



Red cedar (*Thuja plicata*) is found in the temperate coastal rainforests of North America. Meares Island. Adrian Dorst photo.



# A Vanishing Heritage:

The Loss of Ancient Red Cedar  
from Canada's Rainforests

wilderness  
committee



David  
Suzuki  
Foundation

CONSERVING LIFE IN OUR NATURE

### **Author Note**

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### **The Western Canada Wilderness**

**Committee** is Canada's largest membership-based citizen-funded wilderness preservation organization. We work for the preservation of Canadian and international wilderness through research and grassroots education. The Wilderness Committee works on the ground to achieve ecologically sustainable communities. We work only through lawful means.

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The David Suzuki Foundation is a registered Canadian charity that works through science and education to protect the balance of nature and our quality of life, now and for future generations.

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## The Loss of Ancient Red Cedar from Canada's Rainforests

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Whitebeach Passage: This cedar cabin was constructed by the Namgis First Nation of northeastern Vancouver Island as part of their cultural rediscovery program. It is located on an ancient village site that has been used for over 5000 years by the Namgis Nation. The white beach in the foreground is composed of tiny pieces of clam shells discarded from meals over thousands of years. John Nelson photo.

# A Vanishing Heritage:

## THE LOSS OF ANCIENT RED CEDAR FROM CANADA'S RAINFORESTS

The western red cedar (*Thuja plicata*)<sup>1</sup> is a true icon of British Columbia and so significant it is the province's official tree. It is profoundly important to coastal aboriginal people, and an essential component of the coastal temperate rainforest ecosystem. In recent years, timber companies operating on the BC coast have increasingly targeted old-growth red cedar to maintain profit margins.

These highly valuable trees are processed into both commodity lumber and unfinished cants<sup>2</sup> for export, mainly to the United States. Research conducted for this report revealed that in twenty forest management areas on the BC coast, red cedar now comprises a substantially greater percentage of the timber actually cut than its proportional presence within the natural forest

inventory.

Giant ancient cedars are becoming increasingly rare, leading to concern that in the future towering red cedar will become a relic found primarily on protected lands and that most forests will eventually only contain small, second-growth cedar trees. This would result in the loss of ecological, cultural and economic values associated with old-growth cedar forests.

This report examines the extent that red cedar is currently being logged on the BC coast, and looks at what will happen if this unsustainable practice continues. We examine some of the reasons why this targeting, or high grading, of red cedar is occurring and what the effect will be if this practice continues.

Red cedar in Eve River drysort. Bernie Pawlik photo.



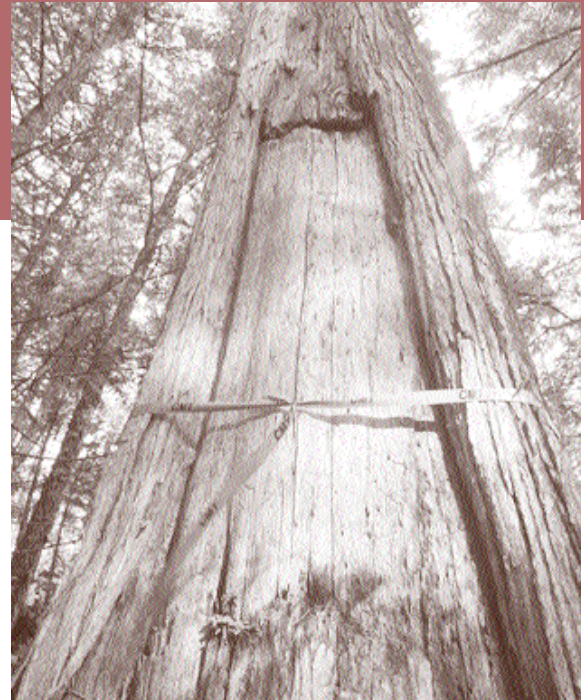
# Western Red Cedar

## CULTURAL AND ECOLOGICAL HERITAGE

**W**estern red cedar can grow to 70 metres high and frequently reach a diameter of over two metres at the base. The largest living specimen in the province measures 19 metres in circumference.<sup>3</sup> Growing at low to mid-elevations on the BC coast, and in the wet belt of the Rocky Mountain Trench, this species thrives in cool, moist climates with wet soil conditions. Favouring shady conditions, red cedar is a climax species whose buttressed tree trunks withstand the coast's high winds and whose supple branches bend under the weight of heavy snow. These trees provide unique habitat for a diversity of wildlife. In geological time, red cedar is a relatively recent addition to BC forests. Following the most recent ice age, some 14,000

years ago, the ecological process gradually established shallow soils that accommodated the reestablishment of forests. Emerging from a long succession of plant growth, red cedar and hemlock were the last species to take root in BC's modern forest.

Glacial refugia, such as the Brooks Peninsula and Haida Gwaii (Queen Charlotte



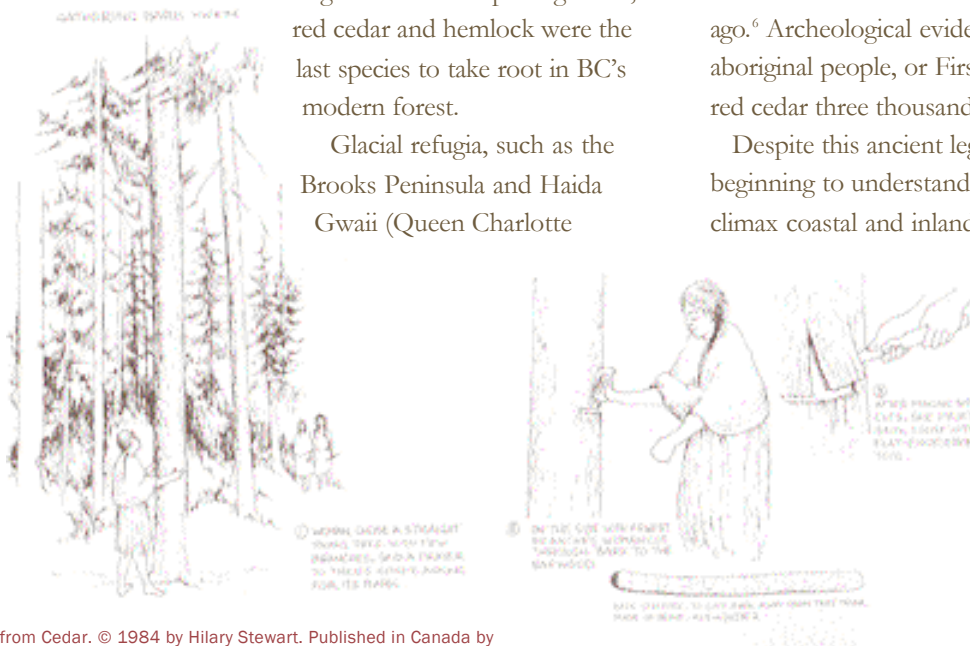
For thousands of years, aboriginal people removed bark and wood from still-standing trees to make clothing, dwellings and canoes. Known as culturally modified trees, they are found throughout British Columbia forests and hold great historical and anthropological significance.

Islands), provided a seed source for the establishment of cedar in land exposed after the retreat of the last glaciers.<sup>4</sup>

Carbon dating has chronicled the arrival of cedar in southern British Columbia some 6,600 years ago<sup>5</sup> and on the north coast four to five thousand years ago.<sup>6</sup> Archeological evidence reveals that coastal aboriginal people, or First Nations, readily employed red cedar three thousand years ago.<sup>7</sup>

Despite this ancient legacy, ecologists are only just beginning to understand the tree's role in BC's climax coastal and inland rainforests, where it serves

many biological functions including improvement of soil conditions by supplying calcium through the litter of cedar foliage on the forest floor.<sup>8</sup> Additionally, wildlife and plant



Drawings from Cedar. © 1984 by Hilary Stewart. Published in Canada by Douglas & McIntyre Ltd. Reprinted by permission of the publisher.

interactions are many. Cedar is often favoured as a perch for many species of birds of prey. Red cedar's production of *thujaplicin*, a naturally produced fungicide, prevents rot and allows portions of a tree – called snags – to last centuries in the forest even after a tree's death.<sup>9</sup> Cedars provide habitat for birds that nest in tree cavities and mammals, including several species of bats. The hollow cores in ancient cedars are favoured by black bears as winter hibernation dens.

## CULTURAL TRADITIONS AND WEALTH

If salmon was the fuel for the indigenous people of coastal BC, then cedar formed their foundation. Ethnobotanist Wade Davis has concluded that the combination of salmon and cedar “. . . forged the most complex civilization ever to emerge without benefit of agriculture.”<sup>10</sup> World renowned Haida artist Bill Reid wrote: “Oh, the cedar tree! If mankind in his infancy had prayed for the perfect substance for all material and aesthetic needs, an indulgent god could have provided nothing better.”<sup>11</sup>

First Nations used cedar in all aspects of their lives. The wood was used to make canoes, paddles, planks and posts for traditional longhouses, bentwood boxes, bows, masks, bowls, and dishes. The fibrous inner bark was fashioned into clothing, hats, mats, masks, rattles, nets, twine, blankets, diapers,

towels, and rope. The coarse outer bark was used for roofing material, canoe bailers, and canoe covers while the flexible branches were valued for making rope, fish traps, and baskets. Even the roots were used to make baskets and cradles.<sup>12</sup>

While First Nations did cut down entire cedar trees for canoes, ceremonial and house poles, more often they harvested bark and planks from living trees without killing them. Bark was stripped by groups of women and children while planks were removed from living trees, which continued to grow despite the missing part.

These cedars, called culturally modified trees or CMTs, include both living and dead trees. Living CMTs display a variety of different cultural marks including bark stripping, plank removal, tinder gathering, and test holes. These activities allowed First Nations to use the tree without killing it, ensuring that it could be used again by future generations. Dead CMTs include remnant stumps from felled trees, bark-stripped trees that have died, and wind-fallen logs from which planks were taken. Over centuries, stands of trees – and even entire islands – were managed sustainably by First Nations for the production of cedar products.<sup>13</sup> Some trees were peeled as soon as they reached the minimum size for bark harvesting, while others are believed to have been left to grow to a great size in anticipation of future canoe and plank production.

