



Planning for Old Forest on TFL 47 – East Thurlow Island

Complaint Investigation #18020

FPB/IRC/230

March 2020

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Board Commentary

This complaint from a group of Sonora Island residents is about planned forest development by TimberWest on nearby East Thurlow Island, the intent of the *Great Bear Rainforest Land Use Objectives Order* (the Order), and the protection of old forest and red- and blue-listed plant communities.

In 2015, the Forest Practices Board (the Board) published a complaint investigation report regarding implementation of ecosystem-based management (EBM) on Sonora Island. Since then, the Province and First Nations have provided additional clarity to management in this area through revised legal orders, statements of the intent and, most recently, a provincial field guide. This clarity has largely addressed recommendations that the Board made in 2015.

Implementation of EBM in the Great Bear Rainforest is complex and involves management at multiple scales. In order to meet the legal objectives for EBM, a balance is required between strategic targets for conservation and timber harvesting. Implementation of the Order also requires clear operational criteria for the identification of old forest and red- and blue-listed plant communities at the stand level.

Strategically, achievement of the intent of the Order depends on adaptive management supported by effectiveness monitoring. To that end, a review of the Order is planned for 2021. The Board encourages the residents to participate in that review and communicate their perspective on implementation of EBM.

The investigation found that TimberWest's planning is meeting the intent of the Order. TimberWest took proactive steps early in the implementation of the Order by setting out operational criteria to manage for old forest and red- and blue-listed plant communities, and was responsive to the concerns of the residents and new information as it became available.

With the completion of the provincial field guide, there now exist clear stand-level criteria for identification of old forest and red- and blue-listed plant communities. While TimberWest is applying the provincial field guide, its forest stewardship plan (FSP) does not make a commitment to use it. In the future, all licensees operating in the Great Bear Rainforest will need to implement these criteria to ensure the intent of the Order is achieved. However, government has not yet communicated its expectations for use of the field guide to licensees.

Accordingly, under section 131(2) of the *Forest and Range Practices Act*, the Board makes the following recommendations:

- TimberWest amend its FSP content for old forest and listed plant communities to incorporate the provincial field guide criteria for stand-level assessment of old forest and listed plant communities.
- Government clearly communicate its expectations to FSP holders regarding implementation of the provincial field guide within the Great Bear Rainforest.

In accordance with section 132 of FRPA, the Board requests that TimberWest and the Ministry of Forests, Lands, Natural Resource Operations and Rural Development respond to these recommendations by September 30, 2020.

Executive Summary

On February 5, 2018, a group of residents from Sonora Island submitted a complaint to the Forest Practices Board asserting that planned forest developments by TimberWest on East Thurlow Island will not achieve the intent of the *Great Bear Rainforest Land Use Objectives Order* (the Order). They believe that TimberWest is applying the old forest definition in the Order in a way that favors the harvest of timber over protection in the landscape reserve design. They also believe that TimberWest did not take a precautionary approach to planned logging of red- and blue-listed plant communities while the government was developing a field guide to support stand-level identification.

The Board investigated whether TimberWest's planning met the intent of the Order, how TimberWest's planned blocks align with legal requirements for old forest and listed plant communities and the supporting documents,¹ and whether TimberWest's approach to protection of old forest and listed plant communities was reasonable. The investigation included looking at how TimberWest is implementing adjustment of the draft landscape reserve design and recruitment under the current conditions in the Thurlow Landscape Unit.

The Board found that TimberWest's planning for old forest and listed plant communities is meeting the intent of the Order, is consistent with legal requirements, and was approached in a reasonable manner. Given the Order's intent to implement ecosystem-based management (EBM) in a manner that maintains ecosystem integrity and improves human well-being concurrently, the Board concludes that TimberWest is adapting and adjusting its management as expected under an EBM regime.

¹ Supporting documents include the Preamble to the Order, 2016 *Great Bear Rainforest Land Use Objectives Order: Background and Intent* (May 2016), *EBM Implementation in the GBR Landscape Reserve Design Methodology* (July 18, 2016), *Great Bear Rainforest EBM Bulletin* (May 2016), *A Framework for Landscape Reserve Design in the Great Bear Rainforest* (July 4, 2016), *Land Management Handbook 72: Guidelines to Support Implementation of the Great Bear Rainforest Order with Respect to Old Forest and Listed Plant Communities* (2019).

Introduction

The Complaint

On February 5, 2018, a group of residents from Sonora Island (the residents) submitted a complaint to the Forest Practices Board about planned forest developments by TimberWest on East Thurlow Island. The area of concern to the residents is in TimberWest's Tree Farm Licence (TFL) 47, in the Thurlow Landscape Unit (LU), and lies in the southernmost portion of the Great Bear Rainforest (GBR).

The residents assert that TimberWest's planned forest development will not achieve the intent of the 2016 *Great Bear Rainforest Land Use Objectives Order* (the Order), and are specifically concerned about TimberWest's proposed changes to the draft Thurlow Landscape Reserve Design (LRD). They believe that TimberWest is applying the old forest definition in the Order inconsistently, in a way that favors the harvest of timber over protection in the draft LRD. They also state that TimberWest did not take a precautionary approach to logging red- and blue-listed plant communities while the government developed a field guide to support stand-level identification.

In July 2015, the Board published a complaint investigation report titled [*Logging Old Forest on TFL 47 – Sonora Island*](#)² involving the same complainants and the same licensee on nearby Sonora Island. Since the 2015 Board report was published, the residents have maintained a presence on the ground, monitoring TimberWest's operational planning and providing input on the implementation of the biodiversity objectives in the Order. Together, TimberWest and the residents developed a memorandum of understanding to address commitments made by both parties in response to concerns of the residents. TimberWest has included the residents as stakeholders in the planning process, but the residents remain concerned about the approach taken by TimberWest.

