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Department of
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Forest
Service

2004



Draft Supplemental Environmental Assessment

Borg

Clackamas River Ranger District, Mt. Hood National Forest
Clackamas County, Oregon

The project is located in T.5 S., R.8 E.; Willamette Meridian.

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Introduction

The Forest Service has prepared 5 supplemental Environmental Assessments (EAs) pursuant to an opinion and order signed November 21, 2003, in a lawsuit in the U.S. District Court for the District of Oregon, *Oregon Natural Resources Council Action, Oregon Natural Resources Council Fund, and American Lands Alliance v. U.S. Forest Service*, Civil No. 03-613-KI. These 5 supplemental EAs are for the Borg and Solo Timber Sales on the Mt. Hood National Forest, and the Clark, Pryor, and Straw Devil Timber Sales on the Willamette National Forest.

Pursuant to the Court's opinion and order, the Forest Service is to submit these supplemental EAs for public comment from February 17, 2004, to March 18, 2004. After reviewing comments submitted, the Forest Service is to prepare final supplemental EAs by April 16, 2004. Plaintiffs in this lawsuit must submit any objections to the final supplemental EAs with the court by May 17, 2004. If any such objections are filed, the court will establish a briefing schedule and hold a hearing on the objections.

This supplement discusses management of Survey and Manage species for the Borg Timber Sale. This sale has been sold and approximately 57 percent of the volume has been removed. The Borg Timber Sale is located within the Buck Creek subwatershed that is tributary to the Oak Grove Fork of the Clackamas River, Mt. Hood National Forest. See Map 1.

Time line

The Borg Environmental Assessment (EA) was published for a 30-day comment period on August 17, 1998. The Decision Notice for the Borg EA was signed on September 28, 1998.

In 1998 litigation was initiated in the U.S. District Court for the Western District of Washington in Seattle, challenging in part the Agencies' interpretation of the Northwest Forest Plan's (NWFP) requirement to phase-in certain pre-disturbance survey requirements (ONRC Action et al v. USFS et al., CV 98-942 (WD Wash.)).

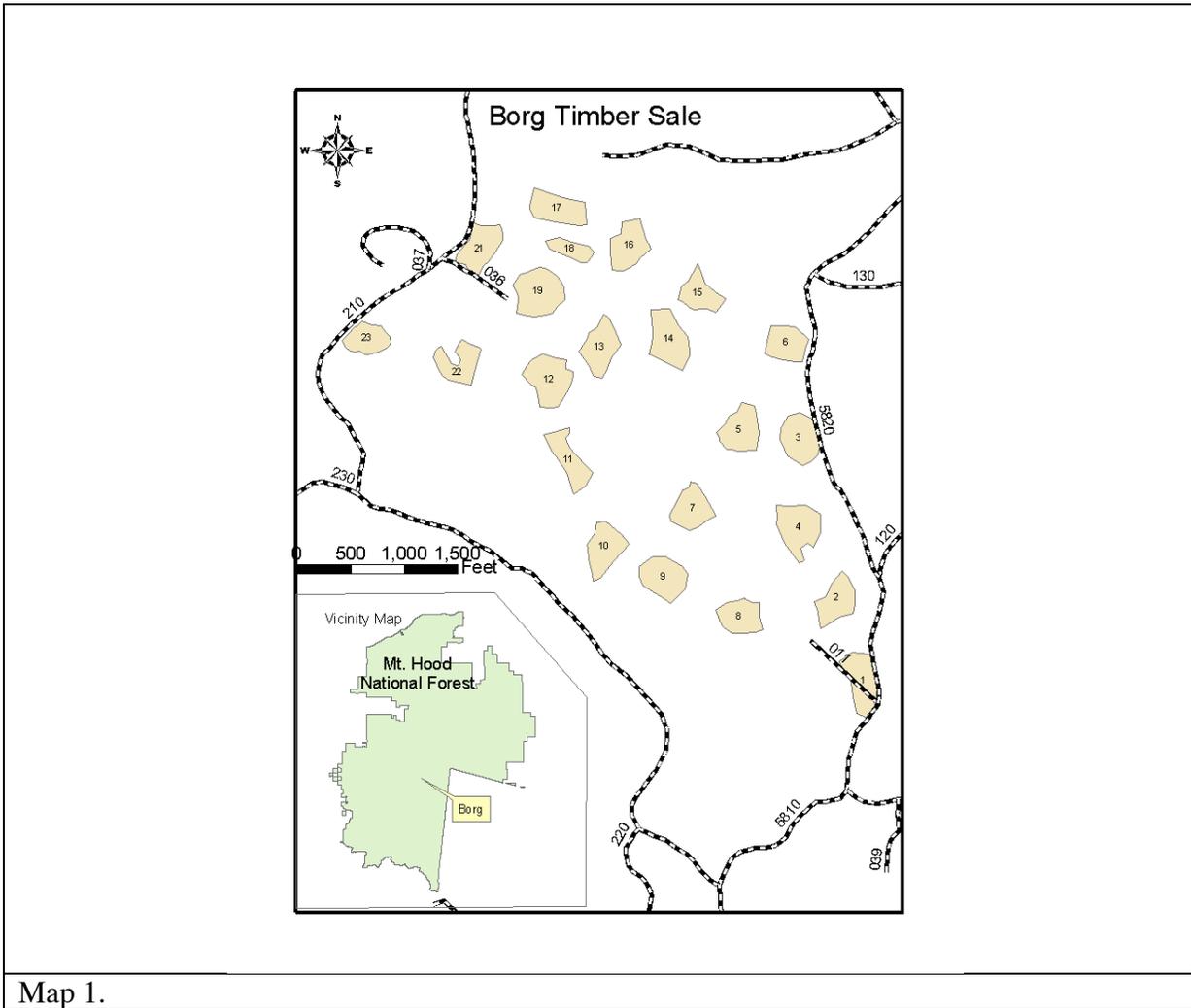
On August 2, 1999, the Seattle court ruled the agencies' application of the Survey and Manage requirements was deficient in two ways. The Seattle court found that the Agencies' memo defining "project implementation" as the date of the NEPA decision or decision document, and the agencies' decision to exempt some habitat conditions from red tree vole surveys, were not consistent with requirements in the NWFP.

