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Appendix 16. Biological Assessment NOAA Fisheries.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
 NATIONAL MARINE FISHERIES SERVICE
 Northwest Region
 7600 Sand Point Way N.E., Bldg. 1
 Seattle, WA 98115

Refer to:
 2002/01475

February 4, 2003

Ron Wenker
 District Manager
 Medford BLM District
 3040 Biddle Road
 Medford, OR 97504

Re: Endangered Species Act Section 7 Informal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for the Kelsey-Whiskey Timber Sale, Bureau of Land Management, Rogue Basin, Oregon.

Dear Mr. Wenker:

This correspondence is in response to your December 12, 2002, request for consultation under the Endangered Species Act (ESA) for the proposed Kelsey-Whiskey Timber Sale in the BLM-Wild Rogue watershed. Additionally, this letter serves to meet the requirements for consultation under the Magnuson Stevens Fishery Conservation and Management Act (MSA).

ENDANGERED SPECIES ACT

On December 13, 2002, the National Marine Fisheries Service (NOAA Fisheries) received a complete biological assessment (BA) describing the project and its effects, maps detailing the project location, and a written request for concurrence with a determination that the proposed action is "not likely to adversely affect" (NLAA) Southern Oregon/Northern California (SONC) coho salmon (*Oncorhynchus kisutch*), or their designated critical habitat. The project includes commercial thinning, precommercial thinning, regeneration harvest, density management, and prescribed burning.

NOAA Fisheries listed SONC coho salmon as threatened under the ESA on May 6, 1997 (62 FR 24588), with critical habitat designated on May 5, 1999 (64 FR 54049). Interim protective regulations for SONC coho were issued under section 4(d) of the ESA on July 18, 1997 (62 FR 38479). This consultation is undertaken under section 7(a)(2) of the ESA, and its implementing regulations, 50 CFR Part 402.

The proposed action occurs in the Kelsey Creek subwatershed in the BLM-Wild Rogue watershed, which is a tributary to the Rogue River. Five streams in the project area are designated critical habitat for SONC coho salmon: (1) The lower 2.6 miles of the Kelsey Creek



mainstem; (2) the lower 0.5 miles of the East Fork of Kelsey Creek before its confluence with the mainstem; (3) the lower 2.5 miles of the West Fork of Whiskey Creek; (4) the lower 2.1 miles of the East Fork of Whiskey Creek; and (5) 2.3 miles of the Whiskey Creek mainstem.

The Medford District Bureau of Land Management (BLM) is proposing treatment on 2,877 acres. This includes 1,091 acres of pine enhancement/maintenance, which involves clearing around scattered selected large pines to reduce competition and encourage seedling survival. All commercial thinning, density management, regeneration harvest and overstory removal occurs on ridgetops and midslopes with no activity in riparian reserves. Commercial thinning and density management will occur on 1,255 acres. Commercial thinning will reduce canopy cover to 40% on thinned lands, and density management will reduce it to 60% on density management lands. Regeneration harvest and overstory removal will occur on 531 acres. Yarding will occur on the 1,786 acres outside of the pine enhancement/maintenance areas. There is no yarding within riparian reserves. Tractor yarding will occur on 201 acres, cable yarding on 1,102 acres, helicopter yarding on 235 acres and a combination of cable and helicopters on 248 acres. To facilitate harvest, 1.5 miles of temporary road will be built and 14.5 miles of road will be renovated. At project completion, 9.7 miles of road will be decommissioned and 6.9 miles of road will be blocked to traffic. Twenty-two culverts will be removed and seven more replaced, none of which are on fish-bearing streams. Eight of the culverts are 0.5 miles from critical habitat, the other 21 are 2.0 miles or more from critical habitat. One tributary of Whiskey Creek, that has been running down a road bed, will be re-routed back into its historical channel. This work is 0.9 miles above coho salmon critical habitat.

Within the riparian reserves, there will be 76 acres of non-commercial density management, 28 acres of underburning and some of the pine enhancement/maintenance. For the density management, 25-foot no-treatment buffers will be established along the 1.0 miles of intermittent stream and the 0.2 miles of perennial stream. No conifer greater than 7 inches diameter at breast height (dbh) will be felled and no material will be taken offsite. Within this density management area, slash will be hand-piled and burned. No piles will be allowed within 25 feet of streams. The underburn will reduce ladder fuels and fuel hazards and all stream shading vegetation and sources of large woody debris will be retained. No underburn ignition will occur within 50 feet of streams and no mechanized equipment will be used to construct fireline within riparian reserves. The pine enhancement/maintenance consists of clearing competing vegetation within 15 feet of the dripline of large pine trees. All felled material will be left on site and no treatment will occur within 75 feet of streams.

Some acreage (497 acres) in the transient snow zone will be regeneration harvested. After harvest, the open condition within the watersheds will range between 3% and 16%. The largest increase would occur in the Meadow 7th field which would raise the portion of land in open condition from 0.1 to 9%. This increase in open condition is not expected to cause an increase in peak flows. Furthermore, the amount of the forest that used to be in open condition under the historic wildfire regime ranged between 15 and 25% (Wild Rogue North WA, 1999) so, peak flows have likely decreased in the recent past from historic levels.

Based on information provided by the BLM and developed during informal consultation, NOAA Fisheries concurs with the BLM's determination that the proposed project is NLAA for the following reasons: (1) There will be no commercial thinning, overstory removal or regeneration harvest within riparian reserves; (2) within the 76 acres of riparian reserve density management, 25-foot no-touch buffers will be used to protect streams (which do not contain fish), no trees greater than 7 inches diameter dbh will be felled, and no trees will be taken out of the riparian reserve; (3) no handpiling and burning will be allowed within 25 feet of streams, and no underburning will be permitted within 50 feet of streams; (4) within the pine enhancement/maintenance area, no treatment will take place within 75 feet of streams, and all material will be left on site; (5) an increase in peak flows is not expected, as all watersheds will be left with 16 % or less open canopy; (6) all temporary roads are located on ridgetops; and (7) of the 29 culverts to be replaced or removed, eight are 0.5 miles from critical habitat, the other 21 are at least 2.0 miles or more from critical habitat. Therefore, the proposed project is unlikely to cause incidental take of SONC coho salmon, or cause adverse effects to designated critical habitat.

The BLM must reinitiate this consultation if: (1) New information reveals that effects of the action may affect listed species in a way not previously considered; (2) the action is modified in a way that causes an effect on listed species that was not previously considered; or (3) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16).

MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

Federal agencies are required, under §305(b)(2) of the MSA and its implementing regulations (50 CFR 600 Subpart K), to consult with NOAA Fisheries regarding actions that are authorized, funded, or undertaken by that agency that may adversely affect essential fish habitat (EFH). The MSA (§3) defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." If an action would adversely affect EFH, NOAA Fisheries is required to provide the Federal action agency with EFH conservation recommendations (MSA §305(b)(4)(A)). This consultation is based, in part, on information provided by the Federal action agency and descriptions of EFH for Pacific salmon contained in Appendix A to Amendment 14 to the *Pacific Coast Salmon Plan* (August 1999) developed by the Pacific Fishery Management Council and approved by the Secretary of Commerce (September 27, 2000).

The proposed action and action area are described above in this concurrence letter and in section I of the BA. Designated EFH for various life stages of coho salmon and chinook salmon (*Oncorhynchus tshawytscha*) occurs within and downstream from the project area.

