



# COMPLAINT INVESTIGATION

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## Managing Whitebark Pine in BC's High-elevation Forests

FEBRUARY 2025

FPB/IRC/255



**Forest  
Practices  
Board**

BC'S INDEPENDENT  
WATCHDOG FOR  
SOUND FOREST &  
RANGE PRACTICES

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# Board Commentary

The Board investigated a complaint asserting that Interfor Corporation (Interfor) did not properly manage whitebark pine when it harvested a cutblock in a subalpine forest north of Grand Forks and that it disturbed soil and damaged the environment when it prepared the site for planting.

Whitebark pine is an important tree in the subalpine forests of western Canada that has been in decline and continues to face threats from rust, insects, forest species changes, climate change and logging. The BC government designated whitebark pine as a blue-listed species, which does not provide legal protection but indicates that the tree is of special conservation concern.

The Board found that Interfor provided special management for whitebark pine when it logged the cutblock. It retained whitebark pine trees, avoided scarring them and protected the natural seed bank in the soil around the trees. In addition, Interfor planted whitebark pine seedlings on about 14 percent of the cutblock, and the Board acknowledges this extra expense to maintain whitebark pine on the site in the future.

The Board also found that Interfor did not damage the environment when it mounded the cutblock to prepare the site before planting. Mounding is a deliberate soil disturbance intended to create favourable growing conditions for planted seedlings.

In January 2023, 11 months after Interfor harvested the cutblock, government issued new guidelines<sup>1</sup> for retaining whitebark pine during logging operations. The guidelines provide up-to-date best practices for managing whitebark pine. The Board encourages licensees to consult this resource when preparing and implementing their plans in areas with whitebark pine.

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<sup>1</sup> Ministry of Forests. 2023. [Retain Whitebark Pine - Guidelines for Harvest Practitioners](#); [last accessed on December 17, 2024].

# Introduction

## The Complaint

In September 2023, a Grand Forks resident complained to the Forest Practices Board (the Board) that Interfor Corporation (Interfor) failed to protect whitebark pine, a species of special concern, when it harvested cutblock 508-9 in the Paturages Creek Watershed north of Greenwood.

The complainant believes that:

- Interfor did not provide special management for whitebark pine when it harvested cutblock 508-09, despite committing to do so in its forest stewardship plan (FSP).
- Interfor disturbed the soil and damaged the environment when it prepared cutblock 508-09 for planting.

For relief, the complainant wants Interfor to refrain from logging cutblock 508-16, which includes whitebark pine, provide them with the site plans for the cutblocks of cutting permit 508, and understand how Interfor made decisions to protect whitebark pine.

## Background

### Setting

Interfor's cutblock 508-09 lies 60 kilometres north of Greenwood in the Paturages Creek Watershed (Figure 1). The Paturages Creek Watershed is part of the larger Kettle River Watershed. The cutblock is in a high-elevation forest about 2000 metres above sea level. Interfor developed the cutblock under its forest licence A18969. The prescribing forest professional signed the site plan in September 2021, and Interfor logged the cutblock between October 2021 and February 2022. Interfor completed the piling and mounding in August 2023 and planted the cutblock the following month.

The cutblock lies within the territories of the Lower Similkameen Indian Band, the Okanagan Indian Band, the Osoyoos Indian Band, the Penticton Indian Band, the Splitsin First Nation and the Upper Nicola Band. The Board recognizes the importance of these First Nations' historical relationship with the land that continues today.

