

Greening the Trade in Trees

Solutions to the U.S.-Canada
softwood lumber dispute

A Citizens' Forest Trade Alternative



A Project of
Northwest Ecosystem Alliance
Natural Resources Defense Council
Defenders of Wildlife

Winter 2002

Greening the Trade in Trees: Solutions to the U.S.-Canada softwood lumber dispute: A Citizens' Forest Trade Alternative

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**Joe Scott
Susan Casey-Lefkowitz
William Snape**

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Northwest Ecosystem Alliance protects and restores wildlands and wildlife in the Pacific Northwest and supports such efforts in British Columbia. NWEA bridges science and advocacy, working with activists, policy makers, and the general public to conserve our natural heritage. We envision a Northwest that includes natural areas healthy, wild, and large enough to sustain viable populations of all native species, including large carnivores such as grizzly bears and wolves. www.ecosystem.org



Looking out over the Chilcotin Mountains in B.C.'s unprotected interior wilderness. Photo by Joe Scott.

Natural Resources Defense Council is a national, non-profit environmental organization with more than 500,000 members nationwide. NRDC is actively working to improve management of the world's forest resources through promoting conservation, efficient use of wood, and environmentally sustainable forestry practices. www.nrdc.org

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Foreword

Softwood lumber trade with the United States has long driven environmentally unsustainable logging in Canada's primary and old growth forests. Rapid forest degradation, fueled by timber subsidies, is leading to serious wildlife declines, water quality problems, and a potentially permanent loss of long-term economic opportunities in Canada's once seemingly endless wilderness. Tragically Americans, as the largest consumers of the virgin wood felled by our neighbor to the north, are unwittingly contributing to this destruction.

The goal of this document is to identify a plausible and desirable plan to promote environmentally sustainable forestry, protect endangered forests, conserve binational ecosystems, and protect the people on both sides of the border who are hurt by the short-sighted profit aspirations of a few. Common sense exhorts us to identify such a plan and United States law requires it. Under the National Environmental Policy Act (NEPA), for example, federal agencies such as the Office of the U.S. Trade Representative, Department of Commerce, and Department of the Interior must prepare environmental analyses of major actions that significantly affect the environment. Agencies such as the U.S. Fish and Wildlife Service must ensure that any final action by the U.S. government to resolve the U.S.-Canada softwood lumber trade dispute does not jeopardize the conservation of wildlife species such as the grizzly bear, wolf, woodland caribou, lynx, bull trout, and assorted salmonids, as well as numerous migratory birds.

Our proposal is not "anti-logging." To the contrary, we accept the notion that sustainable logging on Canadian lands is a vital source of revenue and jobs. Our proposal is not "anti-trade." To the contrary, we support sustainable and fair forest product exports from Canada to the United States. Rather, our proposal offers practical solutions to a trade dispute that is now

several decades old. We believe, in fact, that the only long-term way out of the present impasse is to finally acknowledge that the economics and the ecology of North American forests are connected.

The heart of environmental concerns and of the U.S.-Canada trade dispute over softwood lumber trade is that the governments of Canada—both the federal government and the powerful provincial governments—heavily subsidize timber operations in their country. The subsidies are numerous and varied, but their combined impact is devastating for native forests on both sides of the border, wildlife that inhabits the forests, water quality, First Nations, local communities, global climate stabilization efforts, and taxpayers. Subsidies lead to over-harvesting of ancient forests that would not otherwise occur.

This is not to say that Canada is the only country guilty of providing perverse subsidies to its timber industry. Deforestation worldwide is rooted in government subsidies and the consistent undervaluing of the range of forest values. With the understanding of the need for a new international discourse on environmentally and socially destructive subsidies to natural resource industries, the purpose of this document is not to address the full spectrum of timber subsidies that are common to Canada and many other countries, including the U.S. Rather it is to level the playing field between the U.S. and Canada by offering a strategy that combines democratic process, scientific integrity, government accountability, full cost accounting, and market based pricing in the management of public forests—all ingredients for healthy democratic societies and economies. Such a level playing field will benefit our intertwined economic and ecological interests.

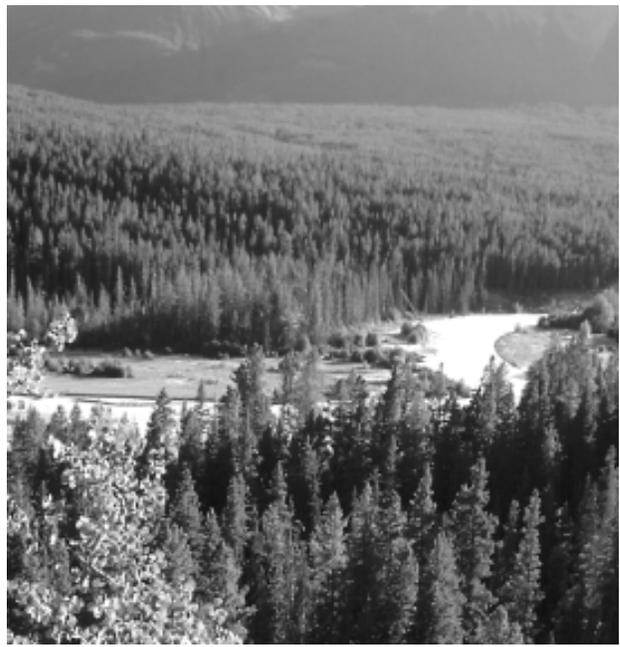
In Canada, at any given point in time, hundreds of clear-cuts as large as thirty football fields each or larger are occurring. Under the

1996 U.S.-Canada Softwood Lumber Agreement, which expired in April 2001, five million truckloads of Canadian old-growth lumber could annually enter the United States duty-free. Much of this wood came from forests that support dwindling grizzly bears, mountain caribou facing extinction, and numerous runs of endangered salmon at a pitiful fraction of their historic abundance. Much of the commercial logging occurs on unceded First Nations land, while Native peoples struggle to maintain their cultures in the face of rapid deforestation of their homelands. Cheap Canadian lumber floods markets in places such as Idaho, Minnesota, and Maine, devastating many family-run lumber enterprises and timberland owners who must compete in truly open markets for logs.

There is an answer. The Citizens' Forest Trade Alternative takes the interests of all Americans and Canadians into account. It promotes trade in lumber products that ensures the conservation of transboundary threatened and endangered species, the protection of First Nations' values, and the long-term viability of the timber industry itself. It seeks to ensure that Canadian forests are not all turned into tree farms, but remain a part of the Canadian wilderness.

The simple message of this document is that we must do more to protect the great Canadian forests, which are being severely degraded; while at the same time making a transition to fair and environmentally sustainable forest management. Many of the remaining wildlands in the lower 48 states are found along or near the Canadian border. These are ecosystems that the U.S. government has spent millions of dollars to protect. Without healthy Canadian wildlands and wildlife, U.S. investments in these regions will be undermined.

The connection between U.S. and Canadian wildlife is direct. Grizzly bears and bull trout regularly cross the border over shared lands and through shared waters. Wolf populations now prospering in Yellowstone National Park and the central Idaho wilderness came from Canadian forests. The last remaining mountain caribou herd in the lower 48 owes its existence to those of the Chilcotin Plateau in British Columbia, though now even the Canadian herd is dwindling dangerously. And without active



Tchaikazan River in the Chilcotin Range. This traditional territory of the Xenigwet First Nations is unprotected wilderness. Photo by Joe Scott.

cooperation by Canada and the United States, salmon recovery will never occur.

The list of impacted wildlife is long, yet the window of opportunity for an historic solution to the two countries' forest trade battle unfortunately is small.

On a larger scale, the U.S.-Canada Softwood Lumber debate is a unique opportunity to make tangible strides on legal principles in international trade. Science-based environmental stewardship leads to environmentally sustainable trade, and vice-versa. Free trade must mean that industry trades in products that reflect the full price of environmental protection. Now is the time to forge new ground in trade policy and cross-boundary cooperation. The forests and their diverse inhabitants do not have much time left.

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Executive Summary

The Citizen Forest Trade Alternative offers solutions to a decades-long problem of subsidized forestry in Canada harming the forests, waters, and wildlife of North America in order to satisfy the U.S. desire for wood. The United States and Canada are once again in the midst of legal battles to resolve disputes over softwood lumber trade. Unless a long-term and durable solution, including reform of forestry subsidies can be found, this dispute is likely to continue indefinitely.

Canadian subsidies to the timber industry fall into three broad categories. First are the blatant financial handouts to timber companies. Such handouts are provided both through direct cash and regulatory waivers given to companies, and by provincial governments charging a stumpage fee that is far less than market value for Canadian old-growth trees and other timber harvested. The second general type of subsidy granted to the Canadian timber industry is the environmental free-ride granted by both the federal government and the provincial governments. This occurs, in part, when environmental laws are weakened or not enforced in order to provide a pass back to industry.

The third category of subsidies relates to the issue of who controls Canada's public forests. Most long-term licenses for timber harvesting were given out decades ago and are tightly controlled by a small group of major timber companies. Long-term tenures coupled with highly restricted public participation rights in forest planning decisions means that control over the use of Canada's public forests rests in the hands of a small number of companies.

Forestry subsidies have a number of economic, social, and environmental consequences, ranging from boom and bust economic cycles and the preclusion of economic diversity that destroys communities, to inappropriate logging

practices that destroy the very fabric of ecosystems and the life-sustaining benefits that those ecosystems provide. Transboundary wildlife species are at risk from the over-harvesting of Canadian forests that follows from the subsidies. Mountain caribou, grizzly bear, marbled murrelet and northern spotted owl are all listed as at risk in the United States and in Canada and yet, while these species and their habitats are legally protected in the United States, similar legal protections largely do not exist on Canadian provincial lands.

The proposed action as reflected in this paper is designed to create a sustainable framework for governing trade in forest products between the United States and Canada. This should include the reduction of forestry subsidies in Canada through reallocation of tenure, transition to market-based pricing mechanisms, and transition to ecosystem protection-based management.

Finding a long-term solution to the softwood lumber dispute makes good economic sense for Canada and the U.S. It also makes good legal sense in the United States to find a solution that is environmentally sound. Under the U.S. National Environmental Policy Act (NEPA), federal agencies such as the Office of the U.S. Trade Representative, Department of Commerce, and Department of the Interior must prepare environmental analyses of major actions that significantly affect the environment. In addition, according to the U.S. Endangered Species Act, agencies such as the U.S. Fish and Wildlife Service must ensure that any final action by the U.S. government to resolve the U.S.-Canada softwood lumber trade dispute does not jeopardize the conservation of rare and vulnerable wildlife species. Finally, U.S. trade policies must evolve to promote, not hinder, the sustainable development and ecological health of our trading partners.

1. Introduction to a Citizens' Forest Trade Alternative

1.1 Background

Canada is the largest forest products exporter in the world. This commerce encompasses nearly 20 percent of the total global value of all forest products, including softwood lumber, chips, paper and paperboard, pulp, and raw logs.¹ Canada maintains its export lead by logging old-growth and primary forests, which account for 90 percent of the harvest or nearly one million hectares per year.² Over 90 percent of these forests are publicly owned or are the traditional lands of First Nations.³

Much of the public land is allocated to commercial logging tenures, which are near perpetual arrangements that give timber companies exclusive volume- or area-based rights to log public trees.⁴ Thirteen of these companies hold tenures that are at least the size of Switzerland.⁵

In British Columbia, the largest provincial exporter of forest products by volume, old growth forests are being cut at a rate of approximately 417,000 acres (190,000 hectares) annually.⁶

"In the softwood lumber dispute, Canada is arguing that its competitive advantage comes from the fact that Canada has more trees. . . . it comes from the fact that it gives the forests over to the companies who pay only a small extraction fee and no one pays a dime to the Aboriginal co-owners of the forests—or even to the people of Canada. [Ordinary Canadians] should be equally disturbed by the fraud and cronyism that masquerades as forestry policy in Canada."

Chief Arthur Manuel, Chair of the Shuswap Nation Tribal Council and spokesman for the Interior Alliance of British Columbia

Together with Quebec and Ontario these three provinces account for nearly three quarters of the wood volume produced and area logged each year.⁷

Clear-cutting is the predominant method of logging in Canada, comprising 80 percent of the annual harvested area.⁸ For example, in British Columbia clear-cutting accounts for over 90 percent of the logging regime.⁹ The figures are similar for other Canadian provinces such as Ontario, Quebec, and Alberta.

