

Sagaberd Complex Environmental Assessment

OR 125-97-18

**Umpqua Resource Area
Coos Bay District
Bureau of Land Management**

Prepared this twenty-sixth day of January, 1998

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Table of Contents

Chapter 1 - Purpose and Need for Action	1
Management Objectives	1
Scoping issues identified	2
Alternatives considered but rejected.	3
Chapter 2: Alternatives Including the Proposed Action	4
No Action Alternative	4
Alternative II - Regeneration harvest	4
Alternative III - Regeneration harvest with density management and commercial thinning	4
Project Design Features Common to Alternative II & III	5
Chapter 3 - Affected Environment	7
Forest Stand Condition	7
Soils	9
Hydrology	10
Fisheries	11
Native Fish Stocks - Including T&E Species	11
Water Quality, Wetlands and Riparian Habitats	11
Wildlife	12
Threatened & Endangered Species	12
Habitat for Wildlife:	12
Survey and Manage Wildlife Species	13
Snag, Down Log, and Residual Tree Management	13
Botany - Special status and Survey and Manage Species	13
Noxious Weed Conditions	14
Chapter 4 - Environmental Consequences	14
Alternative 1 No action Alternative	14
Forest Stand Conditions	14
Soils	14
Hydrology	14
Fisheries	14
Wildlife	14
Snag and down log habitat	14
Habitat for wildlife	14
Botany	14
Alternative II - Regeneration harvest	15
Forest Stand Condition	15
Soils	15
Hydrology	15
Direct	15
Indirect	15
Fisheries	16
Direct and Indirect Affects	16
Wildlife	16
Snag and down logs habitat	16
Habitat for Wildlife	16
Botany	17

Alternatives III - Regeneration harvest with density management	
and commercial thinning	17
Forest Stand Condition	17
Soils and Hydrology	17
Fisheries	17
Direct and Indirect Affects	17
Wildlife	18
Snag and down log management	18
Habitat for Wildlife	18
Botany	18
Cumulative Effects	18
Hydrology	18
Fisheries	19
Wildlife	19
Chapter 5- List of Agencies , Organizations , and Individuals Contacted	19
References	21

Table 1 - Synopsis of Sagaberd Complex Units	5
Table 2 Age Class breakdown for 5 sections within the Sagaberd Complex	8
Table 3. Stand Exam Results for Units 1 & 2 Sagaberd Complex	9
Table 4 - TPCC Slope Gradient Classification Criteria Used by Coos Bay District in 1986/87	10

Appendix 1 - Maps - Location and Unit Maps

Chapter 1 - Purpose of and Need for Action

The Umpqua Resource Area, Coos Bay District of the Bureau of Land Management (BLM), proposes timber harvest management activities within an area in the Wells Creek and Luchsinger Creek drainages, T. 22 S., R. 09 W., Secs. 21, 22, 27, 28, & 35 Willamette Meridian. (See attached Location Map in Appendix 1). These drainages are within the Lower Umpqua Frontal subwatershed. A small portion of the proposed harvest, less than 10 acres, falls within the Mill Creek Analytical Watershed, T. 22 S., R. 09 W., Secs. 28 & 35. The first iteration of watershed analysis have been completed for the Lower Umpqua Frontal Watershed Analysis Unit (WAU) and the Mill Creek WAU and are hereby incorporated by reference. The proposed project area is within the General Forest Management Area (GFMA) and Riparian Reserve (RR) Land Use Allocations (LUA) as designated by the *Coos Bay District's Resource Management Plan (RMP) and Environmental Impact Statement* (BLM, 1995). This Environmental Assessment EA OR125-97-18, addresses site specific, direct, indirect, and cumulative effects of this proposal.

This EA is tiered to the *RMP* and its Record of Decision (BLM, 1995) which is in conformance with the *Final Supplemental Environmental Impact Statement on Management of Habitat for Late - Successional and Old Growth Forest Related Species Within the Range of the Northern Spotted Owl (Northwest Forest Plan)* and its Record of Decision (Interagency, 1994).

These documents are available for review at the Coos Bay and North Bend Public Libraries, the Coos Bay District Office of the BLM, and the Oregon State Office of the BLM in Portland, Oregon.

The analysis file for this EA, containing such things as Interdisciplinary team meeting notes, specialists' reports, silvicultural prescriptions, stand exam data, etc., is located at the Coos Bay District Office, and is hereby incorporated by reference.

The preliminary scoping process consisted of an interdisciplinary team defining the issues and alternatives that would be examined in detail in the EA. The public was informed of this planned EA through the Coos Bay District's *Planning Update* sent to individuals and organizations on the District's mailing list. In addition, letters were sent out to specific individuals and organization on March 18, 1997, notifying them of the beginning of the scoping period and subsequent changes to the original proposal.

Management Objectives

- ▶ Produce a sustainable supply of timber, provide jobs and contribute to community stability.
- ▶ Work toward meeting the Coos Bay District's Probable Sale Quantity (PSQ) for Fiscal Year 1998 and 1999 as identified in the RMP and the Northwest Forest Plan.
- ▶ Maintain habitat connectivity across the landscape.
- ▶ Provide habitat for a variety of organisms associated with both late-successional and younger forests.
- ▶ Provide for important ecological functions such as dispersal of organisms and maintenance of ecologically valuable structural components such as down logs, snags, and large trees.
- ▶ Provide early-successional habitat.

- ▶ Work towards the goals established by the Lower Umpqua Frontal WAU Transportation Management Objectives (TMO), which reduce the overall road densities.
- ▶ Meet Aquatic Conservation Strategy (ACS) objectives.

Scoping issues identified by the public

The primary purpose of scoping is to identify the agency's and public's concerns relating to a proposed project and defines the issues and alternatives that are examined in detail in this EA. The scoping process consisted of an Interdisciplinary Team that identified potential issues that helped develop project design features and alternatives to the proposal. The general public was notified of the planned EA through publication of the District's semi-annual *Planning Update* and letters to adjacent landowners and those agencies and interested parties on the District mailing list. The District received three responses, two from private citizens and one from the Oregon Coast Range Association

- ▶ Issue: Comply with Oregon Department of Forestry voluntary guidelines on logging on steep slopes.
- ▶ Resolution: The BLM has conducted an inventory that includes identification of fragile sites which, when harvested, could have reduced timber growing potential due to natural limiting soil properties and landform characteristics. This inventory is called the Timber Production Capability Classification (TPCC). For more information see Appendix H, Best Management Practices, ROD or the Oregon Handbook 5251-1, Intensive Inventories, TPCC. None of the areas within the project have been withdrawn from the timberland base. (See page 10 of this EA)
- ▶ Issue: Prevent the introduction of *Phytoptera Lateralis*.
- ▶ Resolution: Stand exams and previous sale units cruises within the area show no incidence of Port-Orford cedar; therefore, the introduction of *Phytoptera Lateralis* is not an issue.
- ▶ Issue: Which stands are being used within the fifth field watershed for retention of old growth?
- ▶ Resolution: This particular sale is primarily second growth stands with some scattered older residuals. The birthdates for the stands range from 1900 to 1930. Some of the scattered residuals will be left as wildlife trees. The 5th field watershed will retain 28% of the federal ownership in stands 80 years old and older following harvest operations. (See page 15 of this EA)
- ▶ Issue: A full analysis of how this project will meet the Aquatic Conservation Strategy and meet the Standards and Guidelines (S&G's).
- ▶ Resolution: This particular project follows all S&G's as outlined in the Northwest Forest Plan as well as the Coos Bay District's RMP, whichever is the most restrictive. The protection of streamside and headwall areas will allow the natural processes to occur that will provide those components necessary for aquatic and terrestrial habitat development.
- ▶ Issue: We would like to see any 303(d) stream segments in the project watersheds addressed specifically. We are interested in how the BLM is helping to restore water quality in these streams.
- ▶ Resolution: The nearest 303(d) stream segment is the Umpqua River from Little Mill Creek to North/South Fork of the Umpqua River (13C-UMPQ27.3). The listed parameters include: summer water temperature, fecal coliform and flow modification. Water temperature is not expected to be affected in the drainages in this project because of the maintenance of intact riparian reserves; therefore, no change in water temperature in the Umpqua River is expected. There is also no