Because the habitat requirements (*i.e.*, EFH) for the MSA-managed species in the project area are similar to that of the ESA-listed species, and because the conservation measures that the BLM

included as part of the proposed action to address ESA concerns are also adequate to avoid, minimize, or otherwise offset potential adverse effects to designated EFH, conservation recommendations pursuant to MSA (§305(b)(4)(A)) are not necessary. Since NOAA Fisheries is not providing conservation recommendations at this time, no 30-day response from the BLM is required (MSA §305(b)(B)).

This concludes consultation under the MSA. If the proposed action is modified in a manner that may adversely affect EFH, the BLM will need to reinitiate EFH consultation with NOAA Fisheries in accordance with NOAA Fisheries implementing regulations for EFH at 50 CFR 600.920(k).

Please direct questions regarding this letter to Chuck Wheeler of my staff in the Oregon Habitat Branch at 541.957.3379.

Sincerely,



D. Robert Lohn
Regional Administrator

cc: Bill Hudson, Coos Bay BLM District
Dale Johnson, Medford BLM District
Dan Delaney, Rogue-Siskiyou National Forest
Craig Tuss, Fish and Wildlife Service

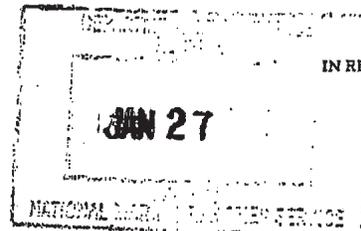


United States Department of the Interior

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JAN 23 2003



Mr. Michael Tehan
 NOAA Fisheries
 525 NE Oregon Street
 Portland, Oregon 97232-2737

file: OHB 2002-0325-1EC
 1/NWR/2002/01475

Dear Mr. Tehan:

In accordance with regulations on interagency cooperation (50 CFR 402) pursuant to Section 7 of the Endangered Species Act (ESA) of 1973 (as amended), the Medford District, Bureau of Land Management (BLM) initiates consultation for the Kelsey-Whisky Timber Sale project with your Roseburg Office. Enclosed is a copy of the Biological Assessment (BA) and supporting documentation that addresses the proposed action that "may affect, not likely to adversely affect" (NLAA) a listed species. The attached copy, a revision of our original submission of December 12, 2002, contains additional information and data corrections. We request concurrence on this project.

The Southern Oregon/Northern California (SO/NC) coho salmon (*Oncorhynchus kisutch*) Evolutionary Significant Unit (ESU) was listed as threatened under the Endangered Species Act (ESA) by National Marine Fisheries Services (NMFS); May 6, 1997. Its critical habitat was designated June 4, 1999.

We also request NOAA Fisheries' response to this consultation request to serve as informal conferencing on Klamath Mountain Province (KMP) steelhead trout (*Oncorhynchus mykiss*). The KMP steelhead trout ESU was proposed as threatened under the ESA but was not found warranted. The effects determinations of the actions included in this BA for SO/NC coho salmon are the same as for the KMP steelhead ESU.

If you have any questions, please call Dale Johnson of my staff at (541) 618-2339. We look forward to working with you and your staff to conserve the threatened, endangered and candidate fish species in Southwest Oregon.

Sincerely,

Mary Smelcer
 Acting District Manager

1 Enclosure
 1- Biological Assessment

Biological Assessment for Kelsey Whisky Complex Project

PROJECT: Kelsey-Whisky Complex

EFFECTS DETERMINATION:

SO/NC coho salmon: NLAA

HABITAT CONSIDERED:

SO/NC coho salmon critical habitat: May affect, not likely to adversely affect

Essential fish habitat for coho and chinook salmon: will not be adversely affected

PROJECT LOCATION:

Agency: Medford District, Glendale Resource Area

HUC - 4: Rogue River

HUC - 5: BLM-Wild Rogue

HUC - 6: Kelsey Creek

HUC -7s: Lower Whisky, West Fork Whisky, Meadow, Bunker, Russian

EIS: Kelsey Whisky Final Landscape Management Plan, Proposed Amendments to the Medford Resource Management Plan and Final Environmental Impact Statement (RMPA/LMP/EIS) February 2003

WA: Wild Rogue Watershed Analysis [USDI BLM (December 1999)]

I. BACKGROUND

A. LOCATION

The timber sale is located within the Glendale Resource Area of the BLM Medford District on the north side of the Rogue River Canyon between Whisky Creek and Kelsey Creek in Josephine, Douglas and Curry counties.

B. FISH DISTRIBUTION

Salmonid distribution is shown on the project area map (attached).

Table 3-4. Streams and estimated habitat miles for coho salmon and steelhead, within the Kelsey Whisky timber sale planning area.

Stream Name	Miles of Coho	Miles of Steelhead
Rogue River	20.0	20.0
Whisky Creek	2.3	2.3
East Fork Whisky Creek	2.1	2.1
West Fork Whisky Creek	2.5	2.5
Kelsey Creek	2.6	2.6
East Fork Kelsey	0.5	2.4
Booze Creek	-----	.5
Bronco Creek	-----	.1
Bunker Creek	-----	1.2
Meadow Creek	-----	.9
Russian Creek	-----	.3

C. FISH HABITAT AND WATERSHED CONDITION

Twenty miles of the Rogue River and about 10 miles of streams on the north side of the river in the project area are probably accessible to ESA-listed Southern Oregon/Northern California coho salmon. Fish distribution is poorly known due to the area's inaccessibility. Most habitat is marginally suitable for the species because of moderate to steep gradient, poor quality spawning and off-channel rearing habitat and natural barriers. Mileages in this table are estimates of the possible upper limit of the species distribution and are based on Oregon Department of Fish and Wildlife habitat survey data. The Rogue River in the analysis area supports a large number of fish species, including chinook salmon (Wild Rogue North WA).

Kelsey Creek and Whisky Creek, the primary fish-bearing streams in the Planning Area, are properly functioning overall, although some factors such as sediment limit stream productivity. Causes of stream sediment and substrate embeddedness in these major fish streams include roads, naturally unstable soils and, to a lesser extent, a small placer mining claim on East Fork Whisky Creek. Condition of fish streams in other subwatersheds reflects natural conditions that are uninfluenced or marginally influenced by human activity. Degraded substrate has negative implications for fish spawning success and winter refugia, as well as for aquatic macroinvertebrate community composition and abundance.

All streams are properly functioning from a hydrologic standpoint due to high percentage of watershed cover in mid to late seral forest (Table 6). Moderate to high road density (Table 5) and associated increase in the drainage network through road ditchlines in the Kelsey and Whiskey creek watersheds has potential for influencing timing and magnitude of peak flows. But indicator factors like streambank stability and gravel accumulation in low gradient reaches suggests that it is not currently a problem.

Riparian connectivity in the Wild Rogue North is relatively high, ranging from 70 to 98% (Wild Rogue WA - Table 17) greater than 80 years of age (the age at which late successional characteristics begin to appear). Acres in this condition will continue to increase since they are protected from future timber harvest under the Northwest Forest Plan. High riparian connectivity favors not only aquatic organisms and processes but also terrestrial plants and animals that use these areas as travel corridors.

