



**Forest  
Practices  
Board**

## **Compliance with Biodiversity Requirements in the Nahmint Watershed**

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*Complaint Investigation #18047*

**FPB/IRC/237**

May 2021

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# List of Acronyms Used

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BCTS	British Columbia Timber Sales
BEC	Biogeoclimatic
BMP	Best management practices
CDC	Conservation Data Centre
CEB	Compliance and Enforcement Branch
Code	Forest Practices Code of British Columbia Act
CWH	Coastal western hemlock biogeoclimatic subzone
DDM	Delegated decision maker
FOI	Freedom of information
FSP	Forest stewardship plan
FRPA	Forest and Range Practices Act
HLPO	Vancouver Island Land Use Plan Higher Level Plan Order
MCS	Ministry of Citizen's Services
FLNRORD	Ministry of Forests, Lands, Natural Resource Operations and Rural Development
MH	Mountain hemlock biogeoclimatic subzone
NDT	Natural disturbance type
OGMA	Old growth management area
SMZ	Special management zone
SOP	Standard operating procedure
TSL	Timber sale licence
THLB	Timber harvesting landbase
VILUP	Vancouver Island Land Use Plan
WTP	Wildlife tree patch
WTRA	Wildlife tree retention area

## Board Commentary

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This investigation revealed a number of issues with the government objectives for biodiversity in the Nahmint River Watershed (the Nahmint). The Board is concerned that actions are needed now to ensure biodiversity, and old forests in particular, are being adequately protected as forestry activities proceed in this watershed.

The Vancouver Island Land Use Plan (VILUP), and the corresponding Vancouver Island Higher Level Plan Order (HLPO), established the Nahmint as a special management zone and provided specific direction for biodiversity; however, it was designed as a first step in planning. Important details to guide implementation were to be addressed in more detailed landscape unit planning, but government did not complete that planning.

British Columbia Timber Sales (BCTS) was left to interpret the land use order and decide how to apply it on the ground. To its credit, BCTS did prepare a draft landscape unit plan in 2012, but the plan was not fully consistent with the HLPO and was never completed.

The Board has commented before that the provincial government needs to establish clear objectives for BC's forests. It is not appropriate to leave licensees and BCTS to make "balancing" decisions. In this case, the absence of clear biodiversity objectives and plans for implementation means no one has certainty about how biodiversity will be conserved in the Nahmint.

This investigation also illustrates a flaw in the forest stewardship plan (FSP) process under the *Forest and Range Practices Act* (FRPA). The district manager erred in approving the FSP, which was not consistent with the biodiversity objectives in the HLPO. Errors will happen in any complex system; however, there should be a process where errors detected after a plan has been approved can be rectified. The public needs to be confident that objectives established in land use plans will actually be carried through and implemented in forestry operations.

Ultimately, the responsibility for the gaps in the planning and approval processes rests with the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD). Under FRPA, once an FSP is approved, it becomes a legal requirement that must be followed. Because BCTS followed its approved FSP, even though it was flawed, BCTS complied with FRPA. The FSP was not consistent with the requirement that management needs to occur at the site-series level or the requirement to provide additional representation for rare ecosystems. These gaps in BCTS's FSPs occurred over a long period of time and are creating real risks to ecosystems. When BCTS learned about these gaps, it did not voluntarily amend the FSP and bring its operations into compliance with the HLPO.

The current FRPA framework does not permit government to ensure that FSPs approved in error can be amended. This does not give the public confidence in government's compliance and enforcement under FRPA in the Nahmint. The Compliance and Enforcement Branch (CEB) took positive steps initially, with room for improvement on the transparency of their process. However, mid-way through the investigation CEB found it did not have jurisdiction to investigate, and ultimately ended the investigation because FRPA did not give them enforcement powers. The confusion and complexity of enforcement in this situation emphasize why a systemic change is needed to FRPA to provide a clear and stable means to ensure that HLPOs are implemented.

Through this investigation, the Board found that BCTS has implemented a big tree policy that is proactive and can contribute to improved biodiversity conservation. While the policy is not a replacement for good planning at the landscape level, it can complement good landscape unit planning.

There is some urgency in the Nahmint to rectify the problems identified in this investigation. Some ecosystems are already at or below the targets for old forest. However, there are options available to fill these gaps and if planning is undertaken soon, the Nahmint can be managed in a way that is consistent with its designation as a special management zone in the VILUP.

In accordance with section 131(2) of FRPA, the Board makes the following recommendations:

1. FLNRORD should promptly complete, and implement as legal direction under FRPA, a landscape unit plan for the Nahmint that provides clear objectives for mature and old forest and rare ecosystems, and is consistent with the Nahmint's designation as a high biodiversity emphasis landscape unit.
2. BCTS should amend its 2017 West Coast FSP to be consistent with the Vancouver Island Land Use Plan Higher Level Plan Order.
3. BCTS should assess its operations for site level representation of old forest, and ensure that it is not developing or selling timber sales that contain old seral forest in site series that may be below the interim targets of 19 percent in the CWH, and 28 percent in the MH, until a landscape unit plan is approved.
4. FLNRORD should examine legislation and identify a mechanism to allow FSPs to be reviewed, and potentially corrected, if they are found not to be consistent with government objectives. This review should consider an option for the Board to appeal an FSP approval to the Forest Appeals Commission when a deficiency is discovered.

In accordance with section 132 of FRPA, the Board requests that BCTS and FLNRORD reply by September 15, 2021 and state whether or not government accepts, partially accepts, or rejects these recommendations and describe the actions they intend to take to address them.

# Executive Summary

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On July 4, 2018, the Ancient Forest Alliance (the complainant), an environmental organization dedicated to the protection of old-growth forests in BC, submitted a complaint to the Forest Practices Board. The complaint involves timber harvesting in the Nahmint River Watershed (the Nahmint) near Port Alberni, under the BC Timber Sales (BCTS) program.

The Nahmint is on Vancouver Island, about 20 kilometres southwest of Port Alberni. In 2000, the Vancouver Island Land Use Plan (VILUP) and its higher level planning order (HLPO) designated the Nahmint as a special management zone (SMZ) in a high biodiversity landscape unit. The HLPO establishes objectives for biodiversity and old growth, among other values. It was developed with the assumption that landscape unit planning would be undertaken to further define how the objectives would be met, but that planning did not happen. Regardless, the HLPO objectives apply and licensees and BCTS must propose results and strategies in their forest stewardship plans (FSPs) that are consistent with the objectives.

The complainant is concerned that BCTS is in non-compliance with some HLPO requirements, that government's Compliance and Enforcement Branch (CEB) did not investigate its complaint about the matter, and that BCTS is harvesting at risk plant communities and exceptionally large trees that should be protected under its *Best Management Practices for Coastal Legacy Trees* (BMP).

## Compliance with HLPO

Three objectives for biodiversity in the HLPO are relevant to the complaint:

- Objective 1a) requires licensees to ensure that there is mature and old seral forest that will provide ecosystem function.
- Objective 4 requires retention of old seral forest at the site series or site series surrogate level of representation, with emphasis on rare and underrepresented site series or site series surrogates.
- Objective 5 requires representation of old seral forest in a range of patch sizes.