Longhouse: Cedar is the foundation of West Coast First Nations' culture. As shown in this 1880 photograph at Skidegate on Haida Gwaii, it was used for dwelling construction, fish-drying racks, and even clothing. Detail of British Columbia Archives: B-03823.





# Logging Red Cedar: History and Current Status

## TARGETING CEDAR

Indigenous only to North America, western red cedar is under threat because of a coast-wide strategy by timber companies to log the most valuable older stands in order to bolster revenues. This practice, commonly called high grading, sees timber companies target forest stands with the highest-grade trees to the exclusion of areas with inferior species or grades of trees. Companies often clearcut an area to get a specific tree species, and it is no accident that many clearcuts on the BC coast in the late 1990s were located in stands containing a high percentage of red cedar.

The price of cedar fluctuated greatly during the 20th century. At times cedar was considered nothing more than a weed or nuisance tree.<sup>14</sup> In the early part of the century, cedar trees were often ignored by fallers because they required too much physical energy to saw down. Cedar prices fluctuated wildly during the 1960s and loggers sometimes abandoned cedar logs they had just cut because the price had crashed. Some loggers even dumped cedar in lakes. Logging historian Ken Drushka remembers that “at one point, Florence Lake on Sonora Island had seven million feet of cedar floating in it – [all] number one grade.”<sup>15</sup> Years later when the price of cedar increased, timber companies returned to these lakes and salvaged the discarded trees. In BC, cedar prices stabilized in the late 1960s after Oregon and Washington had liquidated their domestic supply of old-growth red



Cedar trees are often used as perches for birds of prey, such as this western screech owl, as they hunt for song birds, mice, and rabbits. Ian McAllister/Raincoast photo.

cedar.<sup>16</sup> This historical treatment of cedar is the very definition of high-grading: logging one species to the exclusion of another. Today, instead of cedar being ignored, it is the target of coastal timber companies.

By the 1990s, as the demand throughout North America for old-growth timber rose significantly and supply declined, red cedar became one of the most valuable trees in BC's forests. During this period, the price of hemlock plummeted due to a lack of markets, specifically the loss of Asian markets due to severe economic problems. The loss of these important markets for hemlock created new stress on the BC coastal forest industry.

The serious financial challenges experienced over the past eight years by timber companies operating

*"We have been logging more cedar than is in the [forest] profile and that is a reflection of the economics."<sup>18</sup> Rick Jeffrey, Truck Loggers Association of BC*

*"We're fairly heavily involved in harvesting cedar. Over the last several years, with hemlock prices so poor, most companies that have the opportunity have been targeting cedar because it's a high-value product in high demand. Mind you, government sees the value as well*

*so there's been a struggle over stumpage at the same time."<sup>19</sup> Don Bendickson, Ben West Logging, which harvests timber for Interfor and TimberWest*

*"The coastal industry has been surviving by selling a greater percentage of cedar products. As most of the coastal forest is hemlock, the current dependence on cedar cannot be sustained."<sup>20</sup> Brian Zak, president, Coast Forest & Lumber Association*

*"[the coastal industry is] living off a 65-cent dollar and cedar."<sup>21</sup> Duncan Davies, president, International Forests Products Ltd.*

*"Forest companies have been harvesting cedar, which only accounts for 22 percent of the coastal forest, because it is one of the few species that they can profitably log."<sup>22</sup> Vancouver Sun*

on the BC coast are due to a number of issues: depressed Asian markets, the Canada-U.S. softwood lumber trade dispute, low prices for hemlock, and the fact that easily accessible old-growth areas have been logged, causing the high operating costs of logging in remote, steep terrain. To counter these problems, timber companies operating on the BC coast have increasingly focused their logging efforts on cedar, which continues to command a high price. Cedar has kept companies solvent because it is used to make products considered recession-

proof, such as roofing shingles, fences, siding, and outdoor furniture. And instead of expanding manufacturing industries in BC, timber companies sell BC old-growth cedar to U.S. manufacturers because it commands a higher price there than in BC.<sup>17</sup>

High grading of red cedar on the BC coast is well documented. The statements above show that cedar high grading has in fact been a deliberate strategy even though industry and government know the practice is unsustainable.

Logging truck loaded with old-growth cedar logs. Joe Foy photo.



# Summary of Analysis:

	Most recently completed cut-control period	Cedar as a % of the most recently completed cut-control period	Red cedar as a % of the inventory on the Timber Harvesting Land Base	The difference between the % of red cedar in the actual cut versus the percentage of red cedar in the inventory
Arrowsmith TSA	1997 - 2001*	33%	22%	50%
Fraser TSA	1997 - 2001*	13%	7%	86%
Kingcome TSA	1997 - 2001*	54%	34%	59%
Mid-Coast TSA	1997 - 2001*	41%	21%	95%
North Coast TSA	1997 - 2001*	27%	21%	29%
QCI TSA	1997 - 2001*	34%	27%	26%
Soo TSA	1997 - 2001*	15%	5%	200%
Strathcona TSA	1997 - 2001*	30%	18%	67%
Sunshine TSA	1997 - 2001*	21%	12%	75%
TFL 6 & TFL 25 Port McNeill (WFP)	1995 - 1999	26%	23%	13%
TFL 10 (Interfor)	1995 - 1999	29%	19%	53%
TLF 19 (WFP)	1997 - 2001	24%	17%	41%
TFL 25 (WFP) (South Island FD)	1994 - 1998	22%	13%	69%
TFL 25 (WFP) (Campbell River FD)	1994 - 1998	28%	42%	-33%
TFL 25 (WFP) (Mid Coast Forest District)	1994 - 1998	43%	42%	2%
TFL 25 (WFP) (QCI Forest District) formerly TFL 24	1994 - 1998	39%	24%	63%
TFL 37 (Canfor)	1996 - 2000	12 %	11 %	9%
TFL 38 (Interfor)	1997 - 2001	33%	12%	175%
TFL 39 (Weyerhaeuser) (Sunshine FD)	1996 - 2000	19%	14%	36%
TFL 39 (Weyerhaeuser) (Campbell River FD - Blocks 2&5)	1996 - 2000	13%	8%	63%
TFL 39 (Weyerhaeuser) (Port McNeill FD - Blocks 3&4)	1996 - 2000	19%	11%	73%
TFL 39 (Weyerhaeuser) (Mid-Coast FD)	1996 - 2000	33%	31%	6%
TFL 39 (Weyerhaeuser) (QCI FD)	1996 - 2000	40%	25%	60%
TFL 43 (Scott Paper) (Chilliwack FD)	1995 - 1999	4%	0.3% **	1233%
TFL 43 (Scott Paper) (Sunshine FD)	1995 - 1999	37%	7%**	429%
TFL 43 (Scott Paper) (Port McNeill FD)	1995 - 1999	11%	8%**	38%
TFL 44 (Weyerhaeuser)	1995 - 1999	28%	16%	75%
TFL 45 (Interfor) (Campbell River FD)	1993 - 1997	27%	14%	93%
TFL 45 (Interfor) (Port McNeill FD)	1993 - 1997	16%	8%	100%
TFL 46 (TimberWest)	1993 - 1997	25%	15%	67%
TFL 47 (TimberWest) (Campbell River Forest District)	1995 - 1999	12%	9%	33%
TFL 47 (TimberWest) (Port McNeill FD)	1995 - 1999	10%	5%	100%
TFL 47 (TimberWest) (QCI FD)	1995 - 1999	57%	19%	200%
TFL 54 (Interfor)	1995 - 1999	49%	36%	36%

Note: all figures rounded

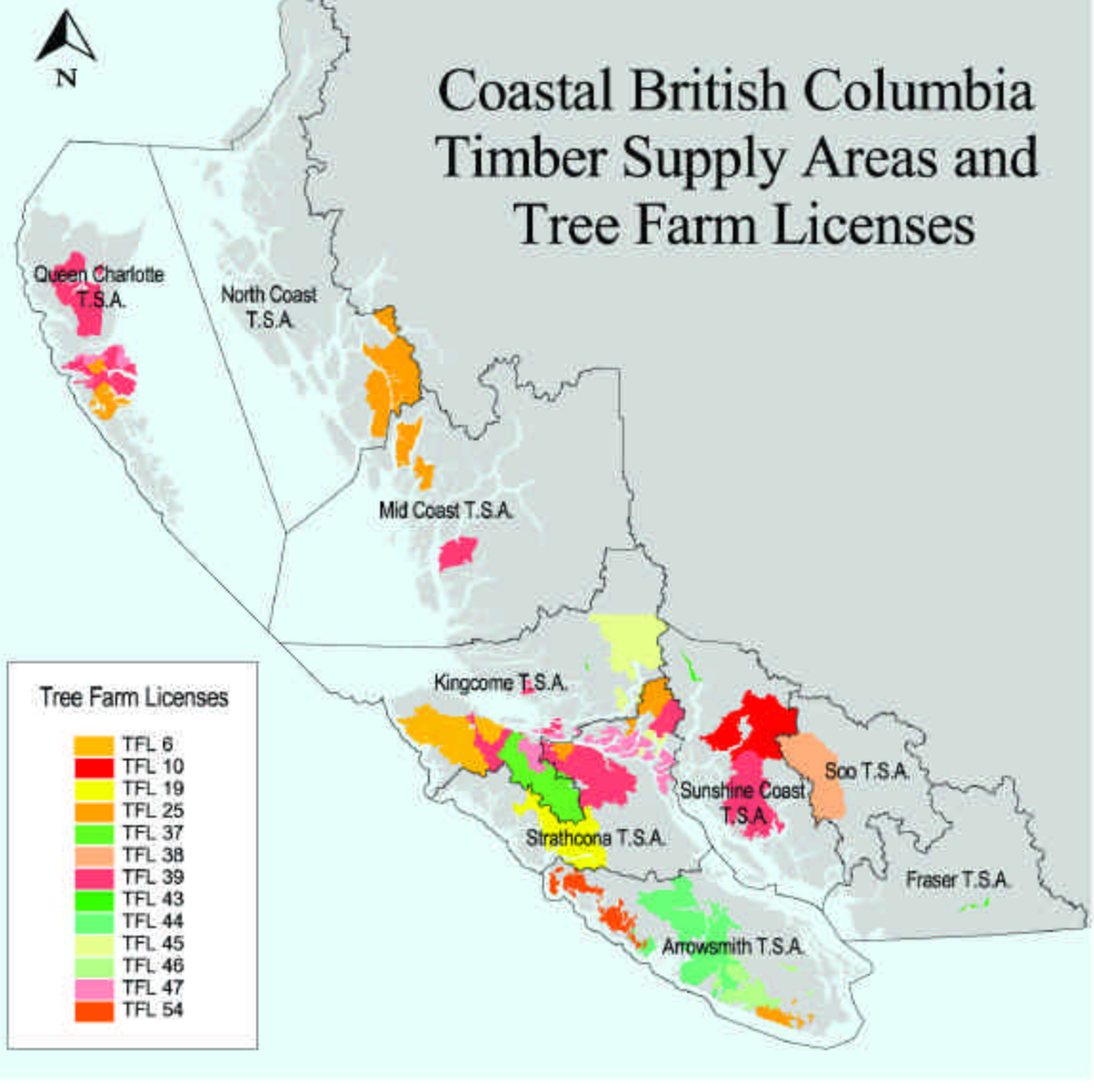
\* Cut-control periods differ for each Forest Licence (FL) within a TSA. FLs have the same cut-control period, this time period (1997-2001) is a close approximation for the cut-control periods of major Forest Licences in each TSA.