While economically most efficient for logging companies, clear-cut logging methods are ecologically devastating and result in dramatically different disturbance patterns than natural processes such as single tree death, windthrow, and fire. Industrial logging prescriptions and road building disrupt hydrologic regimes, result in direct destruction of aquatic and terrestrial habitat, upset wildlife migration patterns and fragment habitat, change microclimates and fire regimes, compact soils and lead to increased erosion, encourage invasive species, lead to



Clearcut of a centuries-old cedar grove in Sims Creek Valley near Whistler, B.C. Photo by Joe Foy, Western Canada Wilderness Committee.

more frequent human disturbances of sensitive wildlife areas, and exacerbate global warming.¹⁰

In Canada, the provinces' determination of allowable annual cut (AAC)¹¹ and volume-based philosophy remain the drivers for provincial forest management. Although Canadian and provincial laws contain the language of sustainability, actual practices and policy implementation are heavily weighted toward industrial scale logging practices that do not adequately take ecological needs into consideration (see Table 1). Resistance by the timber industry to biodiversity planning and other initiatives designed to protect non-extractive values has seriously compromised efforts to implement and enforce improved forest practices or to manage adaptively. Yet despite continued high logging levels, British Columbia, for example, is experiencing a steady stream of mill closures and accompanying loss of jobs and destabilized communities.¹²

1.2 Environmentally-Harmful Forestry Subsidies in Canada

"One of the reasons BC has the highest logging costs in the world is the cost of gaining access to the remaining old growth forests and getting the timber out. We are now in the guts and feathers. We are in the backs of the valleys and the tops of the mountains. These are more expensive areas to operate in." Financial analyst Reid Carter, *The Vancouver Sun*, March 12, 1998

The Canadian provincial rules governing forestry practices provide perverse subsidies to the major timber companies licensed to log on public land.¹³ A subsidy exists where a government expenditure or program makes a resource such as forest products cheaper to produce than its full economic cost.¹⁴ Subsidies can include direct financial contributions from the govern-



Old-growth log sort yard in a special resource management zone in B.C. Photo by Jeremy Williams, Western Canada Wilderness Committee.

ment to a company, but they can also include indirect financial contributions such as environmental costs that have not been internalized through the action or inaction of government policies.¹⁵ Without subsidies, timber companies could not afford to log many of the ancient forests currently being clear-cut.

Canadian subsidies to the timber industry fall into three broad categories: economic, environmental, and control-related.

The first type of subsidy includes financial handouts to timber companies. Such handouts are provided both through direct cash and regulatory waivers given to companies, and by provincial governments charging far less than market value for Canadian old growth trees and other timber harvested. Known as "stumpage fees," prices for Canadian timber are well below prices for similar timber in the American states just south of the border, even after adjusting for differences in species, road building, and silviculture obligations. The stumpage system is also manipulated by companies and governments so that even these below-market rates often go unpaid. Finally, a broad array of provincial and federal programs help Canadian timber companies financially through marketing and research. Over the years, the U.S. Department of Commerce and various Canadian academic and government reports have found that the Canadian system significantly subsidizes its timber industry.

In theory, stumpage fees should be based on the difference between the market value of a log and the cost to harvest and transport the log from the forest to market with some allowance for profit. If the government does not collect the full “rent” for its timber resources, it transfers the rent to the forest industry and thereby provides a subsidy.¹⁶ In Canada, the government does not charge the full rent. Economic subsidies include:

□ *Administratively and arbitrarily set prices:* Canadian provinces set stumpage arbitrarily and administratively, based on government revenue objectives, rather than letting the market set the prices. For example, British Columbia sets timber prices on 95 percent of the commercial forest, undervaluing its timber by between C\$2.8 billion and C\$3.6 billion per year.¹⁷

□ *Below-market stumpage rates, as low as 25 cents a cubic meter:* Across Canada, stumpage rates are below market rates—but as Canada does not have a true market-based system for comparison, useful sources of comparison are the United States border states, with appropriate adjustments made for Canadian conditions. For example, a U.S./B.C. study found that during the 1999-2000 period, U.S. markets would have paid a premium over B.C. markets of \$75 per cubic meter for coastal timber and \$82 per cubic meter for interior timber.¹⁸ Not only is the minimum stumpage rate very low, but a high percentage of the stumpage is valued at that minimum rate. For example, in British Columbia between 1998 and 2000, 30 percent of all wood harvested from the province’s interior went at the minimum rate of \$0.25 per cubic meter—the equivalent of \$10 per logging truck of timber.¹⁹

□ *Stumpage manipulation:* By taking advantage of loopholes in the government’s stumpage system, large companies are able to manipulate their harvest in order to pay lower rates for top-quality cedar and fir. For example, in British Columbia, many companies have been harvesting their low-grade logs first so that all stumpage rates are set at a lower rate even though high-grade logs are harvested later.²⁰

□ *Failure to enforce: allowing theft and fraud:* Due to inadequate monitoring processes, provincial governments are not adequately preventing theft and fraud. For example, in B.C. after a 1989 Auditor General’s report warned the province

that inadequate monitoring procedures were failing to prevent theft and fraud,²¹ the Ministry of Forests declined to take measures to increase monitoring and enforcement.²²

The second general type of subsidy granted to the Canadian timber industry is the environmental free-ride granted by both the federal government and the provincial governments.²³ Despite a reputation to the contrary, Canada has relatively weak environmental legal controls.

Canada has no federal endangered species legislation, despite near unanimous support for endangered species protection by Canadian citizens, requests by the United States, repeated promises by Prime Minister Chretien, and the obligation under the United Nations’ Convention on Biological Diversity. Although such a law is making its way through Parliament as of September 2002, this act will fail to require protection of habitat on 95 percent of Canadian territory. The Canadian Federal Fisheries Act, particularly those provisions relating to riparian forest habitat protection, is chronically unenforced even according to Canada’s own federal Department of Fisheries and Oceans.

Finally, provincial forestry codes, such as British Columbia’s Forest Practices Code, are fundamentally timber-driven, sacrificing ecological standards to meet timber harvesting targets that are themselves higher than what the provincial governments claim is “sustainable.” In addition to being indicative of harm to the environment, subsidies from weaker environmental protections also have a very real financial significance. A logging company’s ability to cut corners in environmental compliance can add to that company’s ability to produce more product at a lower price. Subsidies gained through weak environmental protections include:

□ *Relief from compliance with environmental laws:* In British Columbia, timber companies regularly clear-cut up to the banks of small fish-bearing streams on public land, in contravention of the Canadian Federal Fisheries Act.²⁴

□ *Provincial forestry regulations that favor harvest goals rather than conservation goals:* The Quebec Forest Act gives wood processing plants

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Table 1. Percent by which Allowable Annual Cut is greater than Long-Term Harvest Level for Timber Supply Areas in Canada

Timber Supply Areas	Allowable Annual Cut (AAC) m³ / year	Long-Term Harvest Level (LTHL)m³ / year	% AAC > LTHL
Arrow	619,000	422,000	47%
Arrowsmith	400,000	296,000	35%
Boundary	700,000	560,000	25%
Bulkley	895,000	424,000	111%
Cassiar	400,000	867,400	-54%
Cranberry	110,000	87,000	26%
Cranbrook	850,000	633,000	34%
Dawson Creek	1,733,033	480,000	261%
Fort Nelson	1,500,000	1,500,000	0%
Fort St. John	2,015,000	635,000	217%
Fraser	1,270,000	1,180,000	8%
Golden	530,000	309,000	72%
Invermere	591,500	360,000	64%
Kalum	464,000	400,000	16%
Kamloops	2,679,180	1,958,000	37%
Kingcome	1,399,000	902,600	55%
Kispiox	1,092,611	630,000	73%
Kootenay Lake	700,000	490,000	43%
Lakes	1,500,000	1,441,000	4%
Lillooet	643,500	362,600	77%
Mackenzie	2,997,363	2,810,000	7%
Merritt	2,004,250	925,000	117%
Mid Coast	1,000,000	550,000	82%
Morice	1,985,815	1,614,000	23%
Nass	1,150,000	410,000	180%
North Coast	600,000	301,000	99%
Okanagan	2,615,000	2,022,000	29%
100 Mile House	1,362,000	1,202,000	13%
Prince George	9,363,661	9,630,000	-3%
Queen Charlotte	475,000	248,000	92%
Quesnel	2,340,000	1,995,500	17%
Revelstoke	230,000	98,000	135%
Robson Valley	602,377	355,572	69%
Soo	506,000	442,000	14%
Strathcona	1,278,000	1,088,250	17%
Sunshine Coast	1,140,000	986,000	16%
Williams Lake	3,807,000	2,111,000	80%
Total Timber Supply Areas	53,548,290	40,725,922	

Source: British Columbia Ministry of Forests, Timber Supply Analysis

Table 1. (continued) Percent by which Allowable Annual Cut is greater than Long-Term Harvest Level for Timber Supply Areas in Canada

Tree Farm License			
Cariboo Forest Region			
Bowron-Cottonwood	549,000	197,000 ha	
Mac-Cariboo	122,800	30,100 ha	
Kamloops Forest Region			
Clearwater	187,000	60,724 ha	
Inkaneep	70,000	115,000 m ³	-39%
Jamieson Creek	125,600	31,665 ha	
Okanagan	380,000	290,000 m ³	31%
Sicamous	22,500	7,270 ha	
Nelson Forest Region			
Arrow Lakes	680,000		
Boundary	145,000	128,000 m ³	13%
Goldstream	100,000	24,659 ha	
Little Slokan	80,000	73,238 m ³	9%
Selkirk	100,000	20,979 ha	
Spillimacheen	164,000	No record	
Prince George Forest Region			
Chetwynd	514,000	540,800 m ³	-5%
Naver	204,700	345,000 m ³	-41%
Sinclair	350,000	373,360 m ³	-6%
Tanizul	120,000	73,731 m ³	63%
Prince Rupert Forest Region			
Kitimat	400,000	448,000 m ³	-11%
Pt. Edward	720,000	470,844 m ³	53%
Vancouver Forest Region			
Alberni	1,890,000	1,571,000 m ³	20%
Cordero-Knight	220,000	185,100 m ³	19%
Duncan Bay	865,000	1,233,310 m ³	-30%
Fraser-Homathka-Kingcome	44,460	30,500 m ³	46%
Haida	3,740,000	3,236,000 m ³	16%
Maquinna	75,750	No record	
Mission	45,000	48,000 m ³	-6%
Moresby (cancelled in 11/98)	0	182,095 m ³	
Naka	692,000	181,000 m ³	282%
Nimpkish	1,068,000	1,172,100 m ³	-9%
Quatsino	1,490,000	967,780 m ³	54%
Squamish	250,500	125,000 m ³	100%
Tahsis	978,000	833,000 m ³	17%
Toba	170,950	23,672 ha	
West Coast	535,000	535,000 m ³	0%
Total Tree Farm License	17,099,260		
Total TSA and TFL	70,647,550		

Continued from page 9

near-perpetual cutting rights over most of Quebec's public forests, without consideration of environmental or social impacts. In British Columbia, the Ministry of Forests has placed arbitrary timber supply impact caps on the implementation of biodiversity protections.

□ *Relief from consideration of important habitat areas in developing forest management plans:* The B.C. Ministry of Forests has ordered companies not to include forest ecosystem networks and other forms of habitat protections in their planning. In one example, the Ministry ordered exclusion of the wildlife summer and winter ranges from the forest company Interfor's Klinaklini Forest Development Plan, despite the recommendations of the B.C. Ministry of Environment, Lands, and Parks to the contrary.²⁵

□ *The failure of Canada to pass strong environmental laws:* For example, Canada does not yet have a law to protect endangered species. Even if the currently proposed law passes, it will fail to require meaningful protection for species habitat.²⁶

□ *Pass backs through weakening environmental obligations:* Such pass backs to companies are already being proposed in at least British Columbia and Ontario. British Columbia is currently in the process of revising its Forest Practices Code in such a way as to reduce environmental protections.²⁷ The Ontario Ministry of Environment is proposing to remove from forestry practices many binding requirements for environmental monitoring and policy development.²⁸

The third category of subsidies relates to the issue of who controls Canada's public forests. Most long-term licenses for timber harvesting were given out decades ago and are tightly controlled by a small group of major timber companies. Because the provincial governments consistently undervalue the stumpage rate, tenures have acquired a market value related to the ongoing stumpage subsidy. Furthermore, in British Columbia for example, the government has allowed corporate interests to shut down mills, in violation of obligations in tenure agreements, yet retain secure supplies of timber, thus providing further corporate benefits. In addition,

the tight control exercised by the major timber companies gives them tremendous political capacity to extract other forms of subsidies from government.

From another perspective, First Nations traditional territories include virtually all of B.C.'s commercial forests. Although Aboriginal Title is a constitutionally protected right, logging activities—which would amount to infringements of Aboriginal Title—routinely occur in British Columbia without consent of, or meaningful consultation with affected First Nations. Failure to provide compensation to First Nations in this context amounts to a subsidy.

Thus, decisions about use of public land are made behind closed doors with little or no citizen or First Nations input. There is also no meaningful accommodation of public input to logging plans on Canadian public lands. There is no legal resource for Canadian citizens to challenge environmentally or socially harmful Canadian timber sales or forest practices. Timber companies benefit when theirs are the only interests taken into account in government forest management decisions. Control of public forests by forest companies enables and underpins the economic and environmental subsidies.