indication that fecal coliform or flow modification would be affected in these drainages. Since water quality will be maintained in the project drainages the water quality of the Umpqua River will be maintained and moved toward restoration.

- ▶ Issue: Which parts of the Lower Umpqua Frontal are being managed for refugia areas for aquatic species particularly coho and cutthroat trout?
Resolution: The majority of fish bearing streams on federal lands provide some level of refugia for coho salmon and cutthroat trout, in particular, those areas that have not yet been harvested. Under alternative II and III, the retention of Riparian Reserves will continue to provide refugia for primarily cutthroat trout. Few coho reside in the fish-bearing streams adjacent to three of the sale units. Tier 1 Key Watersheds were designated as refuge under the Northwest Forest Plan. No Key Watersheds exist within the Lower Umpqua Frontal watershed.
- ▶ Issue: Include the National Marine Fisheries Service Determination of Effects Table (“matrix”) for Cutthroat Trout Consultation.
Resolution: The table can be obtained upon request. The action was determined to be a “may affect, likely to adversely affect” and is partially based on the disturbance history in the watershed. The consultation team also determined that the proposed sale plan conforms to the Northwest Forest Plan, and its’ Aquatic Conservation Strategy (ACS) objectives and the Coos Bay District’s RMP. No significant affects to listed or proposed fish species is anticipated.
- ▶ Issue: Road Densities
Resolution: One of the identified goals in the Lower Umpqua Frontal Watershed Analysis is the reduction of road densities. The Transportation Management Objectives (TMO) have been completed, and about 8.7 miles of roads have been closed or identified for closure. The roads to be constructed, 42 stations, will be tank trapped following tree planting activities. Roads are being closed consistent with the goals of the TMO and the RMP. It was proposed that we re-open the 22-9-15.0 road, approximately 72 stations of reconstruction, to enhance access to the north end of units 2A and 3A, B, and C , and construct a swing spur, 20 stations, into the top end of unit 4A. These roads would facilitate logging, site preparation and follow-up stand management activities. These proposals were rejected. It was determined to be economically and environmentally unsound, however, it is feasible to log the units to different landings and to existing private roads. The silviculture activities in the future would require the operators to walk rather than drive to units and seedlings and other equipment could be flown in.
- ▶ Issue: Several of the units have been subjected to repeated fires and have very little Coarse Woody Debris (CWD).
- ▶ Resolution: Two additional wildlife trees will be left in those areas deficient of existing CWD to fulfill Coos Bay District’s RMP requirements for CWD, Decay Class 1 and 2.

Alternatives considered but rejected.

The option of commercially thinning the entire project area was proposed but was eliminated because that alternative did not provide the volume needed to meet the Umpqua Resource Areas PSQ. Commercial thinning was feasible only in Units 1 and 2. The volumes derived from a commercial thinning would fall substantially below that of the regeneration harvest including the Riparian Reserves. For Unit #1, it was estimated that 54 acres of GFMA could be thinned and 34 acres of Riparian Reserve’s could be thinned. Thinning Unit #2 would yield approximately 12mbf/acre for a volume of 1056 mbf while the regeneration harvest would yield at least 3000 mbf, a difference of 2000 mbf. In Unit #2 about 55 acres of GFMA and 55 acres of RR’s would be thinned. The thinning would yield about 10mbf /acre or 1210 mbf while the

regeneration harvest would yield over 3200 mbf a difference of 2000 mbf. That would reduce total sale volume by over 4 million board feet. The yields were based on the a post harvest thinning stand exam done on the nearby Sidewinder Thinning Timber Sale.

Chapter 2: Alternatives Including the Proposed Action

This chapter describes the proposed action and alternatives.

No Action Alternative

Under the no action alternative, no forest management activities would occur at this time. Another analysis area would be proposed for harvest to meet the objectives of the GFMA as detailed in the Coos Bay District's RMP.

Alternative II - Regeneration harvest

Alternative II proposes to do a regeneration harvest on approximately 260 acres of GFMA lands within the Middle Umpqua Frontal WAU and the Mill Creek WAU, The proposed activities would occur in the Wells Creek and Luchsinger Creek drainages. Approximately 14 MMBF will be cut. Harvesting would be accomplished using cable and helicopter systems with one end and full suspension required in the cable logging portions. Table 1 outlines the units and the logging method to be employed. Proposed sale maps in Appendix 1 show cable and helicopter areas in greater detail. The area to be known as the Sagaberd Complex for the EA is divided into 4 units. These units are further divided into subparts, A,B,C,... and may increase or decrease in number depending upon the results of field layout of the Riparian Reserves.

Unit #1 will be approximately 87 acres, with 1A = 2 acres, 1B= 4 acres, 1C = 9 acres, 1D = 51 acres, 1E = 20 acres, 1F = 1 acre and 1G = 1 acre . **Unit #2** will be approximately 49 acres with 2A = 15 acres and 2B = 34 acres. **Unit #3** will be approximately 84 acres with 3A = 3 acre, 3B = 3 acres, 3C = 80 acres, 3D = 4 acres. **Unit #4** will be approximately 33 acres with 4A = 24 acres, 4B = 6 acres, and 4C = 3 acres. One site potential tree height has been established as 200 feet, the Interim Riparian buffer width for this area. All non-fish-bearing streams will have a riparian buffer of 200 feet slope distance on either side of the channel while fish-bearing streams will retain 400 feet of riparian buffers on either side of stream channel. Six to eight wildlife trees per acre will be left and coarse woody debris will be left in accordance with the Coos Bay District's RMP, the Northwest Forest Plan, Instructional Memo OR-95-028 and Informational Memo OR-97-064. It is estimated that 4200 feet of new road construction would be needed for this project and will be tank trapped following site preparation activities. It is estimated that 3 miles of road renovation would be needed to bring existing roads to standards. Table 1 lists the road to be constructed by unit. Site preparation method is summarized in Table 1 and more detail can be found in the Fuels Management Specialist Report in the Analysis File. In general, an early spring burn is the preferable site preparation method but on the smaller areas where burning is too costly, hand/machine piling will be used.