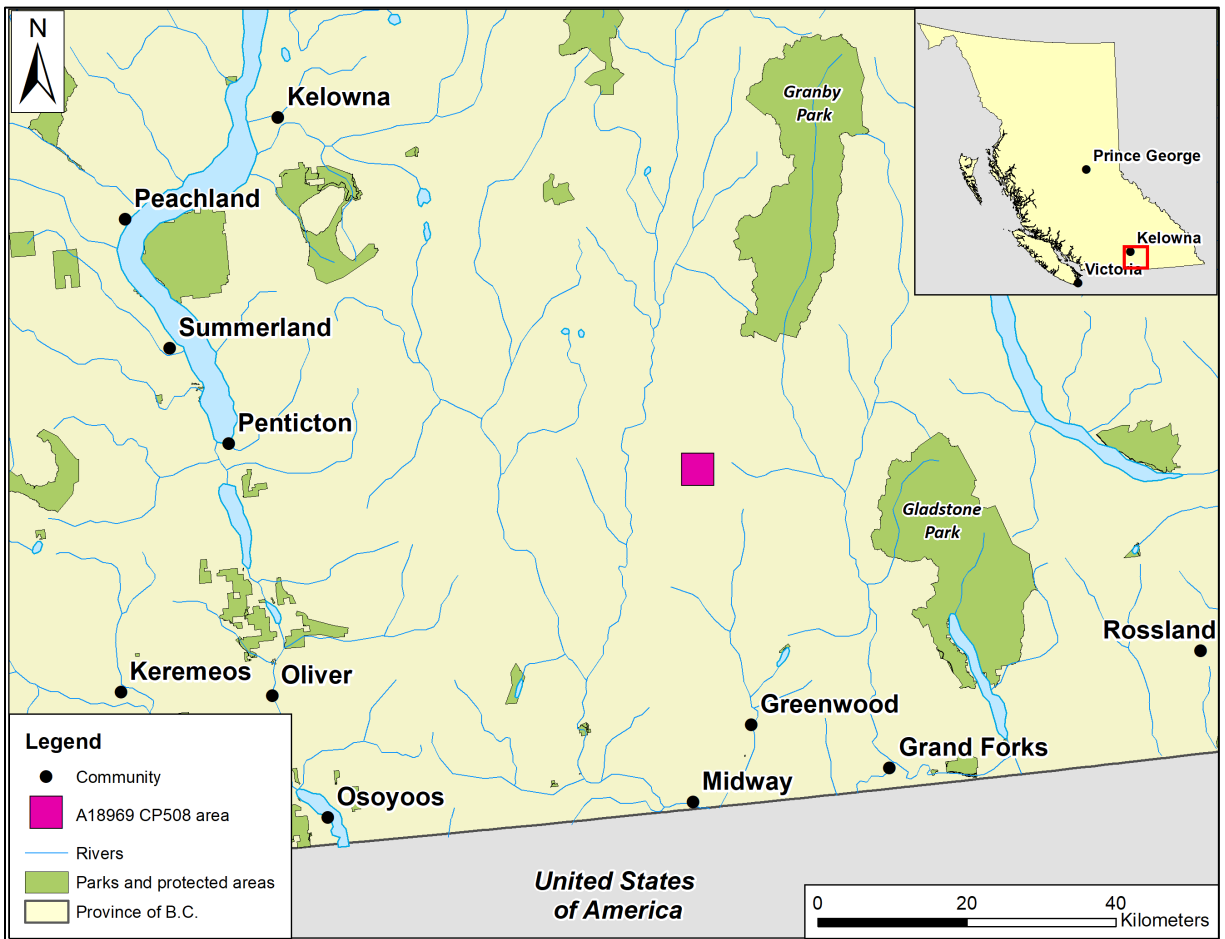


Figure 1. The general location of cutting permit 508-09.

### Whitebark Pine (*Pinus albicaulis*)

The cutblock falls within the Engelmann Spruce-Subalpine Fir (ESSF) biogeoclimatic zone.<sup>i</sup> This zone covers about 14.5 million hectares, or 15 percent, of the province. Engelmann spruce, subalpine fir, lodgepole pine and whitebark pine grow in the zone.

In 2012, whitebark pine became the first tree in western Canada listed as endangered under the federal *Species at Risk Act* (SARA).<sup>ii</sup> This means that whitebark pine faces imminent extirpation<sup>2</sup> in Canada or extinction<sup>3</sup> if the factors contributing to its decline are not reversed. In 2013, the provincial government designated whitebark pine as a blue-listed<sup>4</sup> species. This status does not provide legal protection but does indicate whitebark pine is of special conservation concern. Forest managers can help conserve blue-listed species.

<sup>2</sup> Extirpation refers to the local extinction of a species in a specific geographical area or region. It means that a species no longer exists in the wild in that particular area but may still exist elsewhere in its native range or globally.

<sup>3</sup> Extinction refers to the complete disappearance of a species from Earth. It means that there are no surviving individuals of that species anywhere in the world.

<sup>4</sup> The [BC Blue List](#) includes any native species or ecological community considered to be of Special Concern (formerly Vulnerable) in British Columbia. Species or ecological communities of Special Concern have characteristics that make them particularly sensitive or vulnerable to human activities or natural events. Blue-listed species or ecological communities are at risk, but are not Extirpated, Endangered or Threatened.