1.3 History of the Softwood Lumber Trade Dispute

The softwood lumber trade dispute between Canada and the United States extends back over the last 20 years. At the heart of the dispute is the U.S. claim that Canada subsidizes its logging industry and the Canadian claim that its logging does not. Trade law allows the United States, as the importing country, to impose a duty to offset subsidies on imported goods—such as the Canadian softwood lumber in this case.

In 1982, the United States timber industry filed a countervailing duty complaint with the U.S. Commerce Department.²⁹ At that time, the Commerce Department did not believe that the low stumpage rates technically constituted a subsidy under U.S. law. However, subsequent decisions by the U.S. Court of International Trade resulted in a reevaluation and subsequent change in the procedures used by the Department of Commerce.³⁰ In 1986, the U.S. timber



Clearcuts delineate the Washington-B.C. border. Photo by Mitch Friedman.

industry filed another countervailing duty complaint with the Commerce Department, and a 15 percent duty on Canadian softwood lumber imports was put in place.

In an effort to avoid the consequences of a duty on softwood lumber, Canada and the United States came to a negotiated solution. The resulting Memorandum of Understanding (MOU) encouraged higher stumpage rates in the provinces and a tax of 15 percent that the Canadian government would place on all softwood products not subject to higher stumpage rates.

Ideally, the MOU would have halted the softwood dispute, but in 1991 when Canada suddenly stopped the 15 percent tax that remained on Alberta and Ontario lumber (and lower tax on Quebec lumber), the United States imposed a temporary duty and filed a third countervailing duty case. Once again, the U.S. Commerce Department found that stumpage practices were creating subsidies for the Canadian timber industry. Canada responded by challenging the Department of Commerce's subsidy finding under the Free Trade Agreement, which was in place between the two countries at the time. Initially, the dispute settlement panels sent aspects of the United States' decision back to the agencies to reconsider, which resulted in the revision, but essential upholding of the original decisions in favor of duties.³¹ Subsequently, a bilateral panel dismissed the subsidy case on a 3-2 national line vote.

When it looked as though another round of

softwood lumber cases would start again in the mid-1990s, Canada and the United States reached the Softwood Lumber Trade Agreement.³² Under the agreement, the four main lumber exporting provinces (British Columbia, Alberta, Ontario, and Quebec) were allowed to export annually up to 14.7 billion board feet into the United States duty-free, above which a sliding scale of taxes was applied. This Softwood Lumber Agreement expired on April 1, 2001.

After expiration of the Agreement, both countries embarked upon a dual strategy of litigation and negotiation. Discussions were most intense during late 2001 and early 2002, but as of mid-2002 had not even achieved a framework for negotiations. Meanwhile, in April 2001, the U.S. lumber industry, through the Coalition for Fair Lumber Imports, brought a countervailing duty and anti-dumping case with the Department of Commerce. In response to the preliminary determination reached in this case, Canada requested a World Trade Organization (WTO) Panel to challenge the preliminary determination. In the meantime, the Department of Commerce reached a final determination in the case: that Canada subsidized its timber industry and dumped lumber products. Coupled with the finding of the U.S. International Trade Commission of injury due to these subsidies, the Department of Commerce levied duties of 27.2 percent on Canadian softwood lumber entering the United States. These duties commenced in late spring 2002.

In August 2002, the WTO Panel reached a mixed decision on the preliminary determination of countervailing duties, finding that the Department of Commerce was justified in levying duties against below-market stumpage rates in Canada, but incorrect in its method of calculating the amount of the duty. In addition, Canada requested that a WTO panel be established to decide its challenge to the U.S. Department of Commerce's final determination in the countervailing duty case. This panel is likely to be established in the fall of 2002 and a determination can be expected in mid-2003. Canada has also challenged the U.S. counter-

vailing duty determination under the North American Free Trade Agreement (NAFTA) Chapter 19. That case is likely to be heard during late 2002 and decided in early 2003.

1.4 Environmental Organization Involvement

For many years, conservationists in Canada and the United States have raised inequity concerns with the Canadian forestry system that go well beyond markets and pricing. Conservationists have not only documented the environmental impacts of Canadian forestry subsidies, but have also identified weak environmental protections as a type of harmful subsidy. Specifically, many Canadian provinces do not have meaningful, mandatory endangered species legal protections. Throughout Canada, citizens have minimal input regarding provincial forest management and the Canadian federal and provincial governments have not enforced laws that protect fish and wildlife habitat and water quality.³³ Moreover, despite treaty agreements and outstanding land issues, First Nations have largely been left outside the processes for the formulation of resource policies and development activities.³⁴

Environmental organizations have followed the dual strategy of the governments and have engaged both in negotiations and litigation. Negotiations for a bilateral agreement that would eliminate Canadian forestry subsidies is the first goal and thus, Natural Resources Defense Council (NRDC), Defenders of Wildlife, and Northwest Ecosystem Alliance (NWEA), in submissions made to the U.S. government, have emphasized the environmental impacts of continued Canadian forestry subsidies and pushed for negotiations that would provide a long-term solution to the softwood lumber dispute by eliminating subsidies.

For example, in April 2000, NRDC filed a submission with the USTR concerning softwood lumber practices in Canada, documenting the environmental impacts of the Canadian subsidies and the softwood lumber trade.³⁵ This was followed by a series of letters and proposed solutions to the softwood lumber trade dispute.

Environmental and indigenous organiza-

tions on both sides of the border continue to combat environmentally damaging forestry subsidies in Canada. Indeed, on February 13, 2002, a coalition of more than 90 non-governmental organizations in both Canada and the United States issued a public statement calling for a solution to the North American softwood lumber dispute, a solution that ensures the implementation and enforcement of Canadian environmental standards, a significant reduction in the level of control over the Canadian forest exercised by large lumber-producing corporations, market pricing for Canadian timber, the maintenance of Canadian log export restrictions, and recognition of aboriginal title to Canadian forests.³⁶

In addition, the interested environmental organizations have used every possible legal avenue to raise the environmental dangers of continued subsidization of the Canadian forestry industry. For example, in 2000, NRDC and NWEA joined with Canadian environmental organizations in bringing a citizen complaint before the Commission on Environmental Cooperation of North America, claiming that Canada was not enforcing its federal Fisheries Act by allowing logging to the banks of small fish-bearing streams in British Columbia.³⁷

Throughout 2001 and 2002, U.S. environmental organizations have been active participants throughout the countervailing duty cases concerning softwood lumber trade—making submissions throughout the process to the Department of Commerce, the U.S. International Trade Commission, and the WTO,³⁸ even being granted standing as consumer organizations by the Department of Commerce.³⁹ Further, in April 2002, U.S. and Canadian environmental organizations petitioned the Commission for Environmental Cooperation of North America to investigate and report on the environmental implications of U.S.–Canada softwood lumber trade under Article 13 of the North American Agreement on Environmental Cooperation.⁴⁰ Environmental organizations on both sides of the border continue to raise issues to the Bush Administration of compliance with U.S. federal statutes such as the U.S. Endangered Species Act and the National Environmental Policy Act in negotiating any new softwood lumber trade agreement.

2. Impacts and Consequences of Subsidized Logging in Canada

“Our natural landscapes are shifting from serving primarily as warehouses of commercially extractable resources to being the sources of a variety of valuable environmental services.”⁴¹

For a true market-based forestry system to exist in Canada, the economic impacts and costs of logging and of the more egregious Canadian forestry subsidies must be taken into account. The Canadian management of public forestlands was designed in order to ensure a flow of logs to Canadian lumber mills. This archaic system has, however, created distortions in the Canadian wood market that have led to structural inefficiencies in the Canadian wood products industry. This initial distortion has affected not only Canadian trade practices, but also other eco-

nomical and ecological values dependent upon Canada’s historically abundant forests.

Not only are there economic impacts of “business as usual,” there are also many environmental impacts on endangered forests, forest habitat, and threatened and endangered species, as well as loss of potential environmental services that accompany healthy forests. Therefore, although reforming subsidies means reforming pricing and tenure under the forestry system, it also means strengthening environmental law implementation and enforcement, and strengthening environmental protections. Only with a reform package that includes environmental protections will the impacts of subsidized forestry outlined in this section become preventable.



Large clearcuts and valley-floor logging, typical B.C. forest practices. Photo by Ian McAllister.

2.1 The Market Is Distorted Towards Primary Products

The oversupply of cheap logs, concentration in control of processing facilities by a handful of major companies, and vertical integration within these companies have created an artificial concentration in primary production at the expense of the development of a significant secondary manufacturing and value-added sector. Illustrative of this imbalance, British Columbia holds 35 percent of a \$16 billion primary North American lumber market.⁴² In contrast, the province controls only a 1 percent share of the US\$200 billion North American value-added wood market.⁴³ In the Canadian export market for softwood products, minimally processed products (lumber, pulp, and paper) accounted for 85 percent of all exports.⁴⁴

This distortion towards primary products has had an adverse effect upon the labor market in both Canada and the United States. Primary processing is relatively capital intensive and has become increasingly so in recent years. Em-

ployment in the timber industry has been dropping during a period in which production has been on the rise. In British Columbia, timber industry jobs fell by one third in the decade of the 1980s while the volume of wood cut increased by 16 percent.⁴⁵

Timber industry employment in the Pacific Northwest as a whole has declined since 1980, while logging has risen. In contrast, the secondary and value-added sector is labor intensive, employing more workers per unit value of production. The objection is often raised that wages in the value-added sector are lower, but it must be noted that wages in the industry as a whole have been in a downward trend, largely due to the replacement of workers by capital in the primary sectors. For example, in Oregon, the real annual wage associated with lumber and wood products has fallen from \$36,000 in 1978 to \$28,000 in 1995.⁴⁶

However, until aspects of the existing system that leave value-added manufacturers without access to wood supply (e.g., absence of log markets and concentration in control over tenure and processing) are changed, fundamental obstacles to “moving up the value chain” will persist.

2.2 Lower Stumpage Leads to Over-Harvesting

In examining the environmental impacts of forestry subsidies, it is clear that one major impact is over-harvesting: but for the subsidies, timber companies would not be able to harvest as much and would not have access to the more remote and ecologically sensitive forests. Without mechanisms to combat forestry subsidies, the timber market is warped, and ecological as well as economic damage results. As the U.S. Department of Commerce has stated:

As the price of stumpage drops, more and more stands become economically accessible, which allows the supply of stumpage to increase. The intensive margin concept applies to trees within a stand that is currently economically accessible. It recognizes that, within each stand, there are certain categories of trees that cannot be profitably harvested at a given stumpage price. If stumpage prices are lowered, the intensive margin is expanded so that the formerly unutilizable trees within a particular stand can be profitably harvested, thereby increasing the supply of timber.⁴⁷



Much of the Siwash Creek Matrix Activity Centre has been clearcut. It was once prime northern spotted owl habitat in B.C. Photo by Gwen Barlee, July 2001, Western Canada Wilderness Committee.

The Commerce Department later added, **“As [stumpage charges] increase, less of the forest can be profitably harvested and similarly, as they decrease, correspondingly more of the forest can be harvested.”⁴⁸ In other words, “lowering stumpage fees will increase harvest levels.”⁴⁹**

As the rest of this section on impacts shows, this leads to several types of economic losses. If public land timber is sold for less than its value on

the market, Canadian citizens lose. In addition, over-harvesting means the loss of other valuable forest uses and services.

2.3 Competing Forest Uses Are Shut Out

Clear-cutting of forests, such as occurs in Canada on such a massive scale, eliminates the opportunity to harvest other products from the land. An ecosystem-based planning approach that accounts for the needs of the non-timber forest products industry would increase commercial opportunities for non-timber products, as well as add to consumption amenities, directly increasing quality of life in the region. Sizable markets for non-timber forest products already exist and their further potential is only recently being explored.

This industry also presents a niche market for labor that is difficult to replace. Sectors involved with the harvesting of vegetation such as floral greens, mushrooms, and Christmas ornamentals employed an estimated 28,000-30,000 people in 1992.⁵⁰ Social considerations are important in this market as much of the labor force is rural and low-income. Preservation of the opportunity to harvest these products likely reduces need for public assistance to these workers.

2.4 Salmon and Other Fish Habitat Is Harmed

The impacts of logging on fish habitat has been well-documented, both in the United States and Canada. These negative impacts harm both the environment and the fishing industry. For example, one Pacific Northwest study found that the numbers of migrant coho salmon fry that left a headwater stream declined to less than half its pre-logging value after clear-cutting, while the number of cut-throat trout declined to one-third of its pre-



Year 2000 "World Class Forestry Practices" by West Fraser Timber Co., Pooley Island, Great Bear Rainforest. Photo by Ian McAllister, www.raincoast.org

logging value.⁵¹ It has been estimated that clear-cut logging reduced the adult returns of chum salmon by 25 percent and returns of coho salmon by 6 percent, and produced greater yearly variation in returns.⁵² It must be kept in mind that these reductions resulted from only a portion of the stream being clear-cut.