Background

Previous Complaint

In 2015, the Board published the results of its investigation of a complaint by the same group of residents about logging by TimberWest on nearby Sonora Island. Following the investigation, the Board provided input to government on development of the new [*Great Bear Rainforest Order*](#), which replaced the land use orders that were the subject of the 2015 report. The recommendations from the 2015 report and the Board's letter commenting on the new Order³ informed new definitions for old forest and listed plant communities, and identified the need for implementation guidance.

The new Order contains improved definitions, clearer and more informative background and intent documentation to support implementation of the Order and, in 2019, the Province issued a field guide to support stand-level assessment of old forest and red- and blue-listed plant communities. These steps have addressed the input from the Board and provide greater clarity about the objectives for this area than existed in the past.

² <https://www.bcfpb.ca/wp-content/uploads/2016/04/IRC196-Sonora-Island.pdf>

³ <https://www.bcfpb.ca/wp-content/uploads/2016/04/150811-Great-Bear-Rainforest-Land-Use-Order-feedback.pdf>

The Great Bear Rainforest Order

The GBR covers 6.4 million hectares of land along the north and central coasts of mainland British Columbia. The southern tip of the GBR includes East Thurlow Island.

The Order attempts to implement ecosystem-based management (EBM) in a manner that maintains ecosystem integrity and improves human well-being concurrently.ⁱ The Order is designed to get to 70 percent old forest representation, and to map most of the targets in the Order. The Order is accompanied by various supporting documents that assist practitioners in implementing the Order.

The Order includes targets for conserving biodiversity at the landscape-level and at the stand-level. Both are relevant to the investigation.

Landscape-Level

Biodiversity objectives established in the Order set out three landscape-level targets that are relevant to this investigation.

1. The **managed forest area target**, which is the amount of area available for timber harvest over time.
2. The **short-term target** or Minimum Old Forest Representation Level, which is the amount of old forest to be set aside for ecological representation as soon as possible.
3. The **long-term target** or Old Forest Representation Target, which is the amount of old forest to be set aside for ecological representation for the long term. All areas making up the long-term target must be old (250 years) by the year 2264.

The intent of ecological representation is to sustain landscape-level biodiversity in a state that is close to the natural range of variation. Across the entire GBR area, the targets aim to achieve a low risk, or precautionary, approach to ecological representation.

Landscape reserve designs (LRDs) are mapped areas of old forest to be set aside to meet the short and long-term targets. At the same time, the managed forest area target must be met by area outside the LRD.

The Order also includes restoration objectives to address ecological representation in landscape units (LUs) that have a prolonged harvesting history and relatively little remaining old forest (greater than 250 years). In these restoration LUs, short and long-term targets are lower because of their current condition, and because of their importance to long-term timber supply.ⁱⁱ East Thurlow Island is located in a restoration LU.

NATURAL FOREST AND MANAGED FOREST

The concepts of *Natural Forest* and *Managed Forest* are fundamental to biodiversity management in the Order, attempting to balance conservation goals and economic goals.

The *Managed Forest* represents the agreed upon number of hectares of forest land within the GBR area dedicated to support a viable commercial forest sector.

The *Natural Forest* represents the number of hectares of forest land within the GBR that continues to grow older over time, subject to natural disturbance and non-forest tenure activity.

In 2014, the Joint Solutions Project⁴ designated independent biologists to design the Thurlow LRD to test the proposed Order targets in a restoration LU. In restoration LUs, due to the extensive harvest history, all remaining old-seral forest must be included in the LRD to contribute towards the short-term target. Numerous stand-level values such as red- and blue-listed plant communities are intended to be captured by the LRD. There are also design elements to account for, such as connectivity and interior forest. Achieving the long-term target requires recruitment of younger forest

that will be old seral by the year 2264. Once the short- and long-term target areas are mapped in the LRD, any addition or removal of area must be balanced by a corresponding removal or addition of area within the same category of site. The design process utilizes the available inventory data and no stand-level assessments occur at the design stage.