Alternative III - Regeneration harvest with density management and commercial thinning

Alternative III proposes a regeneration harvest on about 260 acres of GFMA lands, as outlined in Alternative II, and additionally to perform a density management on approximately 66 acres of selected riparian reserve and commercial thin 13 acres of GFMA lands. Unit #1 contains approximately 29 acres of Riparian Reserve density management, and Unit 2 has 37 acres. Unit #4 will have approximately 13 acres of commercial thinning in GFMA lands. No activity would be planned within 200 feet of fish bearing streams or within 50 feet of non-fish bearing draws. No additional roads would be required to thin within the Riparian Reserve. The area would be harvested using cable and helicopter logging systems. Smaller diameter trees, averaging 16" would be harvested in the density management areas. Thinning would be

from below (the largest trees would be retained), and densities would be reduced to 50 - 80 trees per acre. All existing coarse woody material would be retained. Snags would be protected where safety allows. Where burning for site preparation is proposed in the regeneration harvest areas, some fire may be allowed to creep into the Riparian Reserve. Fuel loadings within the Riparian Reserve will be much less when compared to the regeneration units and fire behavior is expected to be low.

Table 1 - Synopsis of Sagaberd Complex Units Alternative II & III

							Alternative III	
							Alternative II	
Unit number	Road stations	Logging method	Suspension	TPCC	Site Preparation	FOI symbol	Reeneration Harvest Ac/Vol.	Density Mgmt Commer.Thinning
1A	5	Cable	one-end	FGR1	Burn/Spr	N D3= 1920	2ac/100mbf	
1B	5	Cable	one-end	RLR1	Burn/Spr	D4= 1900	4ac/220mbf	2ac/20mbf
1C	0	Helicopter/cable	one-end	FGR1	Burn/Spr	D4= 1900	9ac/495mbf	12ac/120mbf
1D	0	Helicopter/cable	one-end	1/3 FGR2 2/3 FGR1	Burn/Spr	N D3= 1920	51ac/2805mbf	15ac/150mbf
1E	0	Helicopter/cable	one/full	RLR & FGR1	Handpile	D4= 1870, D3=1900	20ac/1100mbf	
1F	0	Cable	one-end	RLR1	Burn/Spr	N D3= 1920	1ac/45mbf	
1G		Helicopter	one-end	RLR1	Handpile	D4= 1900	1ac/45mbf	
2A	0	Helicopter	one-end	½ FGR2 & ½ FGR1	Burn/Spr	N D3= 1930	15ac/825mbf	14ac/140mbf
2B	5	Cable/Helicopter	one/full	FGR2	Burn/Spr	N D4= 1900	34ac/1870mbf	23ac/230mbf
3A	0	Helicopter	one-end	FGR1	Handpile	N D3= 1920	3ac/165mbf	
3B	0	Helicopter	one-end	FGR1	Handpile	N D3= 1920	3ac/165mbf	
3C	20	Helicopter/cable	one/full	½ FGR2 & ½ FGR1	Burn/Spr	N D3= 1920 D4= 1910 N D4= 1900	80ac/4400mbf	
3D	0	Cable	one-end	RLR1	Machine pile	D4= 1910	4ac/200mbf	
4A	0	Cable/Helicopter	one/full	2/3 FGR2 & 1/3 RLR	Burn/Spr	D4= 1880/ D3=1950	24ac/720mbf	13ac/65mbf
4B	5	Cable	one-end	RLR	Burn/Spr	D4= 1880/ D3=1950	6ac/180	
4C	3	Cable	one-end	RLR	Handpile	D4= 1880/ D3=1950	3ac/165mbf	
Totals	43						260ac/13500mbf	79ac/825mbf

*Unit Numbers/Regeneration acres/Thinning Acres

Project Design Features Common to Alternatives II & III

- ▶ In accordance with the Northwest Forest Plan, *Standards and Guidelines*, the Coos Bay District's RMP, and based on Instructional Memo OR-95-028 and Informational Memo OR-97-064, an average of 120 linear feet of decay class 1 and 2 logs per acre would be retained over the cutting area and would reflect the species mix of the unit. Logs would be distributed throughout the

cutting area, and not piled or concentrated in a few areas. Where existing CWD is limited, one to two standing trees per acre could be left to provide for CWD and could be felled after site preparation activities. All decay class 3, 4, and 5 logs would be retained.

- ▶ All existing down logs would be protected to the greatest extent possible from damage from falling, yarding and subsequent site preparation. Hand pullback of all fuels 1/2" to 4" in diameter that are within 10' of existing coarse woody debris and snags will be done prior to spring burning.
- ▶ Seven to ten green conifer trees per acre will be retained (see CWD retention above). Trees will be distributed in variable patterns, stringers and clumps, to contribute to stand diversity. Some of the residual old growth within units 1, 2, 3, and 4 will be retained as wildlife trees. Additional hardwood wildlife trees will be left where feasible. In addition to the green tree retention, all existing snags will be reserved from felling within the parameters of a safe working environment.
- ▶ Approximately 80% of the wildlife trees will be in clumps centered around existing snags or downed logs where possible, with the remaining 20% scattered throughout unit.
- ▶ The location, number, and width of yarding corridors through the Riparian Reserves will be specified prior to yarding. Natural openings will be used as much as possible. Not more than 250 feet of yarding corridors will be allowed within any 1,000 feet of stream length. Maximum corridor width will be 50 feet, and corridors will be at least 50 feet apart.
- ▶ Full log suspension will be required over the streams with one-end and full suspension over the remainder of the area within the cable logging areas. Lift trees may be required to achieve desired suspension.
- ▶ All trees will be directionally felled away from reserve areas, previous sale areas, riparian areas, posted wildlife trees, and snags.
- ▶ All trees designated for cutting in the commercial thinning and density management areas will be cut into lengths so as not to damage the residual stand while yarding. Limbs and tops will remain on site.
- ▶ No yarding or felling shall take place between March 1st and June 30th in the density management or the commercial thin areas, to prevent damage to the residual trees during high sap flow.
- ▶ All commercial thinned and density management areas to be logged with a helicopter will have the logs lifted vertically, free and clear of the tree tops, before moving toward the landings to protect residual tree crowns.
- ▶ All material overhanging the edges of landings will be pulled back. All newly constructed roads in the proposed sale areas will be mulched to protect soil from erosion and closed following completion of tree planting activities.
- ▶ All road cuts and fills will be seeded with native grass seed if available. If native grass seed is not available, road cuts and fills will be seeded with an approved BLM seed mix.
- ▶ All road construction and logging equipment would be washed prior to moving into, and upon leaving, the proposed sale area to minimize the spread of noxious weeds.

- ▶ Two sites of *Sarcosoma Mexicana*, a Protection Buffer fungal species, were found and a no-cut buffer of 100 feet radius circle will be established around each site.
- ▶ A standard special provision would be included in the contract to protect Threatened and Endangered (T & E) species found on the site after the contract is awarded
- ▶ Prescribed burning activities in each unit will be conducted in accordance with the Oregon Department of Forestry's Smoke Management Plan.. .
- ▶ The timber sale contracts will include the appropriate provisions for disposal of wastes and handling of hazardous materials. State of Oregon Department of Environmental Quality and Forest Practices guidelines for spill prevention and containment will apply to any contracts resulting from these sales. Site monitoring for solid and hazardous waste will be performed during operations.
- ▶ Upon discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony and pursuant to 43 CFR 10.4(c) and (d), all activities within the vicinity of the discovery will stop and be protected for 30 days or until notified to proceed by the authorized officer.

