FINAL DECISION DOCUMENTATION and DECISION RATIONALE

Hillock Timber Sale
Project 1 of the Hillock Environmental Assessment

Environmental Assessment (EA) Number OR080-04-04

USDI - Bureau of Land Management
Oregon State Office, Salem District, Cascades Resource Area

Township 5 South, Range 4 East, Sections 12, 14 and 24; Willamette Meridian
Clackamas County, Oregon

Introduction

The Bureau of Land Management (BLM) has conducted an environmental analysis for the Hillock timber thinning project, which is documented in the Hillock environmental assessment (Hillock EA) (EA # OR080-04-04) and the associated project file. The Proposed Action of the Hillock EA is to thin 45-55 year old mixed conifer stands on 450 acres within the Matrix Land Use Allocation (LUA) and 50 acres within the adjacent Riparian Reserve LUA. A Finding of No Significant Impact (FONSI) was signed on May 19, 2004 and the EA and FONSI were then made available for public review.

Decision

My decision is based on site-specific analysis in the Hillock EA, the supporting project record, management recommendations contained in the *South Fork Clackamas River Watershed Assessment* and the *Clear Creek/Foster Creek Watershed Analysis*, as well as the management direction contained in the *Salem District Resource Management Plan* (RMP) dated May 1995 and associated management direction (EA pp. 1-2).

I have decided to implement the Proposed Action of the Hillock EA with modifications described below, hereafter referred to as the "selected action". The selected action is shown on the maps attached to this Decision Rationale. The following is a summary of this decision.

1. Harvest:

Harvest 297 acres:

- Commercially Thin 293 acres
  - 281 acres within the General Forest Management Area (GFMA) portion of the Matrix LUA.
  - 12 acres within the Riparian Reserve LUA.
- Clear 4 acres for road rights-of-way within the GFMA LUA

Total harvest area acres were reduced from the projected area stated in the EA due to natural topography features, areas of fragile or unstable soils, botanical sites, and wet areas that were identified during field work; areas where further examination indicated that it would be better to wait a decade or more to implement thinning prescriptions. Thinning acres in the Riparian Reserve (RR) LUA were reduced because additional surveys found that species diversity and spatial distributions in the stands met diversity objectives without intervention, and because some RR thinning units were associated with GFMA units dropped from the proposal (See Table 1).

2. Logging

- Yarding:
  - 42 acres of ground-based yarding.
  - 233 acres of skyline yarding.
  - 22 acres of cable winching, or a modified harvester/shovel logging technique with full suspension, within some areas adjacent to existing truck roads (See Table 1).
    Change: Yarding by cable winching or a modified harvester/shovel is proposed in narrow roadside strips (less than 200 ft. wide) where skyline rigging costs are very high relative to the value of the wood, decreasing salability. Yarding by cable winching or a modified harvester/shovel is expected to improve operational flexibility to increase the viability of the thinning sale, while minimizing damage to soils and reserved trees.

- Falling:
  - Mechanized falling/processing would be allowed on any area less than 45 percent slope (approximately 200 acres in the ground-based, cable winching/modified harvester/shovel, and skyline yarding areas). This would be done using a tracked harvester that would fall and process trees and position them for skidding and yarding.
    Change: The amount of mechanized falling increased from 50 acres analyzed in the EA to 200 acres in the selected action (See Table 1). Increasing the amount of mechanized falling in the selected action is expected to:
    - Improve safety of workers. Hand falling small diameter trees in dense stands can be costly and dangerous.
    - Improve protection for reserve trees. Mechanical felling in dense stands provides better control to protect the residual stand.
    - Protect soil resources. The use of mechanized felling would result in no additional measurable compaction, would retain the existing duff and litter layers, and would adequately protect soils and site productivity as analyzed in the EA.

3. Road Work:

- Road Access:
  - 0.2 mile of new road would be constructed to access units in sections 14 and 24. These roads would be left in place, barricaded and seeded after use.
  - 0.4 mile in unit 4 (section 14), would be improved to support trucks and skyline yarders on one unmaintained dirt road..

- Road renovation is as follows:
  - 12 miles of roadside brushing, blading, minor repairs, replace culverts, pit run rock as needed, ditch and culvert cleaning.
  - 1.0 mile of ripping, removing large rocks, blading, brushing, ditch and culvert cleaning, 6" lift of rock, compact subgrade and surface,.
  - 1.0 mile of opening previously decommissioned roads to use for this project and decommission and block again after use.

Table 1: Overview of Management Actions

Item		Analyzed in the EA	In the Selected Action	Comments
Timber Harvest - Acres				
Total Acres of Harvest		500	297	
Thinning	GFMA LUA	450	281	
	Riparian Reserve LUA	50	12	
Clearing vegetation for road rights-of-way		5	4	
Logging Systems - Acres				
Yarding	Conventional Ground Based	50	42	Includes 4 acres for road rights-of-way
	Skyline	450	233	
	Modified Harvester/Shovel	0	22	
Falling	Mechanized	50	200	May take place within areas less than 45 % slope.
Roads - Miles				
New Construction		0.3	0.2	Location changed for one road, similar ground, and similar effects.
Reconstruction/Improvement		0.4	1.0	
Renovation		20	13	Four culverts to be installed. One minor slide and one minor slump to be repaired.
Open decommissioned roads, decommission again after logging		0.4	1.0	

4. Rock Pit:

- The existing rock pit in section 14 would be used for pit run rock needed for the project. The quarry is part of the active transportation network in the Resource Area, addressed in the Transportation Plan for the Cascades Resource Area.