The investigation found that BCTS's FSP does not address all of the objectives for biodiversity in the HLPO. The biodiversity objectives in the HLPO are complex and written with the assumption that landscape unit planning would follow and would provide more clarity on how to meet the objectives, but that level of planning did not happen and there is little guidance today on how to meet the HLPO objectives. The approved FSP is not consistent with the HLPO objectives for biodiversity, specifically the Objective 4 requirement to retain old forest at the site series (local ecosystem) level.

The Board examined the inventory of remaining forest in the Nahmint and found that in 10 specific site series there is not adequate old forest remaining and the FSP does not have a strategy to protect those forested ecosystems.

The investigation also revealed a legislative gap in FRPA; there is no mechanism to require amendment of an approved FSP that is found to be inconsistent with government objectives after the initial 60-day appeal period has expired.

## Government Enforcement

The complainant had previously submitted a complaint about BCTS logging in the Nahmint to the CEB of the Ministry of Forests, Lands, Natural Resource Operations and Rural Development and asked CEB

to acknowledge receipt of the complaint. CEB sent the complainant an e-mail acknowledging the complaint, but the complainant said it never received the e-mail. CEB made no other contact with the complainant during its investigation.

The complainant also made a freedom of information (FOI) request regarding the complaint to CEB and CEB denied the request twice. CEB later discovered it had made an error and released the information to the complainant.

In this case, CEB's lack of communication with the complainant and its error responding to the FOI request did not give the complainant reason to be confident in government's enforcement of FRPA in the Nahmint.

The Board also considered the appropriateness of CEB's investigation of the complaint. CEB initiated an investigation into compliance with the HLPO and found issues with BCTS's FSP. However, during the course of the investigation, CEB determined that the legal structure of FRPA did not give it authority over the matter so it closed the file. The Board agrees with CEB in its conclusion that it could not take enforcement action. This legal gap means the public cannot have confidence in the overall system for ensuring that higher-level plan objectives are implemented.

### **At Risk Plant Communities**

The complainant was also concerned that BCTS may be harvesting in rare ecosystems. There is no legal requirement that prevents BCTS from harvesting rare ecosystems in the Nahmint, provided some old growth areas are protected. As a voluntary measure, BCTS follows its *At Risk Ecological Communities Standard Operating Procedure, Strait of Georgia Business Area (SOP)*, which protects critically imperiled and imperiled plant communities that BCTS encounters during road and cutblock layout. The SOP protects some, but not all, rare ecosystems. The SOP is a positive step to supplement, but not to replace, landscape level planning.

### **Legacy Trees**

In the spring of 2018, the complainant found BCTS timber sale licensees harvesting exceptionally large trees in the Nahmint, despite its BMP. When it implemented the BMP in October 2017, BCTS decided to apply it on new cutblocks it developed. The cutblocks where the complainant found BCTS timber sale licensees harvesting large trees were developed before the BMP took effect. During the investigation, BCTS applied the BMP to all unsold timber sales and encouraged timber sales licensees' to voluntarily comply with the BMP.

# Introduction

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## The Complaint

On July 4, 2018, the Ancient Forest Alliance (the complainant), an environmental organization dedicated to the protection of old-growth forests in BC, submitted a complaint to the Forest Practices Board. The complaint involves the harvesting of old growth forests in the Nahmint River Watershed (the Nahmint) near Port Alberni, under the BC Timber Sales (BCTS) program. The Nahmint is important to the complainant because it has large areas of old forest with some trees of exceptional size.

The complainant asserted that:

- BCTS is not in compliance with the biodiversity provisions of the Vancouver Island Land Use Plan (the VILUP) and its higher level plan order (HLPO);
- BCTS may be harvesting within rare and underrepresented ecosystems;
- BCTS is not following its *Best Management Practices for Coastal Legacy Trees* (BMP);<sup>1</sup>
- Compliance and Enforcement Branch (CEB) of the Ministry of Forests, Lands, Natural Resource Operations and Rural Development's (FLNRORD) would not respond to a request to acknowledge receipt of a complaint; and
- CEB was not investigating these concerns, nor taking appropriate action.

## Background

### The Nahmint River Watershed

The Nahmint is on Vancouver Island about 20 kilometres southwest of Port Alberni. It is within the traditional territory of the Nuu-chah-nulth people. The watershed, which has the same boundaries as the Nahmint landscape unit, covers about 20 000 hectares. The Nahmint contains no parks or similar protected areas. In the lower portion of the watershed, about 2000 hectares are designated treaty lands under control of the Ucluelet First Nation. BCTS's operating area is about 17 600 hectares. Since obtaining the operating area in 2003, BCTS has harvested an average of 56 hectares a year from the Nahmint. Interfor operates on about 400 hectares in the watershed. The Tseshah First Nation also has a 5-year non-replaceable forest licence of 65 000 cubic metres over the life of the licence and harvests an average of 22 hectares per year.

### Government Objectives and Landscape Unit Planning History

The Nahmint has been the subject of public interest and concern since the 1970s. It was a pilot area for a new integrated resource management planning process, the *Nahmint Watershed Integrated Resource Study*, published in 1975. The plan established forest practice requirements that would also accommodate other resource values.