Chapter 3 - Affected Environment

The description of the existing conditions reflects the application of the No Action Alternative and is the baseline for measuring the effects of the Proposed Actions.

Forest Stand Condition

Thirty one percent of the timber on federal lands within the Middle Umpqua Frontal, fifth field watershed, are greater than 80 years of age. The majority of the late successional forest habitat which remains in this subwatershed is scattered in small, highly fragmented patches, intermingled with large blocks of early successional habitats on federal and private lands. These early seral plantations are typically even aged, single canopy conifer stands with a minor hardwood component.

The total area represented within the 5 sections, that encompass the proposed timber harvest areas, is approximately 1628 acres. Of that, 260 acres are available for regeneration harvest and 448 acres are in Riparian Reserve. About 473 acres has been previously harvested, another 153 acres will be commercially thinned, Luschsinger Thinning TS95-03 and the remaining 258 acres has limited potential for commercial thinning . About 36 acres of older stands within the GFMA will remain for a total of 1628 acres. The age class breakdown is found in Table 2.

The stands within these 5 sections are classified as naturally regenerated stands and have stem densities ranging from 6 to 317 trees per acre. The stands are comprised primarily of Douglas fir with a smaller component of western hemlock, grand fir and hardwoods (big leaf maple, madrone, and alder). These forests were initiated by a fire of unknown origin in the early 1900's or late 1890's. Tree species composition is fairly uniform throughout and diameters and heights are consistent within these stands. Variability within the Douglas fir is based primarily on aspect, and secondarily by topographical position and. The south and west aspects have high densities of Douglas fir. Hardwoods are located in the lower portions of the slope and near rock outcroppings. Salal with evergreen huckleberry and rhododendron can be found on the southern aspects and the density of the brush can vary. On the drier west/south aspects evergreen huckleberry and salal can be dense. Units 1A, 1B, 1C, 1D, 1E, 2A ,2B, 3B and portions of 3C

have high densities of Douglas fir. The few large conifer remaining are concentrated along riparian zones in combination with younger conifer and red alder, or located on ridgetops. The north and east aspects are less dense with larger Douglas fir and more hardwoods with moist site brush species, i.e. sword fern, salmonberry and vine maple. Units 3A, 3D, portions of unit 3C, 4A, and 4B have this less dense Douglas fir component. Old red duff snags are not common but some still remain and show signs of charring. Blowdown has been a problem in the north portion of 1D, the south line of 3C, and within the headwall area between 4A and 4B. These areas are not steep but are exposed by a recent clearcuts. The area between 4A and 4B that falls within the Riparian Reserve has some residual canopy and will be left to regenerate naturally. The vegetation within the proposed sale area is consistent with the vegetation types outlined within the Siuslaw National Forest, Plant Association and Management Guide.

Table 2 Age Class breakdown for 5 sections within the Sagaberd Complex

Stand Symbol	Acres	Stand symbol	Acres
PL D1-=1986	26	N D3-=1930	45
PL D1-=1987	162	D4-//D3=1900	34
PL D1-=1991	48	D4-=1900	192
PL D1-=1992	68	D4-=1910	155
PL D1GF1- =1992	26	D4=1870//D3-1900	33
PL D2-=1959	399	D4=1880//D3=1950	86
X 1989	143	N D4-= 1900	89
N D3= 1950	7	N D4-=1900	42
N D3-=1920	73	Totals	1628

A stand exam was conducted on units 1 and 2, as well as, a post thinning exam on the nearby Sidewinder Thinning (TS95-02). Table 3 shows the findings of those surveys. The survey data was analyzed using the Atterbury stand exam program developed for the BLM. Coarse woody debris inventories were done in conjunction with the stand exams. Snags were also measured. Survey lines were spaced 400 feet apart and the plots were taken every 400 feet. Data was collected by strata. Strata 1 represented the GFMA portion of the landscape and strata 2 represented the upland Riparian Reserve areas.

A run utilizing the Stand Projection System (SPS) was done using the plots from the strata 2 portion of the stand exam within unit #1. A cut was made at age 75 to 70 tpa and it resulted in 10mbf/acre cut. The average cut tree diameter was 16 inches and the average leave was 22 inches. This prescription falls within the suggested district guidelines for partial-cut harvest. The resulting Crown Competition Factor is 195 and the Relative Density is 39. It is anticipated that about 10mbf per acre would be removed. This would add 660 mbf to the sale.

Coarse Woody Debris (CWD) information showed that within unit #1, there were 10 pieces for a length of 396 feet per acre of Class 1 and 2 greater than 16" and 320 feet per acre of Class 3,4, and 5 exists greater than 16 inches. Within unit #2, no material within Decay Class 1 and 2 was present. In Decay Class 3,

4, and 5 only 230 feet per acre of material greater than 16 inches were present. More CWD, Class 1 and 2 material in smaller diameter classes and shorter lengths is present but does not meet the Coos Bay District's RMP requirements for size.

In unit 1, there are about 40 snags per acre with an average diameter of 11 inches. In unit #2 there are about 18 snags per acre with an average diameter of 11 inches. These snags represent both natural suppression and small areas of disease within the stands. The snags, with ½ being less than 50 feet and ½ being 50 to 100 feet are in the softer decay classes, 2 through 5.

Table 3. Stand Exam Results for Units 1 & 2, Strata 1&2, Sagaberd Complex

Units	live tpa*/diameter	snags**/diameter	snag heights 15-50'/ 51-100'/acre	CWD (ROD) > 16" & 16'/acre
Unit 1	105/21	40/11	17/24	320
Unit 2	93/20	18/11	11/6	0
Unit 1 and 2 had a range in densities of 6 to 317 tpa with unit 2 having a range of 32 to 344 tpa				

* tpa - trees per ** snags per acre

There is no Port Orford Cedar (POC) in the area.

Soils

This timber sale proposal consists of four timber sale units with several parts to each unit. The sale units are geographically close to each other, and there are only a few soil map units involved. There is little new road construction proposed, and log yarding systems are proposed to be either cable or helicopter. According to the TPCC guidelines, cable logging with at least one end log suspension or helicopter would be acceptable on these soils.

Units:

1A and 1F - 240G , Digger-Bohannon, Umpcoos, 60-90% slopes. Small unit.

1B- 240G and 555E, Absaquil-Honeygrove-McDuff on 3-30% slopes. Small unit.

1C, 1G, and 4B - 311F, Preacher-Bohannon-Xanadu on 30 to 60% slopes. Medium and two small units.

1D ,1E and 2A - 555F, McDuff-Absaquil-Honeygrove on 30 to 60% slopes, and 240G. Large and medium sized units.

2B - 240G and about 20% 555F, Big unit.

3A, 3B, 3D, 3D and 3E - 555F, Small units.

3C and 4A - 240G, (Almost all); Big unit and medium sized unit

4C- Not typed, but estimated to be 555F based on slope, landform, geology and surrounding soils. Small unit.

