

Habitat Conservation Plan for the Northern Spotted Owl Boise Cascade Corporation, Klickitat County, Washington

I. Purpose and Need

Section 9 of the Endangered Species Act (ESA) prohibits the unauthorized 'take' of federally listed species of wildlife. The section 10 incidental take permit process constitutes an exception to the prohibitions against take provided such take is 'incidental to, and not the purpose of, carrying out an otherwise lawful activity'.

Pursuant to section 10(a)(1)(B) of the ESA, Boise Cascade Corporation ("Boise") has submitted an application to the United States Fish and Wildlife Service ("Service") for an incidental take permit for the northern spotted owl (*Strix occidentalis caurina*). The requested section 10 permit will authorize the incidental take of spotted owls associated with one currently occupied owl site. This owl site represents a unique management situation east of the Cascade crest: it does not occur in a state or federally recognized spotted owl special emphasis area or in designated critical habitat; it occupies marginal habitat that is rapidly deteriorating as a result of spruce budworm; and, it is surrounded by a matrix of unsuitable owl habitat. Boise proposes harvest of severely and chronically insect-damaged forest within this owl site. Although this harvest will not result in removal of known suitable habitat while the site remains occupied, operations within adjacent non-suitable habitat or within forest classified as non-suitable but perhaps occasionally used by owls, could result in some harm or harassment of the owls at this site. Issuance of the permit will provide Boise with certainty that such unintended and unpredictable consequences do not result in violations of the ESA.

The permit and habitat conservation plan (HCP) will remain in effect until the associated owl site is determined to be vacated. However, incidental take associated with the harvest actions is only authorized for a period of five years.

II. Permit Area

The permit area occurs within Boise's 84,000 acre Simcoe District ownership in the eastern Cascade Mountains of Washington. The actual area covered by the permit and HCP is 620 acres of Boise ownership within owl site # 459, centered in section 27, township 6 north, range 15 east. (See Attachment # 1.)

The permit area is in the ponderosa pine zone, an ecotype that historically provided less habitat for spotted owls than it does today. In the last century, fire suppression and other aspects of forest management have allowed large areas to transition to grand fir and douglas fir habitat types that provide more habitat for the species. However, even in light of these historically recent conditions, the permit area occurs at the extreme southern and eastern edge of current spotted owl distribution within Washington. Immediately to the south and east, central Klickitat County is not forested. To the west, the main population of owls is on Federal lands in the Cascade Mountains, approximately thirty miles from owl site # 459. The area in between is dominated by non-Federal land and contains only a few scattered owl sites—the nearest of these being about ten miles away. A fairly large owl population cluster (~ 25- 35 sites) does occur to the north, largely in the Klickitat River basin within

the Yakama Indian Reservation; site # 459 is at the extreme edge of that cluster.

As is common throughout the eastern portion of the owl's range, the human-induced fir habitat types within the permit area are being degraded by severe and chronic insect infestations. In addition to direct degradation and mortality, such infestations result in massive accumulation of standing and downed wood fuels that increase the likelihood of fires that will remove not only the damaged stands, but also healthier neighboring stands. Spruce budworm infestations have heavily impacted large acreages within and nearby the permit area in the last decade. Recent surveys by Service and Washington Department of Natural Resources personnel (see Attachments # 2 and # 3) indicate that the majority of douglas fir and grand fir which dominate stands within the permit area are being defoliated and are either in advanced stages of decline, or already dead. The ponderosa pine component of these stands is not impacted directly by the spruce budworm.

Only 86 acres (14 percent) of the permit area have been classified as suitable spotted owl habitat. This acreage represents the majority of the suitable habitat known to exist within the likely home range of the owls associated with this site. However, it is probable that other stands within the permit area possess some atypical habitat attributes that allow them to be utilized by the owls.

The permit area also includes a portion of Bowman Creek, a fish-bearing stream that is a tributary of the Little Klickitat River. A fifty-foot waterfall on the Little Klickitat River below the confluence with Bowman Creek serves as a barrier to passage of steelhead, salmon, and bull trout into the permit area.

III. Alternatives Considered

A. No-action

Under the No-action alternative, Boise would engage in actions designed to control the spread of insect infestation and reduce the risk of catastrophic fire by returning forests within the permit area to conditions that are more natural and sustainable in the long-term. The fir component of forest stands would be substantially reduced by removal of dead and dying douglas fir and grand fir, and some healthy firs that may be susceptible to future degradation. Some ponderosa pine areas would be thinned. Following harvests, stands would be planted to ponderosa pine.

Under this alternative, Boise would avoid incidental take of spotted owls associated with owl site # 459 by not implementing harvest of the 86 acres of forest currently classified as suitable owl habitat. Additional restrictions against harvest and other disturbances within 1/4 mile of a nest being used by the owls would also be applied by Boise during the nesting season to avoid incidental take. Annual protocol survey efforts would be undertaken by Boise to determine the ongoing occupancy of the site. Upon a determination that the site was no longer occupied, the suitable habitat would be available for harvest.

Forest not classified as suitable, including those areas immediately adjacent to habitat known to be utilized by the owls, could be subject to immediate harvest regardless of the status of owls within the

site, limited only by seasonal restrictions to avoid incidental take through disturbance within 1/4 mile of an active nest.