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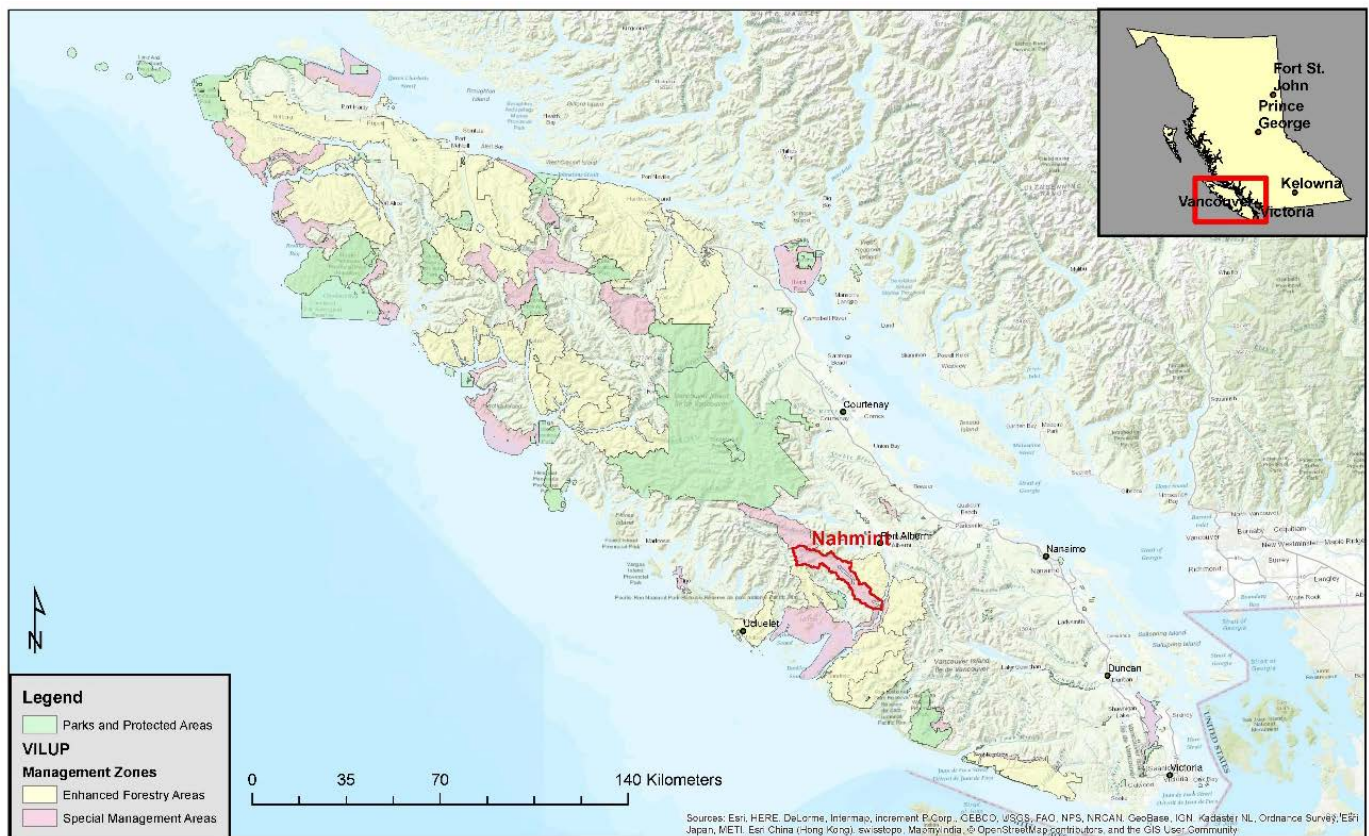
<sup>1</sup> Legacy trees are exceptionally large and old, and a unique feature of BC's coastal forests.



A 1990 review of the plan found public support for smaller cutblocks, riparian management reserves, a network of biodiversity corridors, and a park and a recreation reserve. The 1994 VILUP recommended that government establish land use objectives and identified the Nahmint as a "Low Intensity Area."<sup>2</sup>

In 1995, government introduced the *Forest Practices Code of British Columbia Act* (the Code). It set out legal requirements for forest practices and enabled government to establish legal land use objectives.

In 2000, Government published the Vancouver Island Summary Land Use Plan (a summary of the key components of the VILUP) and brought the HLPO into force. The HLPO designated the Nahmint as one of 21 special management zones (SMZ) and one of 5 designated in high biodiversity landscape units. This recognizes the importance of the Nahmint for biodiversity conservation, while undertaking timber extraction.



**Figure 1. VILUP Management Zones and Protected Areas**

<sup>2</sup> Low Intensity Areas are areas possessing combinations of special environmental and resource values and which will be used for extractive and non-extractive purposes in a manner that respects and minimizes impacts on their special natural, cultural, and recreational qualities and functions." Low Intensity Areas for the Vancouver Island Region: Exploring a New Resource Management Vision 1995, P.vi.

The VILUP identified the Nahmint as a high priority for landscape unit planning that would emphasize landscape level biodiversity objectives and harvesting practices to support biodiversity, by creating or maintaining attributes associated with mature and old forests.

The HLPO established biodiversity objectives for the Nahmint SMZ that were to be considered during landscape unit planning. Government expected a landscape unit plan to be approved by December 1, 2002, which would establish old growth management areas (OGMAs) and targets for protecting mature forest. However, the HLPO had a transition period; if a landscape unit plan was not completed, then the biodiversity requirements specified in the HLPO would become the objectives to be followed by licensees<sup>3</sup>. While two draft landscape unit plans were initiated, they were never completed. The HLPO objectives became the legal objectives and they still apply today, nearly 20 years later.

## Events Leading to this Complaint

The complainant had previously submitted a complaint to the Board in 2010 about old growth harvesting near Port Renfrew. That complaint investigation report<sup>i</sup> concluded “certain individual, or small groups of, exceptional trees on the timber harvesting land base may provide a higher social and economic value if they are treated as a special resource feature and excluded from timber harvesting.” In 2011, the complainant began consulting with FLNRORD, which was developing a legal tool to protect exceptionally large trees (legacy trees) in BC. The complainant had concerns that, instead of implementing that legal tool, FLNRORD piloted the BMP, to retain legacy trees in October 2017.

In spring 2018, the complainant visited the Nahmint and found BCTS timber sale licensees harvesting legacy trees in cutblocks containing what it believed were likely endangered (blue-listed<sup>4</sup>) plant communities. Concerned about the environmental values at risk, the complainant contacted the media and BCTS.

On June 5, 2018, the complainant submitted its concerns about BCTS’s activities in the Nahmint to FLNRORD’s CEB. Concerned that CEB had not initiated an investigation, the complainant submitted this complaint to the Board on July 4, 2018. It wanted the Board to ensure that CEB was investigating and taking appropriate action.

## The Investigation

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To address the complaint, the Board examined:

1. The consistency of BCTS's FSP with the VILUP and its HLPO;
2. The appropriateness of government enforcement; and
3. BCTS’s management of at risk plant communities and large trees in the Nahmint.

Board investigators interviewed a number of people including the district manager, regional and branch FLNRORD staff, Ministry of Environment and Climate Change staff, CEB staff, BCTS staff, the authors of two draft landscape unit plans, the author of the HLPO, and the complainant.

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<sup>3</sup> While BCTS does not hold a licence under the *Forest Act*, and is not technically a licensee, the same provisions apply to BCTS and they are included in the term “licensees” for the purposes of this report.

<sup>4</sup> See text box page 14.

The investigators also reviewed documents including: government policy and guidance; the BCTS forest stewardship plan (FSP) and documents related to its approval; BCTS guidance and best management practices; and the VILUP and the HLPO. Board investigators arranged a field trip to the Nahmint in May 2019. Participants included the complainant, BCTS staff, FLNRORD regional staff, and the author of the 2012 draft landscape unit plan for the Nahmint.

## Legal Requirements

### Objectives for Biodiversity

In 2000, government established objectives for biodiversity in the HLPO as provided by section 3 of the Code. In 2004, government enabled the *Order Establishing Non-Spatial Old Growth Objectives* under section 4 of the Code.

Section 93 of the *Land Act* continued the objectives in both orders under the *Forest and Range Practices Act* (FRPA), when it replaced the Code in 2004. Section 1 of FRPA defines objectives established under section 93.4 of the *Land Act* as objectives set by government.

As a result, the biodiversity objectives and old growth objectives in the HLPO apply to licensees operating in the Nahmint. This report discusses them in detail later.