Although maximum summer water temperatures in Whiskey Creek exceeds state standards, the condition reflects natural conditions (WA - p.20-23). There is only limited data for other streams due to their remote locations and general inaccessibility. However, based on the general lack of land management activities in all or the majority of their watersheds and high degree of late seral connectivity of Riparian Reserves, it is believed that water temperatures in all subwatersheds are well within the range of natural variability.

Historic wildfire characteristics resulted in much greater acreage in open condition (no or minimal ground cover or canopy closure) than at present. Existing stream channel capacity reflects peak flow conditions under historic wildfire regimes. Hillslopes adjacent to streams are stable and well-vegetated and streambanks are stable in the subwatersheds where timber harvest is planned (Table 3).

Refer to the Wild Rogue North Watershed Analysis for addition information on stream and watershed conditions.

II. PROJECT DESCRIPTION

A. Project Details

The scope of this Biological Assessment is limited to commercial forest harvest and associated activities.

1. The Kelsey-Whisky Project proposes commercial timber harvest to meet commitments of the Medford District Resource Management Plan, as well as a variety of treatments for reducing fuel hazard and thinning in an LSR to reduce wildfire risk and to enhance late successional forest characteristics. Proposed timber sales included in the proposed action are: Upper East Kelsey (04), California Gulch (04), Mari Kelsey (05), West Fork Whisky (05), and Meadow Creek (05).
2. Details and a summary of the proposed timber harvest units appear in Table 3 and Appendix 5. This BA is based on Alternative 1 as presented in the Kelsey-Whisky Final EIS, November 2002.
3. Virtually all of the commercial timber harvest units are in the headwaters of the following fish-bearing streams: Kelsey, Meadow, Bunker, and Whisky creeks. Two units (16-1 on West Fork Whisky Creek and 1-2 on East Fork Kelsey Creek) are adjacent to fish habitat (coho and steelhead on Whisky, steelhead only on Kelsey). Commercial density management units 27-1A and 27-1B are more than 2 site potential trees from Whisky Creek.
4. Riparian Reserves a minimum of 150 to 180 feet in width would be established on most streams and a minimum of 300 to 360 feet on fish-bearing streams.
5. About 76 acres of riparian reserve adjacent to commercial thin harvest units 5-4 and 16-1 (West Fork Whisky Creek) would receive non-commercial density management (NDM) treatment (defined on last page of Appendix 5). This would occur in stands of young conifers (200 to 250 trees/acre), hardwoods and brush where the treatment would benefit growth rates of residual trees and accelerate the development of late-successional stand characteristics. A 25 foot no-treatment buffer would be maintained along 1.2 miles of intermittent (83%) and perennial (17%) streams. Within the 155 foot wide riparian treatment area (each side of stream), the number of trees retained would range from 80 to 100/acre. A combined total in the treated and untreated acreage of 97 to 122 trees/acre adjacent to the 1.2 miles of stream would provide more than an adequate supply for future wood requirements. An unmanaged forest in this area typically contains 30 to 100 conifers/ acre >20 inches dbh with an indeterminate amount of understory conifers, hardwoods and shrubs. No commercial size material would be removed. All slashed material would be hand-piled and burned. Conifers and hardwoods greater than 7 inches dbh would be retained regardless of number or spatial arrangement. Riparian treatments

in units #16-1 and #5-4 are between 0.1 and slightly more than 0.5 miles from possible coho and steelhead habitat in West Fork Whiskey Creek (Map attachment).

Another 28 acres of riparian reserve adjacent to unit 6-3 (regen harvest) in upper East Fork Kelsey Creek would be underburned to reduce ladder fuels and fuels hazard. All stream shading and sources of large down wood would be retained. The 1st and 2nd order streams in RR units 6-3R2 and -3R3 in upper Kelsey Creek are about 3 miles from coho habitat.

6. There would be no commercial harvest within Riparian Reserves. However, some commercial size trees may be cut and left on site as part of an effort to enhance and maintain large pines .

Clearing competing vegetation from underneath and 15 feet around the dripline of large pines in the West Fork Whiskey Creek pine enhancement /maintenance (E/M) area would involve slashing brush and hardwoods, as well as conifer saplings and probably even some commercial size conifers. The number of large pines that would be treated, as well as the number of commercial conifers that might be cut is unknown because all acreage in the E/M area has not been examined on the ground. However, field inspection of some E/M sites in riparian reserves indicates that cutting large (e.g. min 20 dbh) conifers would seldom be necessary to accomplish project objectives. Any commercial size conifers that are cut would not be removed from the site..

Assuming a maximum of two large pines/acre (based on preliminary field inspection of the E/M area) and 0.1 acres per opening, slightly less than 2% (27 out of 1464 acres) of Riparian Reserve in West Fork Whiskey Creek would be treated. There would be no pine treatment within at least 75 feet of streams. None of the pine E/M treatment is adjacent to habitat for OC coho, OC steelhead or any other fish species.

7. Haul routes from harvest units would be gravel, natural surface rock or paved roads. The only haul route crossings of coho salmon streams are gravel roads (Whiskey Creek).
8. Road renovation, decommissioning, outsloping and water-dipping and construction of temporary roads are planned under Alternative 1. About 8 culverts would be replaced on renovated roads to accommodate 100 year flood events and another 22 would be completely removed during decommissioning (Map attachment). Of these treatments, decommissioning has the greatest potential for contributing sediment to streams, especially during the winter following culvert removal.

Road decommissioning in the Whiskey Creek watershed would involve subsoiling, constructing water dips in appropriate locations, and rerouting one intermittent stream that currently flows down a road into its original channel to eliminate severe erosion. This action is about 0.9 miles from coho critical habitat. Road renovation (reestablishing

the original road prism) and decommissioning in the Kelsey Creek watershed would involve removing or replacing 29 culverts (none in fish habitat). Eight culverts on road 33-9-11 (T33S R9W Sec10), about 0.5 miles from coho habitat, would be removed to ensure that this inherently unstable road does not fail and deliver a large quantity of sediment to Kelsey Creek. Another 21 stream culverts that would be removed or replaced in the Kelsey watershed are more than 2 miles from coho habitat. Again, none of the culverts are on fish-bearing streams. Road decommissioning and renovation in other subwatersheds would not disturb stream channels nor contribute sediment to them because the roads do not cross nor are they close to streams. Project Design Features developed for road decommissioning and culvert replacement appear in Appendix 3 .