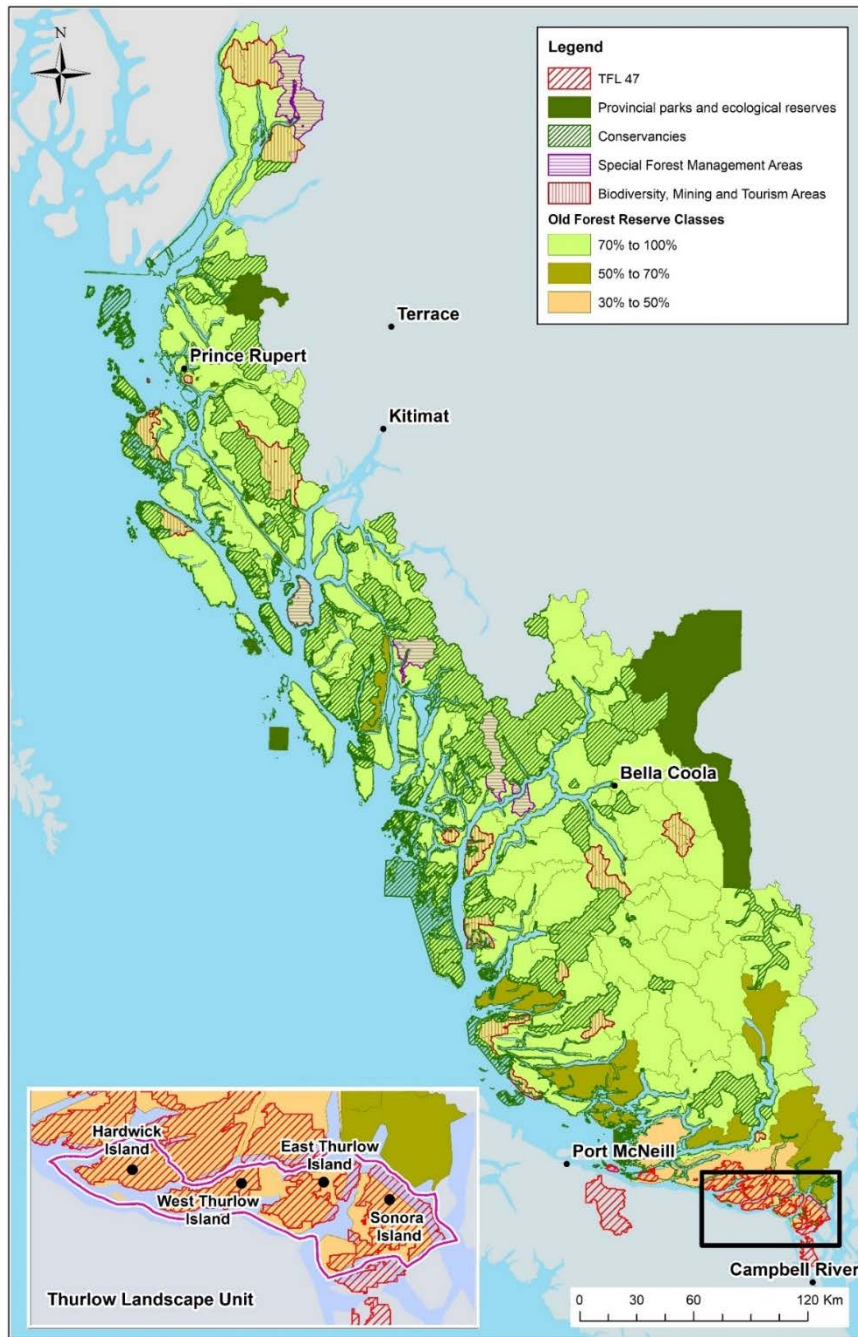


Figure 1. The Great Bear Rainforest Area

⁴ The [Joint Solutions Project](#) is a coalition of forest licensees and the Rainforest Solutions Project. TimberWest is not a member of the Joint Solutions Project.

Stand-Level

Biodiversity objectives in the Order also set out stand-level values relevant to this investigation.

1. Each sufficiently established occurrence of a red-listed plant community is to be protected.
2. A minimum of 70 percent of each sufficiently established occurrence of a blue-listed plant community is to be protected.

The Order identifies listed plant communities, but the list does not necessarily align with the Conservation Data Centre's listed plant communities. The Order's list takes precedence.

Stand-level assessments are necessary to identify these values, but implementation has been challenging due to the lack of explicit field assessment criteria in the Order definitions. The provincial field guide^{5, iii} now sets out the assessment criteria to be used for stand-level assessments to identify old forest and sufficiently established listed plant communities.

Thurlow Landscape Unit – East Thurlow Island

The Thurlow LU is a restoration LU with only 12 percent of old-seral forest remaining. East Thurlow Island is within the Thurlow LU. TimberWest's Tree Farm Licence (TFL) 47 covers 73 percent of East Thurlow Island; this is the area of focus in this complaint investigation (Figure 2).

There is a long history of disturbance from wind, fire, and logging on East Thurlow Island. As a result, only 9 percent of stands on East Thurlow Island contain old-seral forest greater than 250 years, and 8 percent of forest stands are between 120 to 250 years of age (Figure 3).

The younger mature-seral forests between 80 to 120 years of age are heavily relied upon to meet the short-term target and the long-term target as protected old forest, as well as providing harvesting opportunities to meet the managed forest target. These stands tend to have scattered remnant old trees (veteran)—mainly western red cedar and Douglas-fir—that were retained during past harvesting. The stand-level assessment criteria are applied to these mature-seral stands to determine whether they are old forest and sufficiently established listed plant communities under the Order.

⁵ The (draft) provincial field guide referred to in this report is *Land Management Handbook #72 - Guidelines to Support Implementation of the Great Bear Rainforest Order with Respect to Old Forest and Listed Plant Communities* (2019). It was published in August 2019, toward the end of the Board's investigation.