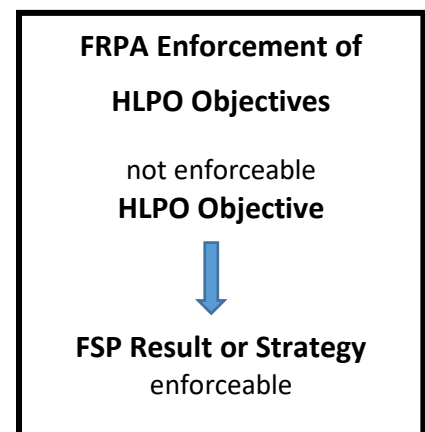
### Forest Stewardship Plan

Section 3 of FRPA requires a BCTS timber sales manager to obtain approval of an FSP before entering into timber sale agreements.

Section 5 of FRPA requires a timber sales manager to submit an FSP to the minister for approval that specifies intended results or strategies for objectives set by government. Section 5(1.1) of FRPA requires the results and strategies in an FSP to be consistent with objectives set by government. Once the FSP is approved, the results and strategies for meeting biodiversity objectives become enforceable under FRPA. There is no direct requirement to comply with the HLPO, except through the commitments in an approved FSP.

Section 16(1) of FRPA requires the minister to approve a FSP if it conforms to section 5. FLNRORD's district managers are normally delegated that authority from the minister. Section 21 of FRPA requires the holder of an FSP to ensure that the intended results specified in the FSP are achieved and the strategies described in the FSP are carried out.

In summary, BCTS's FSP must specify results and strategies that are consistent with the objectives for biodiversity contained in the HLPO. If, and only if, the proposed FSP results and strategies are consistent with the objectives, the district manager must approve the FSP. Once approved, under section 21 of FRPA, BCTS must achieve the results and carry out the strategies specified in the FSP.



# Investigation Findings

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## Biodiversity Objectives

There are three objectives in the HLPO for maintaining biodiversity values in the Nahmint.

### HLPO Objective 1(a)

HLPO objective 1(a) states:

Sustain forest ecosystem structure and function in SMZs, by:

(a) creating or maintaining stand structures and forest attributes associated with mature<sup>1</sup> and old<sup>2</sup> forests, subject to the following:

- i. the target for mature seral forest should range between one quarter to one third of the forested area of each SMZ<sup>3</sup>; and
- ii. in SMZs where the area of mature forest is currently less than the mature target range referred to in (i) above, the target amount of mature forest must be in place within 50 years;

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<sup>1</sup> The mature seral forest is defined as generally 80 to 120 years old or older, depending on species and site conditions. The structure of mature seral forests generally includes canopies that vary vertically or horizontally or both. The age and structure of the mature seral stage will vary significantly by forest type and from one biogeoclimatic zone to another.

<sup>2</sup> The old seral forest is defined as generally greater than 250 years old, containing live and dead (downed and standing) trees of various sizes, including large diameter trees, and of various tree species, including broad-leaved trees. The structure of old seral forest varies significantly by forest type and from one biogeoclimatic zone to another.

<sup>3</sup> Mature seral targets will be established through landscape unit planning. See transition provisions under III.

In other words, licensees must ensure that there is mature and old seral forest that will provide ecosystem function. The order includes a target for the amount of mature forest that would be refined for each SMZ through a landscape unit planning process. However, as explained earlier, that process did not take place and so the general target became the legal requirement. No targets for old forest were established.

### HLPO Objectives 4 & 5

Objectives 4 and 5 of the HLPO apply to SMZs or portions of SMZs that have high biodiversity emphasis. For the Nahmint, the entire SMZ is high biodiversity emphasis.

- 4 Maintain late-successional habitat elements and attributes of biodiversity<sup>8</sup> in forested ecosystems with emphasis on regionally rare and underrepresented ecosystems, by retaining old seral forest at the site series/surrogate level of representation.<sup>9</sup>
- 5 Retain late-successional habitat elements and attributes of biodiversity in patches of variable size.

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<sup>8</sup> This includes but is not limited to: large diameter (>60 cm) live, decaying and dead standing trees (providing nest and cavity sites); downed wood, including large diameter pieces (50 to 150 cm); deciduous broad-leaved trees, both in riparian and upland areas.

<sup>9</sup> The level of representation of old seral forest will be applied through landscape unit planning.

It is clear from the wording in the HLPO that government expected that a landscape unit planning process would be carried out to define how the objectives would be applied. These two objectives are normally assessed and managed at the landscape scale and a detailed landscape unit plan would normally define more precisely how they would be achieved by licensees. That clarification never happened and in the interim, the legislation was changed to FRPA, further complicating the intended implementation of the objectives. No direction for how to implement the objectives exists today.

For biodiversity in the Nahmint SMZ, the HLPO requires retention of one quarter to one third of the forested area as mature seral forest. Second, it requires retention of old seral forest at the site series or site series surrogate level of representation, with emphasis on rare and underrepresented site series or site series surrogates. Third, it requires representation of old seral forest in a range of patch sizes.

## **BCTS FSP Results and Strategies**

Section 5(1.1) of FRPA requires BCTS to specify results or strategies in its FSP that are consistent with government objectives, including objectives 1(a), 4 and 5 of the HLPO. The investigation considered the consistency of the 2017 *West Coast Forest Stewardship Plan* (the FSP) strategies with these HLPO objectives.

### **FSP Result for HLPO Objective 1(a)**

The 2017 BCTS FSP result for *Objective 1(a) – Mature and Old Seral*:

*The holder(s) of the FSP will only authorize or carry out harvesting such that no less than 25% of the forested area of the SMZ 13 is retained as mature or old age classes.*

There are differences between the wording of BCTS's result and the wording of the HLPO including:

- The HLPO requires "creating or maintaining stand structures and forest attributes associated with mature and old forests"<sup>5</sup>
- The HLPO specifies that the target for mature seral forest should range between one-quarter to one-third of the forested area, while the BCTS FSP states that no less than 25 percent will be retained in mature or old

In the Board's opinion, a result or strategy is consistent with an objective if it is in agreement with, in harmony with, or compatible with it.

BCTS told the Board its interpretation of objective 1(a) is based on the words "or older" from HLPO footnote 1. The FSP result merges the mature seral target with the old seral target; in effect a mature + old target. Since the HLPO establishes representation for the mature target at the SMZ level, any old seral forest in the SMZ that is used to meet the old seral target also contributes to the mature seral target.

The FSP does not specifically mention old seral forest, but it does commit to maintain the OGMA's in its 2012 draft landscape unit plan. The draft OGMA's used the old seral forest targets of 19 percent in the CWH and 28 percent in the MH. That is reasonable, as the Landscape Unit Planning Guide, Biodiversity Guidebook and the 2004 provincial order all have old seral targets of 19 percent and 28 percent for the CWH and MH.

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<sup>5</sup> The first FSP that applied to the Nahmint was approved in 2006. At that time, most licensees on Vancouver Island adopted similar wording for their FSP results and strategies. That wording prevails today in the Nahmint and other places on Vancouver Island.

In summary, BCTS's FSP requires it to maintain the draft OGMA's. It is also required to retain 25 percent of the forested area of the SMZ as mature forest with any mature or old forest in its draft OGMA's or any other protected designations counting towards that target. The BCTS target is the lowest possible in the range specified in the HLPO for mature forest (25 to 33 percent).