On December 17, 1999, the Seattle court approved a stipulation dismissing the lawsuit. The stipulation provided procedures for conducting certain pre-disturbance surveys and documenting the results in Supplemental Information Reports. The Borg Timber Sale was subject to the terms of this stipulation and surveys were initiated in 2000. The stipulation

provided that it would expire once the agencies adopted a set of amendments for survey and manage species through a Supplemental EIS.

The Record of Decision for the Final Supplemental Environmental Impact Statement For Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (S&M ROD) was signed on January 12, 2001. That document amended the Northwest Forest Plan and changed categories for some species and removed some from Survey and Manage. It also clarified the agencies' intent as to the timing of surveys and surveys for the red tree vole.

The results of surveys and changes to the Borg Timber Sale per the direction in the 2001 S&M ROD were documented in a SIR dated January 7, 2002. Unit 21 (three acres) was deleted and a minor boundary adjustment was made to unit 17 (removing 0.5 acre). The Borg Timber Sale was auctioned on May 29, 2002. The Borg Timber Sale Contract was awarded to Thomas Creek Lumber and Log Co. on August 12, 2002. Ten of the 21 timber sale units have been logged.



In June 2002, the 2001 Annual Species Review was released. It made changes to categories for some species and removed some from the Survey and Manage standards and guidelines. It removed the Malone jumping slug for this area. A minor change had been made to Unit 17 for this species of mollusk. The timber sale was not changed as a result of the 2001 Annual Species Review.

In 2003 litigation was initiated in Federal District Court for the District of Oregon in Portland, challenging this and five other timber sales alleging in part that the SIRS that were completed for these sales violated NEPA (*Oregon Natural Resources Council Action, Oregon Natural Resources Council Fund, and American Lands Alliance v. U.S. Forest Service*, Civil No. 03-613-KI). On October 9, 2003, the Portland court ruled the Forest Service violated NEPA by authorizing the sales without preparing NEPA analyses regarding the agencies survey and manage duties under the Northwest Forest Plan.

On November 21, 2003, the Portland court signed an Opinion and Order that directed the Forest Service to prepare additional NEPA analyses before proceeding with logging of any of these sales. The purpose of this analysis is to disclose and analyze the agency's survey and manage duties for these sales. The Portland court stated the analysis should discuss the methodologies used for the surveys, the results of the surveys, a range of alternatives and the management decisions being made.

Survey and Manage duties based on current direction

Current direction is found in the Record of Decision for the Final Supplemental Environmental Impact Statement For Amendment to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (S&M ROD). The S&M ROD also provides direction for Decision Notices signed prior to the date the S&M ROD was signed. The following paragraphs come directly from page 18 of the S&M ROD (USDA USDI 2001).

For management activities with signed NEPA decisions or decision documents before the effective date of this Decision:

b. If activities are not under an awarded contract or signed permit, or actual habitat disturbance by agency crews has not begun, no Survey and Manage requirements in this Decision are applicable to these activities except:

1) If the NEPA decision or decision document was signed after September 30, 1996, and red tree vole pre-disturbance surveys were not conducted, conduct red tree vole surveys in accordance with the protocol in effect at the time the surveys are initiated, and manage resultant sites according to the Management Recommendation in effect at the time surveys are concluded; and,

2) Previously managed known sites of species removed from Survey and Manage or assigned to Category F by this Decision are released for other resource activities as described in the attached standards and guidelines; and,

3) Sites of species requiring management of known sites under the attached standards and guidelines will be managed as described under *Application of Manage Known Sites Direction* under the Timing Requirements for Surveys section in the attached standards and guidelines.

The following paragraph comes from page 24 of the S&M Standards and Guidelines (USDA USDI 2001).

Application of Manage Known Sites Direction: Even though pre-disturbance surveys are completed prior to the NEPA decision or decision document, manage known site direction will typically be applied to additional sites of rare species (Categories A, B and E) incidentally discovered during other field work after the decision date but prior to sale dates (or for non-contract activities, actual on-the-ground application of work). Manage known site direction may also be applied to additional sites for uncommon species (Categories C and D), depending upon factors such as the level of concern for persistence of the species and its habitat in and adjacent to the activity area.

The above direction applies to the Borg Timber Sale because the Decision Notice was signed in 1998 but the contract was not awarded until 2002.

Methodology of surveys

For some categories of species, site-specific pre-disturbance surveys must be conducted prior to signing decision documents for habitat-disturbing activities. These are “clearance” surveys that focus on the project unit with the objective of reducing the inadvertent loss of undiscovered sites by searching specified potential habitats prior to making decisions about habitat-disturbing activities. The surveys are not designed to find all individuals. Sometimes surveys are conducted outside the actual project area if the project might affect adjacent habitat. Surveys are done according to the Survey Protocols that are designed by taxa experts. Survey protocols can be found at the following web site: <http://www.or.blm.gov/surveyandmanage/sp.htm>. Species in Categories A and C require pre-disturbance surveys where the species ranges overlap a project (USDA USDI 2001, p 21-25). Data is entered into the Interagency Species Management System (ISMS) database.

Red tree vole surveys were completed according to the survey protocols. A line transect was used to achieve approximately 300 lineal feet per acre. Surveyors searched for nest sites along these transects.

The following surveys were conducted in 2000 before current management direction determined that they were not necessary:

Terrestrial mollusk surveys have been completed and no mollusks that currently require the management of known sites were found. Surveys were conducted for a group of terrestrial mollusks with particular emphasis in searching for the species with home ranges overlapping the project area. All mollusk species encountered were identified including some that no longer require surveys. The following species are thought to have ranges that overlap the project area: *Cryptomastix devia*, *Cryptomastix hendersoni*, *Deroceras hesperium*, *Hemphillia glandulosa*, *Hemphillia malonei*, *Hemphillia pantherina*, *Megomphix hemphilli*, *Monadenia fidelis minor*, *Prophysaon coeruleum*, *Prophysaon dubium*, and *Pristoloma articum crateri*. The surveys for terrestrial mollusks involved two visits to the project during the spring and fall when species were likely to be visible. Sample plots were intensively examined for 20 minutes and mollusks were identified and recorded on field forms.