Whitebark pine faces threats from rust<sup>5</sup>, insects<sup>6</sup>, changes in forest composition<sup>7</sup>, climate change and logging. Over the years, government and non-government organizations have developed best management practices to aid whitebark pine recovery. BC's chief forester issued guidelines for retaining whitebark pine during logging operations in January 2023. Interfor finished logging in cutblock 508-09 eleven months before the publication date of the guidelines.

### Site Preparation Before Planting

Site preparation involves preparing a cutblock so newly planted trees can survive and thrive. This might mean changing the vegetation or slash left on-site after logging, the soil, or the microsite conditions. Site preparation may involve mechanical or manual clearing of slash, soil manipulation, prescribed burning, the application of herbicides or a combination of those methods.

This investigation focuses on mounding (Figure 2) and slash piling, performed by an excavator on cutblock 508-09. The slash piling focused on removing accumulations of large woody debris from around the base of residual whitebark pine trees in cutblock 508-09.

Mounding changes soil conditions to create a favourable growing site for seedlings. It is a planned soil manipulation aimed at creating raised planting spots. The seedlings planted on the mound benefit from increased soil temperature and loose, well-draining mineral soil. The mounds also give the seedlings an advantage over competing vegetation for some time.

Forest professionals sometimes prescribe mounding in cold, moist climates like the ESSF zone. On average, about seven percent of the area planted in the ESSF zone was mounded at the provincial level between 2003 and 2023.



**Figure 2.** Mounds with recently planted seedlings in the southern part of cutblock 508-09.

<sup>5</sup> White pine blister rust (*Cronartium ribicola*).

<sup>6</sup> Mountain pine beetle (*Dendroctonus ponderosae*).

<sup>7</sup> Successional replacement by more shade-tolerant tree species is contributing to whitebark decline.

## Relevant Legislation

The complete text of the relevant legislation in force at the start of the investigation appears in Appendix 1 and is paraphrased below for convenience.

### Forest and Range Practices Act

The *Forest and Range Practices Act* (FRPA) requires licensees to prepare and obtain government approval of an FSP. An FSP must specify results or strategies to achieve legally established objectives relevant to the area under the plan. Forest practices, including timber harvesting, silviculture and road building, must be consistent with these results or strategies.

#### *Section 21 (1) – Compliance with plans<sup>8</sup>*

The holder of an FSP must ensure that the intended results specified in the plan are achieved and that the strategies described in the plan are carried out.

#### *Section 46 (1) – Protection of the environment*

A person must not engage in a forest practice, range practice or another activity that damages the environment. The exception is when the person acts according to a plan, authorization or permit under FRPA or another Act. Another exception is if they do not know and cannot reasonably have known that their actions might cause damage to the environment due to weather conditions or site factors.

### Forest Planning and Practices Regulation

#### *Section 1 - Definitions*

**Silviculture treatment** includes, among others, site preparation for the purposes of reforestation.

**Soil disturbance** is a disturbance to the soil in the net area to be reforested in a cutblock because of temporary access structures; gouges, ruts and scalps; or compacted areas, but does not include the effect on the soil of rehabilitating an area in accordance with section 35.

**Species at risk** means a species identified within a category established under the *Government Actions Regulation*.

#### *Section 3 - Damage to the environment*

Damage includes, among others, soil disturbance and changes to soil that adversely alter an ecosystem.

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<sup>8</sup> The relevant current is [section 20.22\(1\) of FRPA](#). Section 21(1) applied at the relevant time to this complaint.

# Investigation Findings

The investigation considered two questions:

- 1. Did Interfor comply with section 21(1) of FRPA for managing whitebark pine when it planned and logged cutblock 508-09?
- 2. Did Interfor comply with section 46(1) of FRPA when it mounded cutblock 508-09 as part of site preparation?

## Did Interfor comply with section 21(1) of FRPA for managing whitebark pine when it planned and logged cutblock 508-09?

### Interfor's Forest Stewardship Plan

Interfor's FSP #658<sup>iii</sup> specifies results and strategies concerning various government objectives. In its FSP, Interfor specified a strategy to provide special management for species at risk. However, Interfor did not specify a result or strategy regarding activities around whitebark pine. Additionally, Interfor did not specify the term "special management" in its FSP, nor did it adopt an alternative definition of "species at risk" from that in section 1 of the *Forest Planning and Practices Regulation* (FPPR) or address the implications of either of these terms. The box below shows the FSP wording.