- The rock pit would also be used for skyline landings for multiple settings in unit 4.

5. Fuels Treatments:

- Slash remaining on landings after blocking and covering yarding roads and skid trails would be piled and burned.

- Activity created fuels adjacent to open roads would hand piled and burned.

6. Snag/CWD Habitat:

- Any snags or CWD larger than 20 inches diameter that are encountered during operations would be protected from damage or disturbance by logging operations under standard contractual logging procedures, BMP, and OSHA requirements. If any such snag needs to be cut or is accidentally knocked down, it would remain on site.

7. Project Design Features:

- In addition to the above, a summary of the design features, incorporated into the timber sale contract, are described in the Hillock EA (EA pp. 6-9).

Compliance with Direction

The analysis in this Hillock EA is site-specific and supplements analyses found in the *Salem District Proposed Resource Management Plan/Final Environmental Impact Statement*, September 1994 (RMP/FEIS). This project has been designed to conform to the *Salem District Record of Decision and Resource Management Plan***,** May 1995 (RMP) and related documents which direct and provide the legal framework for management of BLM lands within the Salem District (EA p. 1). All of these documents may be reviewed at the Cascades Resource Area office.

Alternatives Considered

The EA analyzed the effects of the "proposed action" and the "no action alternative." No unresolved conflicts concerning alternative uses of available resources (section 102(2) (E) of NEPA) were identified. No action alternatives were identified that would meet the purpose and need of the project and have meaningful differences in environmental effects from the proposed action (EA Section 2.1).

Reasons for the Decision

Considering the content of the EA and supporting project record, the management direction contained in the RMP and associated direction (EA pp. 1-2), and public comment, I have decided to implement the selected action as described above. My rationale for this decision follows:

Table 2 shows how the selected action meets the Purpose and Need of the project (EA section 1.3).

Table 2: Effect of the Selected Action and No Action Alternative on the Purpose and Need (P&N)

Purpose and Need (EA section 1.3)	Selected Action	No Action Alternative
Offer a marketable timber sale	Fulfills. Appraisal indicates that this should be a successful timber sale.	Does not fulfill. Does not result in a timber sale.
Balance wood volume production, quality of wood, and timber value at harvest.	Maintains volume production over the course of the rotation, lengthens the rotation some, logs at end of rotation would be larger diameter, which generally increases quantity, quality and value in white wood species compared to unthinned stands.	Does not provide for intermediate harvest at this time (delays achievement of this part of P&N), but meets wood volume production over course of rotation. Logs at the end of the normal timber harvest rotation would be smaller diameter, which generally reduces quantity, quality and value compared to thinned stands.
Maintain a healthy forest ecosystem with habitat to support plant and animal populations and protect riparian areas and water resources	Retains the element described under "no action" on untreated areas of the stands in the project area and encourages development of larger diameter trees and more open stand conditions in treated areas. This adds an element of diversity over the landscape not provided on BLM lands under the "no action" alternative.	Retains the element of a dense stand with high density, smaller tree diameters and increasing levels of small size CWD for the next decade or more in all stands in the project area.
Increase diameter growth rate in Riparian Reserves.	Fulfills by concentrating stand growth on fewer stems.	Does not fulfill. Diameter growth would continue current trajectory.
Restore habitat for riparian-dependent species.	Fulfills by accelerating changes in some parts of some stands to develop more elements of diversity faster. Will allow understory to develop by opening up the canopy.	Fulfills, but not as rapidly as the selected action. Maintains current trends that develop diversity slowly in these uniform, managed stands with a single canopy and very limited understory.
Provide for structural and spatial stand diversity on a landscape level in the long term.		
Provide access for timber harvest and silvicultural practices.	Fulfills. Implements maintenance on feeder roads, allowing continued access for management activities. Improves access for management and fire protection in Section 14.	Partially fulfills. Would delay maintenance on feeder roads, making access for silvicultural practices more difficult. Main routes would be maintained under both alternatives. Would not preclude future maintenance for management activities.
Control access to reduce potential fire ignition, provide fire control and other management access.	Fulfills. Provides opportunity to block access to section 14 with gates that allow for road control with improved access for fire control and other management.	Partially fulfills. Access is currently controlled to acceptable levels on most roads. Road through section 14 is barely accessible for fire control in its current condition, delaying initial attack compared to a maintained road with gates.
Reduce environmental effects associated with identified existing roads within the project area.	Fulfills. Identified roads would be closed or stabilized.	Does not fulfill. Roads not currently meeting ACS objectives would not be stabilized or closed at this time.

The No Action alternative was not selected because it does not meet the Purpose and Need directly, or delays the achievement of the Purpose and Need (EA sections 1.3, 3.2.9), as shown in Table 2.

Public Involvement/ Consultation/Coordination

Scoping: In compliance with National Environmental Policy Act (NEPA), the project appeared in each Salem District Project Update, beginning with October 2003, which is mailed to over 1,070 addresses. A scoping letter dated September 30, 2003 was sent to 30 potentially affected and/or interested individuals, groups, and agencies. Three letters were received during the scoping period. A summary of the responses received was included in EA Appendix 3 – Response to Scoping Comments.