Aquatic mollusk surveys were completed and one species was found that requires the management of known sites. Surveys were conducted in suitable habitat, which included cold, well-oxygenated springs and spring outflows and streams. Only one unnamed species has a range that overlaps the project area: *Lyogyrus* n. sp. 1. This mollusk has been found in many areas across the Forest. A series of grids, ranging from a minimum of eight to as many as 16 were surveyed to produce a total area sampled equal to about 0.5-1 square meter. Each grid was a square of 25 centimeters on a side. Surveyors examined the bottom of the water body and collected specimens for identification.

Surveys for botanical species were completed and several species were found that require the management of known sites. Surveys were conducted by botanists for several taxa groups including vascular plants, lichens, bryophytes and one fungus. The following species are thought to have ranges that overlap the project area: *Bridgeoporus nobilissimus*, *Ptilidium californicum*, *Schistostega pennata*, *Tetraphis geniculata*, *Bryoria pseudocapillaris*, *Dendrisocaulon intricatulum*, *Hypogymnia duplicata*, *Leptogium cyanescens*, *Lobaria linita*, *Nephroma occultum*, *Pseudocyphellaria rainierensis*, *Ramalina throusta*, *Botrychium minganense*, *Botrychium montanum*, *Coptis trifolia*, *Corydalis aquae-gelidae*, *Cypridium fasciculatum* and *Cypridium montanum*. Other species that do not require surveys may have ranges that overlap the project area. The surveys for botanical species involved walking through likely habitat areas during the time of year suited for species identification.

Surveys were not conducted for salamanders or great gray owls because habitat for these species is not present in the Borg project area.

Results of surveys/Management of known sites

Some species locations were known and evaluated at the time of the EA in 1998 (EA p. 28). This section documents the results of surveys conducted in 2000.

Current direction gives the decision maker some latitude for incorporating management of known sites found after the decision date (page 24, USDA USDI 2001). The standards and guidelines indicate that manage known site direction will typically be applied to additional sites of rare species (Categories A, B and E) and manage known site direction may also be applied to additional sites for uncommon species (Categories C and D), depending upon factors such as the level of concern for persistence of the species and its habitat in and adjacent to the activity area.

Known sites are recorded in the Interagency Species Management System (ISMS) database. Management Recommendations can be found at the following web site:

<http://www.or.blm.gov/surveyandmanage/mr.htm>

One site was found of the aquatic mollusk *Lyogyrus* (Category A). It is located in a stream south of unit 11 and 12 and is outside of all units. Riparian reserves provide for the habitat requirements of this species. No harvest or road construction or any other activity is proposed in the vicinity of this known site.

The lichen *Calicium abietinum* (Category B) was found in Unit 21 on a noble fir snag. Surveys are not required for this species but it was found while searching for other species. There are no specific published management recommendations for this species. The following recommendation was derived following consultations with other botanists and biologists as well as reviewing literature (Appendix A). A buffer would be recommended around the known site that is approximately 7 acres in size. The size and shape of this area was based on factors contributing to the local environmental conditions such as sun angle and wind penetration. The recommended management area extends 120 meters to the south, 90 meters to the east and west and 60 meters to the north. This buffer overlaps part of the 3-acre unit 21 (map 3). This same buffer would protect another lichen *Chaenotheca brunneola*, found on the same snag. This lichen was removed from the Survey and Manage list with the 2001 Survey and Manage Record of Decision.

The fungus *Ramaria rubripermanens* (Category D) was found in Unit 21 near the noble fir snag containing the lichens discussed above. Surveys are not required for this species but it was found while searching for other species. The management area described for the lichens would be adequate for this species as well.

One site of the terrestrial mollusk *Hemphillia malonei* (Malone jumping slug) was found outside of harvest units. This species was in Category C but has since been found to be quite common and was removed from the Survey and Manage standards and guidelines for this area in the 2001 Annual Species Review which was released

on June 14, 2002. Prior to its removal, a recommendation was made to create a management area that extended out to Unit 17 (map 2). This recommended management area includes 0.5 acre of Unit 17.

Some fungi sites were known at the time of the EA but they did not require the management of known sites until 2001. However all of these sites were avoided with the design of the harvest units for the Borg Timber Sale.

The following table displays the results of surveys conducted in 2000:

Unit	S&M Presence	Acres	Remarks
1	None	3	Already logged
2	None	3	Already logged
3	None	3	Already logged
4	None	3	Already logged
5	None	3	Already logged
6	None	2	Already logged
7	None	3	Already logged
8	None	3	Already logged
9	None	3	Already logged
10	None	3	Already logged
11	None	3	
12	None	4	
13	None	3	
14	None	4	
15	None	2	
16	None	3	
17	Yes	2	Deleted 0.5 acre prior to selling timber sale for species that no longer requires management of known sites. See Map 2.
18	None	1	
19	None	4	
21	Yes	3	Unit deleted prior to selling timber sale. Lichen <i>Calicium abietinum</i> (Category B) and a fungus <i>Ramaria rubripermanens</i> (Category D). See Map 3.
22	None	3	
23	None	2	

Alternatives

Alternatives are described in the EA on page 10 and Alternative B was selected. Alternative B involved five actions including the creation of 45 acres of small openings surrounded by

approximately 50 feet of partial harvest around the perimeter of each opening (EA p. 5). The acres listed for each unit include the opening and the partial harvest band around it.