The results and strategies in BCTS's FSP for objective 1(a)(i) have some differences from the HLPO, but they generally meet the requirement for consistency with the HLPO under FRPA.

The Board examined the amount of old and mature seral forest in the Nahmint and found that they currently make up 67 percent of the SMZ, so BCTS operations are meeting the results and strategies in the FSP.

### ***Finding***

The FSP result is consistent with HLPO objective 1(a) and therefore complies with section 5(1.1) of FRPA. BCTS applied the lowest possible target in the allowable range for mature forest. The HLPO was designed to be applied through a landscape unit planning process that could provide greater clarity on how mature forests are to be managed by licensees. The amount of old and mature seral forest is currently 67 percent in the Nahmint, which exceeds the requirements of the HLPO.

### **FSP Result for HLPO Objectives 4 & 5**

The 2017 FSP strategy, 7.2.5 *Objectives 4 and 5 – Rare Ecosystems* states:

1. In this strategy, the holder(s) of the FSP will:
  - a) design cutblocks to retain, within or adjacent to cutblocks, late successional habitat elements and attributes of biodiversity in old seral forest in:
    - i. Wildlife Tree Patches (WTPs)/ Wildlife Tree Retention Areas (WTRAs);
    - ii. riparian management areas; or
    - iii. other areas reserved from harvesting that are of various sizes and which will include site series representative of the areas to be harvested and are internal or immediately adjacent to the perimeter of the cutblock;

The BCTS FSP strategy links HLPO objective 4 and objective 5 together; this report considers them separately.

### ***HLPO Objective 4***

- 4 *Maintain late-successional habitat elements and attributes of biodiversity<sup>8</sup> in forested ecosystems with emphasis on regionally rare and underrepresented ecosystems, by retaining old seral forest at the site series/surrogate level of representation.<sup>9</sup>*

BCTS's stand level FSP strategy requires various site level reserves to represent the site series in proportion to the site series in the cutblock; this relates more to the HLPO objective (1)(b), which requires "retaining, within cutblocks, structural forest attributes and elements with important biodiversity functions." The HLPO requires retention of old seral forest at the site series or site series surrogate level of representation, with a higher level of representation for rare and underrepresented ecosystems. Fulfilling this requirement needs to be done at the landscape level using a landscape level inventory.



## **HLPO Objective 5**

*5 Retain late-successional habitat elements and attributes of biodiversity in patches of variable size.*

BCTS's FSP strategy applies at the stand level and reserves a portion of the block size. HLPO objective (1)(c) allows clearcuts of up to 5 hectares and other cutblocks up to 40 hectares. Site level patches retained under this strategy would only be a fraction of the first patch size of up to 40 hectares. The strategy on its own does not provide a broad range of patches of late successional habitat.

BCTS's FSP strategy 7.2.5, *Objectives 4 and 5 – Rare ecosystems*, does not, on its own, fulfill HLPO objectives 4 and 5. It is a site level strategy and the requirements of HLPO objectives 4 and 5 require management at the landscape level. The investigation considered whether any other strategies in the FSP would ensure consistency with the HLPO.

### **FSP Strategy 7.1 – Provincial Non-Spatial Old Growth Objectives**

The FSP contains another strategy regarding old growth retention. The 2017 FSP strategy 7.1 - *Provincial Non-Spatial Old Growth Objectives* is a landscape level strategy based on the 2004 *Order Establishing Provincial Non-Spatial Old Growth Objectives*. Although the 2004 order does not replace HLPO objectives 4 and 5, this strategy could satisfy the requirement to be consistent with HLPO objective 4 and 5. The FSP states:

Where draft OGMA's are identified the holder(s) of the FSP...will maintain or recruit old growth forest attributes within draft OGMA's..."

#### **Objective 4**

Sites series mapping that meets the applicable standard has been available since at least 2000. In 2007, BCTS did not use the site series mapping in the preparation of the Nahmint Landscape Unit Plan (draft). It considered that the OGMA distribution across the landscape unit would most likely be sufficient to get the site series representation required. BCTS updated the plan and the OGMA's were refined in the 2012 *Sustainable Resource Management Plan for the Nahmint Landscape Unit*. Again, the 2012 plan remained draft and BCTS did not use the available site series mapping to ensure site series representation.

During the investigation, BCTS explained that it considered the site series mapping to be inaccurate based on professional field assessments. The Board notes that site series inventories, like other forest inventories, may have some inaccuracies but are still useful for landscape level analysis. Given the strategic nature of these inventories, a best practice is to use some form of site level assessment as part of landscape unit planning when designing old growth management areas.

Both the 2007 and 2012 plans ensured that the OGMA's had the required representation by variant but not by site series or site series surrogate.

#### **Objective 5**

In both plans, the OGMA's covered the range of patches from under 1 hectare to over 200 hectares. Government never formally approved nor formally transmitted the draft OGMA's to BCTS, so they had no legal standing until BCTS proposed this strategy in the FSP and the district manager approved it. At that point, maintenance of the OGMA's became a legal requirement for conservation of old forest. Therefore, BCTS's FSP is consistent with HLPO objective 5.

## Finding

BCTS's FSP strategy 7.1 – *Provincial Non-Spatial Old Growth Objectives* fulfilled the requirements of HLPO objective 5. However, the 2012 draft landscape unit plan did not emphasize rare and underrepresented plant communities nor use a site series or site series surrogate level of representation, so it is not consistent with the requirements of HLPO objective 4.

## Results of Plans and Past Harvesting

As the FSP does not have the required results and strategies for HLPO objective 4, the Board examined BCTS's harvesting plans and past harvesting to assess the achievement of the biodiversity objectives on the ground.

Table 1 summarizes that analysis. Numerous site series are well protected in OGMAs and protected areas and are not included in Table 1. See Appendix 1 for the analysis of these site series.

HLPO objective 4 required emphasis on rare ecosystems when protecting old forests. The requirements of HLPO objective 4 do not preclude harvesting in rare ecosystems if the required level of representation of those ecosystems has been achieved. If landscape unit planning was completed that defined how much rare ecosystem needs to be protected, and identified protected rare ecosystems in OGMAs, the remaining areas could be made available for harvest.

The second column of Table 1 includes site series where old forest currently found in the timber harvesting landbase (THLB) is required to meet the old forest target. Because these sites are in the THLB, they are at risk of being harvested. The third column shows where there is already a deficit of old forest according to that inventory, therefore there is a risk that BCTS operations could be inconsistent with the HLPO requirement. BCTS has sold timber sale licences with cutblocks that include CWHvm2 03, MHmm1 01, MHmm1 01, MHmm1 03 and MHmm1 04. The Board examined the amount of these deficits and found that in some instances they are significant.

During the CEB investigation (to be discussed later), BCTS and FLNRORD started to analyze representation by site series in the Nahmint to identify how they could recruit older mature seral forest (ages 200 to 250) to compensate for the deficits they found. See Appendix 1 for the amount in deficit and amount of mature seral forest between ages 200 to 250 years.