Digger soils are moderately deep (20-40"), well drained, loamy and rocky soils that occur on 3 to 90% slopes. Bohannon soils are similar to Digger but have less than 35% rock in the profile. Umpcoos soils are shallow. (<20" over sandstone bedrock) rocky, loamy,and well drained. They often occur in close association with rock outcrop, and on knife edge ridgetops and extremely steep slopes. They are the tertiary soil in map unit 240G. Preacher soils are deep, well drained, loamy, highly productive soils that occur on gentle to steep slopes. Xanadu soils are deep, well drained, and have gravelly loam soils over red

clay. Absaquil and McDuff are similar brown clayey soils. Absaquil soils are deep and McDuff are moderately deep (20-40"). They occur on gentle to moderately steep slopes. The *Soil Inventory of the Coos Bay District* (BLM, 1977) contains more detailed soils information.

The TPCC (Timber Production Capability Classification), Table 4, for most of the sale is FGR1 (Fragile Gradient Restricted) with some FGR2, (more fragile than FGR1, and the most fragile land type that the district can conduct timber harvests. There are some small inclusions within the sale units that could be classified as FGNW but are not large enough to classify as a separate land classification.

Table 4 - TPCC Slope Gradient Classification Criteria Used by Coos Bay District

	Not Fragile	FGR1	FGR2	FGNW
TPCC MAP UNIT over all characteristics				
slope - ave. for unit	0-60%	50-70%	70-80%+	mostly 80%+
dissection - ave. for unit	low	low-mod.	mod.-high	high- very high
soils*	57,10,14,63	63,57,66,64,166	64,564,66,63,R	564,64,R,66,63
soil depth	deep & moderately deep	shallow to deep	shallow to moderately deep & skeletal	shallow & skeletal
rockland/ % rock outcrop	0-5%	0-10%	5-20%	10-30%
soils*	57,10,14,63	63,57,66,64,166	64,564,66,63,R	564,64,R,66,63
instability indicators	none to few	few	common	many, including active failure

* soil mapping unit codes from Townsend et. al. (1977)

FGR = Fragile Gradient Restricted FGNW = Fragile Gradient Non-Suitable Woodlands

Hydrology

The hydrology of the area is driven by precipitation in the form of rain. The area may occasionally receive snow, but the quantity and duration of the snow does not normally produce rain-on-snow events. The peak flows, low flows, annual flows and groundwater levels are all dependent on the amount, intensity and distribution of rainfall. The close correlation between precipitation and runoff indicates that this system rapidly translates rainfall into runoff due to: a high drainage density, low bedrock permeability, coarse textured, shallow soils, intense precipitation totals, and steep slopes. Units 1, 2, and 3 are all drained to the north by low order (1-3) frontal tributaries of the Umpqua River. Unit 4 is drained to the northeast by low order tributaries (1-3) of Luchsinger Creek, which is also a tributary to the Umpqua River. All of these tributaries are high gradient, step/pool, debris torrent systems that have been surveyed for fish presence and channel inception points. Channels have been identified on the ground to determine Riparian Reserves. The reserve widths will be one or two site potential tree heights (200 or 400 feet) depending on the presence or absence of fish. These channels do not have an inner gorge by definition or an active flood plain and the distance dominated by riparian vegetation is also less than a site potential tree height.

Fisheries

Native Fish Stocks - Including T&E Species

There are approximately 0.7 miles of fish-bearing streams adjacent to the proposed sale units. The remaining 4.2 miles of streams are non-fish bearing but contain quality habitat for amphibian and aquatic invertebrate species.

The proposed sale area is encompassed by the Sagaberd and Luchsinger Creek drainages. Native anadromous fish species occurring within those drainages include coho salmon, winter steelhead trout, sea-run cutthroat trout, and Pacific lamprey. Common resident fish include the cutthroat trout, brook lamprey, and a diversity of dace and sculpin species. Fish-bearing streams directly adjacent to proposed sale units are generally small in nature and primarily contain cutthroat trout and sculpin species. While the presence of these species are known, data related to population sizes or trends is not known.

Of the 175 "at-risk" anadromous fish stocks in Oregon listed in *Forest Ecosystem Management Assessment Team* (USDA; USDI 1993), three occur within or downstream from the proposed sale units. The Umpqua Basin cutthroat trout is currently listed as "Endangered" under the Endangered Species Act (ESA), the Oregon coastal coho salmon is listed as a Candidate species and the winter steelhead trout is currently considered proposed for listing under ESA. The proposed action was designated as a "may affect, likely to adversely affect" action. Consultation with National Marine Fisheries Service concluded that all reasonable and prudent measures were used in the sale design. Incidental take was granted in a letter dated October 1, 1997.

Cutthroat trout, sculpin and potentially brook lamprey utilize small streams adjacent to three of the proposed units. Coho salmon and steelhead trout mainly utilize the larger areas downstream. Primary (algae) and secondary (insect) production in all streams adjacent to units, is thought to be high due to the presence of organic debris accumulations and an abundance of gravel/cobble substrates. The production of aquatic insects provides foraging opportunities for both aquatic and terrestrial species. The large amounts of cobble/gravel substrate also provide habitat components that are beneficial for amphibians.

Amphibians are the most abundant vertebrate group in many forested ecosystems, and the Pacific Coast harbors a particularly high number of endemic species (deMaynadier and Hunter 1995). The eight species of amphibians strongly associated with stream habitats in the proposed sale area include: the Pacific Giant, Southern Torrent, Northwestern, and Dunn's salamanders; Roughskin newt; Red-legged and Pacific Tree frogs; and Western toad. Two species, the Pacific Giant Salamander and the Southern Torrent Salamander have multi-year larval aquatic life stages (Blaustein et al 1995) which make them sensitive to changes in aquatic habitat quality and connectivity. The Southern Torrent Salamander is classified as Special Status Species by the Oregon Department of Fish and Wildlife, and the BLM. Pacific Giant, Southern Torrent and Dunn's salamanders have all been observed in or near streams within the proposed sale area.

Water Quality, Wetlands and Riparian Habitats

No temperature data exists for the drainage, however, water quality within the proposed sale is good (does not exceed DEQ standards) with regards to temperature and sedimentation for aquatic organisms. In general, temperatures are cool and turbidity increases only during large rainstorms. Turbidity levels usually subside quickly following rain events and are believed to be within the natural range of variability.

Instream habitats for aquatic organisms are composed primarily of short step pools and riffles. Sand, gravel, and cobbles make up the substrate and instream complexity is created by considerable amounts of down wood. Stream gradients range from approximately 5 to 40 percent.

Riparian habitats are primarily dominated by stands of Douglas-fir in combination with red alder and big-leaf maple. The understory largely consists of dense stands of salmonberry and sword fern. There are several in-channel landslides within the Riparian Reserves due to storm events during the winter of 1996 which deposited both woody debris and coarse and fine substrates (cobble/gravel/sand).

Wildlife

Threatened & Endangered Species

There are four terrestrial species listed for protection under the ESA: northern spotted owl (NSO), bald eagle (BE), American peregrine falcon, and marbled murrelet (MAMU). The U.S. Fish and Wildlife Service generally designates protective measures to prevent disturbance of these birds during their nesting season, which is the most critical time for the species. The northern spotted owl nests between approximately March 1 to September 30, while the murrelet nests between April 1 thru September 15. The eagle has the longest nesting season from January 1 to September 1.

Although rock outcroppings occur in the area, they are not suitable for peregrine nesting. A map search indicates that there are no MAMU or NSO activity areas within 1/4 mile of the project sites. There is one NSO nest 1.5 miles from unit 4. There are 4 Bald Eagle nests in the area, but the closest is 0.9 of a mile away.