Table 2. Watershed Condition and Proposal For Alternative 1 of The Kelsey/Whisky Project

Total Acres *	24,960
BLM Acres (%)*	23,594 (95%)
Estimated % total acres currently in proper hydrologic functioning condition *	94%
Existing Road Density * (mi. per sq. mile)	2.4
Acres to be harvested (refer to Table 3)	1786. Includes all acres planned for RH, OR, OR/CT, RH/CT,RH/OR,CT,CT/PCT, CDM,CDM/NDM Does not include 1091 acres of pine enhancement/maintenance.
Harvest units (acres) adjacent to coho habitat	unit #16-1 (CT/PCT, 109 acres)
<u>Proposed Road Treatment Under Alternative 1:</u>	<u>Miles</u>
Permanent Road Const.	0
Temporary Road Const.	1.5 (none in RR)
Decommission	9.7
Renovation	7.1
Reestablish original road prism	7.4
Roads to be rocked	6.7
Roads closed with gates	5.1
Roads closed with barricades	1.8

* Wild Rogue North and Wild Rogue South Watershed Analyses

Table 3. Harvest Unit Summary For the Alternative 1 - Kelsey/Whisky Project Area

	Lower Whisky (several 7ths)	West Fork Whisky (7)	Meadow (7)	Bunker (7)	Kelsey (6)	Totals (acres)	% of all treated acres
Pine E/M*		1091					
RH		14	113	15	281	423	24
RH/CT					49	49	3
RH/OR					12	12	<1
OR					21	21	1
OR/CT					26	26	1
CT			136	221	102	459	26
CT/PCT		189			279	468	26
CDM	234		27		30	291	16
CDM/NDM	37					37	2
						1786	100%

CT= commercial thin, RH=regeneration harvest, OR=overstory removal
 PCT=precommercial thin, CDM= commercial density management, NDM= non commercial density management

*Pine Enhancement/Maintenance across 1091 acres of the subwatershed involves clearing around large ponderosa and sugar pines to reduce competition with other vegetation and encouraging seedling survival.

Table 4. Yarding Summary (Acres) For The Kelsey/Whisky Project

Subwatershed Huc 6 or 7	Cable/Tractor	Cable	Heli	Cable/Heli	
Kelsey (6)	51	576	98	75	
Lower Whisky (several 7ths)	37	46	137	51	
West Fork Whisky (7)		81		122	
Meadow (7)	113	163			
Bunker (7)		236			
Totals	201 (11%)	1102 (62%)	235 (13%)	248 (14%)	1786

Table 5. Road Treatments For the Alternative 1 - Kelsey/Whisky Project Area

Subwatershed Huc 6 or 7	Temporary	Decommission	Renovation	Reestablish original road prism	New permanent road	Road Density (mi./sq. mile)	
						Pre-	Post-
Kelsey (6)	1.2	6.6		7.4		3.4	3.1
Lower Whisky (several 7ths)		1.3				4.4	4.1
West Fork Whisky (7)		0.2	1.4			2.4	2.4
East Fork Whisky (7)			0.9			no change	
Russian (7)		1.6	1.0			1.4	0.5
Meadow (7)	0.1		1.0			no change	
Bunker (7)	0.2		2.5			no change	
Copsey (7)	0		0.3			no change	
Totals	1.5	9.7	7.1	7.4			

PROJECT DESIGN FEATURES

Helicopter Yarding

The purchaser would be required to use helicopter landings that have been approved by the Field Manager.

Helicopter refueling sites would be designed and operated to comply with all applicable regulations.

All new helicopter landing construction would be sub-soiled, mulched and planted with trees when logging has been completed. The road ditch line at the helicopter landings would be bladed, seeded, and straw mulched before October 1 to allow proper drainage and to prevent movement of sediment offsite

Helicopter landings would be constructed, used and ripped in the same season. These landings would only be rocked if it is necessary to prevent erosion and stream sedimentation. Adequate drainage would be provided to minimize erosion. Landings constructed for this sale would be ripped before October 15 and planted after logging.

Helicopter operation within 0.25 mile of northern spotted owl core areas would not be permitted between March 1 and June 30.

Roads

Dust abatement would be done during dry weather when necessary on roads used for hauling to prevent loss of fines in road surfacing.

Energy dissipaters and downspouts would be installed at cross-drain and stream culverts where necessary to protect road fill slopes that are not adequately protected by natural materials.

The following design features would apply to this Project for culvert installation or replacement in stream channels.

- The in-stream work period would be between June 15 and September 15 of the same year in accordance with State of Oregon regulations.
- When replacing bottom-lay culverts, streams would be diverted around the work area whenever reasonably feasible in order to limit movement of sediment off-site during the low flow period. The diverted stream would not be returned to the channel and allowed to flow through the project site until all stream work has been completed.
- Work would be temporarily suspended if rain saturates soils to the extent that there is potential for road damage and for excessive stream sedimentation.

- Bare soil areas would be seeded with approved, certified seed (weed-free) after construction has been completed. Bare soil areas would be mulched with a cereal grain straw from weed-free, certified fields.
- Culverts would be designed to pass a 100 year flood in accordance with guidance in the Northwest Forest Plan.
- Culverts excavated from the road prism would be disposed of in an appropriate location.
- Hydraulic fluid and fuel lines would be in proper working condition in order to minimize leakage into streams.
- Waste diesel, oil hydraulic fluid and other hazardous materials would be removed from the site and disposed of in an approved site.
- Equipment refueling would be done where there is minimal chance that toxic materials could enter a stream.
- Equipment would not be stored in a stream channel overnight.

To prevent damage to roads and potential for stream sedimentation, log or rock hauling would be restricted to the following time periods unless authorized otherwise on a case-by-case basis:

Paved roads	- All year
Rocked roads	- April 5 to November 15
Natural surface roads	- May 15 to October 15
New construction	- May 15 to October 15

Road renovation (except roadside brushing outside of black stain period) and maintenance on natural surface roads would be restricted to the dates prescribed for hauling. If the roads are deemed too wet (road surfaces are deforming and road damage or sediment production is likely) during a designated haul season (inclusive of the start and end dates), hauling would not be allowed until approved by the Glendale Resource Area Field Manager.

Log hauling outside the dates specified above would be subject to approval by the Area Manager and would be restricted to rocked roads.

Work would be suspended:

- when water is flowing on the road surface or ditchlines
- when snow on the road is melting
- when loaded log truck tire deflection exceeds 2 inches into the road surface anywhere over the entire road length.
- snow removal (blading) on any road would not be authorized in order to prevent loss of rock surfacing.

Road drainage improvement would consist of constructing a shallow water dip and armoring it with rock below cross-drain culverts and draw culverts at locations where they are prone to plugging. The road template would be outsloped where possible. Roads would be water barred on steep sections.

Temporary spur roads would be built, discontinuously subsoiling with winged rippers, water-barred, seeded, mulched and log barricaded in the same year, between April 15 and October 15. Conifers would be planted at a later date. Native grass seed, if available, would be used for seeding immediately after subsoiling.

Road decommissioning would entail discontinuous subsoiling with winged rippers, mulching, pulling culverts, water-barring and barricading, seeding with grass or planting with conifers. Work would be done between July 1 and October 15 of the same year.

All bare ground disturbed by road construction activities would be mulched and seeded with certified seed prior to autumn rains.

Excess excavated material would be end-hauled to designated waste areas. Side casting of excess excavated material would not be allowed.

Landings would be located in approved sites and designed with adequate drainage.

No new landings would be constructed in Riparian Reserves.

Step landings would be re-contoured, mulched and seeded following use.

Fish/Streams/Riparian Habitat

Riparian Reserves would be established along all intermittent and perennial streams in accordance with the Medford District RMP and ROD. Reserve widths would be 150 to 180 feet on each side of non-fishery intermittent and perennial streams, 300 to 360 feet on fish bearing segments (units #1-2 and #16-1) and 100 feet on springs and seeps.

Trees in Riparian Reserves and owl core areas that are accidentally knocked over during falling and yarding would be retained on-site for fish and wildlife habitat.

Directional falling away from streams and wet areas would be required within one site potential tree height of Riparian Reserves.