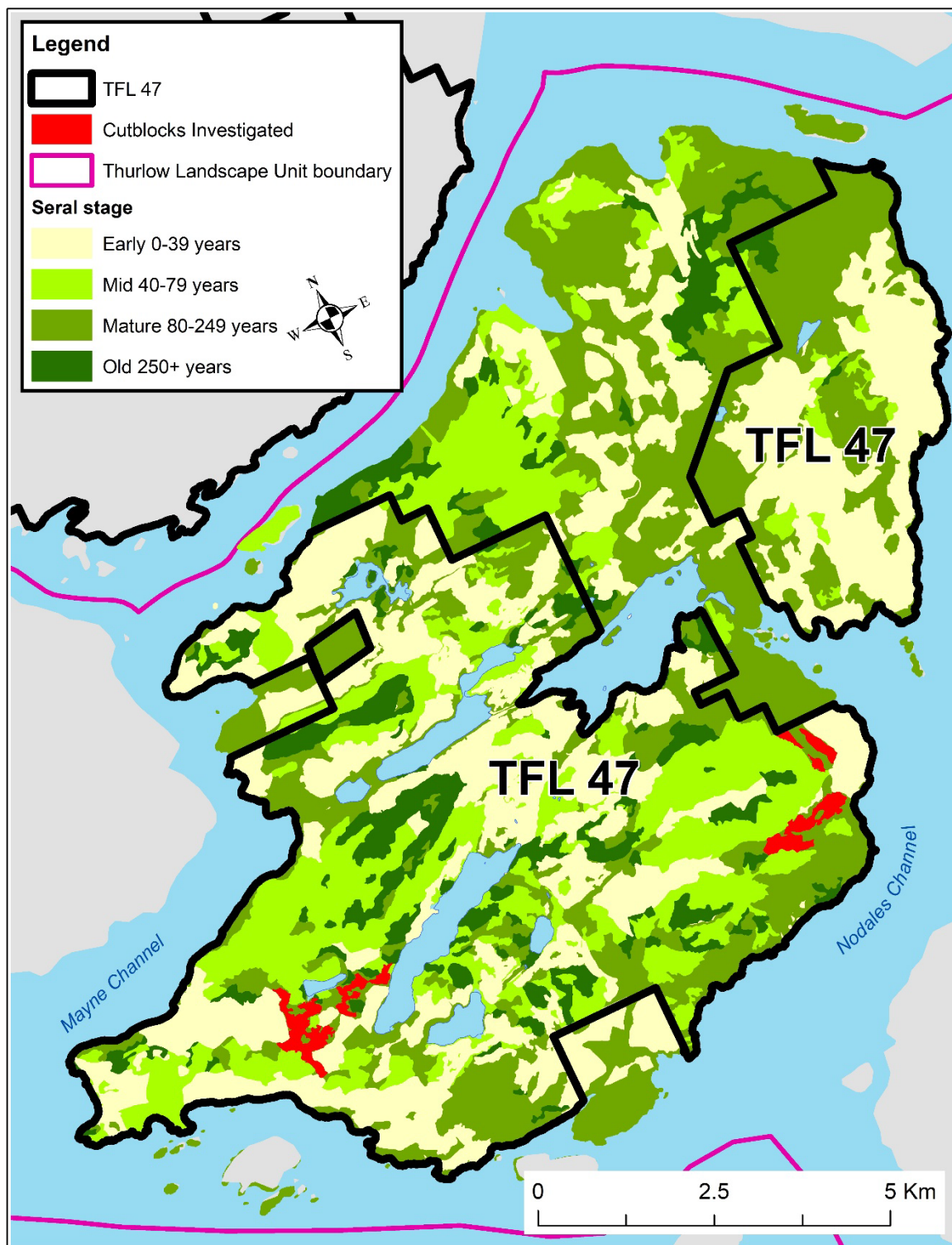


Figure 2. East Thurlow Island Seral Stage Distribution

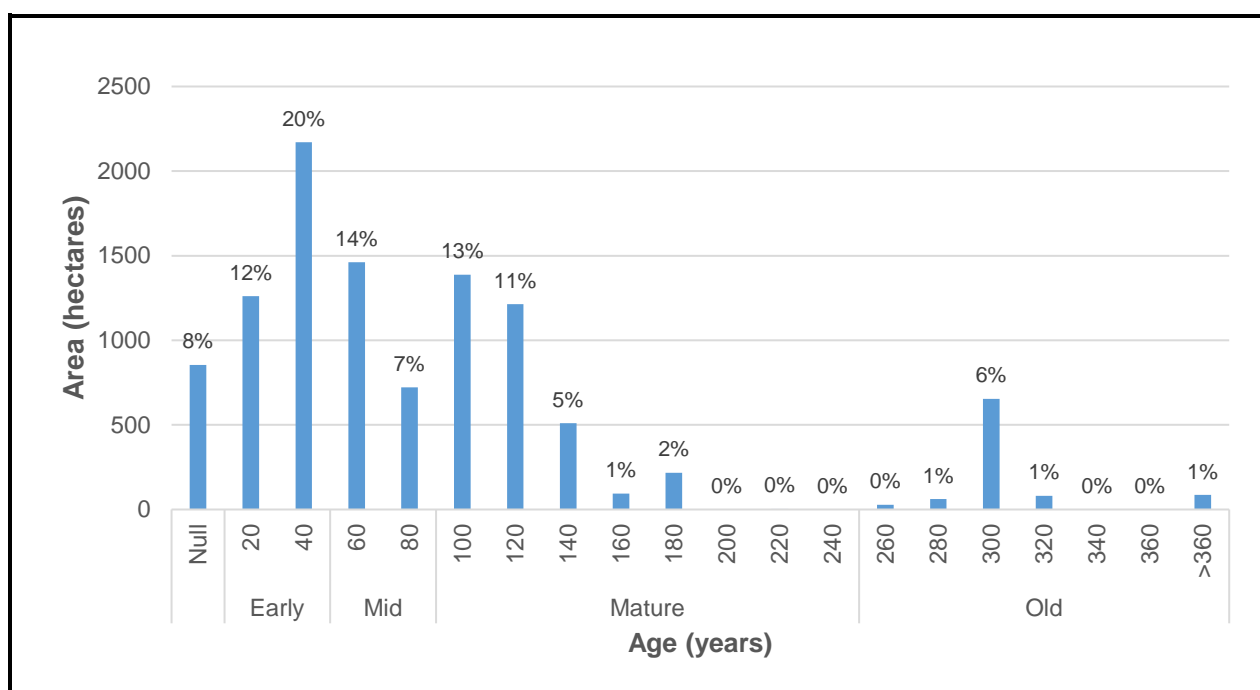


Figure 3. Age class distribution by seral stage on East Thurlow Island

Events Leading up to the Complaint

In early 2016, the residents conducted an informal stand-level review of a portion of the draft Thurlow LRD (draft LRD). The residents identified approximately 650 hectares, or 5 percent of the LRD, that they proposed be replaced by an equivalent area of recruitment forest they deemed better suited within TFL 47. TimberWest supported the proposal, and committed to consult with the residents to seek support for any proposed alterations to the recruitment area.

In 2017, TimberWest began harvest planning on East Thurlow Island. The Order was in effect, but there was not yet any guidance available for stand-level assessments for old forest and listed plant communities. The provincial field guide was not yet available. Therefore, TimberWest put interim criteria in its forest stewardship plan (FSP)⁶ to apply to stand-level assessments for old forest and listed plant communities until the provincial field guide was published. TimberWest based the FSP criteria upon previous interim criteria agreed to by Rainforest Solutions Project⁷ in 2015, but added ages, sizes, and density thresholds to make the criteria measurable and verifiable for FSP approval.

On December 15, 2017, TimberWest sent the residents a referral package including 13 planned cutblocks on East Thurlow Island and proposed adjustments to the draft LRD. The residents had expected that TimberWest would take a precautionary approach to development, not harvesting any stand with a possibility of classification as old forest or sufficiently established listed plant community, until the provincial field guide was complete. The residents' field review of the proposed blocks revealed a gap between their expectations and what was proposed.

⁶ The TimberWest Johnstone Strait FSP was amended to include the Order requirements on September 2, 2016 (amendment #22). That FSP was extended for an additional five years by way of amendment #23 on September 5, 2017.