Comment Period and Comments: The EA was made available on the Internet and notices were mailed on May 19, 2004 to approximately 50 agencies, individuals and organizations. A legal notice was placed in the weekly Clackamas County News soliciting public input on the action on June 23, 2004. Two letters were received from organizations, two letters were received from individuals, and 50 pre-printed postcards were received from individuals in the form of photocopies (4 cards/page) delivered by BARK during the EA comment period. The BLM response to substantive comments can be found in Appendix A of this Decision Rationale.

Consultation/Coordination: **Wildlife:** The Hillock proposal was submitted for Formal Consultation with U.S. Fish and Wildlife Service (USFWS) on September 3, 2002. Consultation with the USFWS resulted in a "May Affect, Not Likely to Adversely Affect" Determination for northern spotted owl. The selected action would follow all applicable terms and conditions from the Biological Opinion dated February 27, 2003 [FWS reference: BO# 1-7-03-0008].

Fish: A determination has been made that this project would have "no effect" on ESA listed fish. See EA section 2.4.5 and EA Appendix 1: ESA Determination of Effect to Lower Columbia River (LCR) steelhead trout, LCR Chinook salmon and Upper Willamette River (UWR) Chinook salmon (EA, p. 46).

Conclusion

I have determined it is not necessary to change the Finding of No Significant Impact (FONSI - May 2004) for the Hillock selected action. The Hillock EA, along with additional information contained in this document, fully covers the project. There are no significant new circumstances or facts relevant to environmental concerns about the selected action or its impacts, which were not addressed in the EA. The action is within the scope of the alternatives identified in the original EA, and the environmental impacts are within those described in the original EA and are less than or the same as those anticipated for the proposed action in that assessment. There are no site specific impacts that would require supplemental/additional information to the analysis done in the RMP/FEIS.

Protests: In accordance with Forest Management Regulations at 43 CFR 5003.2, the decision for this timber sale will not become effective or be open to formal protest until the Notice of Sale is published "in a newspaper of general circulation in the area where the lands affected by the decision are located". Protests of this sale must be filed within 15 days of the first publication of the notice. For this project, the Notice of Sale will be published in the Sandy Post on or around June 29, 2005. The planned sale date is July 27, 2005.

Contact Person: For additional information, contact Keith Walton (503) 375-5676 or Rudy Hefter (503) 315-5931, Cascades Resource Area, Salem BLM, 1717 Fabry Road SE, Salem, Oregon 97306.