**Table 1. BCTS Compliance with HLPO Objective 4**

**Bolded site series are less than 2% of Crown productive forest so considered rare. Site series where BCTS could harvest that do not meet the HLPO objective 4 are underlined.**

BEC Variant	Old seral needed from THLB (not in deficit)	Does not meet HLPO objective 4 (in deficit)
CWHvm1	01, 03, 04	14, <b><u>02</u></b> <sup>6</sup>
CWHvm2	01, 04	03, <b><u>02</u></b>
MHmm1	None	<b><u>01, 02, 03, 04, 05, 06</u></b>

<sup>6</sup> Site series that LMH 28 (Redbook) considered marginal for timber production and were removed from the analysis except CWHvm1 02 and CWHvm2 02, which LMH 28 says are marginal for timber and they were included in some recently harvested cutblocks.



## *Finding*

In ten site series, including five in MHmm1, the inventory indicates there are deficits and HLPO objective 4 is not being met. Because the FSP does not have a strategy to protect those forested ecosystems, it is possible that further harvesting could occur in some site series, including rare ecosystems.

## **Approval of the FSP**

Section 5 of FRPA requires that an FSP must specify intended results and strategies for objectives set by government and subsection 5(1.1) says the results and strategies must be consistent with government objectives.

Section 16(1) of FRPA requires the minister to approve a FSP if it conforms to section 5. The district manager of South Island Natural Resource District has been delegated that authority from the minister.

As shown above, the district manager approved the FSP with results and strategies that are not consistent with the HLPO.

The only mechanism in FRPA to correct the FSP is an appeal to the Forest Appeals Commission. That appeal must be initiated within 60 days of approval of the FSP. Forest licensees, a timber sale manager and the Forest Practices Board may appeal an FSP approval decision to the Forest Appeals Commission. The public does not have legal standing to appeal decisions made under FRPA; they can bring a concern to the attention of the FPB and the FPB may appeal decisions when it is in the public interest.

There are several practical barriers to effectively using this mechanism to correct FSPs that may be inconsistent with government objectives;

- The public is often not aware of determinations when they are made;
- If the public is aware that a determination has been made, it can be difficult to undertake an assessment of an approved FSP within the 60-day appeal window; and
- The inconsistency with a government objective may not be immediately discoverable; some issues are not apparent at the time of approval.

The result is that, once the 60-day timeframe provided in FRPA to appeal a decision has passed, there is no mechanism in FRPA to trigger an amendment to an approved FSP where the results and strategies in the FSP are later considered to be inconsistent with government objectives.<sup>7</sup> In this situation, the FSP was approved in April 2017, and CEB first detected the error in June 2018. Therefore, the option available in FRPA to appeal the FSP and have it corrected was not available.

When government establishes objectives, such as through a HLPO, the public should have confidence that those objectives will be met.

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<sup>7</sup> There is a provision in the *Administrative Tribunals Act* for the Forest Appeals Commission to allow a review beyond the 60-day period if “special circumstances exist”.

### *Finding*

BCTS's 2017 FSP results and strategies are not consistent with HLPO objective 4, as required by section 5(1.1) of FRPA. FRPA does not provide a mechanism to require a correction to a previously approved FSP that does not comply with section 5(1.1) of FRPA after the 60-day review period. This is a gap in FRPA.

## **Appropriateness of Government Enforcement**

The complainant asserted that CEB did not acknowledge receipt of its complaint, and that it was not investigating or taking appropriate action. The investigation considered these issues in the context of the Board's mandate under part 6 of FRPA and its fundamental purpose of encouraging public confidence in forest practices. The purpose of government enforcement is to promote compliance with legislation and this investigation considered that purpose in evaluating the appropriateness of government enforcement.

### **Responsiveness to Requests for Information**

In May 2018, CEB natural resource officers read media accounts of BCTS harvesting legacy trees in the Nahmint and decided to carry out an inspection.

In June 2018, the complainant submitted a complaint to CEB's complaint reporting website about harvesting in the Nahmint. The complainant also requested an acknowledgement and a file number from CEB to confirm that it had received the complaint. CEB sent an email response acknowledging receipt of the complaint and said it would follow up on the complaint. The complainant said it never received that email, but during the investigation, CEB provided a copy of it to the Board.

Other than that e-mail, CEB told the Board that it had no contact with the complainant during its investigation for three reasons: it had already started investigating so there was no need to contact the complainant; it was concerned that the complainant might compromise the investigation by publicly releasing information; and further communication with the complainant would take time away from this and other investigations.

Having heard nothing from CEB, the complainant made a freedom of information (FOI) request to the Ministry of Citizen's Services (MCS) for the CEB file in August 2018. The following January, CEB advised MCS not to disclose the information because disclosure might harm an enforcement action.<sup>8</sup> MCS denied the complainant's request accordingly. The complainant followed up and MCS responded in May 2019 that CEB had told it that the district manager had not dealt with the file yet so it could not release it.

However, in November 2018, the district manager had told the Board that she was not considering any action on the file. At the same time, the complainant had e-mailed CEB with similar questions about the investigation and was frustrated and suspicious that CEB was deliberately stalling while logging continued in the Nahmint.

In June 2019, CEB informed MCS that it made an error when it replied to the FOI request in January 2019 and had stopped its investigation in November 2018, so the information should have been released. In

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<sup>8</sup> Under FOI legislation, information may be withheld where its release may be harmful to law enforcement.

September 2019, 13 months after the FOI request was filed, MCS sent a copy of CEB's investigation file to the complainant and posted it on the BC Government's Open Information website.

The Board has previously commented that legislators placed high importance on compliance and enforcement as a means to ensure public confidence in the overall management of BC's forests.<sup>ii</sup> There is no legal or policy requirement for CEB to communicate with complainants and section 109 of FRPA restricts CEB from giving out some information discovered in an investigation. Still, it is important that CEB foster public confidence in the enforcement of FRPA by being open and responsive to reasonable requests.

### *Finding*

CEB's lack of communication with the complainant and its error responding to the FOI request did not give the complainant reason to be confident in government's enforcement of FRPA in the Nahmint.

### **CEB's Compliance and Enforcement Actions**

When CEB initiated its inspection in May 2018, it examined available documents such as the VILUP, HLPO and FSP and determined that BCTS harvesting in the Nahmint had a high likelihood of being in non-compliance. In June, CEB sent BCTS a notice stating that it suspected BCTS was in non-compliance with HLPO objective 4. CEB asked for any information that would show BCTS was in compliance and asked BCTS to propose corrective actions to bring itself into compliance.

BCTS responded that it had complied with the HLPO. Further, it said that provisions in the HLPO are not directly enforceable. BCTS's position was that once it had an approved FSP (containing results or strategies consistent with the HLPO objectives), it is the commitments in the FSP that are legally binding and enforceable.