⁷ A joint initiative of Greenpeace, ForestEthics Solutions, and Sierra Club BC that promotes conservation options and economic alternatives to industrial logging on BC's Central Coast, North Coast and Haida Gwaii.

The residents are concerned that TimberWest is proposing changes to the draft LRD that favor economic timber values over ecological values, including:

- addition of areas that do not improve the ecological condition of the LRD,
- removal of areas that would make good recruitment stands, and
- high-grading the LRD by removing good stands where possible, but leaving the poor stands with less economic value.

The residents are concerned this practice will lead to degradation of the draft LRD over time as the more productive portions of polygons are removed for harvesting and the poorer stand types remain in the draft LRD.

In January 2018, TimberWest agreed to halt harvesting and road construction in five cutblocks to review the residents' concerns. This measure did not satisfy the residents; they are looking for a more comprehensive approach to address their bigger concerns about TimberWest's implementation of the Order in the Thurlow LU.

The residents submitted their complaint in February 2018. Four of the five aforementioned blocks became the focus of the Board's complaint investigation, which looks at whether TimberWest's planning was consistent with the legal requirements and met the intent of the Order. The controversial areas within all five blocks remain as deferred, pending the outcome of the investigation.

Legal Requirements

Licensees working in the GBR must comply with the legal requirements of the *Forest and Range Practices Act* (FRPA), including the Order.

FRPA section 5 requires a FSP to specify intended results or strategies in relation to objectives set by government, including objectives established under section 93.4 of the *Land Act*, such as in the Order. Section 21 of FRPA requires the holder of an FSP to ensure that the results in the FSP are achieved and the strategies in the FSP are carried out.

The TimberWest FSP includes results or strategies to address the landscape-level and stand-level biodiversity objectives in the Order. The investigation focused on the FSP content related to identification of old forest at the stand-level and identification of red- and blue-listed plant communities (listed plant communities) – the interim criteria.

Legal Requirements for Old Forest

The Order requires achievement of the short-term target as soon as possible, and the long-term target by 2264. This is achieved by preserving old forest. TimberWest must achieve the legal requirements by following the results or strategies set out in its approved FSP, which must be consistent with the Order.

The FSP defines interim field assessment criteria for determining whether a mature seral stand is old forest.

In the Order, "Old Forest" is defined as any of the following:

- a stand of trees 250 years or older;
- an old, structurally complex stand comprised mainly of climax species where older seral remnants may still be present in the upper canopy and typically have:
 - standing snags;
 - rotting logs on the ground; and
 - patchy understories; or
- a stand of trees that has reached the climax state for the ecosystem it is found in where trees naturally cycle at an age less than 250 years.

The FSP requires protection of any old seral forest greater than 250 years and that is at least 0.25 hectares in size. For mature seral forests at least 1.0 hectares in size, the FSP sets out field assessment criteria to determine whether these stands contain the necessary structural attributes to be old forest. If a stand of trees meets the FSP criteria for old forest, TimberWest's process is to defer it from harvest and propose it for addition to the draft LRD or other form of retention.⁸

Legal requirements for Listed Plant Communities

The Order also requires protection of all sufficiently established red-listed plant communities and 70 percent of each sufficiently established blue-listed plant community from harvest. There are schedules to the Order that set out the red and blue-listed plant communities requiring protection under the Order. The presence of a listed plant community can be estimated using the inventory data, but cannot be confirmed without a stand-level assessment.

TimberWest's FSP also defines interim field assessment criteria for determining the potential for a sufficiently established listed plant community to exist. If a stand meets the FSP criteria, TimberWest's process is to defer the area from harvest until the provincial field guide can be applied to adequately assess whether the listed plant community is sufficiently established on the site. The TimberWest FSP states that a potential sufficiently established listed plant community may only exist in stands that are at least 0.25 ha in size (discrete occurrence) and meet one of these criteria:

- i. have an inventory age of 120 years or greater,
- ii. are a floodplain ecosystem, or
- iii. have a Veteran Overstory Tree layer.

In the Order, "sufficiently established" is defined as:

- a Red-Listed Plant Community or Blue-Listed Plant Community most commonly associated with late mature or Old Forest stand characteristics, with the exception of floodplains, or
- a Red-Listed Plant Community or Blue-Listed Plant Community found in a stand not defined as Old Forest but with a complex, open stand structure, along with a quantity and distribution of indicator plants for the listed community, that constitutes an element occurrence with a good or better viability rank.

The FSP defines a "**Veteran Overstory Tree**" or **VOT**, as a tree that is at least 80 years older than the main stand and either 25 percent greater in height or 50 percent greater in diameter at breast height (dbh) than the average dbh of the codominant and dominant trees of the same species in the main stand.

The FSP establishes a required "**Tree Score**", a numerical value assigned to each VOT in the stand that increases with the dbh. If the required tree score is achieved, a VOT layer is present in the stand.

If any of these three criteria are met, the stand is considered to have potential for a sufficiently established plant community.

⁸ The Order enables three tools to protect old forest or listed plant communities from harvesting: 1) incorporation into the LRD; 2) a temporary old forest reserve; and 3) stand retention. Occurrence size, location, and characteristics will determine which tool to use.

The definition of a stand varies slightly between the Order, the TimberWest FSP, and the draft provincial field guide (see Figure 4). But the legal requirement for TimberWest to follow is the FSP.