Approved by: Cindy Enstrom — 6/24/05

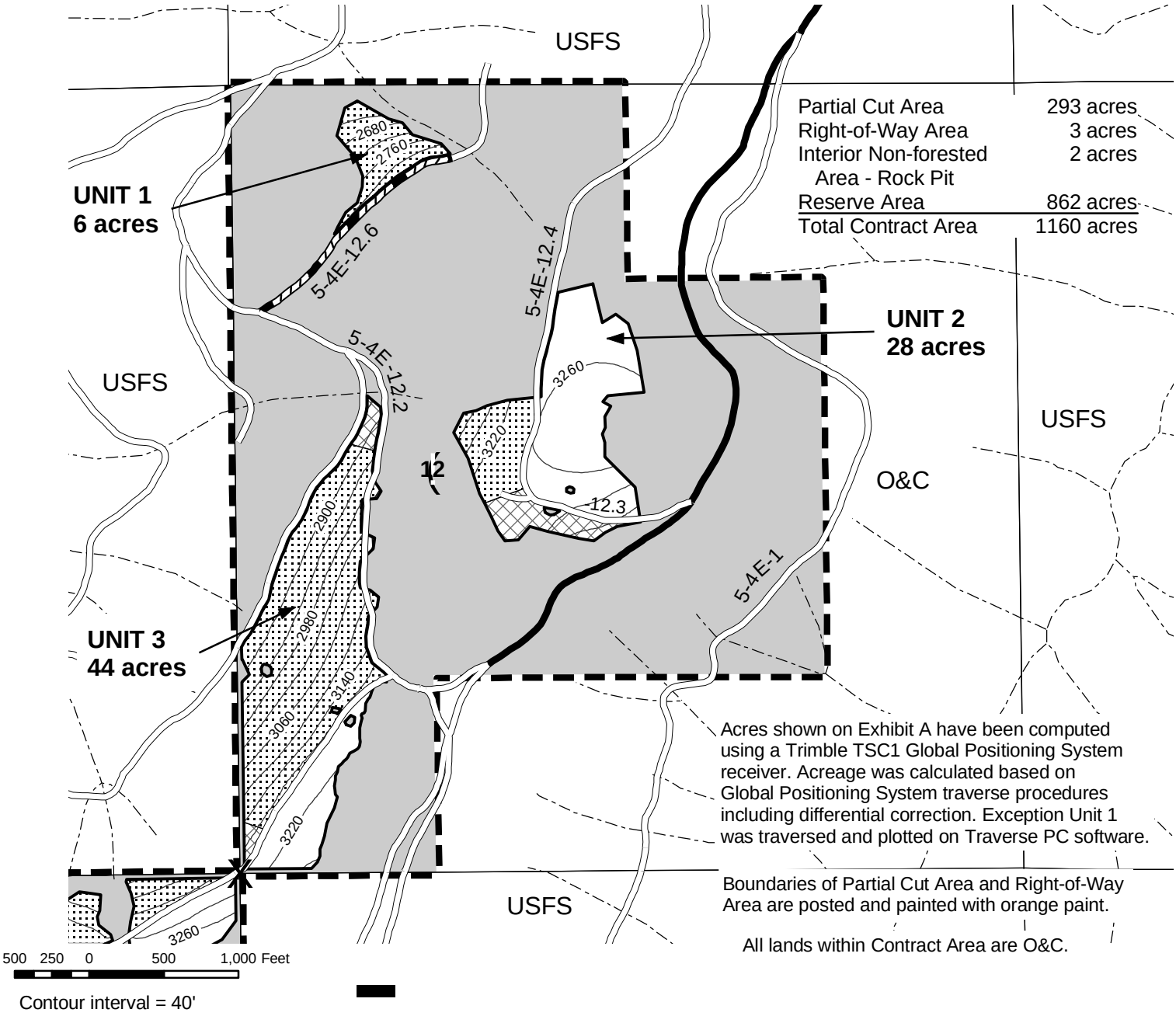
Cindy Enstrom, Field Manager — Date

Cascades Resource Area

June 1, 2005

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
SALEM DISTRICT - OREGON
Timber Sale Contract Map -- Contract No. OR-080-TS05-502
T. 5 S., R. 4 E., Section 12, W.M., Clackamas County, Oregon

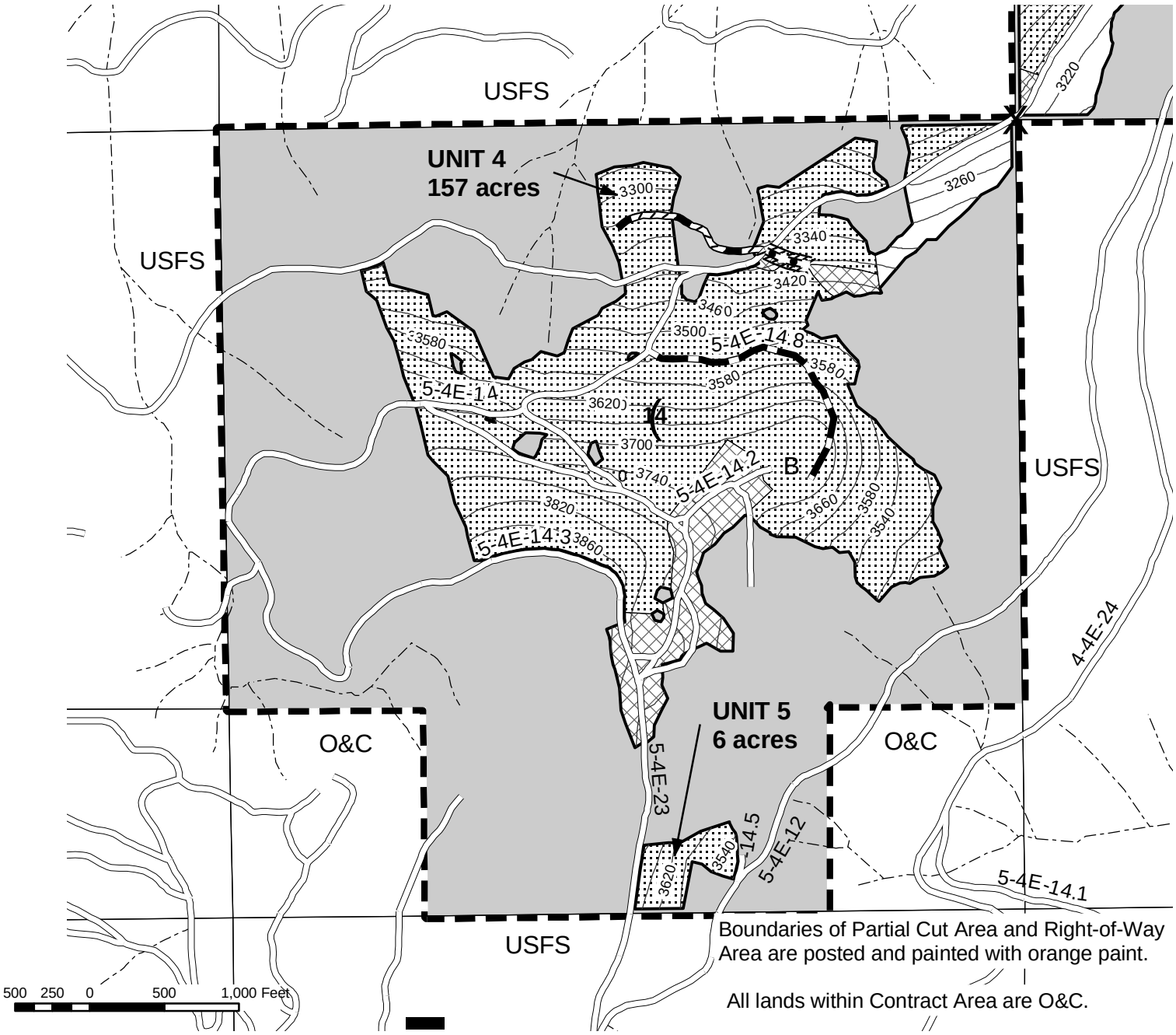
Hillock
EXHIBIT A
Tract 05-502



Legend

- Existing Road
- Paved Road Segment
- Right-of-Way Area - Road to be Renovated
- Right-of-Way Area - Road to be Improved
- Right-of-Way Area - Road to be Constructed
- Stream
- X Corner Found
- B Rock Pit - Non-forested
- Boundary - Contract Area
- Reserve Area
- Ground Based Yarding Area
- Special Yarding Area
- Skyline Yarding Area
- BoundaryPartialCutArea

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
SALEM DISTRICT - OREGON
Timber Sale Contract Map -- Contract No. OR-080-TS05-502
T. 5 S., R. 4 E., Section 14, W.M., Clackamas County, Oregon



Boundaries of Partial Cut Area and Right-of-Way Area are posted and painted with orange paint.