CEB responded that the FSP did not comply with section 5 of FRPA, and that BCTS's harvesting did not comply with section 21 of FRPA. (Section 21 of FRPA requires BCTS to ensure that the intended results specified in the FSP are achieved and the strategies described in the FSP are carried out.) In the notice, CEB indicated that it had concerns about its ability to take enforcement actions against a government body.<sup>9</sup> CEB recommended that BCTS voluntarily submit an FSP amendment, stop harvesting in the Nahmint, delay current OGMA establishment, and not sell any more timber sale licences until it had a legal FSP. At that point, CEB concluded that because it could not take enforcement action, there were no further actions it could take. CEB knew that a complaint had been filed with the Board, and it advised the Board that it had closed the file and that it considered the Board to be the best suited to address the complaint.

Shortly afterwards, CEB sought legal advice and re-evaluated its previous findings. In a follow-up letter to BCTS, CEB said that reviewing FSP approvals was not within its mandate, but is the responsibility of the district manager. CEB's role is to ensure that plan holders achieve the results and follow the strategies in FSPs. CEB said that nothing under its purview concerned it at that time. During the Board investigation, CEB confirmed this position.

The position taken by BCTS, and subsequently adopted by CEB, draws from the FRPA requirements that an FSP can only be approved if it is *consistent with* objectives set by government. The way FRPA is

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<sup>9</sup> FRPA's main enforcement provision for contraventions of section 21 is in FRPA section 71. In 2004, government introduced FRPA section 2(5), which explicitly exempts government from receiving penalties under section 71. Section 74 of FRPA allows the minister to order someone who has a contravention to take remediation measures but that section also does not apply to government.

structured, this is a criterion for approval. It is not a specific requirement that binds licensees directly, it is not something that *a party* must comply with, and therefore is not subject to enforcement actions under FRPA. The Board agrees with CEB in its conclusion that it could not take enforcement action.

### Finding

CEB initiated an investigation into compliance with the HLPO and found issues with BCTS's FSP. However, during the course of the investigation, CEB determined that the legal structure of FRPA did not give it authority over the matter so it closed the file. CEB did investigate the complaint, but could not determine compliance in these circumstances. This does not give the public confidence in compliance and enforcement under FRPA in the Nahmint.

## BCTS' management of at risk plant communities and legacy trees

When the complainant went to the Nahmint in 2018, it was surprised to find BCTS harvesting legacy trees and harvesting in ecosystems it thought may be rare and underrepresented. BCTS told the Board it has a standard operating procedure, the *At Risk Ecological Communities Standard Operating Procedure, Strait of Georgia Business Area* (SOP), that would protect rare and underrepresented ecosystems.<sup>10</sup> The investigation examined that SOP and another BCTS guideline document—the BMP.

### At Risk Plant Communities SOP

BCTS's FSP strategy 7.2.5 *Objectives 4 and 5 – Rare Ecosystems*, discussed earlier, allows harvesting of rare ecosystems, including endangered plant communities, as long as unharvested reserve areas contain some representative ecosystems.

BCTS told the Board that its SOP would protect rare and underrepresented plant communities. BCTS developed the SOP to assist with conservation of red and blue listed plant communities. It uses a previously developed "focus list" that identifies biogeoclimatic site series where critically imperiled and imperiled plant communities are likely to exist. Critically imperiled and imperiled plant communities are a subset of rare ecosystems, so the SOP protects some rare and underrepresented plant communities.

The SOP requires BCTS to train its development staff and contractors to identify plant communities that are on the focus list in the field. If they find sufficiently established<sup>11</sup> plant communities, BCTS will reserve them from harvest in wildlife tree retention areas (WTRAs). The majority of the Nahmint is in the CWHvm1, CWHvm2, and MHmm1 biogeoclimatic subzone variants and the focus list does not contain any site series in those variants. One plant community is imperiled (CWHvm1 09) but since the site series is found in an

#### ENDANGERED PLANT COMMUNITY RANKINGS

As noted in the previous text box, rare does not necessarily mean that an ecological community is endangered; **endangered** means "facing imminent extirpation or extinction." The CDC ranks ecological communities using NatureServe rankings of **critically imperiled** – extremely rare and especially vulnerable to extirpation – or **imperiled** – very vulnerable to extirpation. To simplify interpretations of species rankings, the Ministry of Environment and Climate Change maintains a **red-list** of ecological communities that are at the greatest risk of being lost and a **blue-list** (formerly vulnerable) of ecological communities of special concern.

<sup>10</sup> The British Columbia Conservation Data Centre prefers the terms 'ecosystems' and 'ecological community' rather than 'plant community.' FRPA, the Biodiversity Guidebook and the Landscape Unit Planning Guide refer to plant communities and that is the term used in this report.

<sup>11</sup> Sufficiently established plant communities must meet age criteria and be at least one-quarter hectare or be one hectare where it is the dominant plant community in a complex plant community.

area that is not suitable for harvest, BCTS did not include it on the focus list.<sup>12</sup> Five forested plant communities are blue listed but are not on the focus list, as they are not critically imperiled or imperiled. There are 20 hectares in the Nahmint of CWHxm2 in two site series that are imperiled and both are on the focus list and therefore protected by the SOP.

### ***Finding***

BCTS's SOP and approach to protecting rare and underrepresented plant communities does protect imperiled and critically imperiled plant communities, but does not protect all rare or underrepresented ecosystems.

### **Legacy Trees**

The complainant was concerned that BCTS was harvesting legacy trees in the Nahmint despite its BMP dated October 3, 2017. The *Best Management Practices for Coastal Legacy Trees* describes criteria and a process for retaining large trees encountered during road and cutblock development. Although not a legal requirement, the BMP objective is to retain trees that are at least 50 percent of the diameter of the largest tree (by species) in the BC Big Tree Registry. The BMP allows harvesting of trees for worker safety, for operational feasibility, for First Nations cultural needs, or if there is a local abundance of legacy trees. Once it identifies a legacy tree, BCTS records its attributes, marks it in the field, records it in BCTS's Legacy Tree Registry and, if the tree meets the criteria, registers it with the BC Big Tree Registry. BCTS tries to use the legacy trees to anchor other areas reserved from harvesting such as WTRAs, riparian reserves, timbered leave areas and OGMAs.

It takes 18 to 24 months for BCTS to develop a timber sale licence (TSL). Once developed, BCTS sells the TSL and the TSL holder then has up to four years to harvest the timber. When it implemented the BMP in 2017, BCTS decided only to apply the BMP to new cutblocks it was starting to develop. Once it sells a TSL, BCTS cannot stop the TSL holder from harvesting trees that it did not reserve from harvest before selling the TSL.

BCTS sold TSLs in 2017 that contained exceptionally large trees and the complainant discovered the TSL holders harvesting those trees in the spring of 2018. The complainant alerted the media and the harvesting in the Nahmint received considerable media attention. In response, BCTS decided to have staff look for legacy trees in all the developed cutblocks, including sold TSLs. BCTS applied the legacy tree policy to unsold TSLs and encouraged the licence holder to retain any legacy trees in TSLs that had already been sold.