FRPA and its regulations do not define the term "special management," despite the *Government Action Regulation* (GAR)<sup>iv</sup> referring to it 11 times concerning resource values. In the context of at-risk species, "special management" refers to targeted measures aimed at addressing their unique needs.

Since Interfor did not define "special management" in its FSP, the Board created a working definition for this investigation based on the dictionary meanings of the words "special"<sup>v</sup> and "management"<sup>vi</sup>:

**Special management** involves unique handling of specific situations or resources, often requiring customized approaches. For example, it may include taking specific measures to manage endangered species, sensitive habitats or other critical resources in forestry.

**5.1.2.4 Species at Risk**

Species at risk, for which the license holder will provide special management, are for the most part limited to vertebrate species designated as Red or Blue by the Ministry of Environment, or as Endangered, Threatened or Special Concern (listed on Species at Risk Public Registry schedule 1) by the Committee on the Status of Endangered Wildlife in Canada. ...



## Planning

During planning, Interfor identified whitebark pine in the area that became cutblock 508-09. The site plan states that the cutting permit "falls within identified critical habitat of endangered tree species *Pinus albicaulis*." Board investigators reviewed relevant documents and visited cutblock 508-09 (Figure 3) in October 2023. Interfor had completed harvesting, mounding and planting activities by that time.