All lands within Contract Area are O&C.

Contour interval = 40'

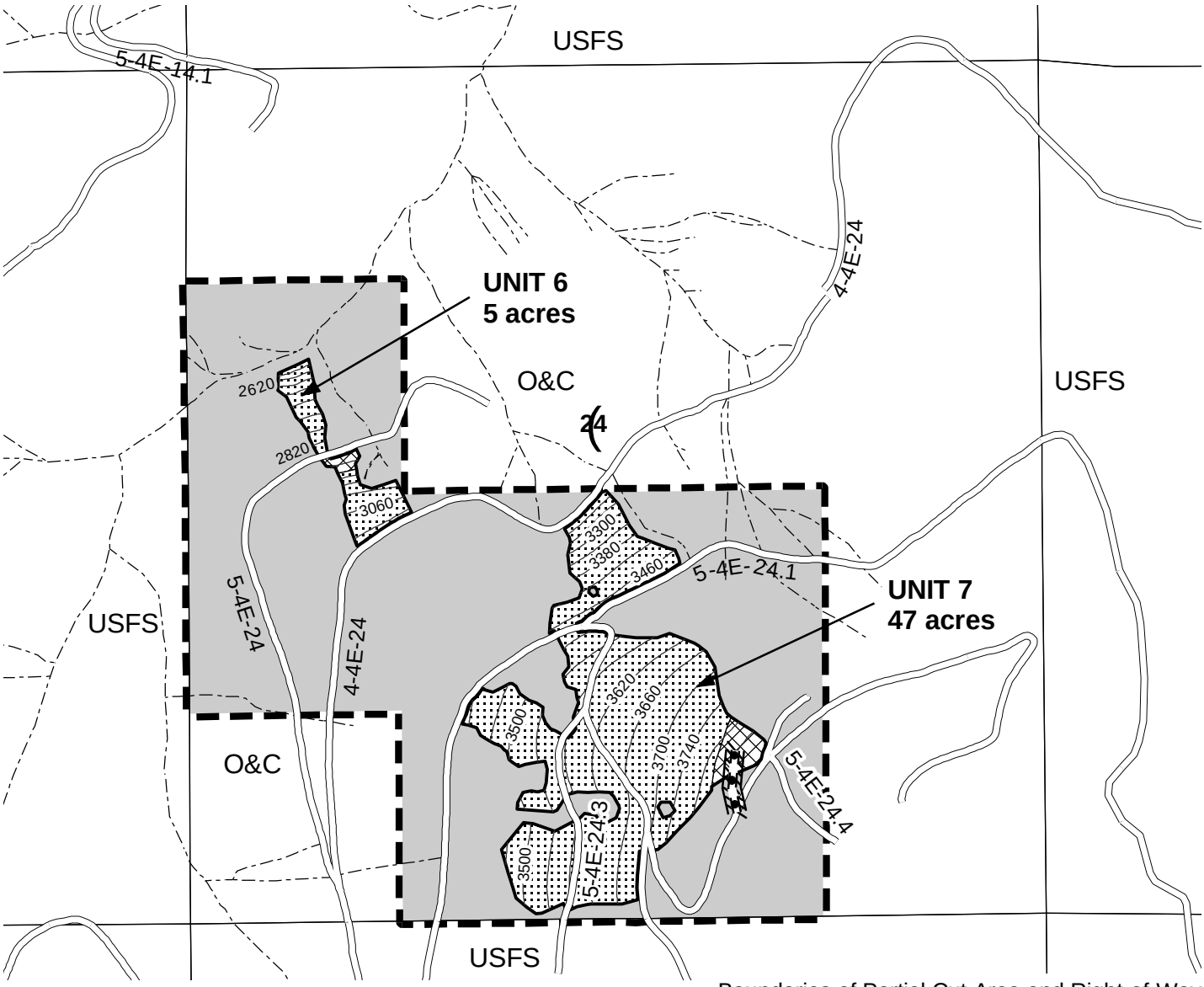
Legend

- Existing Road
- Paved Road Segment
- Renovate
- Right-of-Way Area - Road to be Improved
- Right-of-Way Area - Road to be Constructed
- Stream
- X Corner Found
- B Rock Pit - Non-forested
- Ground Based Yarding Area
- Special Yarding Area
- Skyline Yarding Area
- Boundary - Partial Cut Area
- Boundary - Contract Area
- Reserve Area
- Sec12and14Con40

June 1, 2005

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
SALEM DISTRICT - OREGON
Timber Sale Contract Map -- Contract No. OR-080-TS05-502
T. 5 S., R. 4 E., Section 24, W.M., Clackamas County, Oregon

Hillock
EXHIBIT A
Tract 05-502



500 250 0 500 1,000 Feet

Contour interval = 40'

Boundaries of Partial Cut Area and Right-of-Way Area are posted and painted with orange paint.