B. Proposed Action

Under the Proposed Action, Boise will engage in silvicultural activities similar to those described above. However, the Proposed Action will limit harvest not only within suitable owl habitat, but also within other forest areas adjacent to the habitat. Boise will retain these harvest deferrals for a longer period of time than will otherwise be legally necessary, and will undertake increased monitoring of owls associated with the permit area. Harvest within non-deferred areas will be also be slightly modified. Specific details are described below and also summarized in Attachment # 4.

Harvest Deferrals and Prescriptions

- 1) Areas classified as suitable spotted owl habitat will not be subject to harvest until it has been determined that owls have not occupied the permit area for five consecutive years. This deferral area consists of 86 acres and is identified as Area A on the map/photo in Attachment # 5.
- 2) Additional areas immediately adjacent to and west of the forest classified as suitable spotted owl habitat will not be subject to harvest until it has been determined that owls have not occupied the permit area for three consecutive years. This deferral area consists of 75 acres and is identified as Area B on the map/photo in Attachment # 5.
- 3) An additional 300-foot limited entry area will be designated immediately adjacent to the southern boundary of the area currently classified as suitable owl habitat. Within the first 100 feet nearest the classified habitat, harvest will be limited only to those trees that are top-killed or infested with douglas-fir bark beetles. In the remaining 200 feet, Boise will employ “feather-harvest” techniques so that tree removal will be lightest in areas nearest to the classified habitat and will gradually increase to general harvest prescriptions (as described in Attachment # 4) as the distance increases. No additional harvests will occur within the 300 foot area until it has been determined that owls have not occupied the permit area for three consecutive years. This limited entry area consists of 33 acres and is identified on the map/photo in Attachment # 5.
- 4) A 100-foot wide buffer along the south side of Bowman Creek will not be subject to harvest. (The HCP Permit Area includes only the south side of the creek.) This no-entry area is identified on the map/photo in Attachment # 5.
- 5) Within the remaining acreage of the permit area, Douglas fir that have signs of severe budworm defoliation may be subject to harvest. Healthy Douglas-fir (not showing signs of severe defoliation or douglas-fir bark beetle infestation) will be retained. Some beetle-killed douglas-fir will also be retained. Ponderosa pine will be retained at 20 to 30 foot spacing.

Seasonal Restrictions

1) Harvest and other activities with significant potential to disturb the activities of the owls will not be permitted within 1/4 mile of the known or likely site center between 01 April and 15 June. In addition to harvest, other activities that result in prolonged or intense noise or action that may frighten or disturb the owls fall into this category. In general, occasional low-intensity noises or actions not in the immediate vicinity of the nest may be acceptable. This restriction will not apply if it has been determined that the owls are not nesting.

2) Harvest and other activities with significant potential to disturb the activities of owls or nestling/fledgling owls will not be permitted within 500 feet of the current activity center (nest or fledgling activity area, as appropriate) between 15 June and 31 August. This restriction will not apply if it has been determined that nestling or fledgling owls are not present.

Monitoring and Survey Efforts

1) Surveys and monitoring to determine occupancy and reproductive status within the permit area will be conducted each year that the HCP remains in place. Areas subject to survey efforts will include harvest deferral areas designated under the HCP, other forest stands with reasonable potential for utilization by owls in the permit area, and other such areas within a provincial home range radius (1.8 miles) of the permit area.

2) Surveys and determinations relative to occupancy and reproductive status will be consistent with protocols and methods approved by the Service.

3) Boise will provide funding for the National Council for Air and Stream Improvement (NCASI) to study the habitat use, movement, and other activities of the owls currently occupying site # 459 following the proposed harvest activities. (Boise also intends to continue its financial contribution to NCASI for that organization's other ongoing owl studies in the southeastern Cascade Mountains region of Washington.) The studies for this HCP will be conducted by means of radio-telemetry and are intended to provide additional insight regarding the ability of the proposed prescriptions to minimize impacts to owls while addressing forest health issues.

As soon as possible following issuance of the permit, prior to the initiation of nesting and preferably prior to significant harvest activities, Boise and NCASI will attempt to capture both owls, affix radio-transmitters, and begin monitoring habitat use. Boise will follow the capture and monitoring protocol established by NCASI in their "Adaptive Management for Northern Spotted Owls" study currently being conducted in western Oregon and northern California. The exception to the monitoring protocol is that Boise will not collect a year's worth of pre-harvest radio-telemetry data. Owls will be captured by noose pole early in the breeding season before the female begins egg laying. Each owl of the breeding pair will receive a tail-mounted

radio transmitter with a 2-year battery life. As long as the HCP remains in effect and the pair occupies habitat owned by Boise, the pair will be re-captured on 2-year intervals and radio transmitters replaced. Radio transmitter signals will be tracked using four-element, hand-held directional Yagi antennae and portable receivers. Strategic telemetry recording stations will be identified and located using a global positioning system. From the recording stations, telemetered owl locations will be triangulated at night using three compass bearings and the owl's position determined as the center of the resulting error polygon. The pair will be located 2 nights each week (approximately 50% before and 50% after midnight). Locations will be stored in a geographic information system to facilitate spatial analyses. Field staff will be trained using hidden transmitters and surveyor accuracy will be periodically calibrated using similar procedures. This effort will continue for a minimum of three years following harvest activities, or until it has been determined that the owls no longer occupy an area within 1.8 miles of the permit area that is accessible to Boise, whichever comes first.