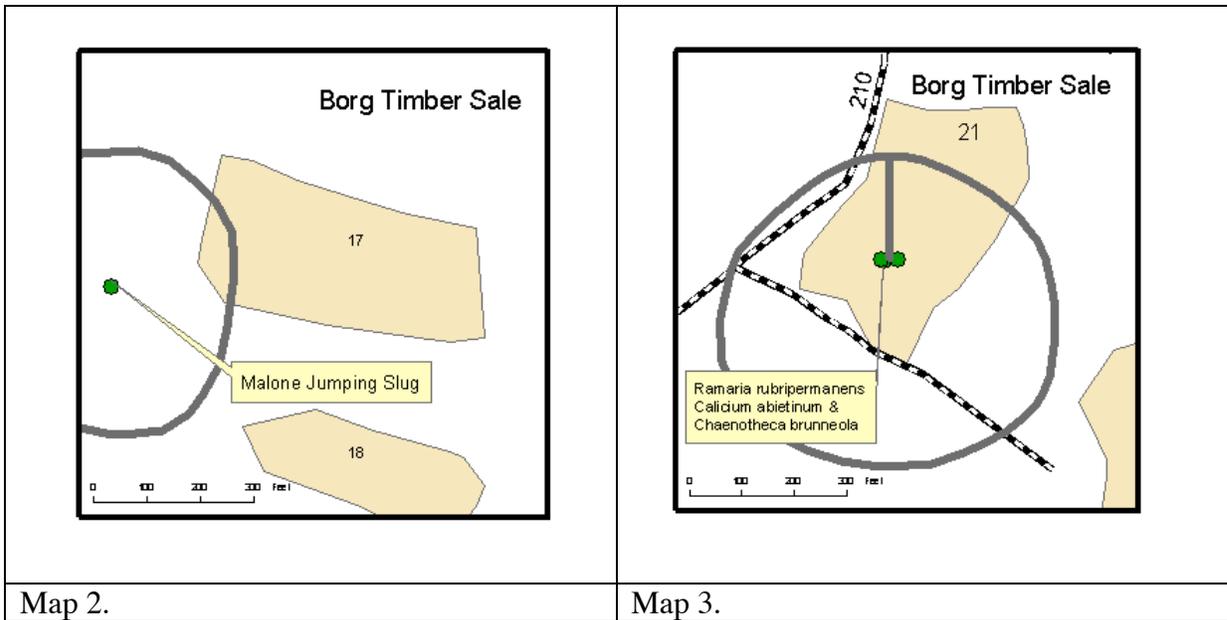
This supplemental EA will evaluate alternative ways of applying management recommendations to the survey and manage species found in the Borg area.

Alternative 1 – Apply management recommendations to the species found in the Borg area that were in place when the timber sale was offered and as presently provided for in the current timber sale contract (no change to current awarded timber sale).

The current timber sale contract eliminated unit 21 to manage the known site of lichen found there. It also eliminated 0.5 acre of unit 17. This 0.5 acre was originally removed due to presence of a known site of Malone jumping slug. This species has since been removed from the Survey and Manage standards and guidelines for this area. This alternative would not make any changes to the current Borg Timber Sale Contract and would not require any additional administrative costs. This is consistent with current direction since the 2001 S&M ROD does not require further implementation of survey and manage requirements once a timber sale contract is awarded.

Alternative 2 – Apply management recommendations according to the most recent adaptive management changes in the S&M Standards and Guidelines as a result of the annual species reviews.

This alternative would harvest the _ acre of Unit 17 that is no longer needed for the management of the Malone jumping slug. It would also harvest the portion of Unit 21 that is outside the 7-acre management area (approximately 1 acre). This alternative would require additional contract preparation and administrative costs.



Environmental consequences

The following table contains a summary of the Environmental Consequences that are relevant to the changes made for Survey and Manage species.

Resource Topic	Alternative 1 – (no change to current awarded timber sale)	Alternative 2 – Minimum size of management areas
Lynx	No Effect	No Effect
Red tree vole	No Effect	No Effect
Mollusk <i>Lyogyrus</i>	No Effect	No Effect
Lichen <i>Calicium abietinum</i>	No Effect	No Effect
Fungus <i>Ramaria rubripermanens</i>	No Effect	No Effect
Mollusk <i>Hemphillia malonei</i>	Species is common. No Effect	Species is common. Minor impact to one site due to drying effect of sunlight penetration and wind.
Fungus <i>Clavariadelphus truncates</i>	No Effect	No Effect
Water Quality	Slightly less impact - 3.5 acres less logging. Slightly less sediment.	Slightly less impact – 2 acres less logging. Slightly less sediment.
Soils	Slightly less impact - 3.5 acres less ground based logging. Slightly less compaction.	Slightly less impact – 2 acres less ground based logging. Slightly less compaction.
Fisheries	No change	No change
Wildlife	Slightly less impact - 3.5 acres less owl habitat removed.	Slightly less impact – 2 acres less owl habitat removed.
Economics	Sale sold – slightly less revenue returned compared to original decision.	Slightly more revenue but Additional administrative costs to prepare and sell 1.5 acres.
Timber	3.5 acres less, reduction of approximately 300 CCF.	2 acres less, reduction of approximately 170 CCF.

Canada lynx

On July 8, 1998, the U.S. Fish and Wildlife Service (USFWS) published a proposed rule to list the lynx under the Endangered Species Act (Federal Register Volume 63, No. 130). The final rule listing the lynx was published on March 24, 2000. In the listing the USFWS considered the lynx to have been historically resident within 14 states including Oregon. More recently the USFWS has stated that there is no evidence that a resident lynx population ever occurred in Oregon (Federal Register Volume 68, 40076, 40089-90, July 3, 2003).

Lynx rely heavily on a single prey species, the snowshoe hare (*Lepus americanus*), although they do take other small mammals, birds, and carrion, particularly when hares are rare. High snowshoe hare populations are generally associated with dense, young, lodgepole pine and subalpine fir stands. Winter snow track surveys were conducted on the Mt. Hood NF in 1994-96 with no evidence of Lynx being found. Preliminary results of a hair sample survey completed in 1998 suggested the presence of lynx in the Cascade Range in Oregon (Weaver and Amato 1999). Review of Weaver and Amato's 1999 preliminary results determined the samples were contaminated and did not indicate lynx presence. As a result, the laboratory was changed and three more years (1999-2001) of hair sample surveys have been conducted on the Mt. Hood NF. The results were negative in 1999, 2000 and 2001.

