



**Forest
Practices
Board**

Managing At-Risk Plant Communities near Mount Elphinstone Park

FPB/IRC/212

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Introduction

The Complaint

In August 2016, Elphinstone Logging Focus (ELF), an environmental group located in Roberts Creek, BC, on the Sunshine Coast, submitted a complaint to the Forest Practices Board (the Board) about planned logging by BC Timber Sales (BCTS) near Mount Elphinstone Provincial Park in the Chapman landscape unit. ELF was concerned that the planned harvesting would remove stands containing at-risk plant communities and threaten the representation of those plant communities in the area. ELF also said that the timber sale should not be harvested because it is within an area that local residents proposed for a park expansion.

In 2015, ELF commissioned a review of the Mount Elphinstone Park expansion proposal. The review included an assessment of a 2100-hectare area around Mount Elphinstone Park. The report said that government databases showed 84 percent of the proposed expansion area might contain at-risk plant communities. Recommendations from the review support an expansion of the park in order to protect high biodiversity values, including the at-risk plant communities.

The Board does not have the authority to investigate how the logging would affect the proposed expansion of the park. The Board also does not have the authority to stop harvesting while it conducts an investigation. In this case, the holder of TSL A87125 delayed harvest of the cutblocks until the Board viewed the site and harvesting commenced shortly after completion of the field visit.

The Board is able to investigate the management of at-risk plant communities as it relates to timber harvesting under the *Forest and Range Practices Act* (FRPA).

To address the complainant's concerns, the Board investigated two questions:

1. How is government managing at-risk plant communities in the Chapman landscape unit?
2. How does BC Timber Sales manage at-risk plant communities and what did it do in timber sale A87125?

Background

Timber sale A87125 is located in the 22 645 hectare Chapman Creek landscape unit, on the southwest slope of Mount Elphinstone on the Sunshine Coast (Figure 1). The timber sale was 18.3 hectares over two adjacent blocks and is close to the towns of Roberts Creek and Gibsons. Ecosystems in the Chapman landscape unit are mostly CWH (coastal western hemlock)¹ with the dry maritime (dm) and very dry maritime (xm) subzones both occurring there. The range of the CWHdm includes the south coast of BC and eastern Vancouver Island. Within the Chapman

¹ Based on the BC biogeoclimatic ecosystem classification system.
<https://www.for.gov.bc.ca/HRE/becweb/system/how/index.html>

Landscape Unit, the CWHdm subzone makes up 37.5 percent of the forested area and of this, 42 percent is mature forest and 3 percent is old forest.²

The forest in the lower part of the landscape unit, where A87125 is located, is largely second growth mature forest. Forest harvesting, forest fires, and other land uses have significantly reduced the amount of old forest in the landscape unit. As a result of losing these more structurally complex forests, most of the plant communities are blue-listed or red-listed by the BC Conservation Data Centre (CDC).

The *Landscape Unit Planning Guide* defines mature forest in the CWHdm as greater than 80 years, and old forest as greater than 250 years.

The CDC uses the terms 'ecosystems' and 'ecological community' rather than 'plant community'. The *Forest and Range Practices Act* (FRPA) refers to plant communities and that is the term used in this report.

The CDC ranks species or ecosystems by level of risk. Red-listed species or ecosystems are at risk of being lost (extirpated, endangered or threatened). Blue-listed species or ecosystems are those of special concern. There is no legal protection associated with the rankings.

The CDC developed a protocol for assessing the conservation quality of occurrences of plant communities. The protocol considers the condition, the landscape context, and the size of an occurrence in assigning a quality ranking of poor, fair, good or excellent for ecological integrity. Plant communities found in older forests are more developed and likely to have the greatest conservation value.