The required consultation with the U.S. Fish and Wildlife Service (USFWS) has been completed for this sale in document 1-7-96-F-411 dated August 28, 1996. There are no seasonal or daily timing restrictions for this sale, as the suitable murrelet habitat within 1/4 mile has been surveyed to protocol and no MAMU were identified.

The Sagaberd Complex is a “may affect, likely to adversely effect” situation for both the MAMU and NSO. This is not based on occupancy, but rather on the removal of suitable habitat. Characteristics of certain units indicate a small percentage of suitable trees for nesting, as well as connectivity and foraging habitat. With retention of many of these older trees, Riparian Reserves, and pockets of wildlife trees, the area may still provide suitable habitat at a later date.

Habitat for Wildlife:

The area, in general, is well used by wildlife. Signs of wildlife use include the presence of skeletons, scat, feathers, feeding activity, etc. by a wide range of animals and birds.

Rock outcroppings occur in several places in Units 1D and 2B. Evidence is present on site to indicate varied, small mammal use (rodents). These sites are also of value to certain bat species; most notably the Long-legged, and California myotis, and the big brown bat. Because of the diversity of habitat types in the local area, it may be a productive bat-use area in general. No surveys have been conducted for these species.

The area is heavily used by deer, elk and bear. Although the units vary in composition, most show a well-developed, diverse, lower vegetation layer and in some cases a well-developed shrub and small tree component. Several units have young conifer recruitment, while some do not. Big Leaf maple and other

hardwoods, as well as other temperate forest plant species commonly found in coastal Oregon, were present. Plant diversity is indicative of a healthy wildlife area and the amount of animal sign shows this to be true. A turkey vulture nest was located at the base of one rock outcropping.

The timber sale units have a few scattered “old-growth” woolly-limbed trees, which may be retained. These trees exhibit nesting characteristics appealing to marbled murrelet.

Survey and Manage Wildlife Species

According to Table C-3 of the Coos Bay District Record of Decision (ROD page C-15), the only S&M species which could occur in the project units or near the area is the red tree vole. Since more than 10% of the Middle Umpqua Frontal 5th field watershed is in federal ownership, a habitat condition analysis from GIS habitat maps showed that current habitat conditions exceed the 40% minimum habitat threshold for the red tree vole. This means that site specific surveys are not required. Observations from an informal survey showed no red tree vole nests, but since the nests are small and high in the crowns, it is very possible based on the diversity and quality of habitat that colonies may exist in the units.

Snag, Down Log, and Residual Tree Management

Units 3C, 4A, and 4C, have an excellent CWD component, which includes many old-growth logs. In the north portions of units 1D and 1E, and unit 4B recent blowdown has contributed large amounts of smaller diameter CWD. Downed wood diameters in these units and in the remaining units are generally smaller, and although decay at a faster rate, continue to provide habitat for a variety of plant and animal species. A wind throw area, of approximately five acres within the Riparian Reserve occurs between units 4A and 4B. All observed units have natural snags in them showing a high amount of wildlife use (woodpecker) and varying degrees of decay. The snags range from 6 feet to 100 feet in height, and 7 to 18 inches in diameter.

Botany - Special status and Survey and Manage Species

A population of Cusick’s checkermallow (*Sidalcea cusickii*) has been documented in this area (Sagaview Timber Sale). Habitat for the checkermallow, which is a Bureau Tracking species, is open slopes in forests. Its status as a Tracking species, however, does not require management consideration. Aerial photos show some grassy balds and rock outcrops that may be habitat for this and other special status plants. There are no documented occurrences of other special status or Survey and Manage Strategy 1 plants in this area. It was determined that there is habitat in this area for giant gel cups (*Sarcosoma mexicana*), a Protection Buffer species. This project was surveyed in March of 1997 as an early spring survey was deemed prudent to locate giant gel cups. Timbered ridges, side slopes, bald openings, and riparian areas were surveyed. A giant gel cup was found near the boundary of unit 1C, adjacent to the clearcut. Three more gel cups were found outside the northern boundary of unit 4A. Unit 2B has some grassy balds which contain Cusick’s checkermallow. The bald area in the northern segment of the unit has a couple of oak trees with an extensive cover of bryophytes. These areas, however, will be protected by the placement of wildlife trees. It is not required to survey this project for Survey and Manage Strategy 2 plants, as the FONSI will be signed and the EA will be out for public comment before Oct. 1, 1998. Other surveys that have been done in this area were in conjunction with proposed timber sales, including Sidewinder Thinning and Sagaview Timber Sale. Sagaview had a population of checkermallow adjacent to it.

Noxious Weed Conditions

Noxious weeds are present throughout the district and generally occur along roadsides and in disturbed areas. Infestations vary depending on weed species and range from a few isolated plants to large areas. Weed species of most concern are Scotch and French brooms, gorse, and purple loosestrife. Other weed species are at or below accepted management levels and are considered low risk to resources. Within the northern portion of the Umpqua Resource Area, Scotch broom is a significant invader of disturbed sites and this area has broom adjacent to the roads as well as significant broom within some of the private clearcuts.

Chapter 4 - Environmental Consequences

Alternative 1 - No Action Alternative

Forest Stand Conditions

Under this alternative the environmental conditions described previously would not change and another site would be selected within the GFMA for harvest opportunities.

Soils

Under this alternative no change in the soil resource would occur.

Hydrology

Under the no action alternative no direct or indirect effects on the hydrology of the drainages will occur.

Fisheries

Under this alternative, no affects to listed or proposed T&E fish species are expected. No management within Riparian Reserves would occur and no new roads would be built. Instream temperature, sedimentation levels and changes to instream habitat would not occur outside the natural range of variability.

Wildlife

Snag and down log habitat: If no action were to occur at this time, the wood component would remain relatively stable (barring any other factors such as fire, wind throw, etc.) and continue to function as cover, nesting, and foraging habitat for wildlife. Recruitment of snags and coarse woody debris would continue.

Habitat for wildlife: If no action were to occur at this time, the area would continue to provide suitable habitat for numerous species of wildlife.

Botany

Under this alternative, no affects to botanical species would result.

Alternative II - Regeneration harvest

Forest Stand Condition

Within the Middle Umpqua Frontal 5th field watershed, Luts Breakout and Sagaview timber sales have been sold for a reduction of 157 acres. With the Sagaberd Complex proposal of 260 acres the total reduction in 80+ year old timber would be 417 acres. This would bring the total 80+ year old timber stands down to 3,716 acres out a federal ownership of 13,339 acres or 28% in the 5th field watershed. This is well above the 15% required by the guidelines for retention of late - successional stands within 5th field watersheds.

Within the 5 section area, 260 acres of 60 - 90 year old forest stands would be harvested. A total of 489 acres of 60 - 90 year old stands would remain in Riparian Reserves and GFMA lands. Also, 399 acres of 40 year old forest stands would remain. Vegetation cover in the regeneration harvest areas would change as a result of the proposed action but a new stand would soon become reestablished.

Soils

Six spurs are planned to access six of the units. These are either on ridgetops and gentle to moderate slopes. All bare soil areas created by road construction or renovation activities would be stabilized to reduce erosion following construction and use. Ridgetop road construction will help to minimize landslide potential associated with road building, thus reducing the chances of road related sediment inputs into streams. The log yarding systems are appropriate for these soils and landforms.