In January 2001 Standards and Guidelines for the management of lynx were addressed in the FSEIS and Record of Decision for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines. This FSEIS and Record of Decision amended the Northwest Forest Plan and therefore the Mt Hood Forest Plan. These Standards and Guidelines direct that the Lynx Conservation and Assessment Agreement (LCAS) will be used and referenced in all determinations of effect for Canada lynx. An addendum to the Biological Evaluation (BE) has been prepared that addresses the impacts on lynx for the Borg Timber Sale (Appendix B). The BE addendum concluded that there would be no effect to lynx for the following reasons. Lynx habitat as described in the LCAS and subsequent interpretation is not expected to occur on the Mt. Hood National Forest. The LCAS identified subalpine fir plant associations as the primary vegetation component from which lynx habitat and lynx analysis units would be delineated. The Forest ran this analysis based on our plant association groups and identified approximately 1270 acres of subalpine fir plant associations primarily on the east side of the Forest. There are no subalpine fir plant associations in the Borg project area.

The LCAS identified a need for at least 10 square miles (6400 acres) of primary vegetation to warrant delineation of a lynx analysis unit. *“Based on studies at the southern part of the lynx range in western U.S., it appears that at least 10 mi² of primary vegetation should be present within each LAU to support survival and reproduction”* (page 7-4). Based on our analysis above the Mt. Hood NF does not have the minimum criteria to develop a lynx analysis unit. Therefore there is no mapped lynx habitat on the Forest or any lynx analysis units within which to apply the LCAS habitat objectives. Therefore, lynx are not considered to be present on the Mt. Hood National Forest and the proposed alternatives in the Borg EA would have no effect on the Canada lynx (Appendix B).

Given the current knowledge about lynx the seasonal restriction identified in the 1999 amendment to the Biological Evaluation is not needed. This seasonal restriction had been based on the assumption that lynx were present on the Forest. Current information summarized above indicates that the species is not present; therefore the seasonal restriction is not necessary.

Explanation of decisions being made

Alternative 1 is the recommended management action. It deletes unit 21 and 0.5 acre of unit 17 from the Borg EA and does not require any changes to the current Borg Timber Sale Contract. This is the recommended action because it applies management recommendations for the survey and manage species found consistent with current direction and would not result in any additional administrative costs.

Alternative 2 is not the recommended management action because additional administrative costs would be encountered in preparing and offering the acreage that no longer requires protection.

Draft finding of no significant change in actions, circumstances, or information

No new environmental assessment or environmental impact statement will be prepared.

No significant new information was learned as a result of the S&M surveys conducted for the Borg Timber Sale. Surveys for S&M species were conducted in 2000, as described above. One site of the Malone jumping slug, and one site of a lichen and fungus were found, as described above. Following S&M protocols, the Forest eliminated Unit 21 and reduced Unit 17 by a half acre to manage for these species. This is not significant new information because it is no different from what was established in the Northwest Forest Plan, as modified by the 2001 S&M ROD — both of which were adopted pursuant to an Environmental Impact Statement.

The changes made to the Borg Timber Sale in order to manage known sites of the slug, lichen, and fungus are not significant because they result in no adverse environmental effects. Dropping Unit 21 and part of Unit 17 diminished the size of the Borg Timber Sale but dropping these acres result in less impact to the environment. Therefore the original Finding of No Significant Impact (FONSI) is not undermined or changed as a result of the surveys conducted for the Borg Timber Sale because the changes resulted in a reduction of environmental impacts.

Because there is no significant change to the actions, circumstances, or information that was presented in the Borg EA, as a result of the surveys that were done for the Borg project, no new Environmental Assessment or Environmental Impact Statement is required.

There is an additional reason why the Forest need not prepare an Environmental Impact Statement or a new Environmental Assessment for the Borg Timber Sale. The changes that were made to the Borg project as a consequence of discovery of the slug, lichen, and fungus were operational in nature, i.e. they are part of the normal administrative actions taken in implementing a decision. Actions taken to implement a decision made pursuant to NEPA are not subject to NEPA, as long as those actions are within the scope of the original decision. These actions are within the scope of the original decision to proceed with the Borg project, and are consistent with the management direction that was in place at the time.

No new decision

The Forest is not making a new decision about the Borg project at this time. The information learned by the Forest in the S&M surveys, as recorded in this supplemental EA, provides no compelling reason to make a new decision about the Borg project. The information we learned has been acted upon in the operational changes that were made to the Borg Timber Sale, which was to drop Unit 21 and part of Unit 17. Because no new decision is being made at this time, no new Decision Notice will be prepared.

References

USDA Forest Service. 2003. Memorandum finding no lynx habitat on the Mt. Hood National Forest. December 3, 2003.

USDA Forest Service and USDI Bureau of Land Management. 1994a. 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). Portland, Oregon.

USDA Forest Service and USDI Bureau of Land Management. 1994b. Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl; Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest related Species within the Range of the Northern Spotted Owl (Northwest Forest Plan). Portland, Oregon.

USDA Forest Service and USDI Bureau of Land Management. 2001. Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines. (Survey and Manage Plan)

USDA Forest Service and USDI Bureau of Land Management. 2002. Memorandum on implementation of 2001 Survey and Manage Annual Species Review, Dated June 14, 2002.

USDA Forest Service and USDI Bureau of Land Management. 2003. Memorandum on implementation of 2002 Survey and Manage Annual Species Review, Dated March 14, 2003.

Weaver, J. L. and G. Amato. 1999. Lynx surveys in the Cascade Range: Washington and Oregon. Unpublished, Wildlife Conservation Society, Bronx, NY.