The CDC conducted a 'sensitive ecosystem inventory' on the Sunshine Coast and mapped broad sensitive ecosystem units, including mature and old forest, that could contain examples of red and blue-listed plant communities. The two blocks in A87125 are mapped as mature forest ecosystems in the inventory. They are dominated by a western hemlock – flat moss³ plant community. Although this plant community is widespread on the landscape, old forest occurrences are rare. The western red cedar – sword fern⁴ plant community is also present in the blocks, but to a lesser degree and less than five percent of the confirmed occurrences in BC are located in old forest stands. These two plant communities were blue-listed at the time of planning for A87125. In May 2016, the CDC moved the western red cedar – sword fern plant community to the red list, based on updated information on its rarity, but this did not result in any actions by government. BCTS did not change the plan for A87125, as the timber sale was already advertised for auction at the time.

² Chapman Landscape Unit Plan, Ministry of Sustainable Resource Development, 2002.

³ <http://a100.gov.bc.ca/pub/eswp/reports.do?elcode=C1A9CTHPU1>

⁴ <http://a100.gov.bc.ca/pub/eswp/reports.do?elcode=C1A9CTPTT1>

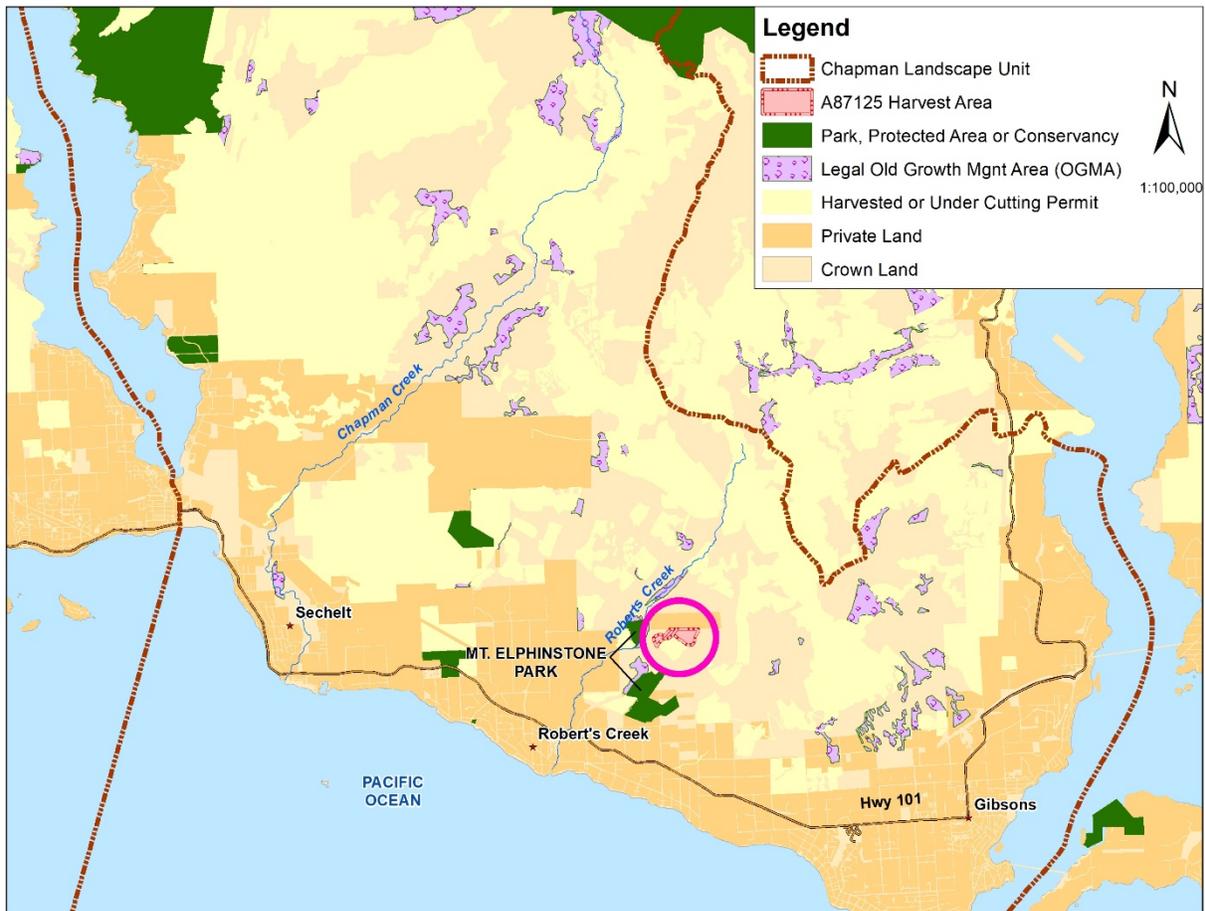


Figure 1: Location of timber sale A87125 within the Chapman Landscape Unit.

Legal Requirements

There are no legal requirements directly relating to the two at-risk plant communities in A87125. The blue and red-lists maintained by the CDC only identify the conservation status of a species or plant community and do not carry any legal requirements. Placement on a list does not initiate any further actions by government.

There is no land use plan for this area or for the Sunshine Coast in general. However, in 2002, government developed a plan that sets objectives for forest resources within the Chapman landscape unit. That plan identified biodiversity objectives, primarily related to old growth management areas (OGMAs). OGMAs are one of the tools government created for managing biodiversity and they protect representative examples of old forest ecosystems on the landscape. Harvesting is generally prohibited in these areas. OGMA selection in the Chapman landscape unit included consideration of red-listed but not blue-listed plant communities in the CWHdm. There is no objective or discussion for blue-listed plant communities in the Chapman landscape unit plan.

Measures to maintain biodiversity such as wildlife tree patches, riparian area retention and OGMAs, may partially or fully protect individual occurrences of plant communities. During the

landscape unit planning process, the Chapman landscape unit was given a lower biodiversity emphasis—a rating system that affects the level of protection given to biodiversity values, primarily old forest retention.