	Order 250+ years FSP 250+ years* Field Guide 250+ years	Order not defined FSP < 250 years* Field Guide 80 to 249 years	Order >200 years of age FSP 120+ years Field Guide 250+ years	Order <200 years of age FSP VOT layer present Field Guide 80-249 years		
	Old Seral Forest	Mature Seral Forest	LPC Discrete Occurrence	LPC Complex Occurrence	LPC Discrete Occurrence	LPC Complex Occurrence
Order	No min stand size specified**		0.25 ha	2.0 ha	No min stand size specified	
FSP	0.25 ha	1.0 ha	no min stand size specified***		0.25 ha	2.0 ha
Field Guide	0.25 ha****	0.25 ha****	0.25 ha	2.0 ha	0.25 ha	2.0 ha
<p>*Not defined in the FSP, but confirmed verbally by TimberWest</p> <p>**The LRD Methodology implies 1ha minimum stand size for Old Forest</p> <p>***All stands 120 years or greater deferred until provincial field guide criteria can be applied to assess whether sufficiently established.</p> <p>**** Smaller patches <1 ha suggested for stand-level retention or Temporary Old Forest Reserves vs. LRD inclusion for stands >1 ha based on local considerations.</p>						

Figure 4. Definition of a Stand

The Investigation

The residents are concerned that TimberWest's planning for old forest and listed plant communities does not meet the intent of the Order.

Did TimberWest's planning on East Thurlow Island (in TFL 47) meet the intent of the Order?

The Board investigated whether TimberWest's planning on East Thurlow Island (in TFL 47) met the intent of the Order and was consistent with the legal requirements. The investigation examined the legal requirements for old forest and listed plant communities as set out in the approved TimberWest FSP and how four of TimberWest's planned blocks aligned with those legal requirements. In addition to looking at compliance with the FSP requirements, the Board also compared the results to the provincial field guide to help assess whether TimberWest's approach was reasonable.

The investigation considered how TimberWest is implementing adjustment of the draft LRD and recruitment on East Thurlow Island (in TFL 47). It also considered TimberWest's approach compared to the legal framework, the supporting documents, and how they have responded to the concerns and input from the residents.

Board investigators conducted interviews, reviewed supporting documents, examined the inventory data and the FSP, and field-reviewed the four cutblocks.

Results of Field Review

Compliance with the FSP

Board investigators field-reviewed a total of 104 hectares within four planned TimberWest blocks on East Thurlow Island that proposed LRD adjustment areas. The field review included an expert ecologist, hired by the Board, who carried out ocular estimates. Some individual tree ages were measured.

The Board found the stand-level assessments were consistent with the FSP criteria for old forest and listed plant communities, with the exception of one small polygon in block 9-20B. The polygon is 0.4 hectares in size, and is old seral forest according to the inventory data but was included in the planned cutblock. The Board's field review indicated a stand age of approximately 200 years, while the site plan for the block indicated an age of 93 years. The polygon met the FSP criteria for a VOT layer, but not the minimum polygon size of one hectare for mature seral forest. However, the polygon was in a listed plant community, was older than 120 years, and did exceed the minimum polygon size of 0.25 hectare for listed plant communities; therefore, should have been deferred from harvesting until the approved provincial field guide was available to enable an assessment of sufficiently established. TimberWest had proposed the area for removal from the LRD and included it in the block.

The 0.4 hectare area has since been deferred from harvest and is, therefore, not a non-compliance situation. This demonstrates the need to ensure adequate stratification of old forest and listed plant community polygons using the approved FSP minimum polygon sizes to achieve the FSP criteria.

Consistency with the Provincial Field Guide

The Board then compared the field results to the draft provincial field criteria to see how they compared.

In two of the blocks, 9-7B and 9-20B, small areas of mature seral forest proposed for removal from the LRD, and areas within the block, were consistent with the FSP criteria and not considered old forest. However, when these areas were assessed using the draft provincial field guide, they met or came close to meeting the criteria for old forest.

Subsequent to the Board field review, TimberWest conducted further field work in these blocks, using the draft provincial field guide criteria, and deferred all the potential old forest or sufficiently established listed plant communities from harvest (20.2 hectares) so they could be re-evaluated with the final provincial field guide.

In the other two blocks, 9-21 and 9-22, the Board field review did not identify any potential old forest or potential sufficiently established listed plant communities based on the draft provincial field guide criteria. However, the residents remain concerned that potential sufficiently established listed plant communities exist on 9-22, and they believe 9-21 is a top recruitment option due to the productivity and leading species of the stand. Although productivity of a stand is one recruitment consideration of many included in the guidance, leading species is not. Regardless, TimberWest deferred 22 hectares of these two planned blocks to ease the concerns of the residents.

Based on the Board's field analysis, TimberWest deferred the 20.2 hectares that was likely old forest and also deferred an additional area of 22.2 hectares where the Board found no issues, to alleviate the residents' concerns. TimberWest will re-evaluate these areas using the provincial field guide criteria, pending the outcome of this investigation. It will be up to the LRD designer to consider the evaluation and determine whether these areas will be included in the LRD or not.

Block	FSP criteria met	Draft Field Guide result	Total Block Area (ha)	Deferred Area (ha)	Percent of total area
9-7B	Yes	Pockets of OF*/LPC**	15.8	5.8	
9-20B	No, 0.4ha LPC	Pockets of OF/LPC	40.1	14.4	
Deferred due to discrepancy between FSP and Field Guide			55.9	20.2	19% of 104.2 ha
9-21	Yes	Not OF or LPC	14.8	8.3	
9-22	Yes	Not OF or LPC	33.5	13.9	
Deferred voluntarily based upon residents' ongoing concerns			48.3	22.2	21% of 104.2 ha
Total area investigated			104.2	42.4	41%
*Old Forest **Sufficiently Established Listed Plant Community					

Figure 5. Results of Field Review

Due to the difference in outcomes on the ground between the draft provincial field guide criteria and the FSP criteria on two of the blocks reviewed by the Board, the Board assessed how the FSP criteria for old forest and listed plant communities compared to the draft provincial field guide.

In the FSP criteria for listed plant communities, it is unclear what the minimum polygon size is for potential sufficiently established listed plant communities in stands with a VOT layer. This lack of clarity is compounded by errors in section number references within the strategy. There is a chance that sufficiently established listed plant communities between 0.25 and 1.0 hectares in size are not addressed based on application of the FSP criteria. The old forest criteria includes a larger minimum stand size than the provincial field guide for mature seral forest. This introduces the potential for patches (0.25 > 1.0 hectare in size) of mature seral forest with adequate VOT density to be harvested.