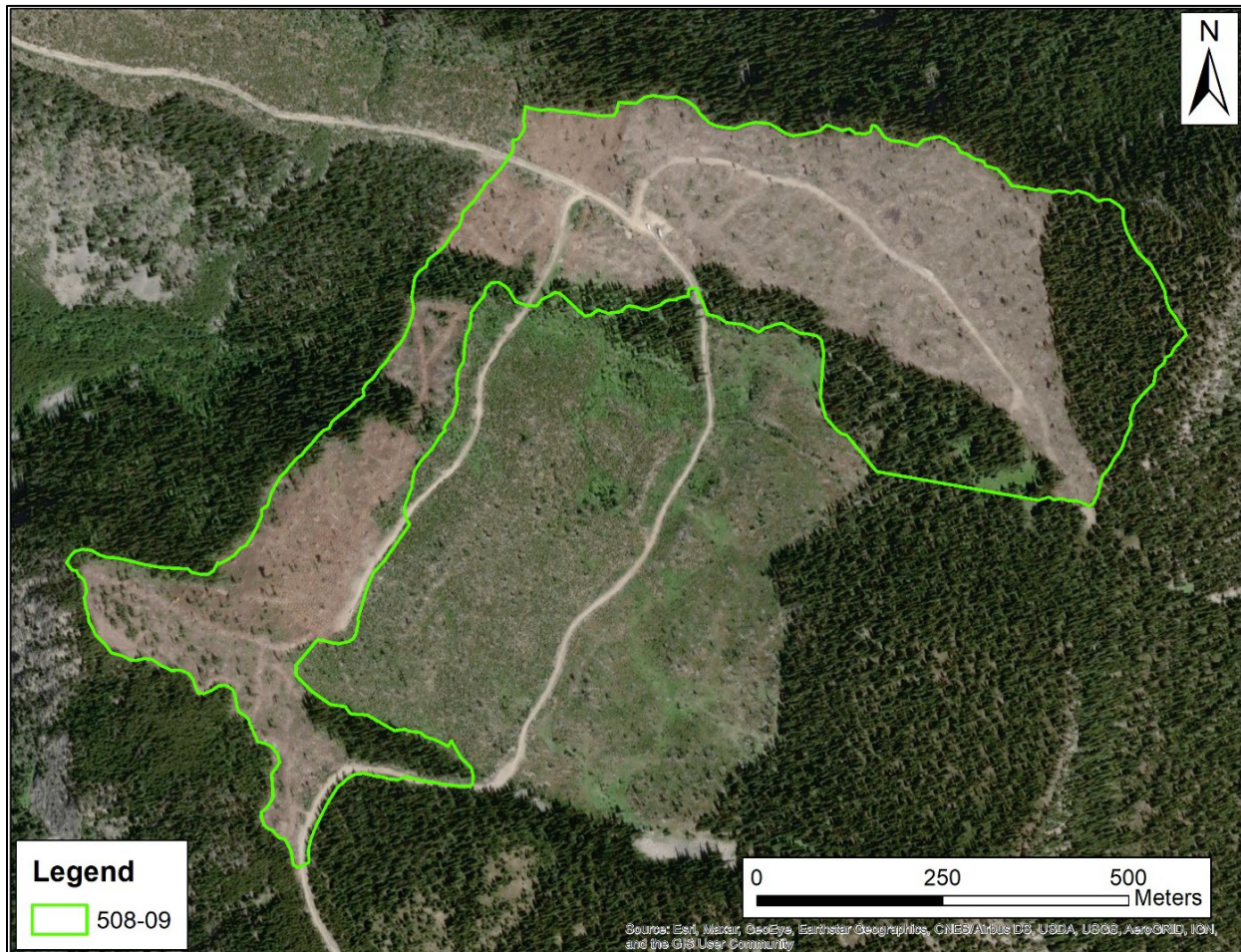


Figure 3. Satellite image of cutblock 508-09 taken on August 1, 2023.

Interfor said the forest professional preparing the site plan developed measures for protecting whitebark pine by consulting the proposed 2017 Recovery Strategy for Whitebark Pine in Canada<sup>vii</sup> (proposed recovery strategy) for guidance. Table 1 in Appendix 2 shows how the site plan measures relate to sections in the proposed recovery strategy. For example, the site plan prescribes measures for retaining all live whitebark pine trees. Interfor marked whitebark pine retention trees with paint to guide machine operators. However, Interfor allowed "up to ten percent of targeted leave trees [to] be felled for safety or operational reasons." Interfor's site plan also included instructions to "Avoid scarring leave trees. Scarred leave trees should not exceed 10% of retained stems."

During logging and the post-harvest site preparation, Interfor and its logging and site preparation contractors worked to follow the site plan measures to protect whitebark pine. Investigators compared the site plan measures against what they observed in the field. Their comparison focused on whitebark pine retention, minimizing soil disturbance and scarring of leave trees.

*1. The site plan prescribes retaining whitebark pine trees.*

Investigators found that Interfor retained many whitebark pines. However, Interfor did not record the number of trees it had identified before or after logging. As a result, investigators could not determine if the company had retained all live whitebark pine trees within the allowable limit for cutting trees due to safety and operational reasons.

*2. The site plan specifies avoiding disturbance of the natural whitebark pine seed bank.*

Investigators found that Interfor's site preparation involved soil manipulation as planned, with no mounding within a 1.5-metre perimeter around the trunk of most whitebark pine trees. However, they could not determine how this manipulation would affect the natural whitebark pine seed bank. Soil manipulation may impact the seed bank depending on factors like depth, intensity, the size and viability of the seed bank, and the species' germination requirements.

Interfor intended to plant whitebark pine seedlings in cutblock 508-09 as part of its silvicultural treatment. They acquired these seedlings before developing the post-harvest treatment plan, which influenced their decision to implement mounding. The company believed that planting presumed blister-rust-resistant seedlings would be more effective than relying on the uncertain natural seed bank. The mounding was designed to create suitable microsites for whitebark pine and other species. Interfor planted approximately 5200 whitebark pine seedlings, about 14 percent of all seedlings planted in the cutblock.

*3. The site plan prescribes avoiding scarring of leave trees.*

Investigators found some scarring on standing whitebark pine trees. However, the scarring appeared to be within the 10 percent allowance. Interfor planned and took specific measures to manage whitebark pine before, during and after logging.

In summary, the company provided special management for whitebark pine. The forest professional preparing the site plan consulted the proposed recovery strategy to develop specific measures for the species. Three measures for whitebark pine in Interfor's site plan link to strategies outlined in the recovery strategy. Interfor followed its FSP by implementing special management practices for whitebark pine in the cutblock.

## Finding

Interfor complied with section 21(1) of FRPA for managing whitebark pine when it planned and logged cutblock 508-09.

## Did Interfor comply with section 46(1) of FRPA when it mounded cutblock 508-09 as part of the silvicultural site preparation?

Section 46(1) of FRPA prohibits a person from engaging in a forest or range practice or another activity that damages the environment. The investigation considered whether the mounds and associated holes constituted damage to the environment, meaning they resulted in soil disturbance or soil changes that adversely altered the ecosystem. Mounding is a deliberate soil manipulation that changes the arrangement of the soil.