As appropriate, radio-telemetry information (and survey and monitoring information collected by sources other than Boise or NCASI) may be used to partially satisfy the requirements of #1 and #2 above.

Reporting

- 1) Boise will provide the Service a formal written summary of harvest activities in the permit area and monitoring and survey results on an annual basis following permit issuance.
- 2) Substantial changes in the status of the owls, including occupancy, reproductive status, site center locations, and other movement and activity patterns will be reported to the Service as soon as determinable. This type of report does not need to be provided in writing.
- 3) At any time, the Service may request additional information regarding implementation of the HCP measures and status of the owls. Boise and the Service will cooperatively determine the format and schedules most appropriate for providing the requested information.

IV. Impacts to Listed Species

Northern Spotted Owl

1) No-action Alternative

Surveys have indicated that the permit area occurs within the likely home range around an activity center occupied by a pair of spotted owls. Pair activity was first detected in 1990 and has been observed every year since, although the individual owls comprising the pair have changed. Between 1990 and 1999, the owls associated with the site successfully reproduced seven times.

Less than 150 acres of the 6,511 acre home range radius are classified as suitable habitat, including 86 acres within the permit area. This amount of habitat is far below the acreage typically thought necessary to maintain long-term viability of owl sites in this portion of the species' range. Given this fact, and in light of the ongoing occupancy of this site, it is possible that other areas of forest within the owl site—areas that are not typically considered suitable habitat—possess unique characteristics that allow for utilization by owls and thereby supplement the overall amount of habitat available in the area. The specific characteristics, location, and amount of this supplemental atypical habitat cannot be determined. In any case, it is likely that loss of any extant habitat—either identifiable or unidentifiable—will result in impairment of the associated owls and possible abandonment of the site. Therefore, even in a No-action alternative in which Boise deferred harvest of known habitat and implemented seasonal disturbance restrictions to avoid incidental take, some unidentified habitat could be removed or degraded to an extent that take will likely occur. Neither Boise nor the Service will have any certain means to prevent this outcome due to our incomplete understanding about habitat characteristics at this site.

Even assuming that Boise actions did not result in disturbance or loss and degradation of extant unidentified habitat, the ongoing impacts of the spruce budworm epidemic could adversely affect the continued viability of this site and the associated owls. Extensive defoliation and mortality resulting from the budworm and subsequent douglas fir bark beetle infestations will dramatically reduce the fir component of forest stands within the permit area over time. This reduction will degrade the suitability of the stands for use by spotted owls. The extent and timing of this degradation, and the subsequent response of the owls are uncertain. Anecdotal evidence from other areas of the eastern Cascade Mountains shows that owls will continue to use degraded stands for a few years following severe defoliation and mortality. (Perhaps due to short-term increases in prey populations and foraging opportunities.) However, it is extremely unlikely that owls will persist over more than a few years in areas with extensive loss of the live fir component.

Therefore under a No-action scenario, this site is not likely to be occupied by owls within the next five to ten years, either due to inadvertent harvest of unidentified habitat, loss of habitat suitability from insect infestation, or habitat removal via catastrophic fire that results from the massive fuel accumulation in infected stands. Regardless of the cause, once the site was determined to be unoccupied, all identified habitat that had been protected in order to avoid unauthorized take will immediately become subject to harvest by Boise.

2) Proposed Action

The effects of the Proposed Action on the owls at site # 459 are essentially the same as described for the No-action alternative. Over the next ten years, it is unlikely that this site will continue to be occupied by owls. However, under the Proposed Action, the protection of additional acreage not classified as suitable habitat will provide for a larger buffer around the known site center and may slightly reduce the amount of unidentified habitat that is subject

to immediate harvest. Therefore, near-term management by Boise is less likely to result in incidental take (as a result of disturbance or habitat loss) and the owls may persist for a slightly longer period of time than under the No-action.

If the site does become unoccupied, the known suitable habitat will be protected for a longer period of time (two additional years) than under the No-action. The maintenance of this habitat may allow for reoccupation of the site by other owls, or for short-term use by non-territorial owls dispersing through the area. This is a possibility that would probably not exist under the No-action.

The radio-telemetry and other monitoring data collected in the Proposed Action may provide additional benefits by helping to determine the ability of the proposed prescriptions to minimize impacts to owls while addressing long-term forest health issues. This type of information is important in light of the widespread nature of forest health concerns in the eastern portion of the owl's range and the increasing likelihood that other landowners will desire to undertake similar efforts in the future. Impacts to the individual owls resulting from the capture, handling and application of transmitters, and ongoing monitoring will be negligible— as demonstrated through previous widespread and long-term use of the protocols and methodologies that will be used.