The value of Pacific salmon is difficult to estimate, but several studies have produced estimates of the potential of these fish as economic resources. The value to commercial fisheries of anadromous species in the Columbia River system can range from \$5-\$70 per fish.⁵³ The value of Pacific salmon to recreation industries is much higher. One study suggested that a conservative estimate would place the average recreational value of a fish at about three times the ex-vessel commercial price.⁵⁴ A report in 1999 concluded that the value of adding a salmon to the recreational fishery was more than \$200, including \$110 of consumer surplus.⁵⁵

In addition, Pacific salmon provide food for other species such as orcas that provide more revenue to the tourism industries of the region. Whale watching in the San Juan Islands has become a \$10 million industry in recent years. The Whale Museum estimates that annually



Salmon in stream to spawn. Photo by Ian McAllister, www.raincoast.org.

more than 500,000 people pay passage on commercial whale-watching boats in the transboundary waters of Washington and British Columbia. Another 3,000 to 8,000 tourists watch whales each year from private boats.⁵⁶

The benefits are higher when one considers the effect enhanced fisheries have on the ability of B.C. to attract foreign visitors. A recent willingness-to-pay study estimated that, while the overall average amount anglers were willing to pay to fish in B.C. was \$17.37 per angler per day, the average for foreign visitors was significantly higher at \$25.77 per day. The average spending by foreign non-residents on fishing trips in 1995 was \$875, while the average spending by residents was \$533.⁵⁷

2.5 Recreational Value Is Lost

The benefits of preserving forestland for recreation are substantial. One study estimates that in some areas of the Pacific Northwest, the value of timber represented only 11 percent of the total value of goods and services derived from unroaded areas, with various forms of

recreation composing the other 89 percent.⁵⁸ This same study predicts that timber's share will drop to 5 percent in the next 50 years. Studies from the U.S. Pacific Northwest have found the value of recreation on federal lands to be between \$23 and \$76 per acre per year.⁵⁹

The number of trees on these acres has been shown to directly influence the value associated with recreation on the land. A study in Colorado, for example, showed that reducing the density of trees from 200 to 50 trees per acre substantially reduced the benefits of camping, picnicking, backpacking, hiking, and fishing.⁶⁰

Another study determined that a reduction of 15 percent in tree density reduced annual benefits by \$98 to \$324 per visitor.⁶¹ Clear-cutting would reduce these benefits much further, and likely eliminate most, whereas an approach to forest management that fully incorporates these values will maximize the returns from each acre of forestland.

2.6 Impacts on Endangered Forests and High Conservation Value Ecosystems

Intrinsic forest values will also be increased through the preservation of ecosystems and species of high conservation value. It is difficult to estimate these values in dollar terms; however, one study calculated the existence value of the northern spotted owl as \$8.3 billion per year among all U.S. households.⁶² Another study by the Army Corps of Engineers calculated that restoring Snake River salmon was worth about \$1 billion to Americans.⁶³ A survey of residents of the Pacific Northwest indicated that households would pay between \$102 and \$330 million per year for the recovery of salmon populations.⁶⁴ Another study reported that

residents of Washington and Oregon are willing to pay \$30 to \$97 per household to finance recovery efforts.⁶⁵

Although contingent valuation studies must always be used cautiously, these results suggest that there is great value in the preservation of these species to Americans, which in many cases cannot be achieved without attention paid to Canadian forestry practices and endangered species measures.

Trade policy can be a powerful tool for ensuring that transborder species are receiving the same treatment on both sides of the border.

2.7 Loss of Investment in Species Protection

Of the top ten species ranked by amount of expenditure on protection in 1994, half were species of the Pacific Northwest, for a total spending on just five species of over \$80 million.⁶⁶ In addition, the United States already spends more than \$500 million per year on salmon recovery programs in the Pacific Northwest. Additional salmon listings under the U.S. Endangered Species Act that seem likely to occur could raise this to more than \$1 billion per year.⁶⁷ This does not include base-level state, tribal, and federal fisheries management expenditures. This money is being spent on recovery programs while at the same time, current subsidies and trade practices are allowing these species to be decimated just over the border.

Trade policy can be a powerful tool for ensuring that transborder species are receiving the same treatment on both sides of the border. The grizzly bear, for example, is a species the U.S. government spends millions of dollars every year to protect and conserve. In Canada, where populations of grizzly bear are linked to the U.S. populations, habitat degradation

through poor forest management is wiping out the American investment in this great creature.

2.8 Climate Change Impacts

There is also a role to be played by forests as a means of mitigating climate change—vegetation as it grows removes carbon from the atmosphere and sequesters it in the wood, leaves, and other tissue of plants. Forests especially provide a significant carbon sink for absorption of CO₂ emissions, and perhaps more critically, old-growth forests are important carbon reservoirs. Decreasing the loss of carbon from forest and soil reservoirs by protecting old-growth forests is valuable from a climate change perspective.

Effects from CO₂ increases build over periods of time and are difficult to isolate. By absorbing the emissions forests mitigate the environmental damage of rising CO₂ and may save costs elsewhere if measures need to be taken to reduce CO₂ concentrations. This also benefits human health in ways that are difficult to measure or value. The climate change implications of the U.S.-Canada timber trade are heightened by the inclusion of the Canadian boreal forest in the Softwood Lumber Agreement debate; the boreal forest has been identified by many scientists as a potentially very important global carbon sink.⁶⁸

2.9 Impacts from Increased Sediment and Runoff

The increase in sedimentation and runoff from logging not only harms fish habitat. Sediment creates problems for users of the water downstream who must find ways to remove it. Estimates of off-site sediment related costs can be \$250 per acre logged.⁶⁹ Road building associated with logging also increases runoff, increasing flood damage possibilities. In a study of the Oregon Cascades, researchers found that clear-cutting can increase peak discharges by 50 to 100 percent.⁷⁰ This can result in costs incurred by downstream businesses and residents, all avoidable by taking these factors into consideration in planning decisions.

3. Transboundary Species Case Studies

“[T]he government is propping up the AAC [annual allowable cut] through specious rationale and in the process destroying non-timber values of inestimable value. No adjustments whatsoever were made to the AAC for Forest Practices Code considerations including riparian management and biodiversity. No adjustments to the AAC were made for at-risk wildlife including grizzly bear, wolverine, wolf, bull trout or northern goshawk.” Unidentified (for reasons of retributions) professional forester in Tree Farm License 38 from Squamish, B.C., as documented by columnist Stephen Hume, *The Vancouver Sun*, March 15, 1999

Canadian and American citizens share an extensive border with hundreds of watersheds that provide habitat for a rich array of flora and fauna, many of which are threatened or endangered by logging and road building. British Columbia provides the ecological heart for many of these species, including grizzly bears and bull trout. The border marks the northernmost range for rapidly dwindling species like the northern spotted owl and the southernmost populations of mountain caribou and grizzlies. The conservation future of many rare species rests upon the ability of both countries to conserve habitat without regard to the political border and cognizant of the ecological connections so necessary for their perpetuation.

Eighty percent of Canada’s listed species share range and habitat with the U.S., yet under Canada’s proposed Species At Risk Act, the habitat on which these species depend will be protected only if they are aquatic species or when they migrate onto federal Canadian lands.⁷¹ This amounts to protection on less than 5 percent of Canada’s landmass. Thus, wide-ranging species like mountain caribou, grizzly bears, and Canada lynx are protected by federal law in the U.S., but have no equivalent or adequate legal protection in Canada. It remains to

be seen whether aquatic species such as bull trout will be adequately protected under the Species At Risk Act when it becomes law.

This section describes just four of the many species that depend on habitat both in the United States and Canada—mountain caribou, bull trout, grizzly bear, and northern spotted owl. Others not covered in this section include Pacific salmon, marbled murrelet, and many migratory bird species.



Mountain caribou. Photo by J. D. Taylor.

3.1 Mountain Caribou (*Rangifer tarandus caribou*)

“Mountain caribou are our spotted owls. Because they use the kind of forest that is most valuable commercially, their requirements are directly at odds with the annual timber harvests allowed.”

Bruce McLellan, B.C. Ministry of Forests, Revelstoke, B.C.⁷²

Status: The world’s entire population of the mountain ecotype of woodland caribou (*aka* mountain caribou) now numbers roughly 2,000 animals, contained within thirteen populations

in British Columbia's Interior mountains.⁷³ The degree of connectivity between sub-population varies, but some herds appear to be isolated with small declining populations,⁷⁴ including the southern Selkirk herd in northeast Washington, northern Idaho, and southeast British Columbia (34 animals).⁷⁵ The southern Selkirks is the only herd of mountain caribou in the United States, and is ranked by the US Fish and Wildlife Service as the most endangered mammal in the United States.

Mountain caribou were listed as endangered under the U.S. Endangered Species Act in 1984. In B.C. there are four meta-populations of caribou: southern mountain/arboreal; southern mountain terrestrial; northern mountain/terrestrial; boreal. These meta-populations consist of 13, 11, 17 and 1 sub-populations, respectively. The southern meta-population in B.C. is Red Listed by the B.C. Conservation Data Centre.⁷⁶

Ecology: Mountain caribou are heavily dependent on mature and old-growth, lichen bearing forests particularly during winter when they rely heavily on tree growing (arboreal) lichen. This dependence is so great they are called *obligate* lichen feeders,⁷⁷ the production of which only occurs in sufficient enough mass in forests of 120 years in age.⁷⁸

Threats: Logging-related activities have considerable negative impacts on mountain caribou herds: directly by reducing food sources by the clearcutting of old-growth trees and indirectly through the fragmentation of habitat with roads and other infrastructure, which alters migration patterns and exposes caribou to increased human and nonhuman predation.

Government and independent biologists wrote, "young and rapidly growing forests, favored by forest managers, were unusable by caribou."⁷⁹ In B.C.'s Kootenay Timber Supply Area (TSA) home to the southern Selkirk and two other caribou herds, forest management is almost exclusively by clear-cut methods (roughly 95 percent).

Local populations in the Southern Mountain caribou population of British Columbia are generally small, increasingly isolated, and subject to multiple developments (Table 2). The

range has shrunk by up to 40 percent and close to half of the local populations are decreasing in number. None are increasing. Local populations at the southern limit of the distribution (Selkirk, South Purcells, and Banff) and other small, isolated populations (Barkerville, George Mountain, and Telkwa) are likely to disappear. The outlook for habitat quantity and quality and predator management is not favorable.⁸⁰

A number of political conditions preclude the application of conservation science to

Table 2: Snapshot of four Southern Mountain caribou populations

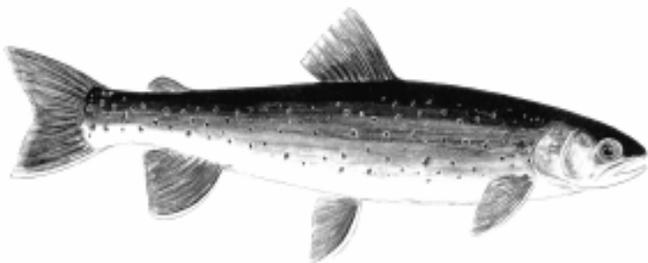
<u>Location</u>	<u>Individuals</u>
Revelstoke	175, from 372 in 1994
Central Selkirks	96, from 211 in 1996
South Selkirks	34 caribou, 9 of which were calves
South Purcells	19, from over 100 in early 1990s

Source: B.C. Ministry of Environment, Lands and Parks, Wildlife Branch, 2000

caribou management, not the least of which is that no more than 10 percent of existing old growth will be protected under current management regimes regardless of ecological consequences. The intent is to protect short-term timber supply, but the "ecological consequence of this one rule for old growth associated wildlife species, including caribou, are and will be severe."⁸¹ The ecological requirements of mountain caribou "cannot be met under existing or projected forest cutting levels in B.C."⁸²

Outlook: The South Purcells' population is in dire straits and is unlikely to persist because of habitat changes and increased numbers of predators brought about by increased access to caribou habitat and altered predator prey relationships.⁸³ Caribou populations in the Southern Mountains are declining at an annual rate of 2.5 percent and are projected to decline 39

percent in the next 20 years. Distributions are also shrinking. Of great concern are future declines in habitat quantity and quality, increased isolation of small local populations in small geographic areas, and increased predation. Caribou are unlikely to persist in areas undergoing extensive and intensive development unless predation and hunting are almost eliminated, and unless special provisions are put in place to maintain adequate security habitat and food supplies in large blocks of forest of medium and old ages.⁸⁴



Bull trout from Trout: An illustrated history, Prosek 1996

3.2 Bull Trout (*Salvelinus confluentus*)

Status: Historically, bull trout were widely distributed in the Pacific Northwest. However, bull trout are extremely sensitive to and intolerant of significant habitat change, and their current range is greatly reduced from their historic range. Although bull trout appear to be widespread across southeast British Columbia and populations are thought to be healthier than they are in Columbia River watersheds in the United States, commercial timber extraction poses a serious threat to bull trout survival in British Columbia.

Paleoecological evidence indicates that the bull trout species' evolutionary origin was the uppermost reaches of the Columbia Basin in British Columbia, Montana, and Idaho. Today southern British Columbia and western Alberta represent the species' center of global distribution, but there is little hard data for present status and trends of populations in those provinces. Bull trout are listed as threatened under the U.S. Endangered Species Act, and are "blue listed" and considered to be a species requiring special management under the B.C. Forest Practices Code.