Furthermore, the FSP states the interim criteria for old forest and listed plant communities will only apply until the provincial field guide is approved, but does not include a commitment to comply with the provincial field guide once it is in place. The result of this oversight is that no criteria for old forest and listed plant communities apply in the FSP strategy since the provincial field guide was approved in 2019.

The FSP states "Until such time as the GBRO field manual for old forest is approved by MFLNRO, or there is another approach approved by MFLNRO for defining stands with remnant old trees as Old Forest, the holder of this FSP will define a stand of trees that contains old trees as old forest provided it meets the following criteria:"

TimberWest's Efforts to Implement the Order

TimberWest told the Board that it took into account input from the residents when it developed the interim criteria for the FSP. The residents and TimberWest worked together during development of the previous orders and leading up to the current Order. This included field trips with the residents to cutblocks on Sonora Island to discuss old forest and listed plant communities in relation to current cutblocks, and collaboration with Rainforest Solutions Project on interim old forest criteria.

TimberWest added a minimum stand size of 0.25 hectares for old seral forest to the FSP criteria based upon specific input from Rainforest Solutions Project during the public review and comment period on the FSP. Once the draft provincial field guide became available, TimberWest considered those criteria in addition to the FSP interim criteria. They have been applying the provincial field guide since it was approved in August 2019.

Before the complaint was filed, TimberWest referred blocks to the residents before conducting a quality review of the block design carried out by contract field crews. The residents identified areas to TimberWest where they disagreed with the field crews' block designs. The Board viewed a sample of these sites during the field investigation. In most cases, TimberWest had already refined the boundaries to address the residents' concerns. Increased oversight of the fieldwork may have addressed some of the quality-related issues, but others such as boundary placement in these complex stands require developing and adapting the approach over time.

TimberWest responded to the residents' initial concerns by conducting a review of the 13 planned blocks; the review included the residents and the LRD designer. TimberWest indicates the review resulted in 75 percent of the area proposed as LRD adjustments remaining unchanged because they met the expectations of the LRD designer.

The definition of EBM in the GBR suggests that adaptive management is part of the implementation process. Since the complaint, TimberWest has adapted its planning regarding the assessment of old forest and potential sufficiently established listed plant communities to be consistent with the provincial field guide and it has increased its oversight of the field crews. Between April 2018 and December 2018, TimberWest held two training days for field crews, and sent crews back to reconsider the layout on blocks already under cutting permit (but not yet harvested) and to assess them against the draft field guide criteria. This degree of licensee oversight is especially important in the early stages of implementing a new complex management regime, to ensure the results on the ground meet the intent.

The residents remain concerned that if they had not been out there monitoring TimberWest, these adjustments may not have occurred. They are not confident that TimberWest will continue its efforts to review and adjust implementation over time. To date, government is not monitoring the on-the-ground results of implementation of the Order requirements.

Findings

TimberWest's operational planning was consistent with the FSP criteria for old forest and red and blue-listed plant communities. The Board identified one small 0.4 hectare area, out of 104 hectares, that had potential sufficiently established listed plant community and should not have been proposed to remove from the draft LRD. TimberWest deferred the area, resulting in consistency with the legal requirements.

The FSP criteria used to identify potential sufficiently established listed plant communities lack clarity on what minimum polygon size applies to stands with a VOT layer. The FSP also states the old forest and listed plant community criteria only apply until the provincial field guide is approved, but does not make a commitment to follow the provincial field guide once approved.

Application of TimberWest's FSP criteria resulted in 20 hectares, or 19 percent of the area investigated, classified differently than if the draft provincial field guide had been applied. When the draft provincial field guide criteria were applied, the areas were classified as old forest and would not have been included in the proposed cutblocks, had that been the legal requirement. However, TimberWest subsequently deferred the area until the final provincial field guide could be used to confirm the presence of old forest and/or sufficiently established listed plant communities.

TimberWest voluntarily deferred another 22 hectares, or 21 percent of the area investigated, that was of concern to the residents, even though both the FSP and the draft provincial field guide assessments indicated no old forest or sufficiently established listed plant communities were present.

Implementation Issues Contributing to the Residents' Concerns

During the investigation, concerns of the residents related to implementing old forest and listed plant communities in accordance with the Order, became apparent. These concerns are addressed here as they provide important context for considering whether the intent of the Order is being achieved by TimberWest.

Recruitment in a Restoration LU

The Board's analysis indicates that in the Thurlow LU, the long-term target will result in about 32 percent of the LU protected as old forest by 2264. The short-term target, or 20 percent of the LU, must be protected as old forest immediately. The difference between the short and long-term targets, approximately 12 percent or 4700 hectares, is the opportunity for recruitment of old forest for the long-term. The Order does not set legal objectives specific to recruitment values, therefore the TimberWest FSP does not include any criteria specific to recruitment.

The intent of recruitment outlined in the LRD Methodology is:

1. *To restore old-growth forest,*
2. *To achieve a reserve system that over the long term has a good geographic distribution of representation, habitat and capture of the other values listed in the objectives.*

The goal for recruitment is:

To capture the actual values on the land base while also meeting the managed forest area target.

The residents are concerned that the representation of more productive forest types within the LRD is being diluted due to the approach to representation in the Order and that the small amount of old seral forest remaining in the LU exists primarily on poorer productivity sites. They believe there should be a focus on recruitment of more productive forest types to achieve the long-term target.

The intent of recruitment is to restore old growth forest and achieve a reserve system that captures the values listed in the objectives. The LRD Methodology does reference site productivity as a consideration of ecological utility for recruitment as the more productive sites are likely to develop structural diversity more quickly, but productivity of a stand is only one factor to consider in the

decision-making process. The LRD designer and TimberWest first have the Order legal requirements to consider for protection in the LRD. The recruitment process is complex, must consider many variables, and ultimately lead to decisions that align with the intent of recruitment for the long-term.