In both the Proposed Action and the No-action alternatives, maintenance of a local (east of the national forests in Yakima and Klickitat Counties) owl population will not be substantially impacted by the status of this particular site due to its relative isolation and occurrence at the fringes of the population. In the long-term, natural conditions and management actions on the Yakama Indian Reservation and the other nonfederal lands that currently support multiple-sites and more contiguous habitat will most influence the size, distribution, and viability of the population.

Bull Trout, Salmon, and Steelhead

Bull trout and other listed or proposed salmonids are not known to occur on Bowman Creek or its down stream confluence, the Little Klickitat River (Michelle Eames, U.S. Fish and Wildlife Service, Spokane, Washington and Carl Dugger, Area Biologist, Washington Department of Fish and Wildlife, Goldendale, Washington, pers. comm.) The nearest known occurrence of these species is several miles downstream of the confluence, in the Klickitat River and recent electro-fishing by the Washington Department of Fish and Wildlife did not document these species in Bowman Creek. Access from the Klickitat River to the upper reaches of the Little Klickitat River and Bowman Creek is restricted by a 50-60 foot waterfall on the Little Klickitat River. Bowman Creek also demonstrates periodic flow levels and water temperatures that may make the stream unsuitable for bull trout and anadromous salmonids. The presence of introduced species presents an additional obstacle to use by bull trout (Carl Dugger, pers. Comm.) Because of the low probability of occurrence in the permit area, and the substantial downstream distances to areas of known occurrence, actions by the company are not likely to impact bull trout, salmon, or steelhead.

In addition, under both the No-action and Proposed Action scenarios, Boise will implement stream buffers to ameliorate the potential impacts of management actions to adjacent streams. Under both scenarios, this buffer will be 100-foot wide along the edge of Bowman Creek. In the No-action scenario, current Forest Practices Act rules would allow some selective harvest within the buffer. In the proposed scenario, Boise will forego management actions and maintain the buffer as a no-harvest area. Thus, in the unlikely event that bull trout, salmon, or steelhead were to occur in Bowman Creek, the Proposed Action will provide a lower probability of adverse impacts to these species.

Other Species

No other Federally threatened or endangered plants or animals are known to exist in the permit area.

V. Unforeseen and Changed Circumstances

Section 10 regulations [50 CFR 17.32] require that an HCP specify the procedures to be used for dealing with unforeseen circumstances that may arise during the implementation of the HCP. In addition, the Assurances (“No Surprises”) Rule [50 CFR 17.3, 17.32 (b)(5) and (6); 63 FR 8859] defines unforeseen circumstances and describes the obligations of the permittee and the Service.

Unforeseen circumstances means changes in circumstances affecting a species or geographic area covered by a conservation plan that could not reasonably have been anticipated by plan developers and the Service at the time of the conservation plan’s negotiation and development, and that result in a substantial and adverse change in the status of the spotted owl. In these circumstances, if the plan is being properly implemented, the Service agrees to not seek additional mitigation from Boise if such mitigation will result in financial expenditures that exceed those necessary for implementing the terms and conditions described in the HCP.

In the event of a reasonably foreseeable changed circumstance such as fire, windstorm, flood, or earthquake, the Service and Boise will consult to develop measures to appropriately respond to these circumstances, and Boise will implement these measures. Such measures will remain consistent with the goals and measures originally contained in the HCP and have a reasonable likelihood of achieving mitigation goals in light of the Changed Circumstances.

VI. Funding

Because the prescriptive and seasonal measures contained in the HCP are based upon Boise forgoing or limiting certain otherwise permissible activities rather than implementing additional activities, they are not dependent upon the provision of additional funding beyond that necessary for Boise to engage in its overall forest management program.

The survey and monitoring provisions of the HCP represent implementation actions that are in

addition to on-ground forest management activities. Certain of these provisions have been subject to ongoing implementation by Boise, with funding requirements already considered and available as part of the company's overall management program. Other provisions represent new obligations that may require additional funding. For both ongoing and additional actions, Boise warrants that it has, and will expend such funds as may be necessary to fulfill its obligations under the HCP.

VII. Permit Term and Amount of Take Authorized

The incidental take permit and HCP will remain in effect until it has been determined that the owl site is no longer occupied as described in the HCP. The permit authorizes incidental take of up to two individual owls associated with the permit area. Such incidental take is authorized only with respect to the harvest activities, protection measures, and survey and monitoring efforts described in the HCP. Incidental take associated with the described harvest activities is only authorized during the first five years of the permit term.

VIII. Amendments

Amendments to the HCP may be made with the mutual agreement of Boise and the Service. Amendments to the requested permit may be made in accordance with 50 CFR 13-23 and other applicable requirements.

IX. Adaptive Management

This HCP contains no specific provisions for adaptive management.