Clearcutting may accelerate landsliding in conjunction with heavy but unpredictable precipitation events. Specifically when and where landslides will occur cannot be predicted. The maintenance of no cut zones along the Riparian Reserves should minimize landslide potential.

Hydrology

Direct

Both of these alternatives will affect the hydrology of the tributaries within the project area for approximately 20-30 years. Increases in the annual yield, low flows, and the spring and fall peak flows are expected due to the increase in the amount of water available because of the removal of vegetation and the corresponding reduction in evapotranspiration losses. The increased spring and fall peaks, however, are still smaller than the peaks that typically occur during large winter storms.

Indirect

Any increase in flow is not expected to produce large quantities of sediment from channel downcutting due to the bedrock control and shallow soils of these systems. There is also little if any increase anticipated in the amount of sediment chronically delivered directly to the tributaries due to the limited routing of sediment through the Riparian Reserves. Sediment delivery from newly constructed roads is expected to be minimal because the roads are short spur segments on ridges and benches. In addition, all roads constructed will meet the design features and management directives listed in Chapter II, project design features. Some short term sediment delivery may result from road renovation but this may also be offset by correcting drainage problems on existing roads and/or culvert replacements. It should be noted that any sediment resulting from this project would be insignificant in comparison to a mass failure, which is the most likely mechanism to deliver a large quantity of sediment and debris to the tributaries.

Fisheries

Direct and Indirect Affects

Consultation with National Marine Fisheries Service (NMFS) concluded that this action is a “may affect, likely to adversely affect” for the Umpqua Basin cutthroat trout and is based on the increase in watershed disturbance history as listed in the “*Matrix of Factors and Indicators*” and the “*Checklist for Documenting Environmental Baseline and Effects of Proposed Actions*” (Fisheries Specialist comments). The determination of effects also concluded that the proposed action conforms with the Record of Decision for the Northwest Forest Plan, its’ ACS objectives and the RMP. No significant affects to listed or proposed T&E fish species are therefore expected to occur primarily due to the large Riparian Reserves network.

No harvest activities would occur within the Riparian Reserves and thus thermal protection for stream channels and the protection of landslide and down wood input processes would be provided. No significant changes to fish habitats within or downstream from the sale area are expected. Yarding through portions of the Riparian Reserve should not have significant effects on the aquatic or riparian systems as full suspension of logs over streams is required and yarding width will be kept to a minimum. The construction of roads on ridgetops would minimize runoff and the potential contributions of sediment into stream channels. The closure of roads (tank trapping) after planting activities was recommended by NMFS and would provide for long term stability of the roadbed.

Wildlife

Snag and down logs habitat: Harvest activities will likely reduce the number of snags in the regeneration areas, especially those in decay classes 3-5. These are the preferred foraging and nesting snags of woodpeckers and other wildlife species. It is estimated that at least 50% of snags will be converted to downed woody debris as a result of harvest operations. Due to the reduction of snag numbers, it is likely that species relying on them, woodpeckers, small cavity nesting birds and mammals, bats, etc., will also decline, either in number of species or individuals per species. This decline is expected to continue until new snags are created to match or exceed the current numbers. Snags clusters will be buffered by wildlife trees where feasible to protect them from damage during the harvest operations.

Downed logs will increase when snags and wildlife trees are inadvertently knocked down. For several years, however, the moist micro-climate of a downed logs in the stands will be lacking due to the removal of the surrounding trees and vegetation. Therefore, until trees and brush overtop and shadow these logs for prolonged periods, they will remain of lesser value to amphibians and insects. This will, in turn, reduce feeding opportunities for omnivores and insectivores. It is estimated that the wood will begin to retain additional moisture after 5 to 10 year following canopy closure.

The “drying out” effect also pertains to remaining snags, which occur in forest shade. Although snags will continue to function as escape routes and perches (especially for raptors), they will be of reduced foraging value for feeding. Snags and downed wood near the center of the Riparian Reserves would continue to function as it had before the regenerative harvest.

Habitat for Wildlife: The Riparian Reserves will continue to provide functional habitat. Micro-climates within the harvest area will be either removed or severely modified, including those areas near and under wildlife tree clumps or stringers. They will be dryer with less shade protection. The action reduces large mammal (deer, elk, and bear) cover, while enhancing their foraging opportunities. Mountain beaver habitat will be modified and should increase in and around cut areas due to increases in herbaceous plant

abundance. The area will become ideal for generalists, “disturbance species”, and species preferring dryer habitat. The action would leave the area open to invader weed species such as scotch broom, and it will be important to make sure these species do not gain additional foothold. Quality of the mid and lower-canopy wildlife habitat will be lost for an extended period.

Some of the residual old growth trees, will be retained as wildlife trees. These trees have branches suitable for murrelet nesting. After regeneration harvest, the area may be unsuitable for the marbled murrelet for a considerable time.

Botany

Harvesting the stand will increase its vulnerability to infestation by exotics, which out compete native plant species in the resulting disturbed soils and light conditions. The canopy will eventually close, shading out weedy species. Some herbaceous species and epiphytes may have reduced vigor from the altering of the microclimate, while some species of herbs and shrubs will flourish from the increased sunlight. Eventually, as the new forest grows, conditions will come to approximate the current condition.

Alternatives III - Regeneration harvest with density management and commercial thinning

Forest Stand Condition

See Alternative II for discussion of impacts from regeneration harvest.

The Riparian Reserve and GFMA lands within the proposed treatment area is a uniform Douglas fir stand with some component of minor species present in the understory. Opening up these stands may increase the possibilities for minor species growth and recruitment. In the long term, reducing stand densities will increase crown development and diameter growth on the residual trees. Disturbance in the form of logging and fire should, within the short term, encourage development of understory brush species as well as providing a seedbed for natural regeneration. The densities of Douglas fir left within the Riparian Reserves should provide for a range of future management options and should insure that there is adequate potential recruitment both for snags and coarse woody debris.

Soils and Hydrology - “see impact identification under Alternative II”

Fisheries

Direct and Indirect Affects

Consultation with National Marine Fisheries Service (NMFS) concluded that this action is a “may affect, likely to adversely affect” for the Umpqua Basin cutthroat trout and is based on the increase in watershed disturbance history as listed in the “*Matrix of Factors and Indicators*” and the “*Checklist for Documenting Environmental Baseline and Effects of Proposed Actions*” (Fisheries Specialist comments). The determination of effects also concluded that the proposed action conforms with the Northwest Forest Plan ROD, its’ ACS objectives and the Coos Bay RMP. No significant affects to listed or proposed T&E fish species are therefore expected to occur primarily due to the Riparian Reserves network. On fish-bearing streams, no density management would occur within 200' of the channe, one site potential tree height. On non-fish-bearing streams, no density management, would occur within 50' of the channel. The primary benefit of thinning would be the attainment of larger trees over a shorter period of time.