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Appendix A

BORG SUPPLEMENTAL INFORMATION REPORT

BOTANY ADDENDUM

6/25/01

Changes Affecting Borg Timber Sale

This addendum addresses Northwest Forest Plan Survey and Manage vascular plants, fungi, lichens and bryophytes.

The Borg Timber Sale is in the category of sales with Decision Notices signed before October 1, 1998. As such, species which have been dropped or assigned to category F in the Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (1/01) (S&M ROD and S&G), no longer require management. Other species requiring management of known sites will be managed as described under Application of Manage Known Sites Direction under the Timing Requirements for Surveys section (S&M S&G page 24). Species listed in categories A, B, and E require Management of All Known Sites. Species in categories C and D require Management of High-Priority Sites. Category F species require no management. Category 1F_ species require Management of Known Sites until disposition is clarified in special status species consideration.

ADDITIONAL SPECIES REQUIRING PROTECTION

The Borg Timber Sale contains several botanical Survey and Manage species requiring management. The management objective for these species is to maintain persistence, as discussed in the S & M ROD and the Northwest Forest Plan ROD. The species are:

Species	Type	S&M ROD Category	Location
<i>Calicium abietinum</i>	Lichen	B	Noble fir snag in Borg 21
<i>Chaenotheca brunneola</i>	Lichen	1F_	Noble fir snag in Borg 21 (same snag as <i>C. abietinum</i>)
<i>Pollyozellus multiplex</i>	Fungi	B	South of unit 1, in seasonally wet area
<i>Craterellus tubaeformis</i>	Fungi	D	South of unit 1, near <i>P. multiplex</i>
<i>Clavariadelphus truncatus</i>	Fungi	B	South of unit 1, near <i>P. multiplex</i>
<i>Cantharellus subalbidus</i>	Fungi	D	Between units 1 & 2
<i>Gomphus clavatus</i>	Fungi	B	Between units 1 & 2

Calicium abietinum is an old-growth associated pin lichen. Only 9 sites are known from public lands in the Pacific Northwest. In Borg 21 it was found growing with *Chaenotheca brunneola* on an old Noble fir snag. Twenty-one sites are known from federal lands in the PNW. Both species require management to assure persistence. There are no specific, published Survey and Manage Management Recommendations for either species. However, Appendix J2 gives mitigation guidance; in matrix retention trees should be clumped and contain the largest and oldest trees. Because little is known about the specific requirements for these species, it is important to protect the existing habitat and microsite conditions at the known site, as well as the snag itself and other snags in close proximity to these species.

How do we best protect the habitat conditions for the known sites of *Calicium abietinum* and *Chaenotheca brunneola*? Dr Jiquan Chen has been involved in numerous studies regarding the effects that openings/clear-cuts/edges have on forest microclimates and is perhaps the leading authority on the subject. In a published 1995 study (*Growing-season Microclimatic Gradients From Clear-cut Edges Into Old-growth Douglas-fir Forests*) – Chen, Franklin, and Spies give the results of edge on the variables of air temperature, soil temperature, relative humidity, short wave radiation, and wind speed. The minimal and maximal depth of edge influence (DEI) is summarized in the following table:

Variable	Minimal/Maximal DEI	Additional Data
Air Temperature	30-240m	60-120m for S-facing edges and 30-60m for N-facing edges
Soil Temperature	60m	
Relative Humidity	30-240m	120-240m for S-facing edges
Short wave Radiation	<20m for N-facing & 60m for S-facing	
Wind Speed	30-180m (depending on wind speed)	

A review of the literature, consultation with biologists and botanists on and off the Mt. Hood National Forest, and consultation with Dr. Jiquan Chen, on the subject of forest edge effects, led to the following recommendations for the maximum size of the no entry buffers for this and other known sites. These recommendations relate specifically to the concern for protection of habitat and microsite. Additional recommendations may be made for other species to assure persistence. In some other cases the maximum buffer width may be lessened, if a review indicates other site features will contribute to more habitat/microsite protection in a shorter distance. The conclusion of the forest botanists and Dr Chen was that the following no-entry buffers would adequately protect the habitat and microsite conditions for most Survey and Manage fungi, lichens, bryophytes and vascular plants. These buffer widths are recommended to meet the objective of persistence of *Calicium abietinum* and *Chaenotheca brunneola* in Unit #21.

Edge orientation (azimuth range) from known site	Buffer width for edge adjacent to regeneration harvest
NW-NE (315-45 degrees)	60m (197')
NE-SE (45-135 degrees)	90m (295')
SE-SW (135-225 degrees)	120m (394')
SW-NW (225-315degrees)	90m (295')

The above table gives a somewhat egg-shaped polygon around the known sites for *Calicium abietinum* and *Chaenotheca brunneola*: the total buffered acreage is approximately 7 acres. However, only about 3 of the 7 acres fall within Unit #21, and are thus, removed from timber harvest entry and activity

The presence *Pollyozellus multiplex* in Borg was known prior to the Decision Notice. This species was found within a wet area receiving a riparian buffer. The Management Recommendations were reviewed and the fruiting bodies received a 100' buffer from the use of spur road #011, in addition to the riparian buffer. Also known from near the *Pollyozellus multiplex* site were *Craterellus tubaeformis* and *Clavariadelphus truncatus*. Neither species required protection at the time of the Decision Notice. However, both now require management for species persistence. There are no specific, published Management Recommendations for these two species. However, maintaining habitat, host trees and avoiding ground disturbance are common themes in the fungi Management Recommendations for other Survey and Manage species. These factors are adequately addressed by implementing the buffer widths in the preceding table. The sites for all three fungi are within the riparian reserve and are about 280' southwest of unit #1. There are no other units nearby. The open edge of unit #1 will lay in a northeasterly direction. According to the chart above, the recommended buffer width is 60m (197'). These species are receiving more than the recommended buffer without altering the planned harvest prescription for unit #1.

