

# The Last Spruce Grove: Old Growth, New Conflict

by

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## Pre-Class Assignment

Answer the questions below after you have read pp. 1-12 of “Old Growth Ecology” by Silva Ecosystem Consultants (<http://www.silvafor.org/assets/silva/PDF/Literature/OldGrowthEcology.pdf>).

### Questions

1. According to the authors of the review, what two primary factors define a forest stand as “old growth”?
2. Give a specific example of each factor listed above.
  - i.
  - ii.
3. You have been hired to compare two forest stands growing in similar abiotic conditions of the temperate rain forest. One forest stand is composed primarily of Amabilis fir and Western hemlock. The second stand is composed of Western red cedar and Douglas fir. Based on this information, which stand would you suspect to be farther along a successional pathway? Why?

## Part I – Old Growth Forests

The west coast of Vancouver Island supports one of the rarest terrestrial biomes, the temperate rainforest. This forest once stretched, uninterrupted, from Alaska to northern California. With moderate temperatures, fertile soils, and copious amounts of precipitation, these forests contain some of the largest and oldest trees on the planet. There are still tracts of old growth trees scattered throughout, one of which has been referred to by the media as “The Last Spruce Grove.”

The government of British Columbia considers a stand within a coastal forest to be old growth if the trees are, on average, more than 250 years old (Ministry of Forests, Lands & Natural Resource Operations, <http://www.for.gov.bc.ca/hfd/pubs/docs/mr/mr112/page14.htm>).

### Questions

1. How does the governmental definition for “old growth” differ from the definition presented by Silva Ecosystem Consultants in your assigned reading? Why might the government use a different definition?
2. Do the photographs in Figure 1 depict an old growth stand? How can you tell?



Figure 1. Cathedral Grove, Vancouver Island, British Columbia. *Credit:* Celeste A. Leander.

## Part II – The Logging Plan

“The Last Spruce Grove” is a 100-hectare parcel of land adjacent to the Huu-ya-aht First Nations (HFN) village of An’acla. It also lies near the town of Bamfield, which houses a marine station, and is across the gravel logging road from the start of the West Coast Trail, which is popular with hikers. The spruce grove is privately owned by a timber company, which has submitted a plan to harvest this stand of trees.



Figure 2. Map of Huu-ay-aht tribal territory (Source: Wikimedia Commons, <https://commons.wikimedia.org/wiki/File:Huu-ay-aht.png>, *p.d.*).

Because of the close proximity to An’acla, an archeological assessment is required before a harvest plan is permitted. The independent archeological assessment, reported by Baseline Archeological Services in July of 2005, identifies at least 10 sites of “archeological concern,” most of these being culturally modified trees (or CMTs). (A CMT typically has had barked stripped away for use in making baskets or cloth; see Figure 3.) As heritage objects, CMTs are protected by a complex set of laws. The Heritage Conservation Act quantifies the significance of these trees based on the age of the tree, time of modification, and condition of the tree. The government recommends canceling or delaying the harvest plan and requires a “Site Alteration Permit” when CMTs have been identified. Violation of this protection can result in a maximum fine of \$1,000,000 for a corporation. If permits are granted, consultation with nearby First Nation bands ensues to establish appropriate buffers of trees that are to remain around each of the significant CMTs.



Figure 3. Coast and Kayak Magazine (used with permission), <http://www.coastandkayak.com/2003/fm03modtree.html>.

In response to growing public concern, the logging company decides to forge a deal with the Huu-ya-aht band to oversee and contract logging operations. This decision, which is signed by the Chief Councilor of the Huu-ya-aht, is very contentious among band members, many of whom live over 100 km away in the larger town of Port Alberni. As part of the agreement, the Huu-ya-aht band will be given the opportunity to buy back much of the land once logging is complete.

In the spring of 2005, Dennis Morgan (a Bamfield resident) wrote an article in the local newsletter describing the conflict. In groups, read the article (reproduced below) and take notes addressing the following questions:

### Questions

3. Who are the major stakeholders in this scenario?
  
4. If logging commences, what are some potential consequences to the restored salmon stream and to Pachena Bay?
  
5. What community-level interactions can you identify?

## A Brief Background on the Pachena Logging

By Dennis Morgan

(Originally published in 2004, reprinted with permission.)