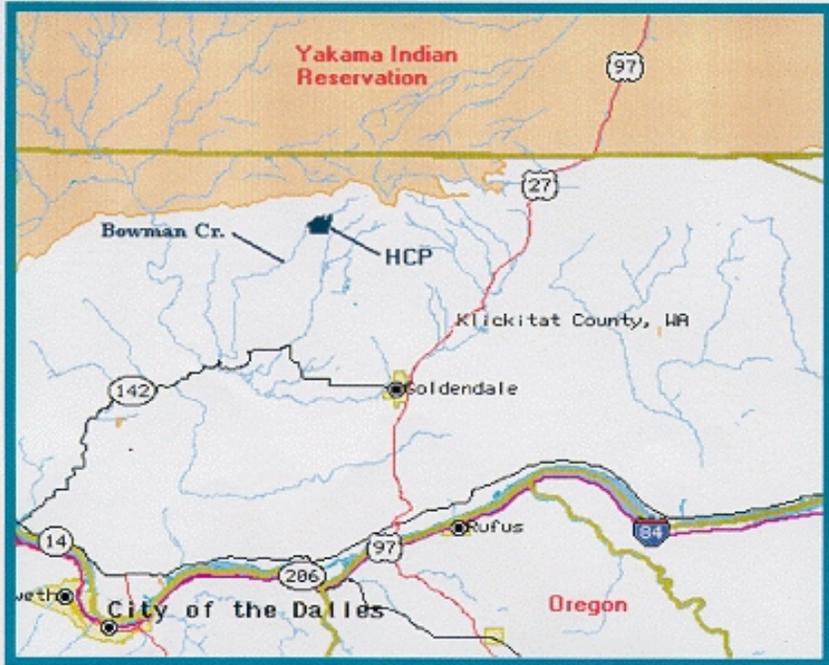
X. Legal Descriptions of HCP Permit Area

Portions of sections 22, 23, 26, 27, and 28 in Township 06 north, Range 15 east, as shown on map on Attachment # 5.

XI. Attachments

- 1) General Permit Area Maps
- 2) Letter from WA DNR assessing forest condition within permit area
- 3) Letter from U.S. Fish Wildlife Service assessing forest condition within permit area
- 4) Summary of harvest prescriptions
- 5) Permit Area and Prescription Map

ATTACHMENT # 1: General Permit Area Maps



ATTACHMENT # 2: Letter From DNR

WASHINGTON STATE DEPARTMENT OF

Natural Resources

JENNIFER M. BELCHER
Commissioner of Public Lands

November 4, 1999

Eric Keller
 Boise Cascade
 PO Box 106
 Goldendale, WA 98620

Dear Eric:

On October 26, we visited Boise Cascade Land on T6N R15E Sec. 27. In order to assist you in devising appropriate management strategies, you wanted to discuss and receive my opinion on whether and how soon some of the trees were likely to die. My opinion follows.

The forest is mostly mature Douglas-fir and ponderosa pine. Managed portions have very little understory. Dense portions are nesting habitat for northern spotted owls. This area has been heavily impacted by several years of western spruce budworm defoliation and was treated with an aerial application of B.t.k. in 1998.

Pine: The ponderosa pine (about half the dominant and co-dominant trees we observed) is not affected by western spruce budworm and will not die. In fact, many of the ponderosa pine will likely release and grow vigorously following further weakening, death, or removal of the fir.

Dead trees: Some of the Douglas-fir are dead now. There are understory trees in the dense areas which have died due to competition and effects of the budworm. They have no influence on the surrounding stand.

Approximately 6 trees were observed in the managed portions of the stand that are infested with Douglas-fir bark beetle (*Dendroctonus pseudotsugae*, DFBB). Crowns appear yellow and thin, but foliage is still green. Reddish boring dust is visible in bark crevices. These trees are dead. They were killed when the beetles attacked them in spring of 1999. It would be desirable to seek out and remove such DFBB infested trees prior to April, 2000. If forestry operations are delayed beyond April 2000, then beetles will have left these trees and this cohort of 1999-infested trees will no longer present a risk to the stand. In fact, DFBB-killed trees can make excellent snags. They have sound roots, contain insects and are being softened by decay fungi. Depending on tree size and the ultimate use of the trees, DFBB-killed trees can also be marketable for several years after tree death. Sapwood degradation is the first limiting factor, occurring within about 1 yr + following tree death.

After April, 2000 the DFBB will likely be infesting other local Douglas-fir trees. The stand should be examined for signs of boring dust on green trees the season of timber removal. Currently infested trees should be removed. Dead, previously infested trees with red or fallen foliage, can be retained or removed based on other management objectives.

Severely injured trees: Some of the Douglas-fir (about half of the co-dominant Douglas-fir trees we observed, so about one quarter of the total trees) have been seriously injured. They have topkill and do not seem to have responded resiliently to the spray treatment. If budworm pressure remains high in the area, and especially drought occurs, these trees are likely to die within 2 years. Check data from area pheromone traps to estimate budworm pressure. If more than 40 moths were caught per trap in the vicinity, expect heavy budworm pressure. These trees would be a risky investment for additional spraying. They are already severely damaged. They might be kept alive, but are unlikely to grow or recover from their injuries. Some could make excellent wildlife trees due to the platform structures which develop on top-killed trees.

RESOURCE PROTECTION 1 1 1 1 WASHINGTON ST SE 1 PO BOX 47037 1 OLYMPIA, WA 98504-7037
 FAX: (360) 902-1757 1 TTY: (360) 902-1125 1 TEL: (360) 902-1300
 Equal Opportunity/Affirmative Action Employer

RECYCLED PAPER C)

Some of these injured trees are likely to fall victim to DFBB. Weakened trees are quite susceptible and fairly easy targets for beetles.