After logging was completed on cutblock 508-09, Interfor instructed the site preparation contractor to pull slash away from whitebark pine leave trees and pile slash to mitigate the risk of those trees burning in the event of a wildfire. Additionally, Interfor instructed the contractor to mound about 22 of the 31 hectares, or 70 percent of the block's net area to reforest. The mounding treatment aimed to create favourable growing conditions for the seedlings to be planted in the cutblock.

Interfor provided the site preparation contractor with a pre-work document emphasizing the importance of protecting whitebark pine leave trees and their regeneration. Interfor did not give the contractor site-specific instructions for mounding cutblock 508-09. The company used a standard approach for cutblocks to be mounded. The standard specification relates to Interfor's "target density of 1200 trees per hectare with a spacing of 3.1 meters and a mound height immediately after treatment of approximately 0.5 meters above ground level."

Interfor holds forest license A18969, allowing it to conduct treatments to fulfill its obligations. The company was authorized to perform site preparation on cutblock 508-09, with mounding being part of establishing a free-growing stand after harvesting. While its FSP specifies stocking requirements, it does not mention site preparation or mounding. Therefore, Interfor was not required to follow a specific plan for mounding on cutblock 508-09.

During the site visit, investigators observed that the mounds and associated holes were larger than what would have occurred with smaller equipment. Interfor stated that the company does not generally specify the excavator bucket size for mounding. Interfor explained that the contractor's excavator was equipped with a 1.12-metre-wide bucket used for piling slash while simultaneously mounding most of the cutblock area. Interfor said its contractor would use a 0.76-metre-wide mounding rake when conducting solely a mounding treatment.

Interfor agreed that using a large bucket to mound along with slash piling resulted in larger mounds and associated holes than if the mounding had been conducted with a smaller bucket on a mounding-only pass. Interfor believed that a larger bucket improved operator control when handling and piling slash, thereby reducing the risk of damaging the whitebark pine leave trees during the mounding and piling processes.

According to the commonly accepted guide *Fundamentals of Mechanical Site Preparation* (the guide),<sup>viii</sup> mounds should not exceed 20 to 30 centimetres in total height after settling. However, the Board's site visit occurred only a few weeks after the mounding treatment

was completed. Therefore, the Board's observations were made before the settling typically occurs over the following one to two winter seasons.

Mounds must be wide enough to control competing vegetation. The guide states that site preparation should consider the working guideline "as much as necessary but as little as possible." Interfor explained that the site preparation contractor used a wider bucket to reduce the risk of damaging retained whitebark pine trees during slash piling.

Site preparation is a planned soil manipulation, sometimes called planned soil disturbance. It can help create a favourable growing area for seedlings where they would otherwise face unfavourable site conditions. Properly performed site preparation strikes a balance between effectively addressing limiting site factors and avoiding excessive soil disturbance or degradation. Using the right equipment for the job and considering the required tasks and desired outcomes are essential in striking that balance.

The investigation assessed whether Interfor's site preparation met the FRPA definition of damage to the environment. The site preparation did not adversely alter the ecosystem and thus did not damage the environment.

### Finding

Interfor complied with section 46(1) of FRPA when it mounded cutblock 508-09 as part of site preparation.

## Conclusions

This investigation addressed a complaint regarding a high-elevation cutblock with whitebark pine that Interfor logged during the fall and winter of 2021/ 2022. The investigation examined the complainant's claim that Interfor failed to implement special management practices for whitebark pine when planning and harvesting cutblock 508-09, despite committing to do so in its FSP. Additionally, the complainant alleged that the company disturbed the soil and damaged the environment while preparing cutblock 508-09 for planting.

The Board determined that the company followed its FSP by planning and implementing special management practices for whitebark pine in cutblock 508-09. Interfor adopted several practices from a whitebark pine recovery strategy, including retaining whitebark pine trees, avoiding scarring them and preserving the natural whitebark pine seed bank.

Furthermore, the Board found that Interfor's site preparation did not adversely alter the ecosystem. While mounding is a form of intentional soil disturbance that changes the soil, the Board found that it did not damage the environment.

# Appendix 1: Legislation<sup>ix</sup>

## Forest and Range Practices Act

### Compliance with plans

21 (1) The holder of a forest stewardship plan or a woodlot licence plan must ensure that the intended results specified in the plan are achieved and the strategies described in the plan are carried out.