Large Pine Maintenance/Enhancement

Openings would be created only within the outer ½ of Riparian Reserves. The size of created openings would be limited to that created by cutting competitive vegetation under the leave pine and to a distance of up to 15 feet beyond the drip line. Openings would be no closer than 300 feet from other created openings in the Riparian Reserve. If merchantable trees are cut they would be left on the site to provide coarse woody debris.

Vegetation Treatment and Prescribed Fire In Riparian Reserves

About 76 acres of riparian reserve adjacent to commercial thin harvest units 5-4 and 16-1 (West Fork Whisky Creek) would receive non-commercial density management (NDM) treatment (defined on last page of Appendix 5); another 28 acres of riparian reserve adjacent to unit 6-3 (regen harvest) in upper East Fork Kelsey Creek would be underburned .

- Brush and hardwoods would be slashed no closer than 25 feet of non-fishery streams. (There are no vegetation or fuels treatments planned within riparian reserves that border fish habitat).
- There would be no intentional broadcast burning within 50 feet of streams.
- Underburns would be allowed within 50 feet of streams.
- Pile and burn would be allowed no closer than 25 feet from streams.
- Firelines using mechanized equipment would not be constructed in riparian reserves.

Timber Resources (includes tractor and cable yarding)

Hand piles would be burned as early in the Fall as possible to best avoid adverse effects on plants, or animals that may hibernate or nest in them. Broadcast burns would take place in the Spring, if possible, and would be designed to:

- minimize conflicts with smoke management.
- minimize the risk of control problems.
- avoid adverse impacts to nesting wildlife species.
- minimize consumption of soil organic matter and surface duff.
- meet silvicultural objectives to prepare the site and reduce competition with conifer seedlings.
- minimize the loss of large down wood.
- not exceed guidelines for exposing bare soil (Monitoring Handbook).

Tractor yarding would only be allowed between June 1 and October 15 (soil moisture permitting) of the same year to minimize the amount of soil disturbance and compaction. If the Authorized Officer determines that soils are too wet within this season, tractor yarding would not be allowed until approved by him/her. Water bar spacing on tractor skid trails would be based on existing guidelines considering slope and soil series.

Yarding tractors would not exceed eight feet in width and would be equipped with an integral arch to raise the front end of the logs in order to minimize soils disturbance and compaction.

Tractor operations would be restricted to designated skid trails and to slopes less than 35 percent, except where permitted by the Authorized Officer. Existing skid trails would be used where possible. New trails would be no closer than 150 feet apart.

Tractor blades would not be used to build trails in tractor logging units. This provision would ensure minimal soil displacement and would help to retain organic material on-site.

Following yarding and during the dry season (before October 15), skid trails in all OR and RH tractor units would be water barred and discontinuously subsoiled using winged rippers to reduce soil compaction, mulched with weed-free straw where necessary and planted with conifers. Skid trails in commercial thin units would not be planted to trees. Water bar spacing on tractor skid trails would be based on existing guidelines considering slope and soil series.

In cable yarding units the number of yarding corridors would be minimized to reduce soil compaction and erosion. Corridors would be located at least 150 feet apart at the tail end and lateral yarding would be required.

Partial suspension would be required on all cable yarding units where possible to minimize ground disturbance and soil compaction.

Designated skid trails in overstory removal units would be located to minimize damage to existing regeneration. Existing skid trails would be used where regeneration in skid trails is sparse or in poor condition.

Six to twelve large green conifers per acre (12 to 15 in connectivity blocks), and a minimum of three large hardwoods per acre (where available) would be retained in all regeneration harvest and overstory removal units to provide for biological legacies and large structure in the regenerating stands. The number varies between units to provide for coarse woody debris or to provide site modification on more harsh sites.

All non-hazardous snags would be retained in all harvest units. If it is necessary to fall snags for safety reasons, they would be left on the site to provide down coarse woody material.

Tractor and cable yarding on all commercial thinning units would not be allowed between March 1 and June 1 to prevent bark slippage on residual trees.

Heavy equipment would be washed before moving into the project area to remove soil and plant parts to prevent the spread of noxious weeds.

III. Effects Analysis For Alternative 1

Table 6.

6 th or 7 th Field HUCs where commercial harvest is planned	% BLM	Acres	Square Miles	% veg > 30 years of age		Transient Snow Zone*		
						Acres	% in Open Condition	
				Pre-harvest	Post-harvest	Pre-harvest	Post-harvest	
Kelsey (6)	92	11546	18.0	90	85	8376	13	16
Lower Whisky (several 7ths)	87	2403	3.8	95	92	0	0	0
West Fork Whisky (7)	100	3928	6.1	90	85	5224	13	14
Meadow (7)	95	2597	4.1	100	93	1602	0.1	9
Bunker (7)	100	4486	7.0	100	98	2540	0.1	3
Russian (7)		1081	No harvest planned					
		24960**						

* TZS (transient snow zone) includes acreage above 2500' elevation

** does not include Russian Creek

The proposal has potential for contributing a minor, short-term, localized pulse of sediment to streams from road renovation and decommissioning and also to increase runoff in the vicinity of some harvest units, especially in the transient snow zone, during rain-on-snow events.

Although road maintenance, renovation, outsloping, water dipping, decommissioning and log hauling may result in a pulse of sediment entering project area streams in the short term, the amount of road-generated stream sediment would be minor and rapidly dissipate during the first major rainstorm of the wet season. Any effects on coho salmon eggs or fry in Kelsey and Whisky Creeks would be insignificant because implementing appropriate PDFs would help ensure that sediment generated by these actions would be indistinguishable from background levels by the time it reaches occupied habitat (0.9 miles to coho habitat in mainstem Whisky Creek; 0.5 to more than 2 miles in Kelsey Creek - map attachment).

Effects of stream sedimentation on aquatic organisms would be greatest immediately downstream of each crossing but they would rapidly diminish with increasing distance from the road. Use of appropriate project design features (pp 9 - 13 and Appendix 3) would help ensure that any effects are negligible and short term at the project level (HUC 6 and 7). Since temporary road locations are on or near ridgetops on stable ground and are not near streams, road construction would not degrade water quality and stream habitat. No permanent road construction is planned under any alternative. Road treatments (other than construction), especially road decommissioning, would reduce potential for erosion or failure of the road prism

and resultant stream sedimentation in the long term. Closing roads using barricades and gates would eliminate vehicle use and erosion of unsurfaced roads during the winter.

Only very limited vegetation treatments are proposed in any of the riparian reserves; no commercial products would be removed. Vegetation and fuels treatments in selected riparian reserves (Appendix 5) would reduce potential for severe wildfire and would also accelerate development of late successional characteristics in the long term. Implementing appropriate project design features (PDF chapter) in these sensitive areas would minimize any short term effects.

Riparian Reserves at least one site potential tree height (150 feet) in width from all streams in accordance with ACS objectives, would effectively filter any sediment from overland flow from road crossdrain culverts and harvest units.

The total proposed treated acreage (RH, OR, CT and CDM) across all 6th and 7th field HUCs in the project area under Alternative 1, is 7% of the total acres. Changes in infiltration, antecedent moisture conditions, interception and evapotranspiration losses due to timber harvest are not expected to substantially alter the flow regime. Analysis has shown that 85 to 98% of the area of these subwatersheds is in a hydrologically recovered condition (Table 6), exceeding 30 years of age, and that the proposed harvest would not lower it below acceptable levels (Wild Rogue WA). In addition (a) road density would decrease somewhat, reducing the risk of road-related flow increases (b) road drainage improvement and renovation, including some outsloping and adding water dips would route more water from ditchlines on to forest soils to decrease the amount that flows directly from roadside ditches into streams (c) soil depth is adequate in harvest units to allow precipitation to percolate into soil during storm events for slow release (d) compacted ground resulting from tractor skid trails and temporary roads would be sub-soiled and waterbarred to largely restore soil permeability.