The protection of landslide and down wood input processes would be provided under this alternative. Tree densities, however would be lower outside the 50' and 200' no cut zones. The thinning of trees outside these zones may reduce the wood recruitment potential for riparian areas and stream channels over time. Thermal protection for stream channels is expected to continue as the no cut buffers will retain all trees and shrub species within those zones. The retention of trees combined with dense shrub cover over proposed sale area streams provides good thermal regulation for water temperatures. No significant changes to fish habitats within or downstream from the sale area are expected. The construction of roads on ridgetops would minimize runoff and the potential contributions of sediment into stream channels. The closure of roads (decompacting and tank trapping) after planting activities was recommended by NMFS and would provide for long term stability of the roadbed.

Wildlife

Snag and down log management: See comments under Alternative II. Of the 407 acres of Riparian Reserve within the project area, this proposal would conduct density management on 50 - 75 acres, commercially thin 13 acres of GFMA and complete regeneration harvest on 260 acres of GFMA.

Thinning in the Riparian Reserves will reduce the average trees per acre to between 50 and 80. The proposed activities will cause a portion of the downed wood and snags to become dryer, especially during the summer months, potentially making them less desirable for certain species. The open areas created through thinning activities will facilitate tree establishment and shrub growth which will quickly (2-10 years depending on the species) re-shade the area. Density management in the Riparian Reserves will: 1) reduce snag numbers by mechanical means, 2) increase downed logs and 3) recruit some additional small snags. With respect to these effects, this Alternative III should have an overall neutral effect on existing snag and downed wood components after 5-10 years.

Habitat for Wildlife: See comments under Alternative II. As described above, commercial thinning in the Riparian Reserves will create openings where light levels are increased at ground level. This will create drier site conditions while encouraging seedling recruitment and opportunities for multi-layering of canopies, tree, herb, and shrub components.

Creating additional niches or micro-habitats will benefit some wildlife species. The riparian reserve thinning will not compensate entirely for the regeneration harvest removal of habitat, but it should provide some advantages in creating structural diversity, which will begin to occur in 5-10 years.

Botany - "see impact identification under Alternative II"

Cumulative Effects

Hydrology

Both of these alternatives will have the effects listed above at the site scale; however, any effects, even if quite large on a site, become increasingly difficult to detect downstream because of fluctuations in flows from groundwater sources, tributaries, or varying precipitation events. This natural variability coupled with the fact that as small streams join and form increasingly large drainage networks, the ability of individual actions in small drainages to affect hydrology in the larger subwatersheds decreases. The magnitude of any affect is generally proportional to the area that is treated. Since this project impacts only 2.4% (215 acres) of the Wells Creek drainage and only 0.6% (33 acres) of the Luchsinger Creek drainage it is not possible to separate these cumulative effects from natural variability at the subwatershed (5th field) or the drainage (6th field) scale.

Fisheries

Upon completion of the proposed action, the majority of older forested stands (80+years) would have been removed from the Sagaberd Creek drainage. Remaining stands would range in age from 1- 80 years old on both federal and private lands. Units harvested within the drainage by the BLM in the 1980's provided narrow streamside buffers (80' or less) of typically older trees (80+years) on fish bearing streams. On private lands, buffers were left in accordance with the Oregon Forest Practices Guidelines. The result is that the lower portions of the Sagaberd drainage currently lack large amounts of future potential wood in the short term (50-100 years). The mixed ownership pattern of the drainage will likely maintain narrow buffers on private lands and large buffers on BLM lands over the long term. The Riparian Reserve network throughout the proposed action area would maintain both long and short term woody debris inputs in areas adjacent to sale units. Over time, contributions of migrating wood to downstream reaches would also occur as a result of large storm events and landslides.

Water temperature monitoring has not occurred in the drainage but it is likely that in previously harvested units, thermal protection is currently being provided by salmonberry and older (10+ years) conifer reproduction. The proposed action should not alter the current temperature regime adjacent to proposed harvest units and should continue to provide cool water to downstream reaches outside the sale area over time.

Trees that were thinned within Riparian Reserves may grow to a larger size when compared to trees within the unthinned areas. This would provide larger wood for input into stream channels and riparian areas over a shorter time span. The removal of thinned trees would also reduce the amount of wood available to riparian and instream habitats that would have resulted from suppression mortality. The average loss of potential standing or down wood would range between 25-35 trees per acre but should not limit a range of future management options.

Wildlife

Cumulative impacts to wildlife include: 1) a temporary increase in downed wood, 2) a decrease in snags 3) less shade with much higher surface temperatures during the summer, 4) a reduction in microhabitats, 5) increased potential for invading weed species, 6) temporary removal of cover habitat for large mammals thereby modifying the wildlife use of the area, 7) degradation of the niche specific habitat specific for birds, amphibians, and mammals, 8) enhancing the area for early seral disturbance and generalist species and thereby increasing these species' individual numbers.

Chapter 5 - List of Agencies, Organizations, and Individuals Contacted

The general public was notified of the planned EA through publication of the Coos Bay District's semi-annual Planning Update.

Scoping letters were mailed to the following, informing them of the proposed project:

Association of O&C Counties	Brookings OR
Cape Arago Audubon Society	North Bend, OR
Coast Range Association	Corvallis, OR
Defenders of Wildlife	Lake Oswego, OR
Kalmiopsis Audubon Society	Port Orford, OR
Oregon Natural Resources Council	Eugene, OR

The Pacific Rivers Council	Eugene OR
Sierra Club	Eugene, OR
Swanson Superior Forest Products	Noti, OR
Umpqua Watersheds, Inc.	Roseburg, OR
Many Rivers Group	Eugene, OR

Responses to the Scoping notice were received from Oregon Coast Range Association, Pam Hewitt, and Joanne Vinton.

Consultation on the proposed project has been completed by the U.S. Fish and Wildlife Service (USFWS) through the consultation process provided under section 7(A)(4) of the Endangered Species Act of 1973 [16 U.S.C. 1563 (a)(2) and (a)(4) as amended].

Project level conferencing on BLM management actions affecting coho salmon and Oregon coast steelhead trout was included in the August 1997 District Biological Assessment submission to National Marine Fisheries Service (NMFS).

The following organizations have been notified as to the availability of this EA.

The Confederated Tribes of Grand Ronde Indians	Willamina OR
The Confederated Tribes of Coos, Lower Umpqua, and Siuslaw	Coos Bay, OR
Governors Natural Resources Office,	Salem OR
ODA-Noxious Weed Control Program	Salem OR
Oregon Department of Energy	Salem OR
Oregon Department of Environmental Quality	Portland OR
Oregon Department of Fish and Wildlife	Portland OR
Oregon Water Resources Department	Salem OR
Douglas County Board of Commissioners	Roseburg OR
Association of O&C Counties	Harbor, OR
Kalmiopsis Audubon Society	Sixes, OR
Native Plant Society of Oregon, West Side Conservation	Corvallis, OR
Donald Fontenot	Portland, OR
Coast Range Association	Corvallis, OR
Oregon Department of Division of State Lands	Salem, OR
Umpqua Watersheds	Roseburg, OR
Pam Hewett	Marcola, OR
Oregon Natural Resources Council	Eugene, OR
Oregon Department Land Conservation and Development	Salem, OR
Oregon Department of Forestry	Salem,OR
Hugh Kern	Athens, GA
Sierra Club, Many Rivers Group	Eugene, OR

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SAGABERD COMPLEX

T 22 S, R 09 W, SEC'S 21, 22, 27, 28, & 35