Two additional fungi were found prior to the Decision Notice, which required no protection at that time, but now require management for species persistence. The species are *Cantharellus subalbidus* and *Gomphus clavatus*. They were found together, between units 1 and 2, in a block of land which adjoins the riparian reserve. Their locations are only approximate; because they required no management at the time of their discovery, the sites were not flagged and gps readings were not obtained. They are thought to be about 100-200' from unit #2 and 226-270' from unit #1. According to the Decision notice, the #011 spur was to be used for logging systems for unit #2. This road extends into the riparian reserve and is south and southwest of these known sites. In order to manage for species persistence, it is recommended the logging operation be changed to take the logs out to the 5820 road instead of using the #011 spur. The use of this spur should be confined to that portion which is within unit #1. Given the fact that the location for these two species is only approximate, it is judged unnecessary to recommend the full buffers, in accordance with the above guidelines for protecting habitat and microsite. Instead, the somewhat lessened buffers already existing, in addition to the requirement that the #011 spur not be used outside of unit 1, are judged to adequately manage these two species for persistence.

Species Which Have Been Dropped Or Assigned To Category F

Three botanical species found in Borg have been dropped from the Survey and Manage list. These species require no management. They include the bryophyte - *Ptilidium californicum*, and two species of fungi – *Hydnum repandum* and *Gomphus flocosus*.

Ptilidium californicum was found in Borg following the original Botany Recommendations reflected in the Decision Notice. *Hydnum repandum* and *Gomphus flocosus* were found prior to this time but required no special protection. Removal of these species from the Survey and Manage list, therefore, results in no adjustments to the harvest prescription or mitigations for Borg.

/s/ Carol Horvath

6/25/01

Date

Carol Horvath

Botanist

Clackamas River and Zigzag Ranger Districts

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Appendix B

Borg Timber Sale Biological Evaluation Amendment II Canada Lynx

**Clackamas Ranger District
Mt. Hood National Forest
February 2, 2004**

**Approved By: /s/ Alan Dyck
Alan Dyck
Forest Wildlife Biologist**

In August of 1998 a Biological Evaluation (BE) was prepared for the Borg Timber Sale. At that time Canada lynx was not a listed species but was a sensitive species on the R6 sensitive species list. The BE concluded the Borg project may impact individuals (on the slight possibility that a lynx traveling thru the area could be impacted by disturbance), but would not likely cause a trend to federal listing or loss of viability.

On July 8, 1998, the U.S. Fish and Wildlife Service (USFWS) published a proposed rule to list Canada lynx (lynx) under the Endangered Species Act (Federal Register Volume 63, No. 130). The final rule listing the lynx as “Threatened” was published on March 24, 2000. In the listing the USFWS considered lynx to have been historically resident within 14 states including Oregon. More recently the USFWS has stated that there is no evidence that a resident lynx population ever occurred in Oregon (Federal Register Volume 68, 40076, 40089-90, July 3, 2003).

On February 23, 1999, an amendment to the Borg BE was completed for lynx. It included a mitigation measure to restrict the logging season and made an effects determination of “may effect, not likely to adversely affect (NLAA).” The mitigation and effects determination was based on the preliminary results of DNA analysis of a hair sample from a 1998 survey. This analysis suggested lynx presence on the Mt. Hood National Forest. It was also based on preliminary mapping of potential lynx habitat. Since that time there is new information concerning the lab results of the hair sample and the mapping of lynx habitat.

Winter snow track surveys were conducted on the Mt. Hood NF in 1994-96 with no evidence of lynx being found. Preliminary results of a hair sample survey completed in 1998 suggested the presence of lynx in the Cascade Range in Oregon (Weaver and Amato 1999). Review of Weaver and Amato’s 1999 preliminary results determined the samples were contaminated and did not indicate lynx presence (Weaver et al, 2001). Three more years (1999-2001) of hair sample surveys have been conducted on the Mt. Hood NF and all results have been negative. There is no evidence of lynx presence on the Mt. Hood National Forest.

In January 2001, Standards and Guidelines for the management of lynx were addressed in the FSEIS and Record of Decision for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines. This FSEIS and Record of Decision amended the Northwest Forest Plan and therefore the Mt Hood Forest Plan. These Standards and Guidelines direct that the Lynx Conservation and Assessment Agreement (LCAS) will be used and referenced in all determinations of effect for Canada lynx.

Lynx habitat as described in the LCAS and subsequent interpretation is not expected to occur on the Mt. Hood National Forest. The LCAS identified subalpine fir plant associations as the primary vegetation component from which lynx habitat and lynx analysis units would be delineated. The LCAS identified a need for at least 10 square miles (6400 acres) of primary vegetation to warrant delineation of a lynx analysis unit. *“Based on studies at the southern part of the lynx range in western U.S., it appears that at least 10 mi² of primary vegetation should be present within each LAU to support survival and reproduction”* (page 7-4). The Forest ran an analysis based on our plant association groups and identified approximately 1270 acres of subalpine fir plant associations primarily on the east side of the Forest. There are no subalpine fir plant associations in the Borg project area.

Based on our analysis the Mt. Hood NF does not have the minimum criteria to develop a lynx analysis unit. There is no mapped lynx habitat on the Forest or any lynx analysis units within which to apply the LCAS habitat objectives. Lynx are not considered to be present on the Mt. Hood National Forest (December 3, 2003 letter, attached). Therefore, after considering the Lynx Conservation and Assessment Agreement, I have determined the proposed alternatives in the Borg EA would have no effect on the Canada lynx and the seasonal restriction identified in the 1999 amendment to the BE is not needed.