Most of the harvest units in the project area are in the transient snow zone (roughly above 2500 ft elevation). Rain-on-snow events on these timber harvest units is not expected to increase water yield because only 3 to 16% of the TSZ in each HUC would be in open condition following harvest (Table 6). The percentage of the landscape in open condition in the past following wildfire was much greater than projected conditions following implementation of Alternative 1 (EIS section 3.5.3). Existing stream channel capacity, which reflects peak flow conditions under historic wildfire regimes, would easily accommodate any increase in peak flows without erosion. Additionally, no units are located in any subwatershed where a large percentage of the TSZ is already in open condition. It is expected that canopy condition in CT/PCT, CDM/NDM and CDM units would return to baseline (pre-harvest) conditions within 5-10 years and within 30 years in RH units. Only 27% of all harvest acreage under the Alternative 1 is regeneration harvest.

Base flow is not expected to decrease as a result of timber harvest because vegetation treatments would not encourage growth of riparian hardwood vegetation. However, it may increase

somewhat for several years in upper East Fork Kelsey Creek because the amount of vegetation left on-site following regeneration harvest would have considerably less demand for subsurface water than the existing old growth forest. Groundwater moving subsurface that is excess to the demands of vegetation that reoccupies harvested acreage would eventually reach stream channels and increase flow for several years until vegetation again fully occupies harvested units. Any changes to baseflow would be most pronounced in 1st to 3rd order tributaries of East Fork Kelsey and upper Kelsey Creek and are not expected to measurably affect streamflow in coho critical habitat.

Because forests in West Fork Whisky Creek and all of the Wild Rogue watershed are overstocked with conifers, largely because of aggressive wildfire suppression over the last 50 years, cutting some commercial size conifers in riparian reserves would not degrade the properly functioning condition of riparian or stream habitats. Virtually all of the streams in the pine E/M area are 1st and 2nd order and do not require large tree boles in channels in order to function optimally. Clearing around large pines in the outer 1/2 of riparian reserves would have no effect on water temperature because of the minimal acreage involved and because the action would be more than 75 feet from stream channels.

NDM would accelerate the development of late successional characteristics in riparian reserves in the longterm. Underburning would reduce fuel loading, ladder fuels and potential severity of wildfire along these streams.

Pine E/M and NDM/pile and burn would cover an estimated 7 % of riparian reserve acres in West Fork Whisky; underburning would involve less than 1% of Kelsey Creek riparian reserve acres. These actions would have no effect on coho or steelhead because appropriate PDFs would be implemented (page 12) and because of the distance between treatment units and coho/steelhead habitat.

Essential Fish Habitat

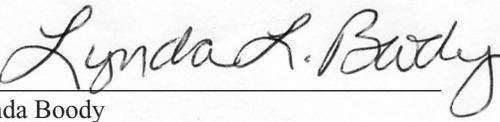
Activities associated with this project would have less than an adverse effect on EFH for coho and chinook salmon. The effect would be minor sediment deposition resulting from activities associated with road renovation and decommissioning. Peak flows in salmon habitat would be unaffected by the proposed action.

The less than adverse effects would be short term and minimized by implementing appropriate BMPs and PDFs in accordance with the Northwest Forest Plan and the Medford District RMP ROD, including project design features on pages 9 to 13 of this document. Long term beneficial effects from proposed road work would outweigh any short term effects and result in minor improvements to salmon spawning success, aquatic insect production and gravel permeability.

Further mitigation is not necessary to reduce impacts to EFH or associated species.

Conclusion:

The proposed action would maintain all habitat indicators in the Matrix of Pathway Indicators at the Project Scale (6th and 7th field watersheds; Appendix 1). I find the proposed project is consistent with watershed analysis recommendations related to aquatic and riparian habitats, applicable Northwest Forest Plan Standards and Guidelines, NEPA documentation, and applicable aspects of NMFS' March 18, 1997 Biological Opinion. The project has a negligible likelihood of resulting in incidental take of SO/NC coho salmon and therefore is not likely to adversely affect the species and its critical habitat.

s? 
Lynda Boody

BLM/Glendale Resource Area Field Manager

V. Attachments

Appendix IA. CHECKLIST FOR DOCUMENTING ENVIRONMENTAL BASELINE AND EFFECTS OF PROPOSED ACTION(S) ON RELEVANT INDICATORS

Project Name:
Kelsey Whiskey Project

7h Field HUC or Project Scale:
Lower Whiskey Creek 7th field.
Baseline rating based on ODFW data for Lower Whiskey Creek Reach I

Date: December 12, 2002
Preparer(s): Bob Bessey (Fish)
Loren Wittenberg (Hydrology)

Physiographic Province: Klamath/Siskiyou

Resource Area, Medford BLM
Glendale Resource Area

PATHWAY INDICATORS		ENVIRONMENTAL BASELINE			EFFECTS OF THE ACTION(S) ²			
		Properly Functioning ¹	At Risk ¹	Not Properly Functioning ¹	Restore ²	Maintain ²	Degrade ²	Consistent with ACS?
Water Qual	Temperature	BLM				EA		Y
	Sediment		AM			EA		Y
	Chem. Contam./ Nutrient Load	PJ				EA		Y
	Physical Barriers	ODFW				EA		Y
Habitat Elements	Substrate	ODFW				EA		Y
	Large Woody Debris	ODFW;PJ				EA		Y
	Pool Frequency	ODFW				EA		Y
	Pool Quality	ODFW;PJ				EA		Y
	Off-Channel Habitat	ODFW;PJ				EA		Y
	Refugia	PJ; ODFW				EA		Y
Chan. Cond. & Dyna	Width/Depth Ratio	ODFW				EA		Y
	Streambank Condition	ODFW;PJ				EA		Y
	Floodplain Connectivity	ODFW				EA		Y
Flow/Hydr	Peak/Base Flows		WA;PJ			EA		Y
	Drainage Network Increase		WA			EA		Y
Wshed Conditio	Road Density and Location		WA;PJ			EA		Y
	Disturbance History	WA				EA		Y
	Landslide Rates	WA;PJ				EA		Y
	Riparian Reserve	WA				EA		Y

- 1 These 3 categories of function ("properly functioning," "at risk," "not properly functioning") are defined for each indicator in the "Matrix of Factors and Indicators" for each physiographic province as agreed to by the Level I Teams.
- 2 The effects of the action are based on which way the project is likely to move a relevant indicator. However, no changes in baseline conditions are expected. For the purposes of this checklist, "restore" means to move an "at risk" indicator toward "properly functioning" or a "not properly functioning" indicator toward "at risk" or "properly functioning." "Maintain" means that the function of an indicator does not change. "Degrade" means to move the function of an indicator for the worse (i.e. it applies to all indicators regardless of functional level). In some cases, a "not properly functioning" indicator may be further worsened, and this should be noted.