This article is provided to give some basic information about the area to be logged, who is involved, and what the efforts to provide input to the development have been to date.

### The Area

With a maximum elevation of 20 m above sea level, the area is a classic old growth floodplain complete with side channels, small creeks and wetlands that provide important winter refuge and rearing habitat for coho salmon and trout. The cutblock is on the banks of the Pachena River and hosts a mix of species, including cedar, hemlock, and some very large Sitka spruce that need areas just like this (just as they do in the Carmanah Valley) to reach near-record size. Indeed, students from the Bamfield Sciences Centre (with their instructor Dr. Barb Beasley) found spruce nearing the size of those listed in the provincial big-tree registry.

The area is also home to some unique and rare species, including Redwood Sorrel (*Oxalis oregano* – a small clove-like plant rare in this area), the western red-legged frog, the warty jumping slug (really!) the Sitka/step moss plant community and potentially the pacific water shrew (one was spotted upstream of the area): all listed as threatened or endangered species or plant communities by the provincial government. As well, elk, deer, bear, otters, cougars and a host of other “common” species make use of the area.

Within the boundaries of the cutblock there have been identified almost 100 Culturally Modified Trees (CMTs), indicating that the area was widely used by HUU-ya-aht people for centuries. Also, the old Mabens homestead is surrounded by the cut, and the old access road, bridge and part of the drainage system will likely be destroyed by the roads and cutting.

### *Who's Involved*

The land in question was, until earlier this year, part of Tree Farm License (TFL) 44, managed by Weyerhaeuser. However, Weyerhaeuser carried out a successful campaign earlier this year and convinced the Ministry of Forests, with no public consultation, to allow them to remove all of their private lands from the TFL. Once that happened, they very quickly put themselves up for sale, and were purchased by Brascan, a large Ontario-based “management” company. Brascan (now known as Brookfield Asset Management) quickly created two separate companies—Cascadia Forest Products (which manages the public land portion of the TFL and which in the last month has been sold to Western Forest Products) and Island Timberlands Limited Partnership, which took over the private lands. Island Timberlands (ITLP) is the one who are working with the Huu-ay-aht First Nation (HFN) Forestry Department to carry out the logging of the Pachena floodplain. The Huu-ay-aht Chief Councilor, Robert Dennis, signed an agreement earlier this year, which allows the HFN to carry out much of the contracting for the logging, engineering, road-building etc., and with the funds from these services purchase some of the logged lands as well as some other land to the north of IR 12 (Ana’cla). The Huu-ay-aht would then develop these lands for housing and economic development purposes.

### *The Harvest Plan*

As stated, the area is private land, and as such the owners can largely do whatever they want regardless of any ethical considerations or community concerns. Protection of biodiversity is essentially non-existent under the Private Land Regulations, and there are also no provisions for community consultation, visual buffers, protection of large trees, red-blue-listed species, adjacency to Reserves or Parks or any of the concerns that have been expressed by residents of Bamfield and Ana’cla. Even fish-bearing streams can be logged to the banks in places, with Federal Fisheries laws kicking in only after the fact if damage has been done to fish habitat.

The harvest plan involves clear-cutting (meeting, in this case, the changing definition of “Variable Retention”) of approximately 73 hectares and the building of 3.4 km of road to remove approximately 33,000 m<sup>3</sup> of timber. Most of the Culturally Modified Trees (CMTs) in the area will be logged. The eastern boundary of the block runs alongside and into a large wetland and then along “Shaky Bill’s” creek (a small but productive coho stream which has had restoration work done to it.) The western boundary of the cutblock runs right up against a significant side channel that provides a winter home to young coho salmon. One small piece will come very close to the Pachena river just below the big bridge (which will destroy part of the old West Coast Trail), and another will be adjacent to Pacific Rim National Park Reserve. At the northernmost end lies the Pachena river, and this area, according to ITLP representatives, will receive a buffer of 50m. The protection of all other streams will not be as generous, as they will be buffered according to Private Land Regulations, which state that you only have to retain 10 trees every 100 metres—this may mean that in some cases logging right to the stream banks occurs. This represents a throw-back to the 1970s in terms of recognition of the importance of salmon habitat. The same considerations will be given for visual buffers along the roads—all merchantable trees will be removed within a visual buffer of approximately 40m—alder and saplings will remain. “Where safety permits” bear den trees will be left standing with no buffers required, several dens have been identified within the area. All of this is legal because it is private land. But is it right?