### Protection of the environment

46 (1) A person must not carry out a forest practice, a range practice or another activity that results in damage to the environment, unless in doing so

(a) the person

(i) is acting in accordance with a plan, authorization or permit under this Act,

(ii) is not required to hold a plan or permit because of an exemption under this Act and is acting in accordance with this Act, the regulations and the standards, or ...

(iv) is acting in accordance with another enactment, and

(b) the person does not know and cannot reasonably be expected to know that, because of weather conditions or site factors, the carrying out of the forest practice, range practice or other activity may result, directly or indirectly, in damage specified by regulation.

## Forest Planning and Practices Regulation

### Definitions

1 (1) In this regulation:

**"silviculture treatment"** includes

(a) site preparation for the purposes of reforestation,

(b) planting trees,

**"soil disturbance"** means disturbance to the soil in the net area to be reforested in a cutblock because of

(a) temporary access structures,

(b) gouges, ruts and scalps, or

(c) compacted areas,

but does not include the effect on the soil of rehabilitating an area in accordance with section 35;

**"species at risk"** means a species identified within a category established under the Government Actions Regulation;

### **Damage to the environment**

3 (1) For the purpose of section 46 (1) and (1.1) [protection of the environment] of the Act, "damage" means any of the following that adversely alters an ecosystem: ...

(d) soil disturbance; ...

(g) changes to soil;

### **Objectives set by government for soils**

5 The objective set by government for soils is to conserve the productivity and the hydrologic function of soils.

# Appendix 2: Site Plan Measures

**Table 1.** Site Plan Measures for Whitebark Pine and How They Relate to the [2017 Proposed Recovery Strategy for the Whitebark Pine in Canada](#)\*

508-09 site plan measures for whitebark pine	Related sections from the Proposed Recovery Strategy for Whitebark Pine in Canada
<p><b>D. RESULTS AND STRATEGIES</b></p> <p><b>Wildlife Objectives</b></p> <p>WHITEBARK PINE HABITAT:</p> <p>...Pa<sup>x</sup> leading stands have been excluded from the harvest area or retained in reserves.</p> <p>All incidental live Pa within the harvest area are to be retained as leave trees; live Pa &gt;17.5dbh have been painted to mark as leave trees, however some stems may have been missed during fieldwork.</p> <p>Pre-work should include operator training on Pa identification to prevent incidental take and/or damage to both marked and unmarked (&lt;17.5dbh) live Pa during harvest activities. (p.4)</p> <p><b>I. SILVICULTURE SYSTEMS</b></p> <p><b>Clear Cut With Reserves</b></p> <p>Retain all live Whitebark pine (Pa) trees. Up to 10% of targeted leave trees may be felled for safety or operational reasons. (p.8)</p>	<p><b>Appendix B</b></p> <p><b>Avoid or minimize activities likely to result in destruction</b></p> <ul style="list-style-type: none"> <li>• Development and/or conversion of lands for industry, recreation, or commerce           <ul style="list-style-type: none"> <li>- Avoid cutting Whitebark Pine trees that are not terminally infected and/or that are cone-producing...</li> <li>- Avoid machine operation within identified critical habitat that results in damage to any pre-existing Whitebark Pine trees and/or the soil layer that supports them.</li> </ul> </li> </ul>
<p><b>D. RESULTS AND STRATEGIES</b></p> <p><b>Wildlife Objectives</b></p> <p>WHITEBARK PINE HABITAT:</p> <p>Soil disturbance should be minimized to avoid disturbance of natural Pa seed bank, and equipment should be clean to prevent introduction of invasive vegetation. (p.4)</p>	<p><b>Section 3.3 Needs of Whitebark Pine</b></p> <p><b>a) Survival Needs</b></p> <p>The habitat required to support individual trees includes root area, ectomycorrhizal fungal associations, and specific soil attributes at established suitable microsites as described. Maintaining integrity of the substratum layer is important for the persistence and viability of cached seeds.</p> <p><b>Section 7.3 Activities Likely to Result in the Destruction of Critical Habitat</b></p> <p>Critical habitat for Whitebark Pine is most likely to be destroyed through a reduction in the density of cone-bearing and/or non-terminally infected</p>