Under FRPA, the Minister of Environment can designate a plant community as a species-at-risk as part of the *Identified Wildlife Management Strategy*. Once designated, government can establish legal tools such as wildlife habitat areas and general wildlife measures to protect habitat. These two plant communities are not designated under FRPA; therefore, forest licensees have no legal obligation to implement conservation measures beyond the basic stand-level biodiversity requirements to retain wildlife trees, either dispersed or in patches, and leave coarse woody debris on the ground.

Also under FRPA, forest licensees are required to prepare a forest stewardship plan that describes results, strategies and measures, showing how the licensee will meet government objectives while conducting its activities in an area.

The Investigation

The Board retained a plant ecologist with experience in ecological classification and conservation on the Sunshine Coast to assess and provide advice on the conservation value of the plant communities in A87125.

The Board conducted a site visit to the two cutblocks in September 2016, with the plant ecologist, the complainant and BCTS, prior to the commencement of harvesting. The primary purpose was to identify and assess plant communities within the timber sale area.

The plant ecologist estimated the stands to be 140 to 150+ years old, older than the estimates from the forest inventory data layer and the cruise, based on six core samples of trees and diameter measurements on numerous other trees throughout A87125. He also concluded that both cutblocks in A87125 are dominated by western hemlock–flat moss (80 percent) with 20 percent western red cedar – sword fern plant community.

Occurrences of these plant communities in old forest are usually well developed and generally considered to have the best ecological integrity. Less-developed occurrences are usually found in younger, but still relatively mature, forest. These occurrences may still be valuable for conservation, especially if remnant old growth feature are present. Using the CDC protocol, the plant ecologist determined the two plant communities in A87125 have fair to good ecological integrity. This assessment was based on the field observations, completed before harvesting.

1. How is government managing the at-risk plant communities in the Chapman landscape unit?

OGMAs established in the Chapman landscape unit met the old growth targets. However, there is no assessment, by either government or BCTS, of the degree to which the OGMA planning process protected blue-listed plant communities, including the two plant communities found in A87125.