### *Our Efforts to Date*

Several people in Bamfield and Ana’cla have been seeking information and expressing concerns about this development for months, starting in April when a petition, signed by over 60 members of the Bamfield community and 40 from Ana’cla, was submitted to Island Timberlands and HFN Chief Councillor Robert Dennis. Representatives of Island Timberlands met with Bamfield residents on July 26 and heard concerns regarding protection of streams, visual buffers for the road, and the fact that the large cutblock is on the

“doorstep” to our increasingly tourism-based communities. It was stated by Island Timberlands and Robert Dennis that our concerns were heard, and changes to the harvest plans would take these community concerns into account. This message was echoed by Robert Dennis at a meeting at the House of Huu-ay-aht in June, as well as in two articles in press. People who attended the July 26 meeting came away with the impression, based on comments by ITLP reps at the meeting, that all streams would be protected according to the levels prescribed by the Provincial Forest Range and Practices Act (formerly known as the Forest Practices Code) which would mean that the significant streams would have a 20m reserve zone (fully treed buffer) and at least one would have a 30m buffer.

What followed were months of frustrating efforts to try and obtain information about what changes were being made and how our concerns would be addressed. Repeated requests for information were made and information slowly trickled in, until finally in November, after the trees had started to fall, the “final draft” map and harvest plan for the area were provided. It was very disheartening to see that this map showed little difference from the original plan, and made it clear that our concerns had, in the end, largely fallen on deaf ears.

Over 40 people attended a meeting on November 30<sup>th</sup> at the Community Hall to hear the latest from ITLP spokespeople. Unfortunately Robert Dennis was unable to attend, stating in an email that the HFN consultation on this block is completed. At the meeting we were told that to address concerns regarding usual issues the 40m “non-merchantable retention” buffer would be implemented with minimal machine work in those areas so that smaller trees and alders would remain. Regarding threatened and endangered species no assessments have been done, and 2/3 of the CMTs in the area will be logged. Apart from the buffer for the Pachena River, all of the small creeks will not get Code-level buffers (which would mean minimum 20m buffers) despite the fact that at the previous meeting the impression was given that they would. It was pointed out to ITLP representatives that the original stream assessment had missed a significant coho-bearing side channel, and they promised that they would be looked at and management adjusted accordingly. No changes to the boundaries were promised to increase protection for the small creeks. Also, the ITLP representatives seemed unaware that the logging will destroy a small section of the old West Coast Trail that runs along the Pachena River. ITLP representatives were also asked what plans could be made to rehabilitate this area after the logging has been completed. No promises were made regarding that.

At this point it is unlikely we will stop the logging, however we feel it is important to push for some changes—in particular increased protection for the smaller fish streams. This would meet the last significant concern, meet the commitments Island Timberlands have made regarding their CSA forestry certification, and mesh with Huu-ay-aht values of “good stewardship, sustainable use and sharing.” We have made that request and await a response. Bamfielders support Huu-ay-aht in their efforts to obtain more land for housing and economic development, but have a hard time understanding why this needs to involve a sacrifice of fisheries values. Surely both could be had and a win-win solution developed?

Thanks to all who have worked on this and attended the meetings—we’ll keep you posted.

### Part III – Town Hall Meeting

We will hold a public hearing regarding the proposed logging. The quotes you will hear are real (taken from a public discussion board at <http://www.alberni.ca/forums/showthread.php?t=2399>) but identities have been fabricated, and direct quotes have been edited for spelling.