TimberWest believes, based on its operational knowledge and the inventory data, that the draft LRD is representative of the more productive sites of concern to the residents. The residents are not confident in the inventory data based on their stand-level observations of the draft LRD. TimberWest and the LRD designer have been working closely with the residents to understand what the residents' view as ecologically important for recruitment to the draft LRD and are attempting to balance the residents' views of recruitment value with the legal requirements of the Order, including the managed forest area target. TimberWest implements this balance through stand-level operational adjustment of the LRD during forest development activities.

Operational Adjustment of the LRD

There are no legal objectives in the Order relative to operational adjustment of the LRD. The legal requirement is that the targets be achieved, therefore, the TimberWest FSP does not directly address a process for LRD adjustments. The supporting documents outline the technical approach to the LRD design and adjustment process.

The GBR Background and Intent document clearly states that the Managed Forest and Natural Forest areas set the context within which other objectives can be achieved. Therefore, achievement of the short and long-term ecological representation targets cannot negatively impact the managed forest area target. Currently in the Thurlow LU there is a managed forest area target deficit of approximately 1200 hectares,⁹ therefore some harvestable area must be removed from the draft LRD.

TimberWest proposes potential adjustments to the LRD based upon stand-level assessments carried out during the forest development process. As the Thurlow LRD is still in draft, the LRD designer must approve any adjustments to it.

The residents are concerned that TimberWest is proposing adjustments to the LRD that will lead to degradation of the LRD over time, as the more productive portions of polygons are removed for harvesting and the poorer stand types remain in the draft LRD. TimberWest is concerned that the residents have related site productivity to ecological value, whereas the guidance for LRD design considers multiple factors not directly including site productivity.

The Order targets are based on the inventory data, which is strategic in nature. This type of inventory is useful for setting broad targets and strategic planning, but is not designed for making stand-level decisions. As a result, a reasonable approach to operational adjustment of the LRD at the stand-level should consider the readily available information, the supporting guidance, and expert opinion where required in order to be consistent with the legal requirements and to achieve the intent of the Order.

The operational adjustments proposed by TimberWest and investigated by the Board were consistent with the requirements of the FSP for old forest and listed plant communities. Due to the managed forest area target deficit in the Thurlow LU, TimberWest is working with the LRD designer, an expert ecologist, and the residents, trying to find opportunities to improve the balance between the managed forest area target and what is protected in the draft LRD.

⁹ The managed forest area target shortfall has resulted from numerous issues, mostly related to changes in data between initiation of the draft LRD and present.

Sometimes the planning process identifies stand-level values such as old forest or listed plant communities outside the draft LRD, and these values are required to be included in the LRD. When this occurs, a corresponding area from the same category of site must be removed from the LRD to prevent over-achievement of the long-term target and impact to the managed forest area target. The corresponding removal area cannot contain a value that is legally protected by the Order. This means the recruitment areas that are suitable for harvesting are some of the best options for removal from the LRD, in order to improve the managed forest area target deficit.

Operational adjustment of the LRD is complex, and TimberWest is taking into consideration many variables when proposing adjustments, some supported by the Order and supporting guidance, and others not. Until the LRD is finalized, the decision to adjust the LRD resides with the LRD designer, who also must consider the range of variables. The Order and supporting documentation clearly state that the Managed Forest and Natural Forest areas set the context within which other objectives may be achieved. This sets the context for the Board in considering whether TimberWest's actions met the intent of the Order.

Conclusions

The Board considered whether TimberWest's planning for old forest and listed plant communities on East Thurlow Island in TFL 47 met the intent of the Order.

Proper implementation of the Order requires compliance with the legal requirements, and an understanding of the intent of the objectives and the Order itself. When ambiguity exists in the interpretation of the legal requirements, intent guides practitioners in applying discretion in a diligent manner. In the GBR, there are supporting documents to inform the understanding of intent. Furthermore, implementing EBM requires learning and adapting over time in order for plans and practices to be effective. This aligns with the definition of ecosystem-based management for the GBR- *"an adaptive approach to managing human activities that seeks to ensure the coexistence of healthy, fully functioning ecosystems and human communities."*^{iv}

TimberWest is balancing the resident's perspectives on ecological integrity with the legal requirements and the supporting documentation to the Order. The managed forest area target deficit makes it necessary for TimberWest to find harvestable area within the LRD. This means they are looking to the younger mature seral stands for harvesting opportunities, just as the residents are looking to those same stands for recruitment opportunities.

TimberWest complied with legislation and plans relevant to this investigation. TimberWest has acted in a precautionary manner with respect to management of old forest and listed plant communities in TFL 47 on East Thurlow Island. They demonstrated leadership in FSP development, incorporating interim assessment criteria for old forest and listed plant communities when the provincial field guide was not available. They responded quickly to concerns expressed by the residents, deferring harvesting of controversial areas. They adopted the draft provincial field guide criteria at an early stage to apply the best available information to stand-level assessments. They have relied on expert opinions to inform their planning and approach.

Given the Order's intent to implement ecosystem-based management in a manner that maintains ecosystem integrity and improves human well-being concurrently, the need to address the managed forest target shortfall in the Thurlow LU, and the actions of TimberWest to adapt and adjust its stand-level management in consultation with the residents, the Board concludes TimberWest is meeting the intent of the Order on East Thurlow Island.

ENDNOTES

ⁱ *Great Bear Rainforest Land Use Order*, Preamble, January 2016

ⁱⁱ EBM Implementation in the GBR Landscape Reserve Design Methodology, July 18, 2016

ⁱⁱⁱ Banner, A., D. Meidinger, R.N. Green, and S.C. Saunders. 2019. Guidelines to support implementation of the Great Bear Rainforest Order with respect to Old Forest and Listed Plant Communities. Prov. B.C., Victoria, B.C. Land Manag. Handb. 72. www.for.gov.bc.ca/hfd/pubs/Docs/Lmh/LMH72.htm

^v The Scientific Basis of Ecosystem-Based Management, Coast Information Team Compendium Team, March 2004



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