Codes:

- BLM: Water temperature data
- ODFW: ODFW stream habitat survey data
- PJ: Professional judgement
- WA: Wild Rogue North Watershed Analysis
- EA: Kelsey Whisky Final Landscape Management Plan, February 2003. The Aquatic Conservation Strategy Consistency Analysis is considered a supplement of the EIS or EA
- AM: Aquatic macroinvertebrate survey and report

Appendix I.B. CHECKLIST FOR DOCUMENTING ENVIRONMENTAL BASELINE AND EFFECTS OF PROPOSED ACTION(S) ON RELEVANT INDICATORS

Project Name:
Kelsey- Whisky Project

6h Field HUC or Project Scale:
Kelsey Creek 6th field. Baseline rating based on ODFW data for Kelsey Creek Reach I

Date: December 12, 2002
Preparer(s): Bob Bessey (Fish)
Loren Wittenberg (Hydrology)

Physiographic Province: Klamath/Siskiyou

Resource Area, Medford BLM
Glendale Resource Area

PATHWAY INDICATORS		ENVIRONMENTAL BASELINE			EFFECTS OF THE ACTION(S) ²			
		Property Functioning ¹	At Risk ¹	Not Property Functioning ¹	Restore ²	Maintain ²	Degrade ²	Consistent with ACS?
Water Qual	Temperature	BLM				EA		Y
	Sediment		PJ			EA		Y
	Chem. Contam./ Nutrient Load	PJ				EA		Y
	Physical Barriers	ODFW				EA		Y
Habitat Elements	Substrate	ODFW				EA		Y
	Large Woody Debris	ODFW;PJ				EA		Y
	Pool Frequency	ODFW				EA		Y
	Pool Quality	ODFW;PJ				EA		Y
	Off-Channel Habitat	ODFW;PJ				EA		Y
	Refugia	ODFW;PJ				EA		Y
Chan. Cond. & Dyna.	Width/Depth Ratio	ODFW				EA		Y
	Streambank Condition	ODFW				EA		Y
	Floodplain Connectivity	ODFW;PJ				EA		Y
Flow/Hydr	Peak/Base Flows		WA;PJ			EA		Y
	Drainage Network Increase		WA			EA		Y
Wshed Condition	Road Density and Location		WA;PJ			EA		Y
	Disturbance History	WA				EA		Y
	Landslide Rates	WA;PJ				EA		Y
	Riparian Reserve	WA				EA		Y

1 These 3 categories of function ("properly functioning," "at risk," "not properly functioning") are defined for each indicator in the "Matrix of Factors and Indicators" for each physiographic province as agreed to by the Level I Teams.

2 The effects of the action are based on which way the project is likely to move a relevant indicator. However, no changes in baseline conditions are expected. For the purposes of this checklist, "restore" means to move an "at risk" indicator toward "properly functioning" or a "not properly functioning" indicator toward "at risk" or "properly functioning." "Maintain" means that the function of an indicator does not change. "Degrade" means to move the function of an indicator for the worse (i.e. it applies to all indicators regardless of functional level). In some cases, a "not properly functioning" indicator may be further worsened, and this should be noted.

Codes:

- BLM Water temperature data
- ODFW: ODFW stream habitat survey data
- PJ: Professional judgement
- WA: Wild Rogue North Watershed Analysis
- EA: Kelsey Whisky Final Landscape Management Plan, February 2003. The Aquatic Conservation Strategy Consistency Analysis is considered a supplement to the EIS or EA
- AM: Aquatic macroinvertebrate survey and report

Appendix 2. DICHOTOMOUS KEY FOR MAKING SECTION 7 DETERMINATION OF EFFECTS

Name of Action: Kelsey-Whisky Project

Location: Glendale RA, Medford BLM, BLM Wild Rogue 5th field HUC

Date: _____

1. Are there any proposed/listed anadromous salmonids and/or proposed/designated critical habitat in the watershed or downstream from the watershed?

- NO No Effect
- YES May affect, go to 2¹

2. Will the proposed action (s) have any effect whatsoever¹ on the species and/or critical habitat?

- NO No Effect
- YES Go to 3

3. Does the proposed action (s) have the potential to hinder attainment of relevant properly functioning indicators (from checklist)?

- NO Go to 4
- YES Likely to adversely affect², Go to 5

4. Does the proposed action (s) have the potential to result in "take"³ of proposed/listed anadromous salmonids or adversely affect proposed/designated critical habitat?

- A. There is a negligible (extremely low) probability of take of proposed/listed anadromous salmonids or adversely affect proposed/designated critical habitat **Not likely to adversely affect**
- B. There is more than a negligible probability of take of proposed/listed anadromous salmonids or adversely affect proposed/designated critical habitat Go to 5

5. A. Probability of take of proposed/listed anadromous salmonids or adversely affect proposed/designated critical habitat results from actions on federally-managed lands Likely to adversely affect⁴

B. Probability of take of proposed/listed anadromous salmonids or adversely affect proposed/designated critical habitat results from interrelated/interdependent actions of privately-owned lands. Likely to adversely affect⁴

¹"Any effect whatsoever" includes small effects, effects that are unlikely to occur, and beneficial effects, i.e. a "no effect" determination is only appropriate if the proposed action will literally have no effect whatsoever on the species and/or critical habitat, not a small effect, an effect that is unlikely to occur, or a beneficial effect.

²Document expected adverse effects on reverse side of this key.

³"Take" - The ESA (Section 3) defines take as "to harass, harm, pursue, hunt, shoot, would, trap, capture, collect or attempt to engage in any such conduct". The USFWS further defines "harm" as "significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering", and "harass" as "actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering".

⁴Document expected adverse effects on reverse side of this key.

Project Design Features For Road Renovation and Decommissioning

Project design features (PDFs) are specific measures included in the proposed action to minimize adverse impacts on the human environment. Many project design features for projects in the Medford District are specified for in the RMP and may not be repeated here. These include Best Management Practices (BMP) as described in Appendix D of the RMP.

All of the following would be implemented for this action.

If changes to the PDFs are needed during project implementation, they would be analyzed by the Interdisciplinary Team and the Field Manager, and an amended EA would be prepared before the change is implemented

Work performed in stream channels would be accomplished between July 1 and September 15 of the same year, in accordance with Oregon Department of Fish and Wildlife guidelines. The work period for decommissioning road surfaces would be limited to July 1 to October 15 of the same year.

Where practical, stream flows would be diverted around existing culvert replacements so that the construction sites remain de-watered; and would not be returned through the project area until all instream work has been completed to minimize stream sedimentation.

Existing culverts excavated from the road prism would be disposed of in accordance with State and County regulations.

Excavated side slopes where culverts are permanently removed would be laid back to at least a 1 1/2:1 slope, to reduce erosion potential. The width of the bottom of the excavation would match the width of the bank-full stream channel.

Excess excavated material generated from this work from road decommissioning would either be spread in stable locations within the existing road prism or hauled to a stable designated waste disposal area where sediment would not enter stream channels.

Buried logs and other debris from culvert excavation would be placed in designated disposal areas.

Partial rather than total decommissioning may be more appropriate where vegetation on the road surface is well-established, the surface is not eroding and ripping could reinitiate erosion. In such a situation, existing culverts should be pulled and the road water barred and barricaded.