	<p>Whitebark Pine comprising seed dispersal habitat, and by the removal, replacement, or damage to substrate in these habitats that comprise microsites for cached seeds or seedlings...</p> <p>Creation of trails, roads, or corridors can result in increased introduction/establishment of invasive plants, and reduced competitive success of Whitebark Pine...</p> <p>Actions may be taken to avoid destruction of critical habitat by effective burn planning and implementation, as well as by limiting soil disturbance, ensuring equipment is clean, and burning in areas with limited vehicle, foot, or horse access.</p> <p><b>Appendix B</b>  <b>Avoid or minimize activities likely to result in destruction</b></p> <ul style="list-style-type: none"> <li>• Development and/or conversion of lands for industry, recreation, or commerce <ul style="list-style-type: none"> <li>- Avoid machine operation within identified critical habitat that results in damage to any pre-existing Whitebark Pine trees and/or the soil layer that supports them...</li> <li>- Prevent introduction of alien invasive vegetation by ensuring equipment is clean.</li> </ul> </li> </ul>
<p><b>D. RESULTS AND STRATEGIES</b></p> <p><b>Biodiversity Objectives</b>  Avoid any scarring of leave trees during harvesting or site preparation operations. Scarred leave trees should not exceed 10% of retained stems and may contribute to long-term biodiversity, including but not limited to cavity nesting habitat, snag or coarse woody debris recruitment. (p.5)</p>	<p><b>Appendix B</b>  <b>Avoid or minimize activities likely to result in destruction</b></p> <ul style="list-style-type: none"> <li>• Development and/or conversion of lands for industry, recreation, or commerce <ul style="list-style-type: none"> <li>- Avoid cutting Whitebark Pine trees that are not terminally infected and/or that are cone-producing.</li> <li>- Avoid machine operation within identified critical habitat that results in damage to any pre-existing Whitebark Pine trees and/or the soil layer that supports them. ...</li> </ul> </li> <li>• Recreation and road creation <ul style="list-style-type: none"> <li>- Where activities are ongoing, protect Whitebark Pine trees that are not terminally infected and/or cone-producing to the extent possible.</li> </ul> </li> </ul>

\* Last accessed on December 16, 2024.



## ENDNOTES

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- <sup>i</sup> The [ESSF](#) is one of 14 biogeoclimatic zones in the province. The zones relate to the Biogeoclimatic Ecosystem Classification system. It uses climax vegetation communities to infer the ecological effects of climate and soil. [UBC Centre for Forest Conservation Genetics](#); [last accessed on December 16, 2024].
- <sup>ii</sup> SARA available via [Government of Canada's Justice Laws website](#); [last accessed on December 16, 2024].
- <sup>iii</sup> Forest Stewardship Plan #658, Interfor Corporation, Applicable to operations of Castlegar Woods Division and Grand Forks Woods Division in the Selkirk Natural Resource District, Arrow TSA, Boundary TSA & TFL's 3, 8 and 23, For the term of June 29, 2017, to June 28, 2022.
- <sup>iv</sup> For example, GAR stipulates that the minister responsible for the *Wildlife Act* may designate one or more categories of ecological communities as regionally important if these communities (a) are significant to a particular region of British Columbia, (b) provide habitat that necessitates special management not covered by GAR or other legal enactments, and (c) could be negatively affected by forest or range practices.
- <sup>v</sup> Oxford English Dictionary, s.v. 2023. "[special \(adj.\), sense 4.a.](#)"; [last accessed on December 16, 2024].
- <sup>vi</sup> Oxford English Dictionary, s.v. 2023. "[management \(n.\), sense 1.a.](#)"; [last accessed on December 16, 2024].
- <sup>vii</sup> Environment and Climate Change Canada. 2017. [Recovery Strategy for the Whitebark Pine \(\*Pinus albicaulis\*\) in Canada](#) [Proposed]. Species at Risk Act Recovery Strategy Series. Environment and Climate Change Canada, Ottawa; [last accessed on December 16, 2024]. viii + 54 pp.
- <sup>viii</sup> von der Gönna, Marc A. 1992. [Fundamentals of mechanical site preparation](#). Forestry Canada, Pacific Forestry Centre, Victoria, BC. FRDA Report 178, Co-published by the BC Ministry of Forests; [last accessed on December 16, 2024].
- <sup>ix</sup> This is the version of the legislation that was in force as of November 25, 2021.
- <sup>x</sup> Pa refers to *Pinus albicaulis*, the Latin name of whitebark pine.



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