File Code: 2670

Date: December 3, 2003

Subject: Lynx Effects Determination

To: Wildlife Biologists, Mt. Hood National Forest

The Mt. Hood National Forest (Forest) has reviewed and updated our effects determination for Canada lynx (*Lynx Canadensis*). This letter updates the August 7, 2001 letter, written by Denise Pengeroth. Based on the best available scientific and commercial data, Canada lynx (*Lynx Canadensis*) and its habitat are not present on the Forest. We base our conclusion on the following information and evidence:

The following are excerpts from the Federal Register, Friday March 24, 2000, Part V Department of Interior, Fish and Wildlife Service, 50 CFR Part 17 Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Contiguous Segment of the Canada Lynx and Related Rule (USDI 2000). *My comments are in italics. Literature Cited reflects only those citations that I reference. Please see original CFR for references associated with that document.*

1. Historic lynx records exist from nine counties in Oregon (Bailey 1936; Nellis 1971). *None of these counties overlap with the Mt. Hood National Forest. See Verts and Carraway 1998.*
2. McKelvey (1999b) documented 12 verified lynx records for Oregon in the past century. Based on the time frames when collected and locations in atypical habitat, some of these records likely were dispersing transient individuals. *See page 229 in the Ecology and Conservation of Lynx (Ruggerio et al. 1999).*
3. Observations of lynx have been reported from the Cascades...a 1998 DNA survey preliminary results also suggested the presence of lynx in the Cascade Range in Oregon (Weaver and Amato 1999). *Since this statement, review of Weaver and Amato's (1999) preliminary results were determined to be contaminated and did not indicate lynx presence (Weaver et al, 2001).*
4. Lynx have rarely been reported harvested in Oregon, although the season for lynx is essentially open because the State does not regulate lynx harvest, however we do not believe any lynx have been harvested because there are no records of lynx trapping or pelts collected in Oregon (C. Carson, Pers. Comm., USFWS, Office of Management Authority 2000). *U.S. Fish and Wildlife Service personnel have located some unverifiable historic bounty records that indicate lynx pelts may have been recorded in Oregon. This would support the conclusion that lynx may have occasionally occurred in Oregon and while it's possible that lynx at one*

time may have been present on the Forest, at present based on recent survey data lynx are thought to be absent from the Forest.

5. Based on the limited available information, we cannot substantiate the historic or current presence of a resident lynx population in Oregon.
6. The USFWS published the following conclusions about lynx in Oregon. “There is no evidence that a lynx population ever occurred in Oregon (Verts and Carraway 1998; K. McKelvey and K. Aubry, Rocky Mountain Research Station, in litt. 2001). Only 12 verified records of lynx exist for Oregon for the past century (Verts and Carraway 1998, McKelvey *et al.* 200b). The majority of these records are from marginal or non-lynx habitats and correlate with cyclic highs in northern lynx populations (Verts and Carraway 1998; K. McKelvey and K. Aubry, Rocky Mountain Research Station, in litt. 2001). We do not consider compilations of anecdotal reports of lynx in Oregon reliable for the reasons described by McKelvey and Aubry (Rocky Mountain Research Station, in litt. 2001). Habitats in Oregon that are potentially suitable for lynx are naturally isolated from occupied habitats in Washington and Idaho. There are no records of lynx reproduction in Oregon. Based on the limited verified records of lynx, lack of evidence of lynx reproduction, frequency of occurrences in atypical habitat, and the correlations of such occurrences with cyclic highs, we believe that lynx occur in Oregon as dispersers that have never maintained resident populations”(Federal Register Volume 68, pp 40089-40090, July 3, 2003).

The book entitled Ecology and Conservation of Lynx in the United States (Ruggiero et al. 1999) provides information on records for Canada lynx. Chapter 8 discusses the history and distribution of lynx in the contiguous United States. The discussion for Oregon is on pages 228-229. Of the 12 verified records identified in point 2 above, 9 were collected prior to 1927; the 3 recent specimens were also collected from points off the Forest. The 1974 specimen is the only verified lynx record west of the Cascade Crest in Oregon. Winter tracking surveys have been conducted on the Forest during the winters of 1994/1995 and 1995/1996 and again in 2000 (USDA 1995 and 1995/1996). No lynx were detected during these surveys. In addition, ‘Cascadia Wild!’ in partnership with the Forest conducted snow tracking surveys in areas around Mt. Hood and did not detect any lynx tracks.

The Forest has implemented the National Lynx Survey Protocol from 1998 through 2001. There were no verified lynx hair samples.

The Forest currently has no mapped lynx habitat. In January 2001 Standards and Guidelines for the management of lynx were addressed in the FEIS and Record of Decision for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines. This FEIS and Record of Decision amended the Northwest Forest Plan and therefore the Mt Hood Forest Plan. These Standards and Guidelines direct that the Lynx Conservation and Assessment Agreement (LCAS) (Ruediger et al. 2000) will

be used and referenced in all determinations of effect for Canada lynx. Lynx habitat as described in the LCAS and subsequent interpretation is not expected to occur on the Mt. Hood National Forest. The LCAS identified subalpine fir plant associations as the primary vegetation component from which lynx habitat and lynx analysis units would be delineated. The Forest ran this analysis based on our plant association groups and identified approximately 1270 acres of subalpine fir plant associations primarily on the east side of the Forest.

The LCAS identified a need for at least 10 square miles (6400 acres) of primary vegetation to warrant delineation of a lynx analysis unit. *“Based on studies at the southern part of the lynx range in western U.S., it appears that at least 10 mi² of primary vegetation should be present within each LAU to support survival and reproduction”* (page 7-4). Based on our analysis above the Mt. Hood NF does not have the minimum criteria to develop a lynx analysis unit. Therefore there is no mapped lynx habitat on the Forest or any lynx analysis units within which to apply the LCAS habitat objectives. Therefore, lynx are not considered to be present on the Mt. Hood National Forest.

Although the absence of evidence is not the same as evidence of absence, we feel that the best available data indicate that the Canada lynx is currently not present on the Forest. Without the presence of lynx and without lynx habitat, consultation under section 7(a) (2) of the Endangered Species Act (ESA) would properly be concluded with a determination of no effect. The Forest will continue efforts to determine if lynx are present on the Forest. If lynx are confirmed on the Forest they will receive full protection under the Endangered Species Act and consultation with the U.S. Fish and Wildlife Service will commence immediately if necessary.

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Prepared by:
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/s/ Alan R. Dyck

Wildlife Biologist

DECEMBER 3, 2003

Reviewed by:
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