\*\* Inventory data from Scott Paper is for all conifers, not just red cedar, as it is unlikely that red cedar would comprise more than 1/3 of the conifer inventory. It was estimated that red cedar

was 1/3 of the following proportions of conifers in the TFL 43 inventory: 0.8% in the Chilliwack Forest District, 21% in the Sunshine Forest District, and 24% in the Port McNeill Forest District. Note: inventory and cut figures for TFLs 39 and 44 include Schedule A private land - all other management units are for public land only.

Source: Author's analysis. See appendix 1 for details on data sources.

# Coastal British Columbia Timber Supply Areas and Tree Farm Licenses



## AREAS OF IDENTIFIED CEDAR HIGH GRADING

- Arrowsmith TSA
- Fraser TSA
- Kingcome TSA
- Mid-Coast TSA
- Soa TSA
- Strathcona TSA
- Sunshine TSA
- TFL 10 - (Interfor)
- TFL 25 - South Island Forest District (Western Forest Products)
- TFL 25 - Queen Charlotte Islands Forest District (Western Forest Products)
- TFL 38 - (Interfor)
- TFL 39 - Campbell River Forest District (Weyerhaeuser)
- TFL 39 - Port McNeill Forest District (Weyerhaeuser)
- TFL 39 - Queen Charlotte Islands Forest District (Weyerhaeuser)
- TFL 44 - (Weyerhaeuser)
- TFL 45 - Campbell River Forest District (Interfor)
- TFL 45 - Port McNeill Forest District (Interfor)
- TFL 46 - (TimberWest)
- TFL 47 - Port McNeill Forest District (TimberWest)
- TFL 47 - Queen Charlotte Islands Forest District. (TimberWest/Teal Cedar Products/JS Jones)

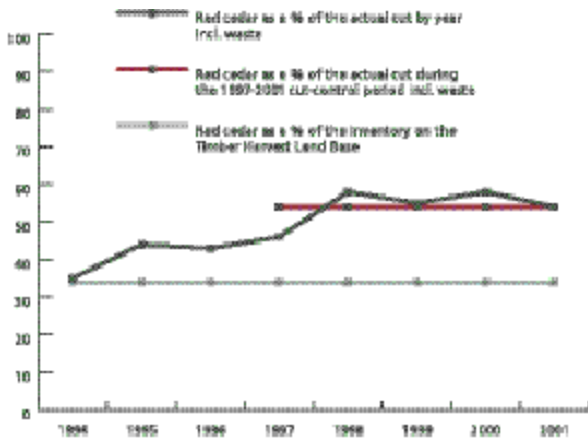
Map: David Suzuki Foundation

## METHODOLOGY

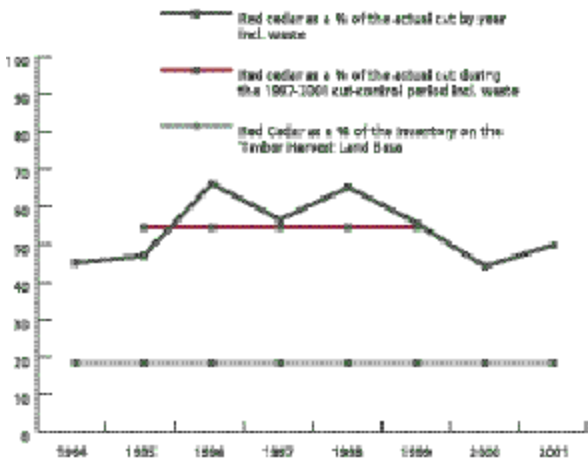
The analysis on the opposite page used the Harvest Billing Reports purchased from the BC Ministry of Forests, which indicate the annual volume of wood, by species, billed in each Timber Supply Area (TSA) or Tree Farm License (TFL). The billing and waste data for each species was added together for each year, and this allowed us to determine the percentage of red cedar in the actual cut for the most recently completed five-year cut-control period. This information was then compared to inventories for each TSA and TFL.

The proportion of red cedar for the five-year cut-control periods have been averaged, demonstrating an important trend of whether or not cedar is being targeted in a specific area. High grading was defined where the proportion of red cedar was higher in the actual cut than in the natural forest inventory. Our research determined that out of 34 management units on the coast, 20 areas have a serious high grading problem, which for the purpose of this paper was defined as an area having an actual cut for red cedar at a rate of 50 percent or more than the inventory. The definition of a serious problem excluded those management areas where the actual cut was at a very low volume, such as TFL 43.

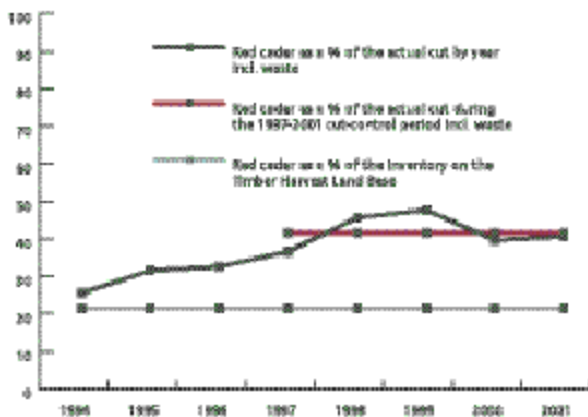
### Red cedar as a % of the actual cut in the Kingcome TSA



### Red cedar as a % of the actual cut in TFL 47 on the Queen Charlotte Islands (Haida Gwaii)



### Red cedar as a % of the actual cut in the Mid-Coast TSA

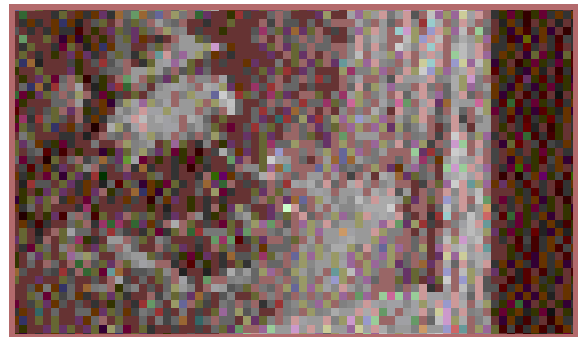


### Graphs for Selected TSAs and TFLs

The graphs to the left demonstrate the difference between the proportion of red cedar in the actual cut for the cut-control period (higher of the two straight lines) and the proportion of red cedar in the inventory (lower of the two straight lines). The gap between the two lines demonstrates that the relevant forest company is not harvesting the species profile of the management unit.



Kingcome TSA: An Interfor clearcut next to a non-fish stream in the Klaskish Valley on northern Vancouver Island. Much of Interfor's logging in the last 5 years in the Klaskish has focused on red cedar stands. John Nelson photo.



TFL 47, Queen Charlotte Islands: JS Jones left this CMT standing, while cutting the tree growing out of the CMT base. Unfortunately, logging around CMTs destroys the ecological context of the site and places the standing CMT at the risk of being blown down. David Suzuki Foundation photo.



Mid-Coast TSA: Logging in the Parker Creek watershed by the BC Timber Sale Program. David Suzuki Foundation photo.

## HIGH GRADING - A DECADES'-OLD PROBLEM

**T**imber companies have been targeting huge, ancient cedars in BC's rainforests for decades. A 1964 report from the BC Council of Forest Industries (COFI), which lobbies for timber companies, reveals that overcutting red cedar was happening in Rivers Inlet on the central coast and the northern Kitimat supply area 40 years ago.<sup>23</sup> The COFI report also stated that the supply of high-quality coastal cedar was already in decline.