Government, through the CDC, designated both plant communities located in A87125 as blue-listed—of special concern—and later moved one to the red-list—at risk of being lost. However, this designation provides no protection or legal requirements for forest licensees. For habitat to be protected in a wildlife habitat area with general wildlife measures, a plant community must be designated as a species-at-risk or regionally important wildlife under FRPA. The 15 plant communities currently designated under FRPA do not include the two communities in A87125. The list has not been updated since 2006 and it appears only red-listed plant communities were included at the time. The Ministry of Environment is in the process of reviewing and revising its procedures for updating the FRPA list.

There are no practice requirements under FRPA nor is there guidance from government for forest licensees to address plant communities that are at risk but not legally designated.

Finding

Government identified the two plant communities as being at-risk. However, these plant communities are not designated under FRPA and therefore there are no legal objectives to conserve them. While government has established OGMA in the landscape unit, it has not assessed whether the at-risk plant communities are represented in the OGMA and it has not provided guidance to forest licensees on how to conserve at-risk plant communities in the absence of legal requirements.

2. How does BCTS manage at-risk plant communities and what did it do in A87125?

BCTS has been active in the Chapman landscape unit for more than 10 years. It has taken steps to address concerns about old growth forests and at-risk plant communities from the complainant and the public in the past. Prior to the development of A87125, BCTS deferred four other cutblocks of concern to the complainant. These included three higher elevation cutblocks and one cutblock adjacent to Mount Elphinstone Park where the concern was also about rare plant communities in stands similar to A87125. BCTS then recommended these four blocks for consideration by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNR) as OGMA. Three of these are now established OGMA and one is managed informally as an OGMA.



Photo 1. Mature forest in A87125

BCTS said it only harvests about half of the amount of timber that it is permitted to take each year in the area near Mount Elphinstone Park. This is consistent with assumptions made by the chief forester for management in community interface areas in the 2011 timber supply review for the Sunshine Coast. BCTS also disperses the harvest around the landscape unit to balance out the age class distributions of the forest. This should reduce the impact on any one plant community.

The BCTS 2012 Forest Stewardship Plan for the Sunshine Coast Operating Area includes strategies to achieve objectives set out in the Chapman landscape unit plan. These objectives address retention of old growth forest through establishment of OGMA's and stand-level biodiversity through wildlife tree retention. As stated earlier, there are no legal objectives for the at-risk plant communities and therefore there is no discussion of the plant communities in the forest stewardship plan.

BCTS policy for at-risk plant communities

In 2015, BCTS management provided staff with a letter of direction on rare plant communities, which states that there is no legal requirement or government guidance for managing rare plant communities that are not included in government's *Identified Wildlife Management Strategy* for species at risk. The letter notes that BCTS's forest management certification requires it to have a program to protect known occurrences of critically imperiled and imperiled species and plant communities.

According to BCTS, because the western red cedar – sword fern plant community was changed to the red-list, it would be addressed in future BCTS planning. However, the direction letter states that the certification does allow for harvesting of these sites as long as it is "done reasonably." This was intended to initiate discussion when these plant communities are encountered. The letter further states that "harvesting blocks in the 2015/16 plan should not impact meeting the certification objectives," and, "it will not be a requirement to protect red or blue-listed plant communities on sales to be sold this fiscal year."

There is further direction in the letter that, for on-going multi-phase development, BCTS will protect red-listed plant communities where practicable and blue-listed plant communities where it fits logically in the lay of the land, but in a manner that does not unduly affect the timber supply. The letter also notes that occurrences in forests greater than 250 years are considered the most important.

BCTS also has a species-at-risk training tool for staff that explains what plant communities are, which are at risk, and the information available on the CDC website. The tool explains that the stand-level measures for species-at-risk include wildlife tree patches and individual tree retention, retaining a deciduous and shrub component, and retaining coarse woody debris. It states that BCTS's focus is on 10 plant communities, including the western red cedar - sword fern community but not the western hemlock – flat moss community. Further, it states that the focus is on old seral stage communities. Consistent with this, BCTS directs timber sale licensees to avoid the oldest areas that may be associated with red-listed plant communities.