Recovering trees: Some of the Douglas-fir (about half of the dominant and co-dominant Douglas-fir trees we observed,

so about one quarter of the total trees) have responded nicely to the spray treatment. They have good color, shoot elongation and current year foliage density. Even if budworm pressure remains high, they have been given a break from its effects for a couple of years. Without further treatment, with high budworm pressure, I expect that it would take 2-3 years to have them back in the same condition as they were prior to the spray treatment. Topkill could result. Death would be likely in approximately 4 to 6 years.

Some of these trees are likely to fall victim to high populations of DFBB. Although they are not as easy for DFBB to kill as weaker trees would be, they are desirable targets for the beetles due to their size and phloem thickness.

There are not good predictive models about the behavior of Douglas-fir beetles in stands which have experienced defoliation. Beetles can certainly be expected to cause significant mortality throughout the area of the budworm infestation for several years, even close to a decade, but their activity level -on any specific section is not easily predicted. Please evaluate your time frame for Douglas-fir timber removal and the assets which continue to be threatened by bark beetles. These assets could be temporarily protected by an application of MCH.

MCH is synthetic DFBB anti-aggregant pheromone. It costs about \$75 per acre for the product (bubble caps which are stapled to trees) and more to deploy them. They have been successful at protecting discreet stands from DFBB attack. It doesn't kill the beetles, they just do not attack as many trees in the protected stands. In my experience MCH remains effective at reducing beetle attack for two years.

I hope these comments are helpful to you as you consider your management options and constraints for this stand. It is an excellent candidate for conversion to pine. The challenge will be efficiently capturing the value of the Douglas-fir as you do so. Please contact me if you have further questions or desire clarification on any of the topics I mention in this letter.

Sincerely,

Karen Ripley
Forest Entomologist

(360) 902-1691
karen.ripley@wadnr.gov

copy: Reading file

ATTACHMENT # 3: Letter From USFWS

**United States Department of the Interior
FISH AND WILDLIFE SERVICE**

**North Pacific Coast Ecoregion
Western Washington Office
5 1 0 Desmond Drive SE, Suite 102
Lacey, Washington 98501
Phone: (360) 753-9440 Fax: (360) 753-9008**

March 08, 2000

Eric Keller
Boise Cascade
PO Box 106
Goldendale, WA 98620

Dear Mr. Keller:

The U.S. Fish and Wildlife Service (Service) received your request for technical assistance on Boise Cascade's plan to harvest timber in the vicinity of owl site 459, located in T6N, R1 5E, Section 27 on November 22, 1999. In addition, we received from you a copy of the approved Forestry Practices Application (FPA#2701039) submitted by Boise Cascade Corporation to Washington Department of Natural Resources (WDNR) and an expert witness letter from Karen Ripley, Entomologist with the WDNR. Additional information and maps clarifying the size and the spatial distribution of the forested area to be retained around the owl nest were provided by you and received in our office on December 6, 1999.

In response to Boise Cascade's request for guidance on harvest plans for this unit, the Service made a query of our database to provide us with a complete picture of the Federally listed Threatened and Endangered species that may inhabit the forests and streams within the vicinity of the proposed harvest. We found that a northern spotted owl site center with nesting status is located in the vicinity of the project and that bull trout and steelhead are likely to be found in the vicinity of the project. Notice of the bull trout's potential presence in the area was also indicated on the completed FPA that Boise Cascade had received from the WDNR. Our database query also indicated that northern goshawk, a Federal species of concern is present in the vicinity of the project.

Boise Cascade is concerned with the economic loss to these forests from the decline and mortality to Douglas-fir and grand fir, brought on by spruce budworm, and subsequent infestation of the stand by Douglas-fir bark beetles that have killed Douglas-fir, as well. On July 27, 1999, Ted Thomas, of this office toured this forest stand in the company of representatives from Boise Cascade, including, Jeffery Jones, former Chief Unit Forester; Eric Keller, District Forester; Gary Roloff, Wildlife Management Specialist; and Marla Bieker, District Forester. During the site visit, the group walked a portion of the stand so that Ted could assess the stand's condition relative to the amount and distribution of the forest decline, and mortality of trees.

The stand is situated in the ponderosa pine zone and, in the absence of disturbance (suppression of fire), the stand has transitioned to a grand fir habitat type. Douglas-fir is a major tree component of this habitat type. The majority of the decline and mortality is evident in the intermediate and suppressed-size trees, which are primarily Douglas-fir and grand fir. However, many larger, codominant Douglas-fir are also being defoliated by the spruce budworm. Ted's observation was that all intermediate size and smaller Douglas-fir were dead. In addition, grand fir in the understory was dead or severely infected. Although they are less prominent, the few large, co-dominant grand fir that were observed were also dead, or in advanced stages of decline.