The grade mix of cedar logs has deteriorated markedly since the early 1920s. The historical grade decline does not seem to be the result of changes in grade specifications. The upcoast migration of logging, away from fir types and into hemlock-cedar stands and the movement back from tidewater, lakeshore, and valley floor to higher elevation timber is providing cedar of lower quality than historically available.<sup>24</sup>

Industry's drive to target red cedar has not only affected that tree species. In order to cut more cedar, timber companies clearcut large areas of forest to get the red cedar scattered throughout. The following excerpt from the COFI document demonstrates that increasing the Allowable Annual Cut (AAC)<sup>25</sup>

was an objective driven by industry's desire to increase market demand for cedar:

It is apparent that the expansion of cedar log supply, apart from full development of North Coast forests, must rely on an upward revision of the allowable annual cut on the coast. . . Changes in rotation age or other methodology of calculating allowable cut [can increase the cut]. . . It follows that if producers of cedar products anticipate increased sales demand, then industry effort to enlarge allowable cut is a matter to be put high on the agenda. . . If future promotion is aimed at expanding the market for the species, then the question of log supply to fill the demand created is a consideration. Thus, it would seem that trade promotion to increase volume of cedar sales should be accompanied by, if not preceded by, activity to gain increased allowable cut.<sup>26</sup>

This industry approach of determining how much forest to log based on economic and not ecological criteria remains a driving force of AAC calculations to this day. During the 1995 Timber Supply Review for the Kingcome TSA on the central coast, the Ministry of Forests suggested a 35 percent reduction in the AAC was necessary to protect the long-term harvest level. International Forests Products Ltd. (Interfor), the company that had the logging rights

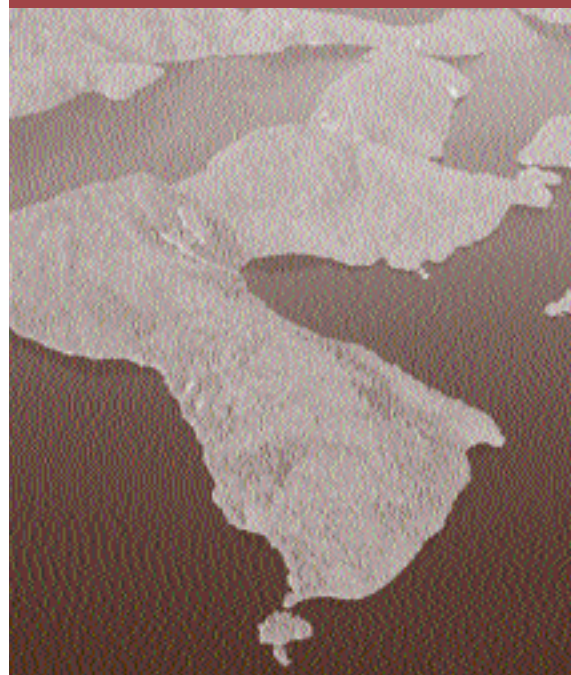
The cedar stumps in this photo demonstrate how logging companies often target the largest, most-profitable trees. This is an example of high grading where the best trees are removed and the smaller, less-economically valuable ones are left behind. Weyerhaeuser, Haida Gwaii. David Suzuki Foundation photo.



for this area, lobbied strongly and convinced officials to reduce the cut by only 15 percent, saying this represented a "...transitional phase to deal with the impacts of reduced timber and job supply..."<sup>27</sup>. The result of this decision is that the AAC for the Kingcome TSA has remained at an unsustainable 49 percent above the Long Term Harvest Level, which is the amount of wood the ministry has estimated can be logged on a perpetual basis.

Some companies argue that current cedar logging practices are not problematic since the proportion of red cedar in their inventories has not changed over the last three to four decades. For example, Weyerhaeuser's timber inventories show that for Tree Farm Licence 39, which consists of seven blocks over a huge area from north of Vancouver to Haida Gwaii, the proportion of red cedar in the inventory remains unchanged from 1974 to present at 20 percent.<sup>28</sup> However, this does not tell the whole story. It is important to note that the total volume of the inventory for TFL 39 has increased over time. This is because the area of land designated for timber harvesting is redefined every five years to include timber that was excluded from earlier inventories. And, this occurs because of market forces: timber companies will only log a particular tree species when it is economically viable to do so, i.e. when a market exists for that species. So at any given time, certain tree species are excluded from timber inventories because there is no market for them. Therefore, an increase of red cedar in a timber inventory can be the result of several factors, including: the inclusion of uneconomic or marginal timber in the harvesting land base, changing utilization standards, new technology, and improved market conditions.

Smaller diameter cedar trees in remote, difficult-to-access areas of the BC coast are now considered economical to log because of current market conditions that place high value on cedar. The inclusion of these smaller trees in the inventory, however, does not mean that today's inventory is really comparable to those of years past. While the



In the heart of Heiltsuk traditional territory, the forests along Spiller Channel contain important reserves of red cedar. With forest companies targeting red cedar, computer modeling reveals that "most of the operable old-growth cedar in Heiltsuk traditional territory will be gone by the year 2026". David Suzuki Foundation photo.

volume and diversity of species may be equal, large old-growth red cedars are becoming increasingly rare. Therefore, while the proportion of cedar in TFL 39 today is perhaps the same as 25 years ago, this does not mean the quality of the remaining standing trees is the same as it was in the 1970s. You cannot compare the value and timber quality of large quantities of smaller, spindly trees to centuries-old behemoths.

If timber companies continue to target ancient red cedar, it won't be long until the largest and oldest red cedar trees are found only in protected areas. Most red cedar will only be found in second-growth plantation forests that are cut on rotations of less than 100 years, which is not enough time to restore the attributes of an old-growth cedar forest. A recent report based on a detailed computer model commissioned by the Heiltsuk Nation shows that if timber companies continue to log cedar at current rates "most of the operable old-growth cedar in Heiltsuk traditional territory will be gone by the year 2026".<sup>29</sup> Heiltsuk traditional territory is found in the Bella Bella-Bella Coola region of BC's central coast.

## TRADE AND TARIFFS

For months prior to the U.S. imposing tariffs on Canadian softwood lumber in May 2002, BC forest companies and industry analysts complained<sup>30</sup> that tariffs would make cedar products unaffordable in U.S. markets and would kill the BC cedar industry.

This never happened. When the tariffs were imposed, BC companies actually raised cedar prices to absorb the tariff costs.

“American consumers want BC cedar products badly enough to pay the U.S. softwood duty themselves, pushing up the price of cedar – and along with it shares in local cedar producer International Forest Products – since the duty was imposed May 22.”<sup>31</sup>

The U.S. continues to be the main export market for BC cedar lumber.

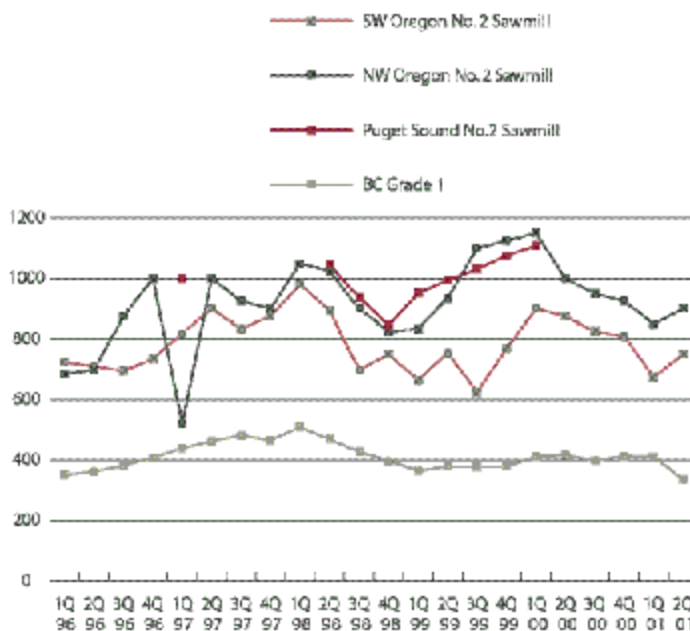
## PRICES AND MARKETS

The price of cedar logs in British Columbia is substantially less than prices in Washington state and Oregon even though cedar products like deck furniture, siding, and roof shingles command high prices in Canada and the U.S.. Red cedar has been the top money-maker for the BC coastal forest industry in recent years, yet these companies do not pay market value for these valuable logs.<sup>32</sup> A 2001 study examined the Vancouver Log Market and concluded that the price for cedar logs from coastal BC is substantially lower than prices in U.S. jurisdictions. This is especially true for I-grade logs from BC, which are comparable to the U.S. Sawmill #2 grade. The graph<sup>33</sup> below demonstrates that the price for BC I-grade domestic<sup>34</sup> cedar logs (dotted line) over the past 5 ½ years was consistently much lower than the price paid in Washington and Oregon for similar U.S.-grade logs (solid lines).

By shipping dimensional cedar lumber to Washington and Oregon, BC actually helps create two jobs in cedar remanufacturing plants there for every job in the BC cedar industry.<sup>35</sup> BC companies are forced to ship cedar cut on public land as lumber to the U.S. rather than as logs because the BC government “does not favourably consider applications”<sup>36</sup> for the export of red cedar and yellow cedar (cypress) raw logs from public land resulting in a de facto ban.

Exporting mass quantities of red cedar lumber from BC benefits the U.S. economy because of the number of remanufacturing jobs created and the profits made by multinational timber companies that log BC’s forests. Cost is a major factor in sustaining the U.S. appetite for this lumber, and because BC forest policy keeps the price of cedar below true market value, timber companies lobby the provincial government to maintain the status quo. In order to ensure that prized BC cedar sells for fair market value, an open log market should be created so that large timber companies and smaller businesses, which often create more jobs per board foot because they make more highly manufactured goods, can compete equally for the best wood. (See appendix 3)

Quarterly prices for Grade 1 cedar logs (BC) and No. 2 Sawmill cedar logs (U.S.)



Source: Log price comparisons in the Vancouver log market, December 2001.



# Effects of Cedar High Grading

## CULTURAL IMPACTS

Cedar is an essential element of First Nations culture on the British Columbia coast. Throughout the coast and on Haida Gwaii, remnants of totem poles, canoes and traditional longhouses carved from cedar more than a century ago can be found in ancient forests. Massive, towering cedars were needed to create these icons, and that need continues as First Nations strive to sustain their culture into the future. Today in villages along the coast, traditional carvers transform cedar into totem and house poles, canoes and masks. Conserving ancient cedar is essential for the survival of these traditional cultures, and therefore, the continued high grading of red cedar is a real threat to BC's coastal First Nations culture.