BCTS said that management for blue-listed plant communities happens mainly through planning of landscape-level reserves, such as OGMAs and wildlife habitat areas, which is the responsibility of FLNR. BCTS said it does participate in planning initiatives led by FLNR, such as the Chapman landscape unit plan.

Measures taken in A87125

BCTS sold the timber sale in June 2016. The timber sale licence holder began development of the two blocks in late August 2016 and completed harvesting in October 2016.

The wildlife tree retention target for the CWHdm in the Chapman landscape unit is 10 percent of the harvested area. According to BCTS, the area retained as wildlife tree retention in BCTS cutblocks harvested over the last 10 years has averaged 21.2 percent.

For the two blocks in A87125, BCTS planned wildlife tree retention at 10.8 percent in patches and dispersed retention; however, it said that the effective retention over the two blocks is closer to 30 percent if retention along an adjacent creek and recreation trails is included. It also protected trails within the two blocks in consultation with a local recreation group, and reserved all veteran Douglas-fir trees. However, protection of the two plant communities was not the primary rationale for the retention.



Photo 2. Sword fern site in A87125

As mentioned, the CDC moved the western red cedar – sword fern plant community to the red-list in May 2016, indicating it was at greater risk. The site plans state that a Mapview query did not identify any occurrences of ecological communities at-risk within or adjacent to the blocks. BCTS said it received an update from the CDC in June, but it did not trigger a change in the plan for A87125. BCTS did not protect plant communities in the blocks, because the forest stands were approximately 140 to 150 years old, younger than the guidance in its species-at-risk policy.

Finding

BCTS actions are consistent with FRPA requirements and its FSP. BCTS has a protocol for managing at-risk plant communities that is focused on occurrences in old forest stands. The protocol does not require protection of the two plant communities in A87125 because the stands

in the two cutblocks were younger than 250 years old. BCTS's approach is consistent with policy direction to staff.

Discussion

Government and BCTS Actions

The plant ecologist hired by the Board considered the two plant communities found in A87125 to be fair to good occurrences for ecological integrity, based on the level of ecological development, size and the surrounding landscape. Considering the disturbance history of the landscape and scarcity of old forest, these occurrences in older mature forest may have represented some of the best occurrences in this landscape unit. Over time, these sites could have developed into excellent occurrences. However, BCTS notes that government is responsible for allocating the allowable annual cut between multiple licensees. In volume-based tenures, even if an individual licensee voluntarily protects plant community occurrences, there is nothing to prevent another licensee from harvesting the area.

BCTS was under no legal requirement to protect these plant communities, as there were no legal objectives established under FRPA. BCTS protocols for protecting at-risk plant communities focus on old forest stands. The current protocol used by BCTS does not focus on recruitment of mature forest stands that may have fair to good characteristics. This protocol is approved under the third party certification maintained by BCTS; however, it does not apply well in this landscape where old stands are rare due to disturbance history.

The problem in this case is that government has not created any objectives or direction to manage at-risk species that are not listed under FRPA or are not addressed in a land use plan. The standard elements of government's biodiversity strategy—old growth retention, wildlife tree retention, riparian area management, and coarse woody debris retention, will not necessarily protect occurrences of plant communities that are in fixed locations and may not lie within these constrained areas. Where plant communities are outside the boundaries of OGMA's, wildlife tree retention areas, or riparian management areas, they may not be protected.