Ponderosa pine, a seral, dominant species within this landscape, is resistant to spruce budworm attack, and not affected by the Douglas-fir bark beetle. Ponderosa pine within the stand are healthy and should be retained. This assessment is consistent with Karen Ripley's analysis of the outbreak and the stand conditions. Many of the largest (dominant) Douglas-fir in the stand also appear to be unaffected by spruce budworm and are currently exhibiting resistance to the outbreak. Both the large diameter, dominant ponderosa pine and Douglas-fir that show signs of resistance to the spruce budworm infestation should be retained as leave trees to meet the requirements of the Forestry Practices Rules and Regulations (WAC 222-30-020(I 1)).

Karen Ripley (pers. comm. December 8, 1999) indicated that she observed a few Douglas-fir that had been infested with Douglas-fir bark beetles. She observed 6 trees that were dead and recommended that these trees be harvested prior to April, 2000, when the beetles would be expected to emerge and taken flight to neighboring Douglas-fir within the stand. Ms. Ripley recommended that if harvesting of these trees was delayed beyond April 2000, there would be no need to remove the bark-beetle infested trees for sanitation purposes and these trees would be good candidates for retention as wildlife trees. We agree that any beetle-killed Douglas-fir should be retained.

We appreciate Boise Cascade's willingness to seek technical assistance from our staff. We feel this stand is well suited for conversion to historic conditions with large ponderosa pine and to a lesser degree, large Douglas-fir as the dominant trees in the stand. The ponderosa pine are the legacy trees of historic stands within this region and all large trees should be retained; plus the retention of wellspaced Douglas-fir would also add structural and species diversity to this stand. In light of the presence of Douglas-fir bark beetles in the stand, we believe that the composition of Douglas-fir should not exceed 20 percent of the overstory density. The Forestry Practices Application indicates that Boise Cascade will plant ponderosa pine onto the site; therefore, your intent must be to move the succession of the site towards historical conditions that were typified by uneven-aged stands. From an ecosystem perspective, we support this management scenario and encourage the use of prescribed fire to maintain an open, parkland condition in this ponderosa pine forests.

It is clear that the stand is deteriorating. Many trees have died while other trees are declining based on the thinning foliage on many tree crowns. Some trees have completely dead tops. However, regardless of the loss of trees to spruce budworm and the overall decline in forest leaf area and canopy cover, the owl pair produced one offspring in 1999. This is evidence that structural conditions are currently suitable as nesting habitat. The owl's requirements for nesting, roosting, and foraging are currently being met in this stand, and therefore, there is a risk of take of this owl pair should the stand be harvested.

We recommend that Boise Cascade consider developing a Habitat Conservation Plan (HCP) to obtain an Incidental Take Permit (section I 0(a)(1)(B) permit) that would cover potential incidental take of the threatened northern spotted owl, bull trout and steelhead that are likely to be found in the vicinity of Boise Cascade's 84,000 acre ownership. An HCP could also include consideration of the northern goshawk (a Federal species of concern), and the western gray squirrel a (Federal species of concern and a species listed as threatened by the state of Washington). The western gray squirrel is present in the western portion of this forest block where Oregon white oak are present. The bottom line is harvesting of this stand will render this forest patch unsuitable as habitat for the threatened northern spotted owl, so development of an HCP by Boise Cascade should be given serious consideration.

However, in view of the insect outbreak within this forest stand, and the need to remove impacted trees to maintain a legacy of owl habitat Boise Cascade may want to apply for a section I 0(a)(1)(A) Recovery Permit to authorize incidental take of spotted owls and bull trout. If prompt action is not taken to reduce the loss of trees from this outbreak, the owl pair residing in this stand may lose additional habitat from further outbreaks by insects or from fire.

I have enclosed applications for both HCP and Recovery Permits for your consideration. If you have any questions pertaining to the applications or the process for obtaining either permit, please contact us.

We appreciate your interest in Federally listed species and your commitment to stewardship as indicated by your request for technical assistance. If you should have further questions, please call Ted Thomas, at (360) 753-4327, Joe Zisa, at (360) 753-7766 or Jim Michaels, at (360) 753-7767.