6. Reflecting on all pieces of this story, do you think the Last Spruce Grove was logged?

## Part IV – Now What?

In a report by the National Research Council, the biogeoclimatic zones of southern Vancouver Island are shown below. The red arrow points to the location of the Last Spruce Grove. Notice that this grove exists in the “Very Wet Hypermaritime Zone.” The red squares on the map below illustrate test sites where community structure and composition have been studied.

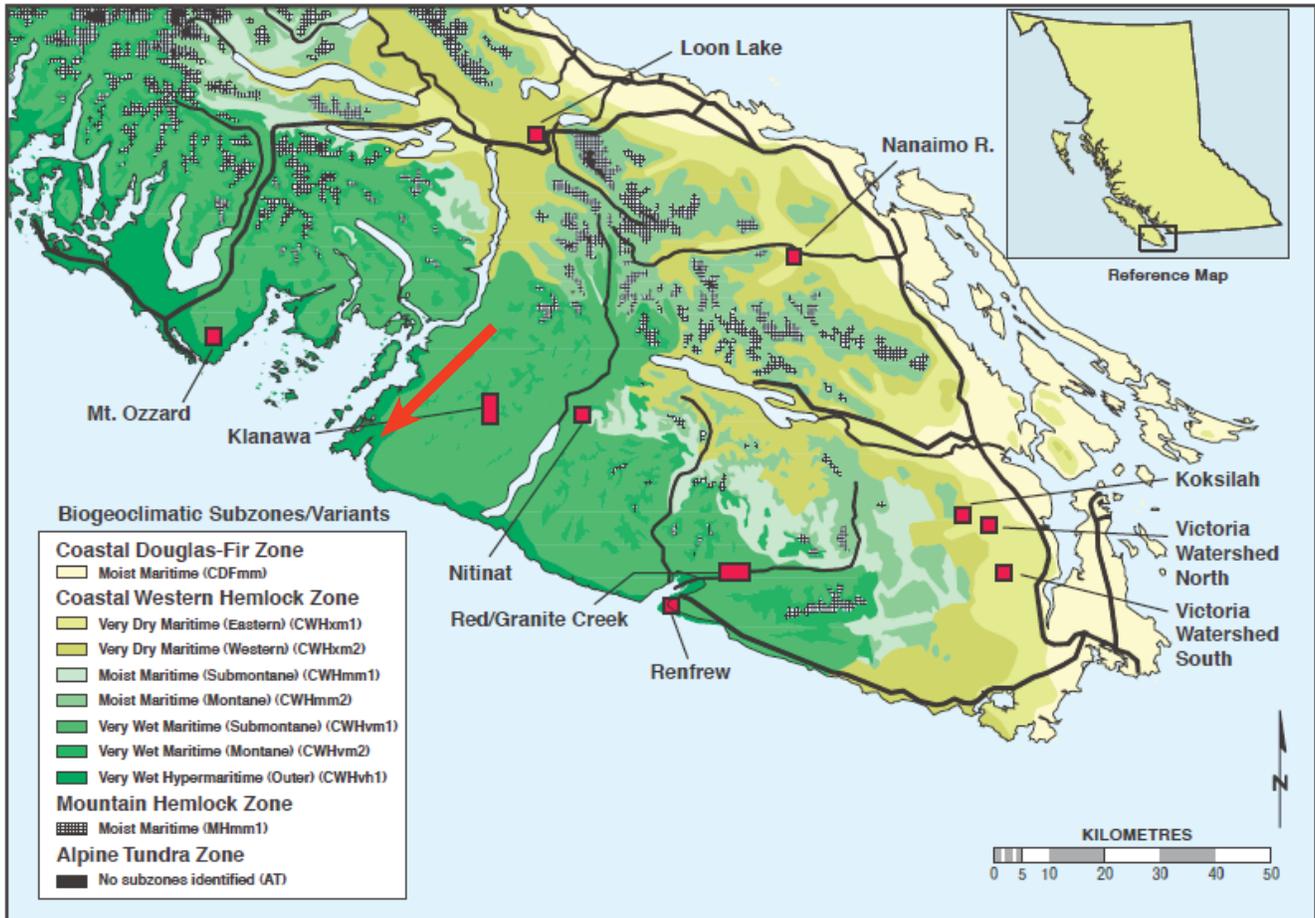


Figure 4. Map showing biogeoclimatic zones of southern Vancouver Island; red arrow has been added to indicate the location of the Last Spruce Grove.