Elsewhere in BC, there are examples of government providing legal protection for at-risk plant communities. In the Great Bear Rainforest, government set legal objectives to protect all occurrences of red-listed plant communities, and 70 percent of the occurrences of blue-listed plant communities. The regulations only apply to occurrences that meet the definitions by either age or certain structural characteristics. Stands less than 200 years old must have a veteran overstory tree layer and meet criteria for structural stage. The *Haida Gwaii Land Use Objectives Order* contains similar objectives for occurrences of red and blue-listed plant communities that are greater than 0.25 hectares. In 2015, the Board reported on a complaint investigation that involved interpretation of the definition of at-risk plant communities in the *Great Bear Rainforest Agreement* and how it applied to mature forest occurrences.⁵

⁵ <https://www.bcfpb.ca/wp-content/uploads/2016/04/IRC196-Sonora-Island.pdf>

Government also developed guidance on silviculture practices to address red and blue-listed plant communities in the coastal Douglas-fir (CDF) ecosystem and is working with stakeholders to develop a conservation strategy for the CDF.

Voluntary steps have been taken by forest companies to protect red and blue-listed plant communities. BCTS avoids developing timber sales in the CDF. On the Sunshine Coast, another forest licensee developed a plan for protecting red and blue-listed plant communities based on how many occurrences would need to be protected in the landscape to move the plant community to a lower risk level and what proportion of the landscape was within its operating area.

Protection of at-risk plant communities on the Sunshine Coast would be improved by a plan or guidance for licensees on how much to conserve and where to manage for these plant communities. This direction must come from government. Without it, the best occurrences remain at risk from timber harvesting.

In addition, sites that potentially contain occurrences of these plant communities can be identified using terrestrial ecosystem mapping (TEM) and stand age data. TEM mapping exists for the Chapman landscape unit and should be reviewed during future timber harvesting developments, in addition to CDC data, to help ensure that the best occurrences of at-risk plant communities are not being impacted by timber harvesting.



Photo 3. Douglas-fir marked for retention.

Conclusions

The complainant was concerned that timber harvesting by BC Timber Sales would destroy at-risk plant communities. The investigation determined that two at-risk plant communities were present within the timber sale area in question. In the opinion of the plant ecologist retained by the Board, the occurrences were of fair to good ecological integrity, and may have represented some of the best remaining examples in the landscape. The Board examined how government and BCTS are managing for these plant communities and reached the following conclusions.

1. How is government managing at-risk plant communities in the Chapman landscape unit?

Government identified the two plant communities as being at-risk. However, these plant communities are not designated under FRPA and therefore are not protected from logging. While government has established OGMAs to protect representative ecosystems in the landscape unit, it has not assessed whether the at-risk plant communities occur within these

OGMAs and it has not provided guidance to forest licensees on how to conserve at-risk plant communities in the absence of legal requirements.

2. How does BCTS manage at-risk plant communities and what did it do in A87125?

BCTS has a protocol for managing at-risk plant communities that is focused on occurrences in old forest stands. The two plant communities in timber sale A87125 were not considered for protection because there was no direction from government and because the stands were younger than 250 years old, so were not captured by BCTS's protocol. BCTS's approach is consistent with legal requirements and policy direction to staff.

Recommendations

In the Board's view, there were valid occurrences of at-risk plant communities in timber sale A87125 that warranted consideration for protection. The Board notes that BCTS did not bring in a plant ecologist or someone with experience applying the CDC methodology, to assess the occurrences, despite the complainant's concerns.

In accordance with section 131 of the *Forest and Range Practices Act* (FRPA), the Board makes the following recommendations:

1. Government should provide legal objectives or guidance for managing the amount and distribution of these plant communities in the TSA.
2. Government should update the list of plant communities in the Identified Wildlife Management Strategy.
3. BCTS should revise its protocol to include consideration of younger occurrences of plant communities.

In accordance with section 132 of FRPA, the Board requests that Government respond to recommendations 1 and 2, and BC Timber Sales respond to recommendation 3 by June 30, 2018.



**Forest
Practices
Board**

PO Box 9905 Stn Prov Govt

Victoria, BC V8X 9R1 Canada

Tel. 250.213.4700 | Fax 250.213.4725 | Toll Free 1.800.994.5899

For more information on the Board, please visit our website at: www.bcfpb.ca