Timber Sale Administrator	Prior, during, & post treatment

Mitigation	Responsible Person(s)	Timeframe
Resource Concern: Hydrology / Wildlife: Burning in RHCAs		
Proposed underburn ignitions shall be started above the RHCA, applying fire along contour strips, and then allowing the fire to 'back' downhill on its own, using spot ignition to keep the line of fire relatively straight above the RHCA boundary.	Soil Scientist, Fish Biologist, Botanist, Hydrologist & Fuels Officer	Post treatment during prescribed fire operations
During implementation of under burning, no ignition shall occur within RHCAs. Fire shall be allowed to back into an RHCA to achieve low intensity burning. All burning shall be conducted on permissive burn days, within air quality constraints. Fire lines (control lines) include roads, skid trails, natural barriers and hand or machine lines (all-terrain vehicle or tractor). Hand line construction will occur within RHCAs, where it is necessary to enter the RHCA to provide for logistical boundaries in underburning the DFPZ.		
Resource Concern: Hydrology: Streamside Management Zone		
<i>To provide protection of streams without annual scour</i> —(a) channels with a slope less than 60 percent a 25 foot buffer on all sides is applied and (b) unstable channel slopes or channel slopes greater than 60 percent a 50 foot buffer is applied. In treatment units, equipment may reach into SMZs in the no-tractor equipment zone. Trees in streambank areas will be retained to ensure continued bank stability.	Prep Officer, Hydrologist, & Timber Sale Administrator	Prior, during, & post treatment
Resource Concern: Soils		
<i>All ground-based units</i> —Limited Operating Period: To minimize detrimental soil compaction caused by all ground based operations, operate only when the upper 8 inches of the soil is essentially dry, the ground is frozen to a depth of 5 inches, or snow depth is at least 18 inches or "machine compacted" to 8 inches. Soil is defined as "dry" when the upper 8 inches is not sufficiently moist to allow a soil sample to be squeezed and hold its shape, or crumbles when the hand is tapped. Dryness would be determined by the sale administrator upon the recommendation of a soil scientist.	Prep Officer, Soil Scientist, and Timber Sale Administrator	Prior, during, & post treatment
<i>For Harvest, Group Selection, and ITS Treatment Units</i> —To minimize detrimental soil compaction, restrict ground based logging operations on slopes greater than 35 percent. If possible use existing temporary roads, landings, and skid trails to minimize additional detrimental soil compaction. The Plumas National Forest Plan standard is to limit skid trails and landings to be no more than 15 percent of the timber stand.	Prep Officer, Timber Sale Administrator, & Soil Scientist	During sale, design, prep & treatment
To minimize detrimental compaction, all landings, 200 feet of the main skid trail approach to the landing, and all temporary roads would be subsoiled. On skid trails, limit subsoiling to a maximum slope of 25 percent. Areas to be subsoiled must be approved by the sale administrator upon recommendation by silviculturists and soil scientist. Apply mulch, wood chips, or straw to disturb sites after subsoiling, to reduce soil erosion potential.	Prep Officer, Timber Sale Administrator, & Soil Scientist	During sale, design, prep & treatment
<i>For Mastication Units</i> —To minimize the amount of ground disturbance and soil compaction caused by masticating: (a) Prime power unit - tracked unit with maximum ground pressure that shall not exceed 5–8 psi; (b) Machine shall be equipped with a masticating or mulching head with an articulating boom that can reach 20 feet or greater from center of machine; (c) Capable of working on slopes continuously on 0 to 45 percent slopes; (d) Limit the number of passes the machine makes for soil compaction concerns. Soil compaction should not exceed 15 percent; and (e) Limit traveling along the sideslope to reduce soil displacement. Soil displacement should not exceed 15 percent.	Prep Officer, Timber Sale Administrator, & Soil Scientist	During sale, design, prep & treatment
Resource Concern: Soils / Hydrology / Noxious Weeds		
Where mulch is needed for ground cover and slash or wood chips are not available, certified weed-free straw or rice straw will be used. Utilize road surface gravel from weed-free sources. Pre-inspect gravel sources for the presence/absence of noxious weeds prior to utilization of gravel from those sources.	Timber Sale Administrator, Soil Scientist, & Botanist	During & post thinning and road work
Resource Concern: Heritage Resources		
Apply standard resource protection measures for cultural resources.	Timber Sale Administrator, Archaeologist	During treatment
Resource Concern: Fire and Fuels		
<i>Units 27, 93, 95</i> —Hand piling with fireline construction and covering		