Credit: J.A. Trofymow *et. al.*, “Attributes and indicators of old-growth and successional Douglas-fir forests on Vancouver Island,” *Environmental Reviews*, 11(S1): S187–S204, © 2008 Canadian Science Publishing or its licensors. Reproduced with permission.

### Question

- Based on this map, which of the test sites would you choose to compare with the community structure of the “Last Spruce Grove”? Why?

The Renfrew site is also in the Very Wet Hypermaritime Zone (darkest green shading on the map in Figure 4), and may offer us some comparative information as to typical community structure in this type of environment.

Community composition at the Renfrew site is shown below (Figure 5). Each chart represents a stage in forest succession as described by age class. (Remember, “Old Growth” has a precise age as defined by the Ministry of Forests.) The y-axis plots number of stems per hectare, and the x-axis plots average diameter of tree at breast height (DBH; this is a standard measurement of tree size). Bars in the graph are shaded according to type of tree. FD = Douglas Fir, HW = Western Hemlock, CW = Western Red Cedar, BA = Amabilis Fir, DR = Red Alder, OTH = other species, including spruce.

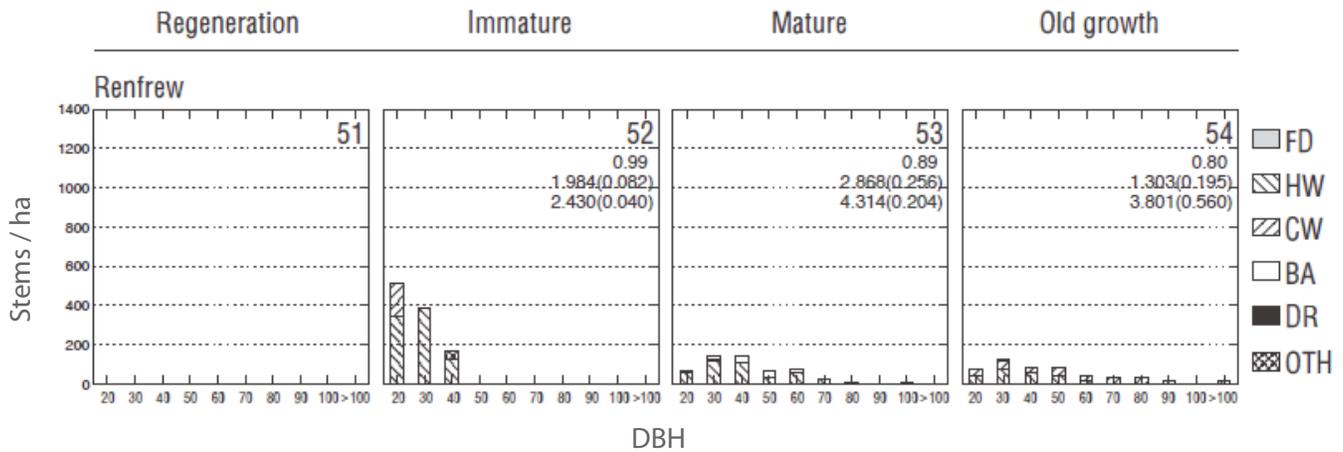


Figure 5. Community composition at Renfrew site.

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### Questions

- Based on the map (Figure 4) and graph (Figure 5), how common are spruce in this forest ecosystem? When would you expect spruce might appear in the succession pattern of this type of forest?
- What do you expect the community composition of the stand to consist of today?
- Based on F.E. Clements’ Interactive hypothesis and Henry Gleason’s Individualistic hypothesis, formulate an opinion as to whether or not a spruce grove will return to this site of the “Last Spruce Grove.” This opinion should be about two paragraphs in length, and incorporate major ideas of both hypotheses. *Remember:* This is a group opinion.