All lands within Contract Area are O&C.

Legend

- Existing Road
- Paved Road Segment
- Right-of-Way Area - Road to be Improved
- Right-of-Way Area - Road to be Constructed
- Stream
- X Corner Found
- B Rock Pit - Non-forested
- Ground Based Yarding Area
- Special Yarding Area
- Skyline Yarding Area
- Boundary - Partial Cut Area
- Boundary - Contract Area
- Reserve Area

Appendix 1: Response to Public Comments

Submitted By:			Comment	BLM Response
ONRC	BARK	Individuals		
Overall Project:				
		A	1. Do not allow logging.	The purpose of the proposed thinning is to implement the *Salem District Record of Decision and Resource Management Plan, May 1995* (RMP) (Hillock EA p. 1-3).
	X		2. Insufficient to have only two alternatives: proposed action and no action. No new roads and restoration alternatives should have been considered.	The purpose of and need for action clearly defined the scope of this project (Hillock EA p. 3). Development of the alternatives follows the direction described in the Hillock EA under Alternative Development (Hillock EA p. 3). *No New Road Alternative:* The proposed action would construct approximately 0.3 of a mile of new road, which would be decommissioned after use (Hillock EA p. 6). An alternative with no new road construction would have no meaningful differences in effects than those described for the proposed action and the no action alternatives. *Restoration Alternative:* The restoration alternative suggested in the BARK letter (p. 2) is not clearly defined beyond a need to create large coarse woody debris and decommission roads. Habitat restoration has been incorporated in the proposed action within the Riparian Reserve land use allocation (LUA). The purpose of the proposed thinning in the Riparian Reserve land use allocation is to restore large conifers, restore or enhance habitat and improve structural and spatial diversity (Hillock EA p. 3). The proposed action meets the request to create large woody debris (CWD) in areas deficient (BARK letter p. 2) (Hillock EA p. 15, 20). Road decommissioning (BARK letter p.2) beyond those roads needed for thinning operations is out of the scope of this analysis.
	X		3. EA is incomplete because it does not provide an adequate Economic analysis. Will not result in a positive income if all future costs are considered. Never substantiated that recovering the economic value of trees and providing timber to the economy was necessary.	An economic analysis would not add additional relevant information in choosing between alternatives (40 CFR 1502.23: Cost/Benefit Analysis); therefore it was not documented in the Hillock EA. This sale was designed to provide a viable timber sale, similar to other sales that sold at or above appraised price on the Salem District. The reference in the BARK letter regarding future costs is unclear. The economic value of trees and the reasons for providing timber to the economy is described in the purpose and need of the Salem District Management Plan (RMP p. 1-3).
	X		4. Can you explain the discrepancy between stand age descriptions?	Stands within the project area average 45-55 years old (Hillock EA p. 3). In the Response to comments (Hillock EA Appendix 3), stand ages were described as 55-65 years old, which was a typographical error.

Submitted By:			Comment	BLM Response
ONRC	BARK	Individuals		
X			5. Supports forest health and economic goals listed as the Purpose and Need for the project and generally supports BLM assessment of positive and negative effects of thinning.	
Silviculture, Variable Spacing, etc.:				
X			6. Supports principle of variable spacing	
X			7. Does not see sufficient information on prescriptions in the EA to judge effectiveness of achieving variable density goals.	The project did not have goals or objectives for variable density thinning except in the riparian reserve areas (See Hillock EA p.3, Purpose and Need). A summary of the silvicultural prescription is described in the project design features (Hillock EA p.7). The effects to vegetation prescribed in the EA were based on this silvicultural prescription (Hillock EA pp. 13-15, 20-21).
X			8. Concerned that BLM's idea of variable density does not include the range of variation that they consider essential. Specifically, does not include areas of very low density or patch openings, resulting in what they would consider to be a simple thinning from below that results in uniform stands within 20 years that would need re-treatment to develop structural and spatial diversity. Concerned that BLM will not have the funding or public support to treat these stands at that time.	The primary objective of the proposed action within the Matrix land use allocation is to develop timber stands so that a marketable timber sale can be offered, to achieve a desired balance between wood volume production, quality of wood and timber value at harvest, while maintaining plant and animal habitat and protecting riparian and water resources (Hillock EA p. 3). The very low density and patch openings suggested would reduce timber production for the remainder of this rotation. The purpose and need for this project did not identify a final entry as an objective at this time. A future entry is anticipated in this project. Future agency funding and predictions of public support are speculative and beyond the scope of this project plan and EA.
X			9. Relatively high residual stocking on both Matrix and RR lands will not result in satisfactory spatial / horizontal/structural diversity. Must create wider range of variation (low stocking, wolf trees, openings) to achieve this diversity. The plan should include this type of treatment, especially in RR.	See comment #8. Prescriptions in the Riparian Reserve Land Use allocations were designed to meet that portion of the purpose and need that addresses Riparian management objectives (EA p. 3). The Riparian LUAs were also designed for the dispersal of Northern spotted owls. A concern with a lower stocking level and openings within the Riparian Reserve LUA is the need to maintain dispersal habitat for northern spotted owl (40% crown closure).
X			10. Supports promoting growth for large trees in Riparian Reserves, with buffer and other design features described.	
	X		11. Will not achieve desired future condition described in NW Forest Plan and described in the EA.	Commenter offers no specific evidence to suggest that there is a high likelihood of the desired future conditions not being met. The desired future condition, analysis, and standards and guidelines in the Northwest Forest Plan were incorporated into the RMP. RMP objectives defined the purpose and need of the project and the development of project design features (Hillock EA p. 1, 3, 6-10). Section 2.4.8 of the Hillock EA shows how alternatives meet the purpose and need of the project.