Mitigation		Responsible Person(s)	Timeframe
<i>All Harvest Units</i> —Hand and machine fireline construction for machine piles and road side hand piles include lines and covering. Hand pile activity slash that exceeds 5 tons per acre			
<i>Underburn Units</i> —Under burning or slash disposal			
<i>All Harvest Units</i> —Slash treatment			
<i>All Harvest Units</i> —Fire Plan Planned Activity Level			
<i>All Burn Units</i> —Prescribed burn plan			
<i>All burn Units</i> —Smoke management plan			
<i>All harvest Units</i> —Dust abatement plan			
Resource Concern: Rare Plants			
The following controlled areas will be applied to protect known occurrences of rare plants:			
DFPZ Unit Number	Species	Recommendation	
1	<i>Cardamine sp. novum</i> (Clifton #3) CA#3, <i>Clarkia mildrediae</i> ssp. <i>lutescens</i> , <i>Clarkia mosquinii</i> , <i>Fritillaria eastwoodiae</i>	Limited operating period (Aug–Dec)	
2	<i>Cardamine sp. novum</i> (Clifton #3) CA#3, <i>Clarkia mildrediae</i> ssp. <i>lutescens</i> , <i>Clarkia mosquinii</i> , <i>Fritillaria eastwoodiae</i>	Limited operating period (Aug–Dec)	
4	<i>Cardamine sp. novum</i> (Clifton #3) CA#3, <i>Fritillaria eastwoodiae</i> , <i>Clarkia mildrediae</i> ssp. <i>lutescens</i> , <i>Clarkia mildrediae</i> ssp. <i>mildrediae</i> , <i>Clarkia mosquinii</i> , <i>Cypripedium fasciculatum</i>	Limited operating period (Aug–Dec)	
DFPZ Unit Number	Species	Recommendation	
7	<i>Clarkia mosquinii</i> (CLMO)	Limited operating period (Aug–Dec)	
23	<i>Cardamine sp. novum</i> (Clifton #3) CA#3, <i>Clarkia mildrediae</i> spp. <i>mildrediae</i>	Limited operating period (Aug–Dec)	
31	<i>Clarkia mildrediae</i> ssp. <i>lutescens</i> (golden-anthered <i>Clarkia</i>) CLMIL	Limited operating period (Aug–Dec)	
32	<i>Clarkia mildrediae</i> ssp. <i>lutescens</i> (golden-anthered <i>Clarkia</i>) CLMIL		
40	<i>Bulbostylis capillaris</i> (three-leaved beakseed) BUCA	Control Area is flagged	
49	<i>Penstemon personatus</i> (PEPE)	Limited operating period (Aug–Dec)	
51	<i>Penstemon personatus</i> (PEPE)	Limited operating period (Aug–Dec)	
93	<i>Penstemon personatus</i> (PEPE)	Limited operating period (Aug–Dec)	
93	<i>Lupinus dalesiae</i> (LUDA)	Limited operating period (Aug–Dec) pile burn on south side of unit	
94	<i>Lupinus dalesiae</i> (LUDA) -	Limited operating period (Aug–Dec)	
98	<i>Botrychium simplex</i> (BOSI_004)	Control Area is flagged	
101	<i>Erigeron lassenianus</i> var. <i>deficiens</i> (Plumas rayless daisy) ERLAD	Limited operating period (Aug–Dec)	
Group Unit Number	Species	Recommendation	
164G	<i>Viola tomentosa</i> (wooly violet) VITO	Pile burn on northeast side of unit	
24	<i>Cardamine sp. novum</i> (Clifton #3) CA#3,	Limited operating period (Aug–Dec) for pile burn on east half of unit	
137G	<i>Erigeron lassenianus</i> var. <i>deficiens</i> (Plumas rayless daisy) ERLAD	Limited operating period (Aug–Dec) for pile burn on west side, out of unit	

Mitigation	Responsible Person(s)	Timeframe
Resource Concern: Rare Plants		

Mitigation	Responsible Person(s)	Timeframe
<p>Revegetation Of Disturbed Areas With Native Species: All activities that require seeding or planting will need to use only locally collected native seed sources. Examples of proposed activities that may need to be seeded are road closures, landings, or skid trails. This will implement the US Forest Service Region 5 policy (Stewart 1994) that directs the use of native plant material for re-vegetation and restoration for maintaining “the overall national goal of conserving the biodiversity, health, productivity, and sustainable use of forest, rangeland, and aquatic ecosystems.” An alternative method of erosion control where erosion is a particular concern and where adequate sources of local native seed are not available is to use weed-free seed or weed-free straw with seed-heads of non-persistent cereal grains such as white oats. This will provide erosion control until native species can naturally seed in. Use Knutson-Vanderberg or other funds as available for collecting and planting native grasses for revegetation of disturbed areas.</p>	Prep Officer, Botanist, & Timber Sale Administrator	Prior, during, & post treatment
<p>Resource Concern: Weeds</p>		
<p>The following prevention measures will be implemented for the Watdog Project.</p> <ol style="list-style-type: none"> 1. Revisit and hand pull known site of spotted knapweed in project area. 2. Revisit and hand pull known sites of French and Scotch Broom in project area. 3. Treat barbed goatgrass. 4. Avoid staging equipment on any of the identified noxious weed sites. 5. Clean all ground disturbing equipment, such as masticators, harvesters, and other off-road equipment before entering National Forest System land. 6. Use weed free mulch and fill. 	Prep Officer, Botanist, and Timber Sale Administrator	Prior, during, & post treatment
<p>Resource Concern: Wildlife, Northern Goshawk</p>		
<p>Haul restriction on road 22N94 (section of road in T21N R7E Sec. 4 SW and Sec. 9 NW). No hauling or other treatment activities from February 15 to September 15 unless surveys in spring/summer determine non-nesting along route.</p>	District Wildlife Biologist, Prep Officer & Timber Sale Administrator	During sale layout and logging
<p>Resource Concern: Wildlife</p>		
<p>If new Threatened, Endangered, Proposed and Sensitive (TEPS) species are listed or discovered within an area in which they may be adversely affected by activities, protection measures such as limited operating periods will be implemented as recommended by a qualified biologist, as appropriate for the species. The dates and reason for delaying harvest should be included in C6.313 Limited Operating (1/84), or other language that is appropriate for the type of contract.</p>	District Wildlife Biologist, Prep Officer & Timber Sale Administrator	During sale layout and logging
<p>Resource Concern: Wildlife (RHCAs)</p>		
<p>Include seasonal wet meadow flat areas and vernal pools with RHCAs to eliminate potential negative impacts to certain TES and special interest plants and wildlife.</p>	District Wildlife Biologist, Prep Officer & Timber Sale Administrator	During sale layout and logging