Culturally modified trees are a testament to the importance of cedar to First Nations culture.

When these trees are logged, irreplaceable archeological information is lost forever. Not only does the historical significance of an individual tree disappear when it is logged, but logging in the forest surrounding CMTs also erases all knowledge of aboriginal forest management. If previous generations of aboriginal people purposefully left groves of trees for future canoe or pole production, that knowledge is lost when those trees are logged. CMTs and remnant stumps illustrate the historical techniques First Nations used for tree selection, falling methods, and to extract logs and planks.<sup>37</sup> A member of the Haida First Nation explains: “. . . culturally modified trees [are] important evidence of the long-standing use and possession of the cedar forests by the Haida People.”<sup>38</sup>

Some of the best-preserved examples of CMTs

### CMTs and the Courts

Located just south of Prince Rupert on BC's north coast, the Kumealon Inlet and adjacent watershed is an ecological oasis. This watershed is renowned for its ancient red and yellow cedar trees that grow upon a foundation of limestone karsts, resulting in trees much larger than usual for the area, which is limited by poor soils and tough growing conditions. In 1994, International Forest Products (Interfor) sought to log Culturally Modified Trees (CMTs) that are claimed by several area

First Nations, including the Kitkatla Band. While CMTs have limited protection under the Heritage Conservation Act, the Act does allow CMTs and other cultural artifacts to be altered with Ministerial approval. Interfor required and received the necessary Site Alteration Permit from the Provincial government to log 178 CMTs. The Kitkatla Band went to court arguing that, constitutionally, only the Federal government, not the province, could authorize destruction of First Nations' cultural artifacts. Interfor

and COFI wrote amicus briefs supporting their position of logging CMTs.

On March 28, 2002, the Supreme Court of Canada affirmed the province's right to issue such permits. Timber companies continue to legally log CMTs and Interfor only altered their logging plans in the Kumealon case after the Kitkatla Band went to court. While ultimately not successful, this case raised awareness of CMTs with both the public and the courts.



In May 1990, Guujaaw, president of the Council of the Haida Nation, walked through a logging site and found that trees were being cut within 45 metres of this unfinished canoe. The Haida Nation would later secure BC's longest-standing court injunction for a cultural site in order to protect this and other archaeological artifacts. David Suzuki Foundation photo.

in British Columbia are found on Haida Gwaii, particularly at the World Heritage Site Gwaii Haanas Reserve. Haida carvers are internationally acclaimed, and Guujaaw, current president of the Council of the Haida Nation and a master carver, has learned the technical and artistic secrets of his ancestors by studying partially carved canoes they left in the forest.<sup>39</sup> He explains that knowledge like the specific steps for carving a canoe are only “found within the culturally modified tree sites in unlogged virgin forests.”<sup>40</sup>

On northern Graham Island, along the shores of Masset Sound, lies a site in the forest with five partially completed canoes, as well as test holes, bark-stripped trees, stumps, and other types of CMTs. A visit to the site in May 1990 was extremely distressing says Guujaaw.

[I found] ... desecration and destruction of the site beyond anything I would have expected. Many of the features within the site have been disturbed and destroyed. Because they are remarkable and obvious features, I believe that the destruction has been conscious and wilful. There is no way to undo the damage that has been done. I could see no evidence of any attempt to avoid damage to the culturally modified trees. The CMTs were not avoided but were simply cut down or cut over. The method being used is regular clear cutting, which, if allowed to continue, will totally and completely destroy the cultural values of the site.<sup>41</sup>

Fortunately, a court order obtained by the Council of the Haida Nation prevented further damage to this unique archaeological site. However, clearcut logging continues in Canada's rainforests, putting similar sites at risk. While CMTs have limited protection under BC's *Heritage Conservation Act*, timber companies may obtain a special permit to cut them, and First Nations have reported incidences of timber companies logging CMTs and delivering them to the local village, destroying a living legacy. In one case, Interfor allowed members of the Squamish First Nation to strip bark from logged cedar trees sitting in their log sort yard.<sup>42</sup> However, this cannot be compared to the traditional method of bark stripping where the tree remained standing and could be used by future generations. Even if CMTs are left standing in an area that has been logged, they can blow down because there is little forest protection around them and the result is the same as if they had been logged. Under the *Heritage Conservation Act*, British Columbia actually allows cultural artifacts to be destroyed if a permit is obtained. Only a court challenge by a First Nation under Section 35 of Canada's *Constitution Act* would override the *Heritage Conservation Act* and provide protection for these living pieces of history. To date, no coastal First Nation has embarked upon this legal test.

Haida artist Christian White, speaking at a 1996 cedar symposium, described how such actions and the continued high grading of red cedar contribute



Log barges ship cedar down the coast to centralized sawmills, which results in few jobs or benefits for communities near the logging sites. As old-growth trees continue to be targeted by timber companies, First Nations have difficulty finding sufficient large trees from which to carve poles and canoes. David Suzuki Foundation photo.

to the destruction of First Nations culture.

There's not many of these [ancient cedar] trees left on the Islands [Haida Gwaii]. They're getting harder and harder to get at. They're in smaller and smaller pockets. But our people have a hard time getting material to work on. In my village of Massett over the past 10 years or so we've gotten maybe a dozen logs to work on. There are millions of dollars of logs going by our village and there's probably less than a handful of people working in the logging industry. So, you can see, that it's really starting to bother us quite a bit. And we know that even if there were a few pockets of trees left, and the mature stands were saved right now, that within a 100 years there might not be anything the right size and shape that is needed [for poles and canoes].<sup>43</sup>

## ECOLOGICAL IMPACTS

When timber companies high grade cedar, they don't just remove cedar trees but log large tracts of forest, removing all the trees from a specific area called a cutblock. For animal and plant species that require old-growth forests to survive, their habitat is lost forever. These forests provide critical habitat for a variety of wildlife, including black bears that den in hollow old-growth cedar. Removal of massive amounts of old-growth red cedar from Canada's rainforests will result in many species vital to the

ecological integrity of coastal forest ecosystems becoming threatened and even endangered.

Examples of the effects of high grading and clearcut logging on black bears in two northern Vancouver Island watersheds are particularly disturbing. Government studies of environmental trend factors determined that 48 percent of the forested area likely to contain bear denning trees in the Artlish watershed has already been logged. A government report written in 2000<sup>44</sup> showed that another 10 percent of this forest, also containing denning trees, was in an area proposed for logging. In the Nahwitti watershed, also on Vancouver Island, approximately 83 percent of the forested area capable of containing denning trees has been logged, and at the time the government report was written in 2000,<sup>45</sup> of the remaining 570 hectares of forest suitable for black bear dens, 250 hectares were scheduled to be logged. This loss of denning habitat poses serious threat to specific bear sub-populations.<sup>46</sup>

## SPECIES AT RISK

Marbled murrelets are a rare species of seabird that nests in old-growth forests. The murrelet is on the British Columbia red list of endangered or threatened species.<sup>47</sup> Government biologists have concluded that "Logging of breeding habitat has been identified as the greatest threat to the marbled murrelet in North America."<sup>48</sup>

## Bear Den Case Study

As an example of how forest companies disregard the ecological importance of red cedar, nothing quite captures the industry's high grading practices than Interfor's callous disregard for a bear denning tree in the Stoltmann Wilderness north of Squamish.

In 1997, Interfor applied for and received a new cutblock in the Sims Creek watershed. The cutblock included Magic Grove, a spectacular stand of ancient red cedar trees that was a much-loved hiking destination. Within Magic Grove grew a massive red cedar with a small opening at the base leading into a large hollow centre. The cavity was big enough to hold ten people and had bear signs indicating it was an active denning tree.

A concerned hiker phoned the BC Forest Service office in Squamish to tell them about the tree. The Forest Service informed the company they would send a biologist to verify the finding.

The response from Interfor was incredible. The company immediately sent fallers into the centre of the cutblock to find and cut down the tree!

Informed the redcedar had been felled, the Forest Service told the distraught hiker that they were powerless to prosecute Interfor because the Forest Service had previously approved the Cutting Permit authorising Interfor to cut down the trees in *Magic Grove*.



Hollow cedar trees make great winter dens for black bears. Ian McAllister/Raincoast photo.



Marbled murrelets require wide, mossy branches on old-growth trees to make their nests. Red and yellow cedar are two tree species favoured as nest sites by this threatened species. Mark Hobson photo.

Murrelets don't actually build nests, but rather sit in depressions on wide mossy conifer branches. While inventories of nest sites are not comprehensive, the research to date shows that this seabird prefers old-growth "yellow cedar, western hemlock, Sitka Spruce, Douglas-fir, and western red cedar"<sup>49</sup> as nesting platforms. Recent research has determined that there is "... strong evidence that the watershed populations of marbled murrelets are directly proportional to the areas of old-growth forest available. There was no evidence that murrelets pack into remnant old-growth patches in higher densities as areas of old growth are reduced by logging. Breeding populations of murrelets are predicted to decline as areas of old growth decrease."<sup>50</sup> A decrease in old-growth red and yellow cedar will directly impact the nesting sites of this unique seabird.