### ***Finding***

The large trees harvested in spring 2018 were from TSLs that were sold before the BMP came into effect. BCTS implemented its best management practice for legacy trees in October 2017, and harvesting of reserved legacy trees should not occur on timber sales awarded after that date.

The Board is encouraged that BCTS BMP recognizes that there are exceptional trees on the timber harvesting land base that provide a higher social value, treats them as special resource features and excludes some from timber harvesting.

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<sup>12</sup> One cutblock showed a 0.1 hectare incursion into this site series in the inventory, but the site plan field data did not include any of that site series.

# Conclusions

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The complainant was concerned that:

1. BCTS is not in compliance with the biodiversity provisions of the VILUP and its HLPO;
2. BCTS may be harvesting within rare and underrepresented ecosystems;
3. BCTS is not following its Best Management Practices for Coastal Legacy Trees;<sup>13</sup>
4. FLNRORD's CEB would not respond to a request to acknowledge receipt of a complaint; and
5. CEB was not investigating these concerns, nor taking appropriate action.

## **1. BCTS's FSP does not comply with the biodiversity provisions of the VILUP and its HLPO.**

The investigation found that BCTS's FSP does not address all of the objectives for biodiversity in the HLPO. The biodiversity objectives in the HLPO are complex and were written with the assumption that landscape unit planning would follow and would provide more clarity on how to meet the objectives. That did not happen. The objectives also require landscape unit planning to actually implement them.

The Board's analysis of remaining forest in the Nahmint found that in 10 specific site series (ecosystems) there is not adequate old forest remaining and the FSP does not have a strategy to protect those forested ecosystems.

The investigation also revealed a legislative gap in FRPA; there is no mechanism in FRPA to require amendment of an approved FSP that is later found to be inconsistent with government objectives after the 60-day appeal period has expired.

## **2. BCTS may be harvesting within rare and underrepresented ecosystems**

BCTS's Strait of Georgia Business Area has developed a standard operating procedure that protects two plant communities but does not protect other rare or underrepresented ecosystems in the Nahmint. Government assumes that those ecosystems will be protected in other reserves, such as OGMAs, riparian reserves, etc.

## **3. BCTS is following its Best Management Practices for Coastal Legacy Trees**

The investigation found that BCTS is following its *Best Management Practices for Coastal Legacy Trees* (BMP). BCTS sold the cutblocks where the complaint found timber sales licensees harvesting legacy trees before the BMP took effect. Since late 2017, BCTS has applied the BMP to all unsold TSLs.

## **4. CEB would not respond to a request to acknowledge receipt of a complaint**

CEB acknowledged that it had received the complaint but had no other contact with the complainant. It mistakenly refused an FOI request; its actions did not foster confidence in its ability to investigate BCTS's operations in the Nahmint.

## **5. CEB was not investigating these concerns, nor taking appropriate action.**

CEB demonstrated by its initial actions, that it has the ability to receive complaints about these matters, and to undertake an investigation into them. Its actions at the initiation of the process, while not perfect, were reasonable. The structure of FRPA meant CEB could not enforce compliance with the HLPO.

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<sup>13</sup> Legacy trees are exceptionally large and old, and a unique feature of BC's coastal forests.

## Appendix 1: Old Seral and Older Mature Seral Forest

Sites series representing less than 2 percent of Crown productive forest are shown in red. This table is a combination of data from BCTS and West Coast Region.

Variant	Site Series	Crown Forest Landbase (ha)	Target %	Target (ha)	251 + years in OGMA (ha)	251 + years WHA, UWR (ha)	251 + years in THLB (ha)	251 + years in Non Contributing (ha)	HLPO Deficit (ha)	Older Mature ages 200-250 (ha)
CWHvm1	00	142.5	19.0	27.1	14.6	3.1	4.4	23.7		38.1
	01	2246.7	19.0	426.9	160.8	16.2	243.6	80.2		270.8
	02	24.6	19.0	4.7	1.5	0.0	0.2	0.0	3.0	6.1
	03	1064.6	19.0	202.3	79.1	9.2	156.3	48.5		129.3
	04	1309.9	19.0	248.9	64.6	0.1	309.0	47.2		200.5
	05	1637.0	19.0	311.0	282.1	32.5	227.9	214.3		117.8
	06	470.1	19.0	89.3	81.1	3.8	76.2	56.2		81.1
	07	424.9	19.0	80.7	84.7	3.0	36.5	55.9		55.6
	08	120.8	19.0	23.0	59.2	1.3	8.5	12.2		9.2
	09	115.5	19.0	21.9	40.8	3.6	1.8	0.0		0.0
	10	48.7	19.0	9.3	27.2	3.1	0.4	0.6		1.0
	11	0.0	19.0	0.0	0.0	0.0	0.0	0.0		0.0
	14	7.2	19.0	1.4	0.4	0.1	0.1	0.0	0.8	0.0
	00	164.5	19.0	31.3	2.2	0.0	5.7	28.8		66.6
CWHvm2	01	1517.2	19.0	288.3	67.8	1.2	97.3	128.9		324.5
	02	52.9	19.0	10.0	1.0	0.0	0.8	0.0	8.2	6.3
	03	1114.6	19.0	211.8	36.4	0.0	61.7	83.0	30.6	206.9
	04	1016.7	19.0	193.2	34.4	0.0	118.5	137.0		272.2
	05	939.2	19.0	178.4	95.4	1.6	136.3	107.2		177.1
	06	438.0	19.0	83.2	10.1	0.0	44.1	107.6		84.8
	07	351.0	19.0	66.7	35.7	0.7	12.3	47.7		43.4
	08	67.3	19.0	12.8	12.6	0.0	8.7	10.5		30.3
	09	52.0	19.0	9.9	0.0	0.0	0.9	10.6		16.3
	00	226.9	28.0	63.5	0.0	0.0	1.3	25.6		105.1
MHmm1	01	323.5	28.0	90.6	14.2	0.0	17.0	43.0	16.3	125.5
	02	529.8	28.0	148.3	18.7	0.0	27.3	72.3	30.2	236.4
	03	216.2	28.0	60.5	3.0	0.0	2.0	28.4	27.1	89.9
	04	75.4	28.0	21.1	1.2	0.0	7.9	7.4	4.6	34.6
	05	69.7	28.0	19.5	3.2	0.0	0.2	11.6	4.6	35.2
	06	68.4	28.0	19.1	1.1	0.0	0.0	12.5	5.5	6.8

## END NOTES

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<sup>i</sup> Forest Practices Board. 2011. Logging Old Growth Forest Near Port Renfrew. Report #FPB/IRC/174. Available at <https://www.bcfpb.ca/wp-content/uploads/2016/04/IRC174-Logging-Old-Growth-Forest-Near-Port-Renfrew-WEB.pdf>.

<sup>ii</sup> Forest Practices Board. 2019. Appropriateness of Govt's Compliance & Enforcement Framework for FRPA and the Wildfire Act. Report #FPB/SIR/50. Available at <https://www.bcfpb.ca/wp-content/uploads/2019/04/SIR50-Compliance-and-Enforcement.pdf>.





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