Submitted By:			Comment	BLM Response
ONRC	BARK	Individuals		
	X		12. Should not keep species mix, but change it to meet natural stand composition prior to clearcutting. Don't rely on economics to dictate composition.	Stand exam data and field observations show that the current species mix is similar to that which historically occupied the site (Hillock EA p. 13, Silvicultural Report pp. 3-6). Douglas-fir currently is a minor species component and was not favored over the other species in the prescriptions. BLM has no control on species mix or forest management objectives on land not managed by the agency.
	X		13. The composition has changed due to logging in the 1960s causing drier site conditions and to logging practices favoring Douglas-fir.	Large scale logging of these stands was done in the 1940s and 50s. See the response to comment # 12.
	X		14. Frequent statement on all topics similar to "…the evidence shows…." That BLM conclusions are wrong. Also frequently state that the BLM does not present sufficient evidence.	The commenter never cites "the evidence" to support their contention. BLM disagrees with this comment. Specific evidence is contained in the various specialist reports, the Hillock EA and referenced citations.
Soils:				
	X		15. Inadequately analyzes the impact to soil resources. Concerns that the BLM did not adequately address organic soil components, long-term soil health, soil compaction.	The soil resource was addressed in section 2.4.2 of the Hillock EA, the Hillock Soils report, and the Hillock Silvicultural Report. Project design features were crafted to address the soils resource (Hillock EA pp. 4, 6, 8).
	X		16. Lateral yarding from logging will create ruts and erosion. Will there be a seasonal restriction on skyline logging?	Hillock EA section 2.4.2 describes how the project will be implemented within soil standards in the RMP. Any ruts that may occur from lateral yarding will be parallel to the slope and less than 200 feet in length. Historic field observations have shown that short depressions or ruts parallel to the slope do not collect and channel water. Therefore, they do not present an erosion concern.
Roads:				
X			17. Requests additional information about new road construction to assess accessability.	After a final field review, the new road in 12B was dropped and an existing road to be renovated in 14A will be extended. This resulted in no net change in road length or impacts analyzed. Approximately one third of unit 24D (approx. 18 ac.) and 25 acres in unit 14A are accessed by the new roads. The roads would be minimum standard (narrow, dirt), out-sloped with no ditches to collect runoff and very few or no cross drains. The new spurs are above slope breaks on gentle ground, very low cut banks are anticipated (generally less than 3 ft.).
X			18. The new spur road into 24D appears close to the head of a stream.	The end of the road is outside of the Riparian Reserve (200 ft.), roughly on contour with the head of the stream, and does not cross above the head of the stream. The road extension in 14A is the same relative to a stream in that unit.
X			19. Concurs with blocking OHV access outside of existing rocked roads. Encourages active enforcement of closure and monitoring effectiveness.	Law enforcement priorities and actions are outside of the scope of this project and EA.

Submitted By:			Comment	BLM Response
ONRC	BARK	Individuals		
	X	A	20. Already many logging roads (4.4 miles/section), do not add to them because of negative impacts to habitat. Need to reduce density, project does not adequately address this.	The logging roads to be opened, renovated or constructed for this project would be closed again after use, there would be no increase in open roads in the area. In addition, approximately 1.5 miles of road now open would be closed to traffic by gates (Hillock EA p.22). Unauthorized use is now taking place; project design features would reduce opportunities for such use (Hillock EA p. 6). Further road density reduction is beyond the scope of this project due to road ownership and legal use rights.
	X	A	21. Keep out the high impact recreation… Anticipate unauthorized use (OHV, etc.), need to protect against it. Unauthorized use is having high impacts. Design features insufficient to prevent use.	Management of OHV recreation, authorized or unauthorized, is outside the scope of this project. This project was designed to take advantage of opportunities to discourage or eliminate some of the unauthorized activities that are currently taking place through implementation of the project (Hillock EA pp.6, 8).
	X		22. Cannot tell what roads would be treated in what way, especially road reduction.	Pages 7 and 8 of the Hillock EA show a summary of the road actions.
Watershed, Water Quality, and Aquatic System:				
	X	A	23. Effect on Clear Creek and the South Fork Clackamas.	Design features are included to protect water quality and meet ACS objectives. Long range improvement of habitat in the watershed is expected on a landscape level due to this proposal (Hillock EA pp. 18, 19, Hydrology Report).
	X	A, B	24. Landslides caused by previous logging, need to avoid repeat.	Previous logging was clearcut of native forest with logging methods and management practices not currently proposed by the BLM. Timber harvests under current management practices with current logging methods do not create the same type of landslide potential by implementing RMP standards and guidelines, specifically the "Best Management Practices" (BMPs) (RMP Appendix C) and Timber Production Capability Classification. The areas proposed for thinning remained stable through the 1996 floods. Agency specialists examined the project area for landslide potential. No landslide potential was identified in the units proposed in this project.
	X		25. Does not adequately consider cumulative effects. "…gives no mention to the other timber sales that are planned in the area."	Cumulative effects are described in EA sections 2.3, 2.4 (e.g. EA pp. iv, 14, 17, 19, 21, 23). Page 13 of the Hillock EA states that the USFS and private owners in the area are actively managing their land and describe those management activities. Details of known sales are presented in specialist reports. The specialist reports also give full rationale for conclusions that cumulative effects are as summarized in the EA.
	X	B	26. Project will degrade water quality, threaten drinking water. Sediment from logging is primary contributor, buffers and design features are inadequate to prevent it.	Pages 18-19 of the Hillock EA describe the conclusion that the probability of negative impacts is low and the rationale for that conclusion. Details of analysis are found in the specialist report. The design features chosen for this timber harvest have been demonstrated to adequately protect water quality and site specific application was confirmed by agency specialists. The South Fork Water Board was directly involved in the project and concurred with the water quality protection features of the proposal.