Ecology: Four general life-history patterns have been documented in bull trout, primarily a fish of interior (noncoastal) watersheds west of the continental divide and east of the Cascade-Coast Mountains. All ecotypes breed in headwater tributaries: resident, fluvial, adfluvial, and anadromous. Adfluvial, fluvial, and anadromous bull trout migrate from natal streams to large lakes, large mainstem reaches, and to the ocean, respectively, to mature. Important habitat elements include water temperature, channel and stream-flow stability, streambed composition, instream cover, aquatic productivity, and migration corridors.

Threats: Bull trout have extremely narrow habitat requirements compared to other salmonids. Consequently the species is especially vulnerable to watershed disturbances. An exceptionally long period (ca. 4 months) is required before the fry fully develop from eggs and emerge from gravel beds on the stream bottom, making the species extremely vulnerable to abnormal changes in stream flow, temperature increases, and riparian habitats.

B.C.'s Forest Practices Code riparian protection standards are insufficient for the conservation of salmonids and do not protect smaller headwater streams.

One of the most significant threats to the long-term survival of wild bull trout populations in British Columbia watersheds is large-scale timber extraction. British Columbia's Forest Practices Code riparian protection standards are insufficient for the conservation of salmonids and do not protect smaller headwater streams (see Illustrations 1 and 2).⁸⁵ These fishless headwater streams are crucial conduits of food for fishes and other downstream aquatic fauna.

Woody debris and sediment loading in headwater habitats greatly influence invertebrate communities and have potential implications for salmonids downstream. (Wipfli, M. 2001. Science Findings, Issue 32. *Food for Thought: Managing the Invisible Components of Streams*. USFS Pacific Northwest Research Station, Portland, OR)

Moreover, the federal government has been reluctant to enforce the Canadian federal Fisheries Act, which is supposed to provide protection for aquatic resources.⁸⁶ There is a significant dearth of information regarding the status and trends of bull trout populations and habitat conditions, yet new provincial budgetary constraints make new research problematic. A recent analysis of 200 logging permits in British Columbia's Great Bear Rainforest reveals that logging is planned along the banks of 85 percent

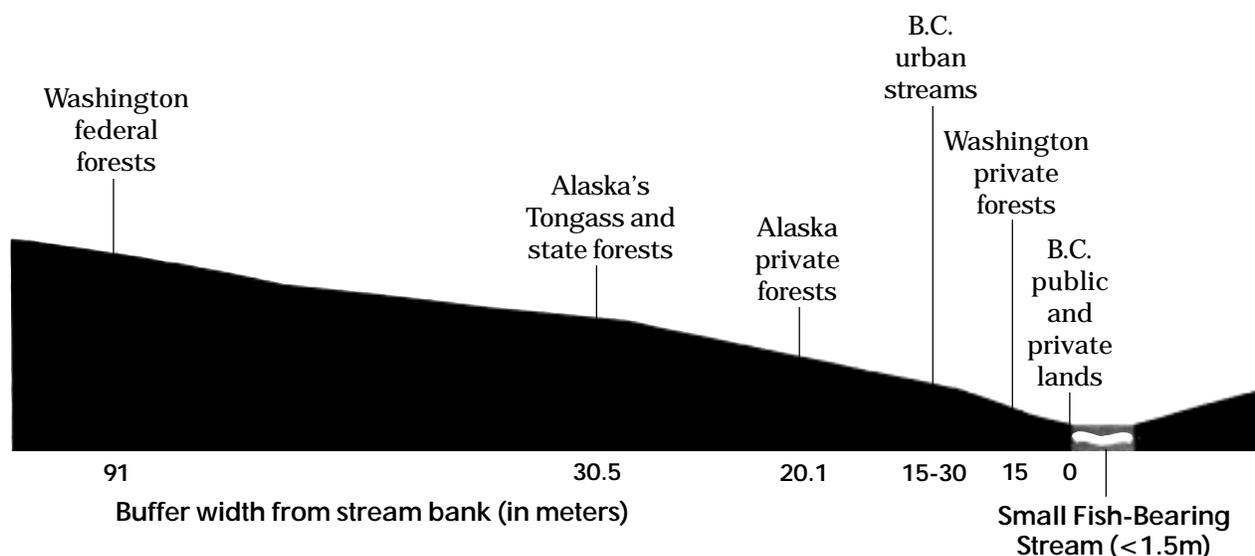
of the fish-bearing streams, and, in already cutover areas, patches of trees retained to protect wildlife and streams are blowing down. This is in a rainforest that was the subject of an historic consensus agreement to protect critical areas in the region.⁸⁷ Perhaps most insidious, there is no mandate within the B.C. Forest Practices Code to consider the cumulative impacts of logging-related activities in watersheds.

Illustration 1. A comparison of Mandatory Buffers Between the Forest Practices Code and Department of Fisheries and Oceans Canada (DFO) Interim Standards

Stream Class	Stream Width (meters)	Fish/No Fish	CODE Riparian Reserve Zone (meters)	DFO Riparian Reserve Zone (meters)
S1	100	fish	0	0
S1	> 20	fish	50	50
S2	> 5 < 20	fish	30	30
S3	1.5 < 5	fish	20	20
S4	< 1.5	fish	0	30
S5	> 3	no fish	0	*30
S6	3	no fish	0	*20

*Direct tributaries to fish-bearing streams only

Illustration 2. A Jurisdictional Comparison of Riparian Buffer Zones for Small Fish-Bearing Streams



Source for illustrations: *Failure to Enforce: How Canada Allows BC Logging Companies to Destroy Salmon Habitat*, Natural Resources Defense Council, April 2001



Grizzly bear. Photo by Ian McAllister, www.raincoast.org.

3.3 Grizzly Bear (*Ursus arctos*)

“The BC government has failed to implement many recommendations from its own Grizzly Bear Scientific Advisory Panel. These grizzly experts recently gave the Minister of Environment a report card with failing grades on nearly every aspect, including the dismal failure to protect habitats. The government’s inaction leaves our grizzly bears in crisis.”

Wayne McCrory, former member of the B.C. Grizzly Bear Scientific Advisory Panel

Status: The grizzly bear’s historic geographic range covered much of the Great Plains east to near the Mississippi River, west to California, and from central Mexico north through much of Alaska and Canada. Today the grizzly is found in only about 2 percent of its original range in the lower 48 states.⁸⁸ Estimates suggest there are now approximately 1,000 grizzlies in the lower 48 states, and the International Grizzly Bear Committee has established grizzly bear recovery zones in western North America (see Illustration 3). Whereas the Northern Continental Divide

Recovery Zone and adjacent regions in B.C. support comparatively high grizzly population densities, the density and abundance of grizzlies in the international Cabinet/Yaak, Selkirk, North Cascades, and Kettle/Granby populations is extremely low.

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) has designated grizzlies as “vulnerable” throughout their remaining range. While the government estimates there may be as many as 13,000 grizzlies left in British Columbia, the center of grizzly range in North America, conservationists and independent scientists say it could be as few as 4,000. Grizzly bears receive little legal protection in Canada except through hunting regulations.

Ecology: Grizzlies are considered habitat generalists. They show a wide range of life-history strategies to meet their nutritional, security, thermal, reproductive, and “space” requirements across a diversity of regional landscapes. Home ranges vary depending on food quality, quantity and distribution, and the length of the denning period. Reproductive rate of grizzlies is among the lowest recorded among North American land mammals. Grizzlies are very sensitive to habitat disturbance both because of direct loss of habitat and human caused mortality due to increased access to, and fragmentation of habitat.

Threats: British Columbia has proposed a Grizzly Bear Conservation Strategy that has been widely criticized by independent scientists

Illustration 3. Grizzly bear recovery zones established by the International Grizzly Bear Committee



Source: U.S. Fish and Wildlife Service

and conservationists.⁸⁹ Despite its stated goal “to help reverse the loss of grizzly bears in B.C.,” and the identification of key elements for grizzly conservation, the plan largely ignores its own findings, particularly those that have serious impacts to grizzly habitat, such as resource extraction activities. The Strategy has a number of glaring weaknesses, mainly the deferral of control of public lands to the Ministry of Forests and deferral of the protection of habitat to the Forest Practices Code (FPC). The FPC is severely constrained by the Timber Supply Review in the degree to which it can protect biodiversity and at-risk species, such as grizzly bears.

The immense losses of grizzly bear habitat through clear-cutting and associated roads network, sanctioned by the Code and implicit in timber supply expectations, have enormous implications for the conservation of grizzlies in all areas of the province, particularly adjacent to the U.S. border where logging and road building are most intensive. Roads and the human activities associated with them have a major impact on bears and their habitat. Moreover, grizzlies need large core areas of undisturbed wilderness habitat. Despite the pervasiveness of this knowledge, neither the B.C. Conservation Strategy nor the Forest Practices Code contain provisions for minimizing road densities, reducing logging levels or providing adequate core habitat for bears. These issues are compounded by the fact that B.C. still allows the hunting of grizzlies including near border areas in southeastern British Columbia.

3.4 Northern Spotted Owl (*Strix occidentalis*)

“This is not a nest site, just a female owl on a branch. Owls fly around. There’s nothing special about protecting an owl when we see it. There’s no special need to do anything at this point. The fact they’ve seen an owl near a logging site, maybe owls aren’t scared by logging.”

Ministry of Forests District Manager, Gerald Kennah, upon observing a spotted owl 20 metres from a new logging road in Siwash Creek in SW British Columbia. Interviewed by L. Pynn, “The Battle Over Logging” *The Vancouver Sun*, December 8, 2001

Status: The northern spotted owl is non-migratory throughout its range, which extends along coastal forests from southwestern British Columbia to southern California, and along the southern Rocky Mountains from central Colorado to central Mexico. There are three recognized subspecies all found only in North America: the northern spotted owl (*Strix occidentalis caurina*), the Californian spotted owl (*Strix occidentalis occidentalis*), and the Mexican spotted owl (*Strix occidentalis lucida*).



Northern spotted owl. Photo by Alan and Sandy Carey

In British Columbia, *Strix occidentalis caurina* was historically estimated to number approximately 500 birds.⁹⁰ A draft spotted owl population trend assessment released by the B.C. Ministry of Water, Land and Air Protection in 2001,⁹¹ reveals that:

- The northern spotted owl population in Canada has declined sharply, by 49 percent, between 1992 until 2001 and that as few as twenty-five owl breeding pairs may be left.⁹²
- The rate of decline of the spotted owl population is almost five times faster than the rate expected under a British Columbia plan for management of spotted owl populations.

“Unless a Spotted Owl or its nest is located on the 1% of B.C. that is federal land, it will not be illegal under the new federal Species At Risk Act (SARA) to harm the owl or its nest. Laws against destroying critical habitat are similarly restricted and in the case of the Spotted Owl, apply only on federal land. In other words, the SARA will protect spotted owls only if they live in post offices, prisons or military bases.”

From *Logging to Extinction: The last stand of the spotted owl in Canada*, September 2002, Western Canada Wilderness Committee

Legally, spotted owls are:

- listed by COSEWIC as an “endangered” species;
- identified by the B.C. Ministry of Environment as a “red listed” species;
- without legal protection under the B.C. Forest Practice Code; and
- protected as a threatened species under the U.S. Endangered Species Act since 1989.

Ecology: To survive, spotted owls need large, unfragmented expanses of old growth and mature second-growth forests up to 5,000 hectares in size.⁹³ Within old-growth forests, spotted owls typically select as their core activity areas the stands available with the largest trees; the most complex canopy structure; the greatest diversity of dead, standing, and fallen woody material spanning all ranges of decay classes; and the coolest, most humid forest. Generally, they prefer old-growth forests with 85 to 90 percent canopy closure.⁹⁴ These features are generally found in British Columbia in stands older than 140 years of age. Less than one-half of the forests in the range of the spotted owl in

Canada remain in stands of 140 years and older.⁹⁵

Spotted owls rely on old growth because their life cycle is characterized by particular reproductive requirements, deferred reproductive maturity, low reproductive rates, limited dispersal ability, and specialized habitat requirements. Their preferred prey are red tree voles and flying squirrels, small mammals clearly linked to old growth. This specialized diet likewise renders them extremely vulnerable to habitat disturbance.⁹⁶ Indeed, a positive correlation between the age of forests and successful reproduction has been documented, with some of the earliest owl research confirming that the majority of owls inhabit the oldest undisturbed forests (220 to 600 years old).⁹⁷

The U.S. Forest Service has formally designated the spotted owl as an indicator species because the federal agency considers that the owl’s health mirrors the health of old-growth ecosystems.

Threats: While numerous factors are at play in the owl’s decline, the principle cause of the spotted owl population reduction in Canada, as in the United States, is commercial logging.⁹⁸ The spotted owl, which is only found in Canada in southwestern British Columbia,

“The Legislature could have enacted legislation that protects the Owl from the risk of extirpation caused it by the harvesting of old-growth forests. In my opinion, it did not do so...”