Sincerely,

Gerry A. Jackson, Manager
Western Washington Office

tbt/sp

Enclosures

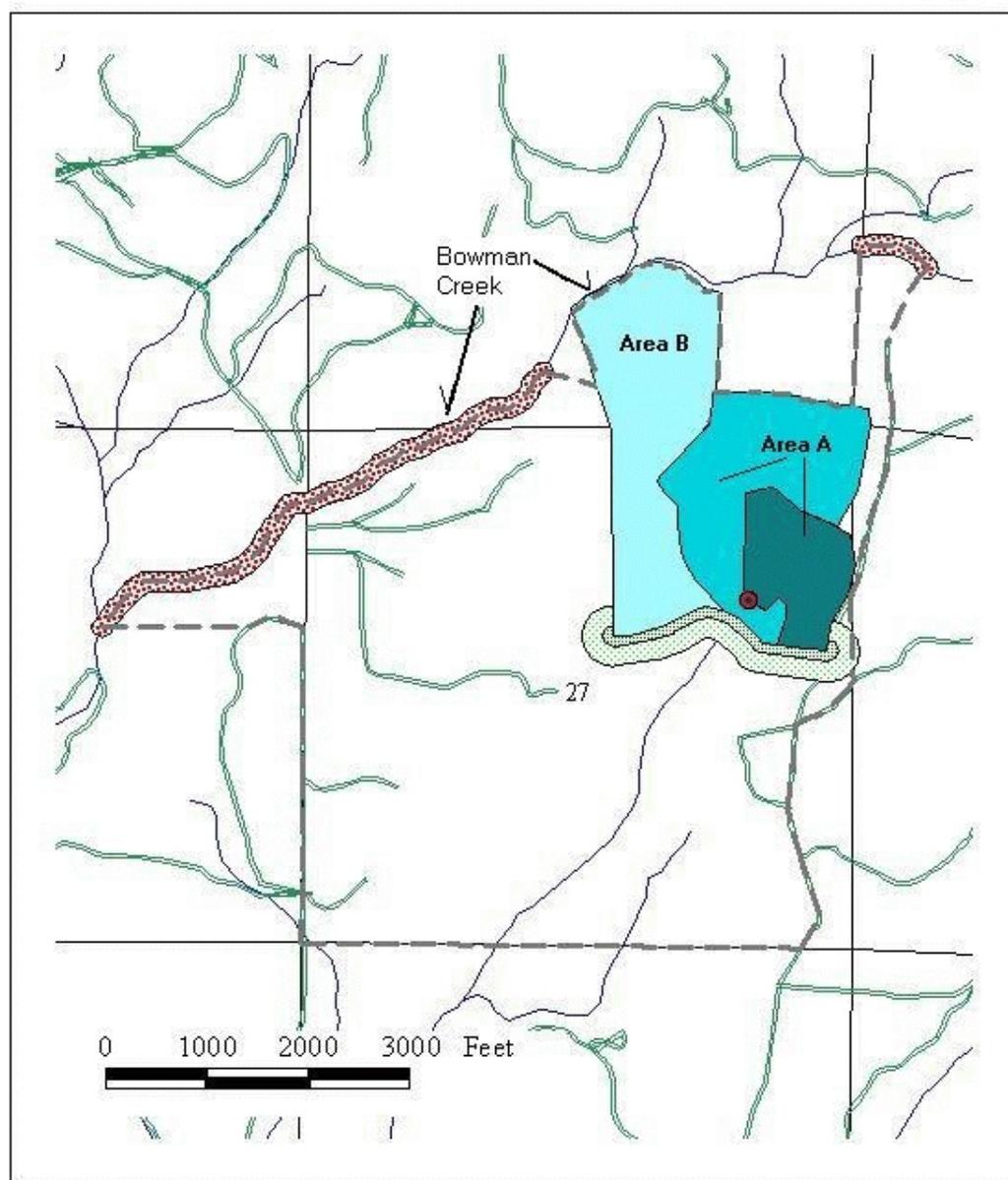
cc: DOI-SOL, Portland (R. Swan)
WDNR, Olympia (K. Ripley)
Dr. Jon Haufler, Chief Corporate Biologist, Boise Cascades, Boise, ID
Dr. Gary Roloff, Wildlife Management Specialist, Boise Cascades Corp., Lansing, MI

ATTACHMENT # 4: HCP Prescription Summary

Prescription Name	Boise Cascade Activity ^a	Acres	Current Structure ^b	Resulting Structure ^b
Owl Habitat	None	86	Pine and fir forest (222 Tpa) Decadent Douglas-fir as a result of insects.	Pine and fir forest (222 Tpa) Decadent Douglas-fir as a result of insects.
No Harvest Area	None	75	Pine and fir forest (222 Tpa) with a tendency towards pine. Douglas-fir infected with budworm and bark beetle.	Pine and fir forest (222 Tpa) with a tendency towards pine. Douglas-fir infected with budworm and bark beetle.
100' Limited Entry	Option to remove infected Douglas-fir but marking emphasizes habitat retention.	11	Pine and fir forest (134 Tpa). Decadent Douglas-fir as a result of insects.	Pine and fir forest (98 Tpa) with fewer infected Douglas-fir.
200' Feather Harvest	Remove a greater proportion of infected Douglas-fir and some pine but at a reduced level as compared to general harvest area.	22	Pine and fir forest (134 Tpa). Decadent Douglas-fir as a result of insects.	Pine dominated forest (75 Tpa) with few (10-20 Tpa) interspersed Douglas-fir.
General Harvest	Remove Douglas-fir and pine in accordance with commercial harvest guidelines.	426	Pine and fir forest (134 Tpa).	Pine dominated forest (75 Tpa) with few (2-3 Tpa) interspersed Douglas-fir

^aPrescription names follow map #2.

^bCurrent conditions estimated from walk-through assessments and future conditions estimated from prescription.



Legend

- | | | | |
|---|--|---|------------------------------------|
|  | HCP Boundary |  | 100' Limited Entry Road Buffer |
|  | Spotted Owl Nest Location (1997) |  | 200' Feather Harvest Road Buffer |
|  | Owl Habitat - Young Forest Marginal Closed |  | 100' No Entry Type I Stream Buffer |
|  | Owl Habitat - Young Forest Marginal Open |  | Roads |
|  | Non-habitat No Harvest Zone |  | Water |