Several species of bats utilize the hollow cavities that are characteristic of old large live and dead cedar trees. Research in Clayoquot Sound, on the west coast of Vancouver Island, showed that bats exclusively roosted in old-growth cedar trees or rock crevices. They did not roost in other species such as Yellow Cedar, Western Hemlock, Sitka Spruce or Amabilis fir that were common in these forests.<sup>51</sup> While the Keen's Long-eared Myotis has not yet been documented roosting in red cedar trees (mostly due to the difficulty of radio-tracking this rare and tiny species), it is believed that cedar

trees are the most likely used as roosts. Old forests containing red cedar are definitely used as important foraging habitat.<sup>52</sup> This small, rare bat is a red-listed species found in the old-growth forests of British Columbia. Ongoing logging in BC's forests will affect this species as it is believed to be "dependent on tree cavities associated with old-growth or mature forests for roosts, and therefore vulnerable to large-scale logging practices."<sup>53</sup>

BC's beleaguered northern spotted owl population is also affected by high grading of red cedar. This red-listed species is found in red cedar, hemlock, and Douglas-fir forests and habitat loss is considered to be the "single greatest threat to the survival of the species throughout its entire range in North America."<sup>54</sup>

Even when a spotted owl was observed only 20 metres from a new logging road in the Siwash Valley east of Vancouver, Ministry of Forests personnel refused to act to halt any logging plans claiming: "This is not a nest site, just a female owl on a branch. Owls fly around. There's no special need to do anything at this point."<sup>55</sup> Old-growth red cedar was one of the leading tree species found in the Siwash Creek cutblocks<sup>56</sup> that overlapped with the spotted owl habitat. The Western Canada Wilderness Committee subsequently took the province to court, arguing that a small provision of the former *Forest Act* (which was replaced with the *Forest and Range Practices Act* in 2003) required the

Ministry of Forests to set aside logging plans where it could be proved that species were not adequately managed and conserved. After the Wilderness Committee successfully obtained the first injunction in Canada to stop logging in endangered species habitat while the case was heard, the government withdrew from the case and the Ministry of Forests rescinded approval for three of the four cutblocks the Wilderness Committee had tried to protect. In a separate spotted owl court case, the judge ruled that BC's Forest Practices Code does not have the necessary authority to stop logging from causing local extinction (extirpation) of endangered species.

Much remains to be done, however, if the spotted owl is to be saved in BC. In 2003, government biologists estimated that only 25 spotted owls remain in BC.<sup>57</sup> These birds are located at ten active sites, of which three are currently scheduled to be logged.<sup>58</sup> Alarming, there are only three breeding pairs remaining among the 25 owls.<sup>59</sup> Because logging continues in areas surrounding nest sites where the owls feed, environmentalists and government biologists agree that the spotted owl will be extirpated from British Columbia by 2007.<sup>60</sup> The province's Spotted Owl Recovery Strategy appears to have failed, having been hampered by both a lack of funding and a focus on accommodation of logging interests: "If there was a balancing act between the spotted owl and the industry and jobs, it turns out now that the balancing act didn't favour the owl," said Brian Clark of the B.C. Ministry of Water, Land and Air Protection.<sup>61</sup>

Current forest practices do not protect wildlife because provisions were not included to restrict where and if timber companies can log in critical wildlife habitat. This lack of implementation has created a crisis:

"On the ground, forest practices continue to improve in BC's public forests, but the government still needs to provide direction to forest



Northern spotted owl. It is believed that as few as 25 breeding pairs remain in British Columbia. C.Swift/First Light photo.

companies to ensure the protection of threatened wildlife habit," the board stated. In an interview, acting chair Liz Osborn said the board can only monitor what it sees going on. The standards forests companies are using on the land are improving, but even improved practices will not prevent harm to species at risk if they are not provided with protected habitat.

"This problem has come up repeatedly in the board's work," she said. "The process [by government] has been very slow and very few wildlife habitat areas have made it through the process, even though it's recognized that many more are required.

"When we do audits, we audit compliance with the code. But if there isn't something to comply with in respect to a marbled murrelet, for example, logging companies can still be in compliance



Most of BC's cedar lumber is exported to the U.S. where two jobs are created in Washington state remanufacturing this cedar into value-added products for every job created in logging and milling the logs in BC. Wilderness Committee photo.

and still be harming marbled murrelet habitat. That's where the full implementation of the legislation is necessary so that there are wildlife habitat areas that are taken into account and need to be complied with."<sup>62</sup>

With the provincial government now implementing a 'results-based' code that virtually allows companies to regulate themselves, it is likely that logging of old-growth red cedar will increase and adversely affect wildlife.

## ECONOMIC IMPACTS

When profits drop in the logging industry, timber companies that operate in British Columbia have been able to offset their losses by cutting more cedar. There is a finite amount of accessible, large, high-quality ancient red cedar in coastal forests, and by targeting it all today there will be less opportunity for future generations. The economic and ecological value of one old-growth red cedar is incomparable to even several second-growth cedars because a replanted forest will never replicate ancient, original forests.

While the province does not allow export of raw cedar logs taken from public land, timber companies routinely sell minimally processed cedar cants and commodity lumber to sawmills in Washington and Oregon. There, this prized wood is remanufac-

tured into products of greater value, creating two jobs for every job involved in logging in BC.<sup>63</sup> So instead of supporting the growth of remanufacturing operations in BC, which are called value-added industries, provincial and federal politicians actually support exempting cedar lumber from U.S. tariffs. Sending huge volumes of cedar lumber to the U.S. benefits large timber companies in BC, some of which are U.S.-owned, but limits the economic opportunities for BC value-added remanufacturers.

Manufacturers in British Columbia need access to red cedar in order to create high-end, value-added products. Supporting such efforts would create employment and use less cedar, maximizing the value of this prized wood. It is not just wood, however, that is exported to the U.S. In the case of an Interfor cedar remanufacturing facility in Fort Langley, south of Vancouver, the entire plant was moved to nearby Sumas, Washington, putting 56 British Columbians out of work.<sup>64</sup> When Interfor president Duncan Davies announced the move in September 2002, he said the reason was to avoid paying duties on the cedar products they exported from the BC facility.<sup>65</sup> By opening a plant in Washington State, Interfor can make the same products and get away with paying less duties than if the company was operating in Canada.

The table on the following page shows how Interfor is high grading cedar around Squamish, northwest of Vancouver. This community is espe-



In the last five years, timber company Interfor closed two sawmills and a remanufacturing plant. With red cedar being high graded in both the Soo TSA and TFL 38, many wonder if the company's Squamish cedar mill (above) has a future. Wilderness Committee photo.

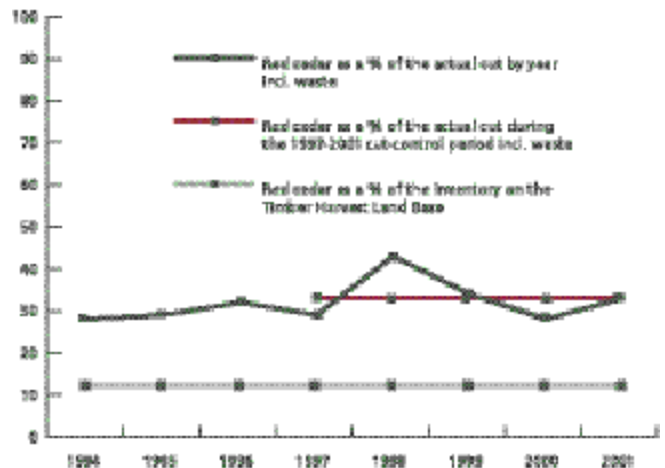
The table below shows the level of high grading in forests around Squamish, northwest of Vancouver.

	<b>Most recently completed cut-control period</b>	<b>Cedar as a % of the most recently completed cut-control period</b>	<b>Red cedar as a % of the inventory on the Timber Harvesting Land Base</b>	<b>The difference between the % of red cedar in the actual cut versus the percentage of red cedar in the inventory</b>
<b>Soo TSA (various licensees)</b>	<b>1997-2001</b>	<b>15%</b>	<b>5%</b>	<b>200%</b>
<b>TFL 38 (Interfor)</b>	<b>1997-2001</b>	<b>33%</b>	<b>12%</b>	<b>175%</b>

\*While this time period is not an official cut-control period, it represents an estimate for the cut-control period of different licences within the TSA.

cially concerned that a troubled sawmill, retooled in 2001 to process red cedar, might share a similar fate to other Interfor cedar mills that have permanently closed. BC's forests cannot sustain high grading and over-cutting indefinitely. As well, BC communities pay the price for the industry's desire to be a low-cost, high-volume producer of commodity lumber. While volatility in international commodity markets has contributed to industry instability, timber companies that operate on BC's coast have been reluctant to embrace tenure reform, recapitalization and sustainable forest practices, which has exasperated their problems.

TFL 38 - red cedar as a % of the actual cut





# Conclusion

**British Columbia's western red cedar forests are a globally unique natural heritage. Specific plant and animal species, rich First Nations cultures, and a valuable economic niche in BC's forest industry are sustained by the old-growth cedar forests of Canada's Pacific coast. Today, however, old-growth cedar is increasingly rare as timber companies target these older, extremely valuable trees in order to maintain revenue in an otherwise challenging forest economy.**

**T**he targeting or high grading of western red cedar is just one of many unsustainable forest practices in British Columbia, and the problem cannot be resolved in isolation. Either we can acknowledge the environmental and cultural benefits of the remaining old-growth cedar and conserve it, or we can continue to diminish the cultural, environmental and economic options that these forests provide. We can look to the future or concentrate on the short-term and maintain profits for the logging industry.

This study found that old-growth cedar, especially the largest, most-valuable trees, will disappear from the BC coast if the current methods of targeting these forests continue. And, the likelihood of this increases as the provincial government deregulates the forest industry and places more management control in the hands of timber companies. The incentive to log as much cedar as possible is tremendous as it is not anticipated that the market for high-quality cedar products will diminish. Unless the logging of cedar is more strictly regulated, we could soon see the disappearance of old-growth, leaving only the less-valuable second growth forests.

If future generations are to benefit from old-growth western red cedar forests then we must urgently reform how these forests are managed. Such policy reform must include adequate conservation of old-growth cedar forests, protection of culturally modified trees and surrounding forest, and implementation of ecosystem-based forest management that eliminates large-scale clearcutting of cedar forests and maintains a diverse range of age and size classes of cedar forests.

When determining the allowable annual cut (AAC), the government must exclude both uneconomic timber as well as western red cedar forests with high cultural and ecological values. Also, areas that connect across the entire forest landscape must be permanently conserved.

The unique benefits provided by old-growth western red cedar forests are irreplaceable. We encourage the government of British Columbia, coastal First Nations, and others with rights to log to negotiate and honour land-use plans and forestry agreements that will ensure these forests are managed to provide cultural, ecological and economic benefits for centuries to come.