Mr. Justice James Shabbits, British Columbia Supreme Court, August 2002

needs old growth within which to roost, nest, and forage—the same old-growth forests that are targeted by logging companies.

Of the huge expanse of old-growth habitat that once covered the lower mainland of British Columbia prior to the onset of large-scale, industrial logging, less than 50 percent remains as suitable spotted owl habitat and these mature stands are the principal target of commercial logging.⁹⁹ After just 100 years of commercial logging, southwestern British Columbia



What was once key northern spotted owl habitat in the Siwash watershed. Photo by John and Johanna Nelson.

now has a deficit of contiguous, unfragmented patches of old-growth forests in the range of the spotted owl, isolating the few remaining owls and limiting their ability to survive.¹⁰⁰

The federal and provincial lack of adequate endangered species protections compound the problem. In British Columbia, “species at risk are managed through piecemeal legislation, patchwork policies and political discretion, a circumstance that is epitomized by the B.C. Spotted Owl Management Plan. Introduced in 1995, the Management Plan was developed by the B.C. government after the government rejected the findings of scientists who were hired to develop spotted owl recovery options. The Management Plan limited the impact that owl protection options would have on timber supply. This was achieved by establishing owl management zones where no owls existed, encouraging logging where they did, and relying on the flawed premise that logging could “enhance or maintain” owl habitat.¹⁰¹

Outlook: In spite of the imminent extirpation of the owl in British Columbia, the provincial government is introducing sweeping environmental cuts that will eliminate funding for surveying spotted owls and that will end government oversight of logging in owl habitat. Moreover, the government recently announced its intention to introduce legislation in British Columbia that would provide logging companies with significant discretion to determine how logging is to occur in the province, including giving industry responsibility for oversight of endangered species—so-called “industry-led recovery strategies.” Deregulation will add to the burden borne by the spotted owl in a landscape that in 1995, the Spotted Owl Recovery Team estimated to contain only 30 percent of historic spotted owl habitat in Canada. Moreover, of the old-growth forests suitable for the spotted owl that remains, much of it is highly fragmented by logging.

Members of the Association of British Columbia Professional Foresters, foresters whose code of ethics requires “good stewardship of the forest based on sound ecological principles,” have facilitated the loss of habitat by signing off on the plans for approximately 280 B.C. cutblocks in spotted owl habitat. Unfortunately, proposed federal endangered species legislation will do little to protect the northern spotted owl and its habitat in British Columbia. Under the newly proposed legislation, mandatory legal protection for the owl will be limited to federal lands—a mere 1 percent of the land base in British Columbia. Additionally, although the federal legislation will likely contain prohibitions against harming listed endangered, threatened, and extirpated species and their “residences,” this limited protection will not protect the northern spotted owl because it is neither a migratory bird, as defined under the Migratory Birds Convention Act, nor an aquatic species.

4. Proposed Action: A Citizens' Forest Trade Alternative

This report recommends a bilateral forest agreement to govern ecologically and economically sustainable trade in timber products between the United States and Canada by phasing out environmentally and economically harmful subsidies and enhancing environmental protections. The proposed action, as reflected in this Citizen's Forest Trade Alternative is designed to create a sustainable framework for governing trade in forest products between the U.S. and Canada in order to accomplish several tasks.

□ *Protect endangered forests and promote environmentally sustainable forestry*

By solving the ecological problems associated with over-harvest and unsustainable forest practices, reform of subsidies as proposed in this report will help protect North America's endangered forests and promote environmentally sustainable forestry, underpinned by ecosystem-based management.

□ *Ensure that the shared ecological resources of the United States and Canada are not irreversibly harmed and the ecological integrity of shared ecosystems is guaranteed*

Unlike the United States, Canada does not have adequate legal protections for threatened and endangered species.¹⁰² Federal and provincial protections for aquatic and terrestrial habitat are either lax and/or poorly enforced, including those for international fisheries such as salmon.

Trade in forest products must be supported by environmental standards and citizens must be informed of the implications of natural resource trade policies and resulting consumption patterns.

□ *End the longest running trade dispute between the United States and Canada*

Canada and the United States have been involved in a decades-old dispute over the pricing, sale, and processing of Canadian lumber and export of that lumber to the United States. The dispute has proven extremely costly to the timber industries of both countries, and even more importantly to its citizens, because of the massive commitment of resources into negotiations and legal proceedings. A bilateral agreement that deals with economic and environmental issues is the only way to provide a long-term, durable solution to this dispute.

□ *Foster recognition of the role of First Nations rights in resource decisions*

The same system that grants tenure to logging companies on public land omits recognition of aboriginal rights. First Nations have an extremely important and constitutionally recognized role to play in resource decisions across Canada but are marginalized in most forums, despite legal obligations on the government and corporations to consult with them and in some cases even to obtain their consent.

Failure to recognize aboriginal land rights enables a system that grants control of public forestlands to a handful of timber companies. This inequitable system of resource management and tenure in turn leads

"People fly over the middle of Canada and they see mile after mile of uninhabited forest, but there is an attorney and a logging plan for every square inch."

Bart Robinson, former coordinator of the Yellowstone to Yukon Conservation Initiative in Canmore, Alberta

"If timber resource revenues were to be shared fairly in Canada between Aboriginal and non-Aboriginal governments, and they were set at a level that would ensure adequate environmental protection for the benefit of all peoples, the unfair subsidy issue raised by the United States Government would be resolved."

Grand Chief Leon Jourdain of the Grand Council Treaty #3

to unsustainable provincial timber harvest and pricing policies.

□ Promote the sustainability of jobs in the forest products sector

Canadian forest management is predicated upon volume-based, minimally processed commodity production predominantly for the purpose of export to the massive U.S. market. This has left British Columbia and other provinces in last place when it comes to the number of jobs generated per board foot of lumber.

B.C. is reported to control 35 percent of a \$16 billion primary lumber market and less than 1 percent of a \$235 billion value-added or secondary wood manufacturing market in North America.¹⁰³ This staggering inequity is indicative of the need for fundamental reforms that will not only lead to provincial job growth and sustainability but will also lessen the need for volume-based forest management.

□ Provide for a consistent supply of sustainably harvested forest products for human use



Tchaikazan Delta in the southern Chilcotin, British Columbia—this spectacular wilderness is unprotected. Photo by John and Johanna Nelson.

U.S. consumers are increasingly demanding sustainably harvested forest products. Wood efficiency and other practices to reduce consumption can help lower U.S. demands for softwood lumber. However, where demand continues, it should be consistent with U.S. corporate commitments to protect endangered forests and promote environmentally sustainable forest management. This framework is designed to facilitate the transition from wood and wood products derived from old-growth, sensitive, and rare forest ecosystems towards environmentally and sustainably managed forests. It will also encourage the development of markets for these products.

5. Toward a Long-Term Solution: Reducing Forestry Subsidies

As part of the proposed Citizens' Forest Trade Alternative, certain "replacement measures" or tools that reduce subsidies and address their underlying causes could be phased in. Such measures would gradually replace duties on Canadian lumber, and help solve economic and environmental problems arising from the forest products trade between Canada and the United States. These measures must include:

- Substantial reductions in the control over the major forest licensees of provincial forestlands;
- Establishment of market-based pricing mechanisms that ensure that the public captures higher value for public forest resources, and that are based on transparent log markets and verifiable by third parties; and
- Improvement of environmental protections, including ecosystem based planning and management, landscape level planning, maintaining the integrity of existing long range management plans, no roll-back of federal or provincial environmental standards, and enforcement of existing environmental laws.

5.1 Reallocation of Tenure in Canada

"The major corporations in BC have an effective 'operational' subsidy by their guaranteed access to a fixed volume of timber within their license areas. This means that instead of having a free market for the sale and purchase of timber, we have a series of regional monopolies which are vertically-integrated 'silos.'"

Stuart Murray, independent forestry consultant, British Columbia, March 1999

Canadian provincial governments have Crown title to over 90 percent of forestland in Canada and to the timber resources resident on such land. While retaining public ownership of

trees and title to the land, provincial governments allocate rights to harvest timber and to make operational land-use decisions to private parties through various forms of licenses, or timber tenures. The timber on public lands is made available to forestry companies in return for a price—this payment is referred to as "stumpage."

In many areas of Canada, a relatively small group of integrated forest product companies control the vast majority of the land base through these long-term licenses, or "tenures." Because the economies of many communities are dependent on them, these companies are able to pressure governments to ease environmental protections and reduce the amount the companies pay for timber. Current long-term tenure arrangements with large, vertically integrated timber companies stifle competition, lead to the undervaluing of wood products, restrict public oversight, reward inefficient companies, ignore aboriginal rights, and undermine the ability of communities to achieve ecological sustainability. Such broad control by relatively few commercial interests leads to a level of political power that is in the interest of neither fair trade, local communities, nor the environment.

The diversification of tenure arrangements is fundamental to market reforms but should be structured to achieve ecological and sustainability objectives. A significant portion of public forest tenures must be taken back to break up timber monopolies and to facilitate increased conservation, to resolve First Nations land issues, and to provide tenure to a diversity of new entrants, such as small business loggers, woodlot owners, and community foresters. Tenure reform is necessary, but does not mean that public lands should be placed in private hands. Public lands must remain public.



Typical logging in a B.C. special resource management zone in northern spotted owl habitat (near Hornet Creek, 2001). Photo by Jeremy Williams, Western Canada Wilderness Committee.

The B.C. forest tenure system has resulted in a virtual monopoly of a few companies dominating the B.C. industry. The objective of tenure reform in British Columbia is for the government to take back 50 percent or more of major licenses' area or volume—depending on the type of tenure—in order to diversify control over the forestland base and to supply log markets. Below, the B.C. situation is used as an example of how tenure can be reallocated as part of a long-term solution.

a. Take Back of Tenure Rights

The most direct way of breaking down the control of major licensees¹⁰⁴ over the B.C. forest regime is to reduce the amount of forestland (for area-based tenures) or allocated cut (for volume-based tenures) which timber companies control by at least 50 percent. From a legal perspective, this can be easily accomplished either through legislative amendments to the existing forestry legislation or through new legislation.

The existing legal framework in British Columbia reflects certain historical public policy choices regarding the circumstances in which tenure rights could be reduced. Incorporating into legislation the authority to reduce

the area or volume controlled through tenures, without payment of compensation to timber companies, is already common practice in B.C.—just not to the extent necessary to accomplish a more diverse market. For example, the B.C. Forest Act already provides for reductions in allowable annual cut through the timber supply review process;¹⁰⁵ for proportionate reductions to all licensees in a timber supply area,¹⁰⁶ and when a licensee fails to live up to various environmental, utilization, and processing requirements.¹⁰⁷ In addition, the law already provides for a 5 percent take back of tenures that are sold or transferred in order to facilitate redistribution and diversification in the tenure system, although that law has not been enforced in a regular manner.¹⁰⁸

There is no definitive study indicating the degree to which control must be diversified—and thus first removed from the few major licensees in order to create competition and functioning markets. The 1991 Forest Resources Commission in B.C. recommended a minimum 50 percent as a basis for establishing markets.¹⁰⁹ In what we see as only its opening bid, Weyerhaeuser has already publicly indicated its willingness to give up 25 percent of the

volume of its coastal tenures.¹¹⁰

b. No Compensation for Take Back

Since virtually no consideration was paid when most major licenses were granted,¹¹¹ awarding compensation for freeing up a portion of the wood supply would simply amount to further subsidization of the industry. Although some major license holders may have paid consideration to a previous holder of the license, there is no outstanding obligation from the public for such a transaction. The consideration paid when tenures change hands between companies reflects the current subsidy arising from the B.C. stumpage system—the elimination of which should not be available for compensation.¹¹²

Government take back of volume or area need not be compensated under Canadian law. As a general rule, Canadian law provides considerable flexibility to the government in reallocating control over public resources. Provided it does so explicitly through legislation, the Province has the authority to reallocate public forest resources without compensation.¹¹³ Compensation generally is not triggered if the reallocations are implemented through statutory provisions that explicitly (in clear and unambiguous terms) state that no compensation is payable.¹¹⁴

At present, the B.C. Forest Act contains a number of specific legal provisions that provide for reductions in allowable annual cut or deletions of area¹¹⁵ from licenses without compensation. For example, compensation is not payable for actions to reduce allowable annual cut noted above.¹¹⁶ Only in a few situations has the Province chosen to create a statutory right to compensation, further showing its discretion in the matter. For example, compensation is payable for reductions in AAC or tenure deletions that exceed 5 percent and are carried out for purposes other than timber production.¹¹⁷

The Forest Act is currently silent on deletions or reductions for the purpose of redistributing wood supply to new entrants for timber purposes or for the creation of functioning markets. It is therefore advisable that the compensation issue be addressed directly and explicitly in the legislation that provides for the necessary reduction in volume or area.