Where full decommissioning is appropriate, discontinuously rip the road surface and water bar to prevent longitudinal erosion of the road bed. Water bars would be constructed at the same time as ripping. Ripping would be done with a winged ripper (24" tines) at least 18" deep and 36" apart to provide at least 70 percent fracture of the compacted roadway material.

Equipment refueling would be done where there is minimal chance that toxic materials could enter a stream. Equipment would not be stored in a stream channel overnight. Hydraulic fluid and fuel lines would be in proper working condition in order to minimize leakage into streams.

Heavy equipment would be washed off of federal lands before moving into the area, to remove soil and plant parts to prevent the spread of noxious weeds and disease into the project area.

Cutting vegetation on road fill slopes would be minimized in order to maintain slope stability and shading.

Work would be temporarily suspended if monitoring indicates that rain storms have saturated soils to the extent that there is potential for causing excessive stream sedimentation.

Mulching would be done immediately after excavation or ripping to reduce erosion.

Decommissioned and barricaded roads would be open to non-motorized use, such as foot traffic, bicycles and horses.

The normal work period for quarry operations would be June 15 to October 15 of the same year, to minimize potential for generating sediment that could enter streams. Measures would be taken to capture sediment before it reaches streams if quarry work must be done outside the preferred work period.

Waste diesel, oil, hydraulic fluid and other hazardous materials would be removed from the site and disposed of at an approved landfill.

All soil disturbance associated with road drainage improvement and culvert installation/replacement would be within the existing road Rights-of-Way, with moderate to small excavations and fills.

25

Alder and other vegetation would be cut in ditch lines to ensure proper road drainage. Ditch lines would be pulled and cleared of obstructions where identified in the contract.

Energy dispersal pads would be placed at culvert outlets where necessary to reduce potential for soil erosion.

Appendix 4. Other Relevant Federal Actions in the Watershed.

The following table shows all federal actions within the Wild Rogue North watershed (the northern ½ of the BLM Wild Rogue 5th field watershed) from 1983 through the present time. Some of the projects (such as those in Mule Creek), although within the EIS planning area, are not in the timber sale project area. Refer to map attachment (to be provided at the Level 1 meeting).

Past Timber Harvest Related Projects in the Project Area since 1983	Legal Description	Type of Harvest per Acre	MBF	Miles of Road Construction	Miles of Road Renovation	Miles of Road Closures
Marial alternative road (culverts) 2000						
Cold Mule Timber Sale 1996	T32S, R9W, Sec. 14-23, 27-30; T32S, R10W, Sec. 23-26	201 acres RH 63 acres CT 90 acres OSR 64 acres RR	7,486 MBF	0.6 miles of temp road construction	25 miles of existing road were storm proofed to reduce to reduce potential erosion and plugging culverts	-----
Marial Road Improvement 1996	T33S, R9W, Sec. 6; T33S, R10W, Sec.9	20 trees removed for safety	-----	-----	Entire road ripped 25 culverts replaced and 20 new installed ditches filled <u>goal</u> - improve drainage, reduce sediment, increase road width and remove protruding rocks on road	-----
Mule's Brew Timber Sale 1995	T32S, R9W, Sec. 19, 29, 31, 32, & 33	95 acres SRC 31 acres OSR 15 acres OSR/CT 66 acres RR	4,253 MBF	The following temp road spurs were constructed: 9b, 10, 11a, 12b, & 13	19.66 miles of road renovated	-----
Whisky Creek Cabin Road Surfacing 1993	T32S, R8W, Sec. 27	-----	-----	-----	1.5 miles of existing natural surface road would be rocked 5 culverts installed spot rocking and water management where unstable soils and steep gradient are present Improvements needed to reduce sediment runoff into Whisky Creek during storm events	Portion of roadway below gate within 0.25 miles of the Wild and Scenic stretch of the Rogue River would remain closed to the public vehicular traffic

Past Timber Harvest Related Projects in the Project Area since 1983	Legal Description	Type of Harvest per Acre	MBF	Miles of Road Construction	Miles of Road Renovation	Miles of Road Closures
Mule Creek Road Management Plan 1992	T32S, R9W, Sec. 15; T32S, R10W, Sec.35	-----	-----	-----	-----	Barricade 7.7 miles of road with 7 lockable gates 24.4 miles of road with 18 barricades of logs, rock, etc. <u>goal</u> – limit motor vehicle access to reduce harassment of elk
Bobby Creek Timber Sale 1990	T32S, R9W, Sec. 15, 16, & 23	86 acres CC	2,705 MBF	-----	1.1 miles of existing road re-surfaced	Roads 32-15.4, 32-9-16.4, & 32-9-16.5 barricaded with log/soil berm
Rueben Road surfacing and additional culverts 1990s						
Kelsey Creek North Timber Sale 1989	T32S, R9W, Sec. 22, 23, 26, & 27	108 acres CC 6 acres R/W	2,625 MBF	1 mile of new road construction	2 miles of existing road re-surfaced	32-9-13 road barricaded with guard rail at 32-9-13 intersection
Arrasta Plot II Timber Sale 1985	T32S, R9W, Sec. 30	2 acres CC 1 acre other	124 MBF			
East Whiskey LIM Timber Sale 1985	T33S, R8W, Sec. 9	19 acres CC 7 acres other	834 MBF			
Trapper's Trap 1985	T33S, R9W, Sec. 25, 26, & 35	470 acres CC (6,302 MBF) 12 acres SR 32 acres R/W	6,842 MBF	3.1 miles temp road construction	20.6 miles road renovation (blading, cleaning of ditches and culverts, and roadside brushing)	-----
Whiskey Creek Timber Sale 1985	T33S, R8W, Sec. 8, 16, 17, 20, & 21	266 acres CC 21 acres SR	5,228 MBF	Approximately 5.1 miles of new road construction	-----	-----

Bruin II Timber Sale 1983	T32S, R9W, Sec. 28, 29, 30, 31, 32 & 33	268 acres CC	5,671 MBF		11.15 miles road improvement 6.86 miles road improvement
Corral Relog Timber Sale 1983	T32S, R9W, Sec. 31 T33S, R9W, Sec. 4, 5 & 6	274 acres CC	9,749 MBF	1.2 miles new road construction	1.2 miles road improvement
Dutch Kelsey Timber Sale 1983	T33S, R9W, Sec. 1, 10, 11 & 12	305 acres CC	5,510 MBF	0.1 miles new road construction	14.1 mile road improvement
Mule Bob Cleanup Timber Sale 1983	T32S, R9W, Sec. 15 & 22	21 acres Individual salvage tree and clearcut wildlife tree removal	131 MBF		
Scattered Mules Timber Salvage 1983	T32S, R9W, Sec. 16, 20, 21, 28 & 29	59 acres Individual salvage tree removal	377 MBF		
Thin Bobby Timber Sale 1983	T32S, R9W, Sec. 15, 16, & 22	6 acres R/W clearcut 93 acres partial cut	953 MBF	1.2 miles new road construction	
Totals		2,681 acres	52,488 MBF	+12.3 miles	+103.17 miles +32.1 miles

Legend

CC = Clear cut
RR = Riparian Reserves, only treated for fuels
OSR = Overstory Removal
SR = Shelterwood cut (removal cut)
RH = Regeneration Harvest
CT = Commercial Thinning
R/W = Right-of-way
SRC = Stand Replacement Cut (leaving 6-8 trees/acre)