# Recommendations:

- Through the assessment of land-use planning recommendations and formal government-to-government negotiations with First Nations, conserve the ecological integrity of western red cedar forests, especially vital stands of old-growth in BC's coastal rainforests, by designating a system of permanent protected areas and forest ecosystem reserve networks.
- Ensure that sufficient old-growth red cedar is conserved to meet the cultural and economic needs of coastal First Nations, and increase funding to them in order to identify and protect culturally modified western red cedar trees.
- Legislate restrictive regulations in the BC government's new Forest and Range Practices Act to limit the forest industry's opportunity to high grade old-growth western red cedar.
- Amend BC's Forest Act to ensure that licensees are required to log the species profile within their operating areas so that red cedar and other species are not logged at an unsustainable rate.
- Change BC forest policy to ensure that raw logs and minimally processed wood are not exported so that value-added industries can expand. This should include reforming the forest harvest licensing system (tenure) so that manufacturing companies in BC have an opportunity to buy logs and lumber, including red cedar, instead of allowing the bulk of this wood and Canadian jobs to be exported to the U.S. and other jurisdictions.
- Amend government policies to ensure that information regarding Tree Farm Licenses (TFLs) is available to the public from government and forest licensees.
- The current provincial policy of not accepting raw log export applications for red and yellow cedar from public land must be upheld. This will allow BC manufacturers to make wood products with greater value than what is paid for logs and cants. The federal policy of allowing export of red and yellow cedar logs from private land must end in order to provide BC manufacturers more access to wood, which will create more jobs here rather than abroad.
- Cancel the forest management arrangement for Timber Supply Areas (TSA) known as Defined Forest Area Management (DFAM), under which TSA licensees manage all aspects of the TSA, including conducting the Timber Supply Review.
- Reform the Timber Supply Review process to ensure that each Timber Supply Report is written by government officials, and contains clear and accurate information about the volume of each species on the Timber Harvesting Land Base (THLB) and that the AAC for each TSA and TFL are set at an ecologically sustainable level.

## APPENDIX 1: METHODOLOGY AND SOURCES

### Methodology and Data Sources

#### Source of Billing Data

The analysis in this report is based upon data from Harvest Billing Reports purchased from the British Columbia Ministry of Forests to determine the annual volume of wood, by species, logged in each Timber Supply Area or Tree Farm Licence. The data purchased was for a time period starting at the beginning of the most recent cut-control period and ending on December 31, 2001. The start date for each cut-control period varied by licence. The Harvest Billing Reports were for public land, except for TFLs 39 and 44, which included data for Schedule A private land. This data was included in the analysis because the licensee's Timber Harvesting Land Base inventory did not distinguish between public and private land in these two TFLs.

To show a complete picture of the volume of all wood actually cut in each area, waste data were also purchased in the customized report from the Ministry of Forests. The billing data and waste data for each species were added together for each year, and this was used to determine the percentage of red cedar logged during the most-recently completed five-year, cut-control period.

Some of the Tree Farm Licences are broken into smaller sections, known as *blocks*. These blocks, not to

be confused with cutblocks, are identified by the forest district in which they are located. The billing data were purchased for each of the TFL blocks.

#### Point of Comparison

The billing data were used to determine the composition of red cedar as a percentage of the actual cut for the most-recent, cut-control period, which was then compared to the percentage of red cedar in the inventory for the TSA or TFL. The term cut-control period was defined by *Forest Act* regulations prior to 2002, which have subsequently changed. A cut-control period is typically for a 5-year period, the term of which varies with each licence.

Each Timber Supply Area may contain forest licences with different control periods. However, most major forest licences on the BC coast have a common start date for their cut-control period. Therefore, a common start date was used for the purposes of analysis, even though the actual date for each cut-control period may not have started at the same time.

#### Inventory Sources

Inventory data were obtained for each management area from a number of sources. Where possible, the data were obtained directly from the TFL holder, while the Ministry of Sustainable Resource Management supplied the data for the remaining TFLs and for the TSAs. Unless otherwise stated, the

inventory data were organized by volume (m<sup>3</sup>), by tree species on the net Timber Harvesting Land Base (THLB), which was used to determine the proportion of red cedar in the standing volume on the THLB. It is believed that the inventory is for all age classes. All inventory data sets are for public land only, unless otherwise noted. All attempts were taken to obtain the best-available inventory information, however, the quality of the information could not be independently verified.

Inventories for standing volume within the Arrowsmith, Fraser, Kingcome, Mid-Coast, North Coast, Queen Charlotte Islands, Soo, Strathcona, and Sunshine Timber Supply Areas were supplied by the Ministry of Sustainable Resource Management. The data for the Timber Harvesting Landbase were defined as land available for long-term, integrated resource management. The net volume in cubic metres is gross volume less decay, waste, and breakage based on a 17.5 cm+ stump diameter inside bark utilization level. The data of inventory varied by TSA, but represented the most-recently available data set.

**TFL 6:** Western Forest Products supplied the inventory information for the Timber Harvesting Land Base. The data source was the Management Plan #9 Timber Supply Information Package, less the estimated volume harvested by species from 1998 to January 2001.

**TFL 19:** Western Forest Products supplied the inventory information for the Timber Harvesting Land Base with inventory current to January 2000. The data source was the Management Plan #9 Timber Supply Information Package.

**TFL 25:** Western Forest Products supplied the inventory information for the Timber Harvesting Land Base from Management Plan 10 with inventory current as of Jan.1, 2001.

**TFL 37:** Canfor supplied the current estimated volume by species for the Timber Harvesting Land Base based on TFL 37 Management Plan 8, less the estimated volumes harvested by species from 1997 to September 2001.

**TFL 43:** Scott Paper supplied the inventory for the Timber Harvesting Land Base, current as of December 31, 1998. The inventory did not differentiate between conifer species.

**TFLs 39 and 44:** Weyerhaeuser supplied the inventory data for the gross THLB in these two TFLs. The data is believed to be the most-recent available to the company. The inventory data set is for both public (schedule B land) and private land (schedule A land). The TFL 39 data is from 1999 and the TFL 44 data is from 2000.

**TFL 46 and TFL 47:** (Campbell River & Port McNeill Forest Districts): TimberWest supplied the

species breakdown, by percentage, for the Timber Harvesting Land Base. TimberWest did not provide the actual volumes of timber within the THLB. No date of inventory was provided, but is believed to be the most-recent information.

**TFL 47:** (Queen Charlotte Islands Forest District): While TimberWest is the tenure holder for TFL 47, all management of this portion of the TFL was sub-contracted to JS Jones Logging. Dick Jones of JS Jones Logging was contacted in an attempt to obtain data, but he would not release this information pertaining to public land. The Ministry of Sustainable Resource Management supplied the inventory information for this section of the TFL with volumes projected to January 1, 1999. The year of the aerial photography was 1990.

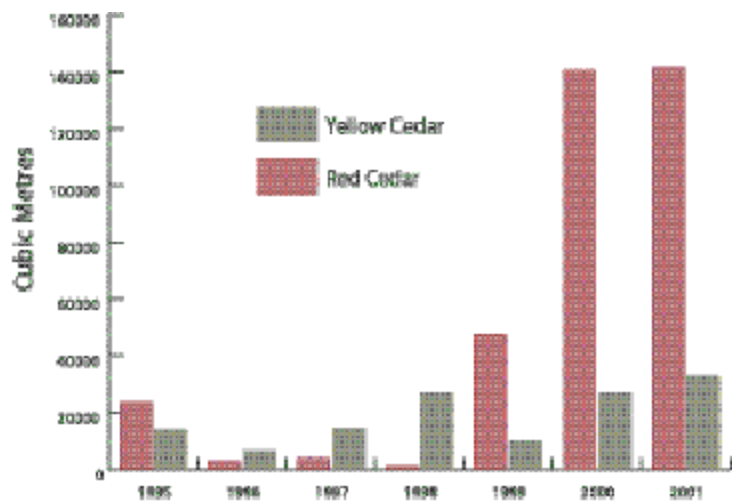
**TFL 10, TFL 38, TFL 45, and TFL 54:** Interfor was unable to provide the inventory by species by volume for the Timber Harvesting Land Base. Because it is not a legal requirement to do so, the company does not organize the inventory data by species. Interfor stated that for a fee they could provide the inventory by volume, but that it would be organized by species mix (hemlock, cedar-hemlock, etc.), which would be incompatible with the report methodology. The necessary information does exist in a raw form, but Interfor said the expense of collating the data would be prohibitive and

they were unwilling to pay this expense. The inventory was obtained from the Ministry of Sustainable Resource Management, and TFL 10, TFL 45, and TFL 54 data were acquired by the government in 1995 from the companies that hold the logging rights with volumes projected to January 1, 1999. TFL 38 data were acquired by the government in 1995 and 1996 with volumes projected to Jan. 1, 1999.

## APPENDIX 2: CEDAR RAW LOG EXPORTS

Canadian federal government regulations allow the export of raw cedar logs from private lands, and recent data show a significant increase in red cedar log exports as documented in the adjacent graph.<sup>67</sup>

Raw log export of red and yellow cedar trees under federal export permit from coastal BC



### APPENDIX 3: OPEN MARKETS

British Columbia's logging industry is structured to benefit large, mostly multinational timber companies, often at the expense of local communities, First Nations and the environment. Approximately 20 companies control two-thirds<sup>68</sup> of the Allowable Annual Cut on public land, which limits the amount of wood available to small and medium-sized companies. These smaller companies, both logging and manufacturing, generally create value-added products, which require fewer trees to be cut than with the large-scale industry where trees of great value are often shipped abroad with minimal manufacturing performed in BC or are converted to pulp. Instead of large companies automatically having access to the best wood, one way to provide opportunities to smaller companies would be the establishment of an open log market.