Finally, it is essential to see a tenure take back as part of a broader renegotiation of the historical “social contract” associated with the entire system, rather than a unilateral impact on companies’ interests. For example, a tenure take back could be structured as part of a package that also includes elimination of tenure requirements that limit logging companies’ flexibility, such as minimum cut control and appurtenancy. These are burdensome obligations that the B.C. timber industry wishes to abolish, and while these requirements were meant to benefit society by providing jobs, industry has rarely lived up to their obligations. Thus, society could also benefit from elimination of these minimum cut control and appurtenancy requirements, provided such elimination were coupled with tenure take back and reallocation and other forestry reforms that create new ways of keeping jobs in communities.

A British Columbia government poll indicated that 85 percent of British Columbians support more community control of forests.

c. Reallocation of Tenure Rights

Currently, ten integrated forest products companies control 57 percent of the provincial annual allowable cut, while the government’s Small Business Forest Enterprise Program only controls 13 percent.¹¹⁸ Coupling tenure take back with reallocation of tenure to a diversity of interests will help ensure the type of diversified industry necessary for functioning markets. The need to diversify the types of tenure holders was expressed in 1991 by the provincial government’s blue-ribbon Forest Resource Commission who stated:

*In essence, the Commission sees a tenure system that significantly reduces the volume of timber now controlled by a relatively small number of large corporations, and transfers that freed up volume to the development of a competitive log market.*¹¹⁹

There are two existing tenure forms that can be used to diversify the types of companies

involved in managing B.C.'s forests. Legislation enacted in 1998 established community forest agreements as a new form of forest tenure.¹²⁰ Eleven community forest pilot projects have been established to allow the new tenure to be tested. Woodlot licenses have also existed as a form of tenure for a number of years.¹²¹ However, because of over commitment of wood supply to major license holders, there is widespread and unfulfilled demand for more woodlots and community forests.¹²² Given the unfulfilled demand for these two existing tenure forms, the province could begin diversifying both the number and the relative proportions held in different types of tenure by immediately redistributing up to 5 percent of the freed up wood supply to new entrants through community forest agreements and woodlot licenses. A British Columbia government poll indicated that 85 percent of British Columbians support more community control of forests.¹²³

This tenure redistribution is not only compatible with competitive log markets but is an essential component to making them work, resulting in more timber being directed into log markets. Many of the applicants for community forest agreements indicated in their applications that they would direct their timber to log markets, if timber were available.

In order to make the transition during the first few years following a negotiated agreement concerning softwood lumber trade, a portion of the freed up wood supply should be made available to the highest bidder at auction through timber sales.¹²⁴ A portion of the freed up wood supply could also be made available to First Nations in order to resolve decades-old indigenous rights disputes. Increasing timber sales for the first two years will be relatively easy as a significant number of approved cutting permits are freed up as a result of the tenure take back outlined earlier. Since the planning on these approved cutblocks/cutting permits has already been completed, they will be relatively easy to convert into timber sales.

In order to ensure the establishment of an open, competitive market, all wood harvested under timber sale licenses during the initial few years could be required to be directed to a regional log market. Within two years following a negotiated agreement, the provincial government will have had the opportunity to establish new legal tenure types to continue to diversify control of the land base. These new tenure types should allow for devolving decision-making control over the forested land base to community management authorities and First Nations.¹²⁵



Reynolds Creek in the B.C. interior: 25 cents per cubic meter stumpage. Photo by John and Johanna Nelson.

5.2 Transition to Market-Based Pricing Mechanisms

“[Interfor is] taking the best and paying the least.” Interfor log grader, November 21, 2000, *The Vancouver Sun*

Although the majority of provincial forested land is publicly owned, Canadians do not receive market value for harvested timber. Provincial stumpage prices are often arbitrary, subject to manipulation by licensees and governments, and inadequately monitored or enforced. These shortcomings result in subsidies to licensees estimated in the billions of dollars. They also encourage unsustainable overcutting and result in negative impacts on transboundary at-risk wildlife. Finally—even if a greater number of loggers participate in the market for harvesting rights, and if these loggers can only sell their logs to a few large processors—markets for Canadian wood products will remain artificially restricted to low-end goods.

While increasing the number of timber sales for small business loggers is important to help establish a fair market benchmark for public timber in Canada, it is equally if not more important to create actual markets in logs available for processing. Provinces in Canada should institute regional log markets to generate accurate timber values, ensure ease of

Report on the Vancouver Log Market

Northwest Ecosystem Alliance prepared a detailed report examining the Vancouver Log Market in 2001.¹³³ This market consists of all logs sold, purchased, or traded in coastal British Columbia. While the “market” has no physical log yard or trading floor, the prices for these logs are compiled and published on a monthly basis by the Government of British Columbia’s Ministry of Forests.¹³⁴ The stumpage fee assessed of coastal tenure holders is then based, in part, on the average market value calculated from the previous six months’ worth of Vancouver Log Market transactions.

As a B.C. legislative committee stated, “The Vancouver Log Market displays features inconsistent with a freely competitively driven market place.”¹³⁵ The log market fails to function as an actual market because the tenure system allots most of the government timber on the B.C. coast to a small number of large corporations that harvest timber as well as produce lumber. Log sales in British Columbia are not independent sales, but are actually log swaps among tenure holders.¹³⁶ Further, since the government timber price is based on previous log market prices, the circular relationship between timber prices and log prices in Canada depresses the reported log prices.

In addition, the log market ensures a steady supply of low-cost wood fiber to the major lumber producers. As the B.C. industry trade association stated, “The cyclical nature of the forest industry results in many operators seeking mutually supportive and stable business relationships. . . . Pricing may become of equal consideration to the practices of long term guarantees and security of supply.”¹³⁷ Thus, even so-called independent loggers (who in any event harvest only a tiny percentage of the timber) are forced by the lack of a functioning log market to sell their logs to the lumber producers at depressed prices.

It is unsurprising then that the study found that log prices on the Vancouver Log Market are significantly depressed in comparison to delivered log prices for similar grades and species of logs on the Washington and Oregon coasts, especially for western red cedar.

access to wood for all wood processors (particularly in the value-added sector), and provide confidence that the full value of logs is being collected.

In addition, sufficient volume should be required to flow through log markets to ensure

truly competitive bidding (e.g., at least 60 percent of timber harvested is proposed by value added manufacturers). Finally, stumpage fees should be calculated in a transparent manner, using accurate timber values from log markets and timber sales so that the full value of the wood is collected. The objective of timber pricing reform in British Columbia would be that at least 60 percent of all volume harvested would flow through market mechanisms, including log markets. The 1991 Forest Resources Commission found that:

A log market with a significant piece of the action will also ensure that log prices reflect the species and grades of logs and their value in production. The log market, in assuring that prices are maximized in keeping with the true market value of the resource, will also reduce waste in the woods and ensure the most economic value is captured through manufacturing higher value-added products.¹²⁶

a. Put More Volume into Market Mechanisms

Logs can be sold in one of two ways: either on the “stump,” while the trees are still standing, or after they are cut, in log sort yards or other distribution points. Currently, vertically integrated Canadian timber companies control all aspects of public forest logging, from planning to grading, logging, transport, and processing. Unlike in the United States, where public agency personnel and inter-disciplinary teams control the planning process, forestry planning in Canada is done by the companies themselves.¹²⁷ Government oversight is minimal. Companies even control the grading and scaling processes, which has led to a significant failure for taxpayers to capture the full value of publicly owned timber.

This leads to a situation wherein “stumpage” is set arbitrarily and at no point in the process is there an opportunity for the market to directly influence log prices. The system, at least in British Columbia, has lent itself to rampant abuse and resulted in billions of dollars in subsidies to the timber industry.¹²⁸ Moreover, stumpage rates, often as low as 25 cents per cubic meter,¹²⁹ and well below economic replacement cost or sound reservation price,

enable companies to log in remote, ecologically sensitive, or otherwise uneconomical areas. Minimum cut requirements force licensees to log a specified volume of wood regardless of market conditions, a “use it or lose it” policy that creates an oversupply, accelerates old-growth logging, and depresses prices.¹³⁰

Most industry observers who have addressed the issue of competitive log markets in B.C. have estimated that at least 50 percent of the timber cut should go through a market mechanism in order to ensure generation of a valid market price.¹³¹ For example, after consulting with thousands of British Columbians, including experts in economics and forestry, the 1991 Forest Resources Commission recommended that the tenure of licensees with processing facilities be reduced to less than 50 percent of their annual cut or 50 percent of their processing capacity, and that the volume be put into a log market.¹³²

b. Establish Viable Regional Log Markets

One objective of increased volume to market mechanisms is to make certain enough timber is available to a broad range of processors to ensure that, over time, competition among processors is pushing B.C.’s processing sector further up the value-added chain. Only when value-added processors have ease of access to the volume and grades of timber they require will the full value of B.C.’s timber supply be realized. This objective would be assisted if at least 60 percent of the wood harvested in B.C. flowed through regional log markets, not just through market mechanisms in general. Ideally, each region would have one or more log markets, depending on regional logging activity, geographic concentrations of processing activity, and transportation limitations.

It is also important to create a market in logs for processing. Even if a broad range of loggers participate in a competitive, transparent market in timber sales, if those loggers can only sell their logs to a few large commodity processors—lumber or pulp companies—the value of B.C.’s log supply will remain artificially constrained by the value of those low value products.

Regional log markets provide the opportunity for a broad range of processors to access

timber in a competitive market situation, thereby driving up the value of B.C.'s wood supply over time as an increasing number of value-added processors are able to outbid low value processors. This in turn would translate into higher bids for timber sales and higher stumpage to the Crown.

While B.C. has experience with log markets, such markets have not fulfilled their potential due to built-in structural impediments. The primary problem has been that they were simply too small to get past marginal pricing problems. For example, one or two major companies could take most of the volume on the log market at an artificially high price, which they could pay because they were only buying a relatively small amount to top off their tenured supply, or demand is depressed by massive volumes of subsidized timber. Despite these shortcomings, log market experiments have been very successful in providing access to timber for many small processors and in realizing much higher values for low-grade timber purchased for value-added purposes.¹³⁸

In order for regional log markets to work in practice, several conditions will have to be met, including:

- A volume of 60 percent of the actual harvest in each region should be the threshold amount directed to log markets.

- Regional log markets should be kept at arm's length from industry and from government agencies responsible for developing forestry policy and regulation.

- Government should be responsible for scaling.

- Logs should be sorted into as many sorts as buyers demand, especially to facilitate small processors' participation.

- Capacity should exist for fulfillment of any chain of custody (tracking) requirements for certified logs.

- At least one scaler in each market should be trained in both the B.C. scaling system and the Scribner system used in the United States.

- Government should apply stiff penalties for collusion to manipulate prices by companies.

c. Expand Auction of Timber Sales

Timber auctions are a relatively easy way to get more timber into a competitive market system quickly. A pool of timber, whether consolidated in government (through a tenure take back) or selected from licensees' plans, is already available as licensees generally have obtained prior approvals for a minimum of two years of cutting. As a result, most of the required planning has already been done.

British Columbia currently directs approximately 13 percent of its timber supply through the Small Business Forest Enterprise Program—a government-administered program that prepares and sells some of its cutblocks through timber auctions. There are many small business harvesters and contractors who would be ready to step into such a system as most major licensees are already required to contract out a large portion (up to 60 percent on the coast) of their cut to contractors.

Timber sale auctions are a transparent way of valuing timber "on the stump." The prices



Canadian logging operation. Photo by John and Johanna Nelson.



Small fish-bearing streams receive no tree buffer in Canadian clearcuts. Buck Creek in the Shulaps Range, B.C. Photo by John and Johanna Nelson.

will be a valuable benchmark for a market-based stumpage formula for administered prices.

In order for a viable market in timber sales to emerge in practice, several conditions should be met, including:

- Ten percent of the bid price should be deposited upon award of a sale, and forfeited for non-performance, to reduce speculative bidding.
- Terms of timber sales should be two years with the possibility of extension by one year for market reasons.
- Timber sales should require winning bidders to direct the wood to regional log markets.
- Bidding for conservation purposes should be allowed on timber sales.

d. Prohibit Log Bartering

Major licensees currently barter significant portions of their tenured timber amongst themselves to acquire the appropriate log profile for their mills. This type of a barter process retains control of logs within a small circle of tenured licensees, without opening up the process to the full range of potential buyers. It shields the companies from having their logs subject to true market valuation. This type of bartering hampers the establishment of market values for timber in B.C. Instead, B.C. should require that

all wood not processed by licensees be sold through competitive, transparent regional log markets.

e. Transaction Evidence Pricing System (TEPS)

A TEPS is a relatively transparent process and can be directly based on recent market and cost data. As long as there is confidence in the accuracy and validity of the data, a TEPS should result in fairly accurate stumpage prices. With a TEPS approach, “evidence” from market transactions is used to estimate stumpage on non-market wood, as well as to set minimum bids for future auctions based on cutblock characteristics. The integrity of such a system depends on the validity of the data used, which is why

the market mechanisms discussed above, and the means of directing timber to those markets, is of the utmost importance. Because any administered stumpage system is open to some degree of manipulation (particularly on the cost side if no independent data are available on true costs), we recommend that the proportion of timber priced under a TEPS system be minimized at the start and reduced further over time.