Submitted By:			Comment	BLM Response
ONRC	BARK	Individuals		
	X		27. Opening the canopy would extirpate ground cover from riparian areas.	Opening the canopy typically encourages growth of ground cover and is expected to do so on these sites (Hillock EA p. 14)
X			28. Opening the canopy will help recruit understory and a second cohort of conifers. Would prefer to see heavier thinning with lower residual tree counts, and openings created in RR to develop wolf trees and gaps.	See comment #9.
	X		29. Analysis of existing conditions relies on outdated South Fork Clackamas Watershed Analysis, 1997, is therefore insufficient.	The analysis for this project was based on multiple sources, including ground-truthing by agency personnel, historic records, etc. Elsewhere in commenter's comments, commenter cites the S. Fk. Clackamas WA as a reliable source of information.
	X		30. Lack of water quality monitoring invalidates EA.	A lack of water quality monitoring does not invalidate the EA. The South Fork Water Board and cooperating municipal water suppliers constantly monitor water quality downstream and were involved in the development of the project.
	X	A	31. Unacceptable impacts to fish, especially salmonids.	The effects to fisheries are described in EA sections 2.4.3, 2.4.5, EA Appendix 1. Pages 23 and 46 of the Hillock EA describe why effects to fish were placed in a "No Effect" category. (Hillock EA pp.18, 19, 22, 23; Hillock Fisheries Report).
Fire:				
	X	A	32. Proposed action would increase fire danger. EA does not adequately analyze it. High risk activity occurring (car burning, target practice, unregulated campfire rings, etc.)	The analysis with regard to fire hazard and risk is summarized on page 25 of the Hillock EA. Detailed analysis can be found in the Hillock Fuels Management and Fire Ecology Report. While the potential fire intensity would increase in the short run (until limbs, etc. decay), expected fire behavior is within the control capability of available local resources. The overall potential for fires would be reduced in the short run by removing the small wood where fires start (near roads and other human activity centers).
Legacy Features, Habitat and Species:				
	X	B	33. Spotted owl (NSO): degradation of dispersal habitat may impact species. Lack of monitoring. No assessment of how this proposal might affect the impact barred owls are having on NSO populations.	Effects to NSO can be found in the Hillock EA, section 2.4.4. (Hillock EA pp. 20-22) and the Hillock Wildlife report. The project consists of low value habitat. Temporary degradation of this habitat is not expected to have a negative impact on NSO. The project would improve habitat in the long run. In the consultation process the Fish and Wildlife Service concurred with the BLM's findings. The barred owls' effect on NSO is beyond the scope of this EA.
X			34. Agree that there are not likely to be any large trees or snags, but encourage absolute protection of any found during project development.	Large trees and snags have been designated for protection in the proposed action (Hillock EA p. 7).

Submitted By:			Comment	BLM Response
ONRC	BARK	Individuals		
X			35. Not concerned about loss of small snags during logging. Wants to know if there are plans to create snags in 20 years when the trees are large enough to provide good snag habitat.	The BLM anticipates and currently intends to create snags as part of the next commercial entry, but the next entry is outside of the scope of this project and design features such as snag creation would depend on management plans in place at that time.
	X		36. *Bridgeoporus nobilissimus*: timber harvest will negatively impact species.	Operational plans implement recommendations in the *Bridgeoporus* management plan, including surveys on 100% of the project area to identify populations and protection buffers on all viable populations. Since the species depends on large true firs, this project is expected to improve future habitat for the species (Hillock EA p. 15).
	X		37. Snag habitat is very limited, proposal will harm species dependent on them.	See Hillock EA pages 13-15; 19-21. Large snag habitat is non-existent. Small snags are abundant throughout the vicinity, but of low value. The project would promote growth of large trees for future large snag habitat.
	X		38. Mycorrhizae – logging would negatively impact them.	BLM recognizes the function of mycorrhizae. Several of the sale's design features are included in order to minimize the impacts (Hillock EA pp. 4, 6, 8).
	X		39. Noxious weeds: Project will exacerbate problem. Cleaning equipment "as needed" shows lack of diligence.	See Hillock EA pages 7. "As needed", as applied in the document, means the BLM can require measures necessary to adequately clean the equipment. Example: if a fire hose wash down does not adequately clean the equipment, BLM can require steam cleaning.

Individuals:

A. Steven A. and Laurie A. Christenson
B. 70 Preprinted post cards sponsored by BARK