Currently on the Vancouver Log Market, five large companies dominate sales and trading whereas a truly competitive log market would ensure that all timber companies send a fixed percentage of the logs they cut to the market and then when a company needed a specific log it could buy it from that open market. This is especially important for small- and medium-sized companies that need cedar to create value-added products because such companies generally have difficulty accessing

this highly desirable wood.

Growth of the value-added sector – sawmills and remanufacturing plants – would lead to increased investment and employment and less demand on our forests because fewer trees could be cut if bidding on an open log market increased the price so that companies did more with less timber.

Instead, timber companies with logging rights on the BC coast today keep the logs they cut and often actually subtract value from this wood instead of creating a more valuable product. Large timber companies can't or won't invest in new equipment that would maximize the value of a log, and they often refuse to sell it to another BC company that could.

Paul McElligott, president of TimberWest, which is one of the large companies operating in BC, recently observed:

He [McElligott] warned a further 15- to 20-per-cent reduction in employment is on the horizon, noting the coast does not have any sawmills equivalent to the efficient Interior sawmills competing in the U.S. market despite softwood tariffs. "We don't have one mill that is capable of efficiently processing a five- to seven-inch-diameter log. I go out on operational tours and I look at logs that are beautiful wood, dead straight. Logs that guys in the Interior would cry

over. They go into the chipper because nobody is geared up. They go as pulpwood, not a sawlog."<sup>69</sup>

## ENDNOTES

1. The use of the term western red cedar in this report refers to western redcedar (*Thuja plicata*), which is the proper taxonomic name for this tree species.
2. A cant is a large diameter timber that is essentially a log that has been squared.
3. <http://srmwww.gov.bc.ca/cdc/register.htm>
4. Richard Hebda, History of Cedars in Western North America, page 8 in Proceedings of the Cedar Symposium, May 28-30, 1996, Haida Gwaii. (Victoria: Ministry of Forests, Province of BC, 1999) pgs 5 - 13.
5. Hilary Stewart, Cedar (Vancouver: Douglas & McIntyre, 1984) Page 26.
6. Around Stryd and Vicki Feddema, Sacred Cedar: The Cultural and Archaeological Significant of Culturally Modified Trees (Vancouver: David Suzuki Foundation, 1998) page 6.
7. Stewart, page 26.
8. Hal Reveley, Setting the Stage, page 3 in Proceedings of the Cedar Symposium, May 28-30, 1996, Haida Gwaii. (Victoria: Ministry of Forests, Province of BC, 1999) pages 2 - 4.
9. Karel Klinka, Update on Silvics of Western Redcedar and Yellow-cedar, pages 24 & 25 in Proceedings of the Cedar Symposium, May 28-30, 1996, Haida Gwaii. (Victoria: Ministry of Forests, Province of BC, 1999) pages 14 - 28.
10. Wade Davis, The Clouded Leopard (Vancouver: Douglas & McIntyre, 1998) page 214.
11. Stewart, page 8.
12. Stryd, page 5.
13. David Garrick, Shaped Cedars and Cedar Shaping. (Vancouver: Western Canada Wilderness Committee, 1998), page 381 and Pers Comm David Garrick, May 2002.
14. Joanna Piros, Truck Logger, Cedar Unlimited Part I, Spring 2003, pages 13-17 (17).
15. Piros, page 17.
16. Piros, page 17.
17. John Nelson, Log Price Comparisons in the Vancouver Log Market. (Bellingham: Northwest Ecosystem Alliance, December 2001) page 11.
18. Gordon Hamilton, Vancouver Sun, Coast loggers turn to cedar to stay alive: Harvesting more of the high-value wood only alternative as hemlock price plunges, Page C1, January 17, 2001.
19. Joanna Piros, Truck Logger, The Real Deal - Cedar Unlimited Part II, Summer 2003, Vol. 26 Number 2, p. 14.
20. Gordon Hamilton, Vancouver Sun, Forest-plan deadline shot, executive says, Page C1, Dec. 5, 2001.
21. Gordon Hamilton, Vancouver Sun, More mills to close because of land deal: Doman Industries plans a closure announcement and a lumber executive warns more will come :Page F10, April 20, 2001.
22. Gordon Hamilton, Vancouver Sun, More mills to close because of land deal: Doman Industries plans a closure announcement and a lumber executive warns more will come :Page F10, April 20, 2001.
23. Council of Forest Industries, Trends in Western Red Cedar Log Harvest and Utilization BC Coast, (Vancouver: COFI, March 16, 1964), page 13.
24. Ibid, page 3 & 4.
25. The Allowable Annual Cut (AAC) is the amount of timber that a company can cut for a specific tenure; the actual cut may be higher or lower than the AAC in any given year, as long as the average actual cut is no more than 10% above the AAC for a 5 year period.
26. COFI, pages 14, 15, & 17.
27. Interfacts, April 1996, Vol. 2, No. 2, Interfor Publication.
28. Selected inventories from TFL 39 Management Plans 4, 7, and 8, Weyerhaeuser.
29. Heiltsuk First Nation, How Long Will it Last? Cedar Logging in the Heiltsuk Traditional Territory, Bella Bella: 2001.
30. Petti Fong and David Hogben, Vancouver Sun, Half of coastal mills to shut down: Up to 14,000 B.C. workers idle by next week because of U.S. tariff, industry official says. August 17, 2001, page A1. and Gordon Hamilton and Derrick Penner. Vancouver Sun Mills scramble to beat deadlines: B.C. forest firms take advantage of a brief window of opportunity before the costly softwood duty is applied. May 21, 2002. Page D1.
31. Gordon Hamilton, Vancouver Sun, Cedar: One of B.C.'s bright spots: Technology can create amazing substitutes but only nature can create cedar, and we've got forests full of it, Gordon Hamilton reports Page E3, June 15, 2002.
32. John Nelson, Log Price Comparisons in the Vancouver Log Market. (Bellingham: Northwest Ecosystem Alliance, December 2001).
33. Nelson, page 35.
34. Domestic sales is defined as sold within BC as reported to the Ministry of Forests.
35. <http://www.standup>

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36. Ministry of Forests. Procedure of British Columbia Procedures for Export of Timber 1999: Vancouver and Prince Rupert Forest Regions. (Victoria: Government of BC, July 1999), page 4.
  37. Ibid, page 7.
  38. Guujaaw affidavit. Massett Band, Michael Nicoll, and the Haida Nation vs. Stejack Logging Ltd., et al., Supreme Court of BC, May 28, 1990. Page 11.
  39. Ibid, page 6.
  40. Ibid, page 5.
  41. Ibid, page 12.
  42. Joanna Piros, Truck Logger, Cedar Unlimited, Spring 2003, pages 13-17 (15).
  43. Christian White, Speaking About Cedar, page 50 in Proceedings of the Cedar Symposium, May 28-30, 1996, Haida Gwaii. (Victoria: Ministry of Forests, Province of BC, 1999) pages 49 - 50.
  44. Ministry of Water, Land, Air, Protection, Environmental Report: Artlish River Nanaimo: MoWLAP, October 18, 2000, page 10.
  45. Ministry of Water, Land, Air, Protection, Environmental Report: Nahwitti River Nanaimo: MoWLAP, October 18, 2000, pages 9-10.
  46. Ministry of Water, Land, Air, Protection, Environmental Report: Macktush River Nanaimo: MoWLAP, October 18, 2000, page 8.
  47. The Red List "includes any indigenous species or subspecies (taxa) considered to be Extirpated, Endangered, or Threatened in British Columbia. Extirpated taxa no longer exist in the wild in BC, but occur elsewhere. Endangered taxa are facing imminent extirpation or extinction.
  - Threatened taxa are likely to become endangered if limiting factors are not reversed. Red-listed taxa include those that have been, or are being evaluated for these designations. CDC website: <http://srmwww.gov.bc.ca/cdc/list.htm>
  48. Syd Cannings, David Fraser, and William Harper. 1999. Rare Birds of BC, Ministry of Environment, Lands, and Parks, Page 95.
  49. Alan Burger, Conservation Assessment of Marbled Murrelets in British Columbia, A Review of the Biology, Populations, Habitat Associations, and Conservation. Government of Canada, Canadian Wildlife Service. 2002. Pages 39 & 40.
  50. Ibid, page IX.
  51. Ruth van den Driessche, Monica Mather and Trudy Chatwin. 1999. Habitat Use by Bats in Temperate Old-Growth Forests, Clayoquot Sound, British Columbia. Unpublished report to Ministry of Environment, Lands and Parks. 36pp.
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  53. Syd Cannings et al. 1999. Rare Amphibians, Reptiles, and Mammals of BC, Ministry of Environment, Lands, and Parks, p.67.
  54. Dave Dunbar, et al. Spotted Owl Management Options Report, Ministry of Environment, Lands, and Parks, 1994, page xi.
  55. Larry Pynn, Vancouver Sun, The Battle Over Logging, December 8, 2001.
  56. Aran O'Carroll, et al. An Initial Scoping Assessment of Logging Threats to Spotted Owl Habitat in the Chilliwack Forest District Forest Watch of BC & Sierra Legal Defence Fund. November 2001. page 7 of Tab 5.
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  59. Ibid.
  60. Ibid.
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  62. Gordon Hamilton, Vancouver Sun, Board urges protection for wildlife habitats, May 30, 2003. Page H4.
  63. <http://www.standupforcedar.com/media.html>
  64. Gordon Hamilton, Vancouver Sun, Interfor to move BC mill to US: Transfer of jobs to American workers marks a first in softwood dispute. September 28, 2002.
  65. Ibid.
  66. While this time period is not an official cut-control period, it represents a reasonable estimate for cut-control periods for major forest licences within the TSA.
  67. Graph from Ministry of Forest data: Exported Volume Summary for Federal export permits from the coast by Destination, for the years 1995 to 2000.
  68. <http://www.for.gov.bc.ca/ftp/hth/external/publish/apportionment/aptr043.pdf>
  69. Gordon Hamilton, Vancouver Sun, Forest firm brass join in urging premier to action, July 9, 2003.