A TEPS system is very similar to that used in the U.S. Pacific Northwest.¹³⁹ Under such a system, bidding results for recent timber sales similar to the non-market cutting permit are assembled and averaged. This average is then adjusted for the characteristics of this specific permit that move it away from the average, either upwards or downwards, taking into account factors such as value of timber, logging costs, silviculture requirements or other obligations not incumbent upon buyers of timber sales licenses. The most recent data from log markets, harvest and haul contracts, and any other contracts that reflect a portion of the cost appraisal (e.g., silviculture activities) are incorporated at this point. Stumpage is set at the resultant amount, or at the standardized minimum bid (whichever is higher). Stumpage must be determined on a per species basis to avoid the logging of non-economic species.

f. Increase Minimum Stumpage

Raising minimum stumpage rates significantly is a critical step toward ending the most highly subsidized logging. British Columbia's extremely low stumpage rates assume that there is no other value to a tree but its value as timber—an assumption that is not economically valid. The current minimum stumpage in BC is C\$0.25 per cubic meter.¹⁴⁰ Significant portions of B.C.'s timber supply are sold at this rate. In fact, 30 percent of all wood logged in the B.C. Interior between 1998 and mid-2000 was sold for minimum stumpage, or about \$10 per truckload of wood.¹⁴¹ Minimum stumpage (and minimum bids for timber sales) must be set high enough to cover government costs of planning, administration, reforestation and restoration, and road maintenance.

The U.S. Forest Service in the Pacific Northwest, for instance, has established minimum stumpage prices for a range of commercial species, stumpages which could be adapted to the B.C. context.¹⁴² An approximate conversion factor and exchange rate would indicate a minimum stumpage rate for B.C. somewhere in the range of C\$5.25 and C\$10.50 per cubic meter, depending on the species.¹⁴³

Thirty percent of all wood logged in the B.C. Interior between 1998 and mid-2000 was sold for minimum stumpage, or about \$10 per truckload of wood.

g. Calculate Stumpage on a Per Species Basis

Stumpage should be calculated and paid on a per species basis, not a blended basis. Currently in B.C., when setting a stumpage rate for cutting permits (which may incorporate more than one cutblock), a single rate is determined based on the cruised value of the permit and appraised logging costs. The species and grade profile is effectively averaged over the cutting permit, meaning that the low value (or even "negative" value) of the bulk of the volume in the permit area is used to offset the high value of the most desirable wood. This results in manipulated low overall stumpage rates.

The following would help reduce or eliminate the logging of non-economic species:

- Maximum annual allowable cuts (AACs) should be determined and partitioned on a per species basis.

- Provincial utilization standards should allow the harvest profile to differ from the standing timber profile, in order to ensure sustainability for each species.

- Stumpage for a cutting permit should be set for each species/grade in the permit area, and stumpage paid according to a final scale of all the wood that was removed from the permit area.

- Minimum cut control would have to be removed to allow for license holders to make the determination of what timber is economically viable on a per species basis, but should only be removed (along with appurtenancy) as part of a larger tenure renegotiation that resulted in a significant portion of tenure being returned to the Crown for redistribution, as discussed earlier.

5.3 Transition to Ecosystem Protection-Based Forest Management

A durable agreement ending the softwood lumber trade dispute is one that could not be undermined through regulatory relief, altering of industry cost structures, and environment-related distortions of timber supply and market mechanisms. A transition in Canada to ecosystem-based forest planning and management must be part of any subsidy reform package. This type of management and planning encompasses regional, landscape, and stand level protections to maintain ecological integrity and biodiversity.

In addition, without specific environmental protections such as implementation and enforcement of environmental laws, as well as a commitment not to weaken existing environmental laws, a softwood lumber trade agreement will be in danger of conquering one type of subsidy only to exchange it for another. Finally, a bilateral agreement concerning softwood lumber trade should provide mechanisms for protection of transboundary species and for the continued gathering of ecological data to inform the implementation and enforcement of reforms.

a. Ensure Forest Management Based on Ecological Sustainability

Forest management in most of Canada is driven primarily by volume goals, rather than by a combination of economic and ecological considerations. For example, the government in British Columbia, the largest lumber producer and exporting province in Canada, has mandated logging levels that are above sustainable levels, even by its own estimates.¹⁴⁴ Under some calculations, 30 to 40 percent of the current AAC could be considered sustainable, while the remainder depletes natural capital.¹⁴⁵

Canadian provinces have often turned a blind eye to species and habitat concerns, even in the face of industry willingness to acknowledge those concerns. For example, in 1999, the B.C. Ministry of Forests asked the logging company Interfor to remove consideration of habitat areas from its forest development plan: “Please be advised that Interfor’s Forest Ecosystem Network options, Grizzly Bear, Mountain Goat, and Black Tailed Deer Habitat Areas as presented in this Forest Development Plan will not be approved as part of the Forest Development Plan. Forest Ecosystem Networks (FEN) and FEN options are not recognized by this District and it is recommended that they be removed from [sic] the Forest Development Plan maps.”¹⁴⁶

Trade distortions cannot be eliminated without ecological sustainability providing the underpinnings for provincial planning and logging levels. Canada should ensure that both coarse filter (habitat) and fine filter (species specific) protections are in place for biodiversity. Both landscape level planning, and species specific measures must be scientifically based and unencumbered by unsustainable timber targets, timber supply impact caps, and undue influence by timber companies.

Ecologically sustainable landscape level planning tends to exert downward pressure on

“So here we are with salmon runs teetering at the brink of extinction, the fishing industry idled by conservation efforts, a growing international push to boycott wood products not certified as sustainable and B.C.’s forest managers still entertain the idea of squeezing a few more bucks out of the forest by shaving bald the riparian zones crucial to salmon and wildlife. What political Never Never Land do these folks inhabit?”

Stephen Hume, columnist, *The Vancouver Sun*, March 1999

logging levels. It maintains conditions needed to ensure ecological integrity, helps ensure that a wide range of species’ needs are met, and encourages efficiency and effectiveness in operational planning. This raises the value of forest products and increases competitiveness between U.S. and Canadian lumber producers.

Ecologically sustainable landscape level biodiversity planning should also be complemented through an internationally directed “focal” species approach and an aquatic conservation strategy. These measures should be coupled with protection of representative ecosystems and monitoring for the effectiveness of management in achieving the goals of maintaining viability of focal species across the landscape and perpetuating ecological sustainability, as well as ecologically based stand level requirements. The Canada/United States border area would benefit from this type of approach. It has been used in the United States for over two decades, and is accepted by every major international forest protection protocol or set of management guidelines.¹⁴⁷

b. Guard Against Roll-Backs in Environmental Obligations

Roll-backs in environmental obligations can be seen as one way to reduce costs for logging companies. Without adequate safeguards against such roll backs, a softwood lumber trade agreement that eliminates other subsidies could pave the way for provincial governments to offer logging companies other compensations, such as reduced environmental obligations. However, this is just as much a subsidy as are below-market stumpage fees.

In fact, such roll-backs are already being proposed in at least British Columbia and Ontario. British Columbia is currently in the process of revising its Forest Practices Code in such a way as to reduce environmental protections.¹⁴⁸ If British Columbia revises the Forest Practices Code to provide environmental relief to the forestry industry, this will offset any economic reforms the government might promise in the context of the softwood lumber trade discussions.¹⁴⁹ The B.C. government itself has made the Forest Practices Code a core softwood lumber issue. For example, a 1997 B.C. Ministry of Forests study estimated that the Code “cost” the B.C. industry C\$12.22 per cubic meter, or C\$733 million per year more than forest management obligations prior to 1992, and used this to justify low stumpage fees.¹⁵⁰

Discussions about forest management in British Columbia figured into the last Softwood Lumber Agreement (see Introduction: History of the Softwood Lumber Trade Dispute), and in 1998, B.C. justified its unilateral stumpage rate reduction based on the costs of implementing the environmental provisions in the then-relatively new Forest Practices Code. That was an explicit acknowledgement that timber pricing and forest management are inextricably bound together in this dispute. Public forest management regulations compose a large part of the cost structure of the B.C. forest industry in a province where such regulations govern 80 percent of the forest landbase. The revision of the Code is a de facto reworking of those cost structures.

A similar trend can be seen in Ontario. The Timber Class Environmental Assessment (Timber EA) ruling in 1994, which set out conditions for the Ministry of Natural Resources (MNR) to govern forestry practices for Ontario’s public forests, is currently under revision, as it expires in May 2003. In its recent submission to the Ministry of Environment, the MNR is proposing to remove many binding requirements for environmental monitoring and policy development, such as the requirements to develop policies for

protecting old growth forests and maintaining roadless wilderness areas.¹⁵¹ They are also proposing to insert a legally binding requirement to develop a wood supply strategy to address a predicted wood supply gap (i.e., between demand and supply) which could jeopardize environmental protection measures.

Any softwood lumber trade resolution will need to ensure that gains made in reforming economic subsidies are not offset by new subsidies to the forestry industry through weaker environmental protection. Any changes to the Forest Practices Code in British Columbia or to forestry conditions in Ontario, for example, should maintain or strengthen and implement the substantive environmental standards of the existing forestry laws. Environmental protection regulations should contain standards that are measurable, verifiable, and therefore enforceable.

c. Ensure Environmental Law Enforcement

Lack of enforcement of environmental laws also confers a benefit on timber companies and is the equivalent of a subsidy. Canada has typically refused to enforce its Federal Fisheries Act against timber companies; it has also refused to require provinces to implement and enforce the Act.

For example, a 1997 study of logging practices around streams found that 83 percent of B.C. streams surveyed were clearcut to the



Clearcutting to the banks of small fish-bearing streams is legal under the B.C. Forest Practices Code. Photo by Ian McAllister.

banks, and only 12 percent of the streams surveyed had explicit prohibitions on the damaging practice of dragging logs through them on the way to logging trucks.¹⁵² These practices are permitted under the B.C. Forest Practices Code, even though they are prohibited under the federal Fisheries Act.¹⁵³

There is evidence that Fisheries and Oceans Canada staff realized that the B.C. Forest Practices Code was not in compliance with the Canadian federal Fisheries Act, as the following statements from agency staff illustrate:

“...MacMillan Bloedel’s assertion that adherence to the Forest Practices Code will fulfill their commitment to maintain fish, fish habitat, and riparian attributes is not the Department of Fisheries and Oceans’ position, particularly with regard to small streams.”¹⁵⁴

“If you look at the small streams that are harvested under the Forest Practices Code, they are no longer ecosystems.”¹⁵⁵

The Canadian government must by law remedy this situation, although so far it has failed in its responsibility. Sections 35 and 36 of the Fisheries Act authorize the Canadian federal government to pass specific habitat regulations to implement and enforce the Act. For example, under Section 36 of the Fisheries Act, the Canadian government has regulated pulp mill effluent emissions (as clean water is one element of fish habitat).¹⁵⁶ The Canadian government has the same powers under Section 35. Thus, the Canadian federal government has the authority to develop and implement regulations setting specific standards for riparian buffers in order to protect fish habitat.

Second, Section 40 of the Fisheries Act authorizes Fisheries and Oceans Canada to pursue prosecution of those who harmfully damage fish habitat. It has the ability to assess penalties ranging from summary convictions with C\$300,000 fines and up to six months imprisonment, to indictable convictions with fines up to C\$1 million and three years imprisonment.

Third, under Section 37 of the Fisheries Act,



Canada lynx and snowshoe hare. Photo by Alan and Sandy Carey.

Fisheries and Oceans Canada may require information from the proponent of a project, such as logging, to allow the agency to determine if the activity will result in a harmful alteration, disruption, or destruction of fish habitat, or if the activity will result in the deposit of a deleterious substance. If the information obtained indicates that a violation of the *Fisheries Act* is likely to occur, the agency may require modifications to the activity or restrict its operation.

e. Protect Transboundary Species

Canada has no federal endangered species legislation despite a current list of more than 400 threatened and endangered species, scores of which are forest dependent.¹⁵⁷ The most recent figures of the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) are that there are 402 endangered, threatened and vulnerable species in Canada.¹⁵⁸ Yet these species are not adequately protected in Canada. With its weaker wildlife protection regime, Canada subsidizes its timber industry relative to the United States, where companies are held to a higher standard.

The U.S. Endangered Species Act protects species habitat on federal, state and private lands. Proposed Canadian legislation will not require protection of habitat on provincial lands. Thus, international protections are needed to help ensure the protection of transboundary species. International solutions for protecting transboundary species include:

□ A process for the identification of international reserves is needed based on the conservation needs of focal species such as grizzly bear, salmon, bull trout, spotted owl, marbled murrelet, and woodland caribou. International parks such as Glacier/Waterton, North Cascades/Manning, and Boundary Waters/Quetico have become *de facto* refugia for many sensitive species but fall far short of filling the habitat needs of these species.

□ Adoption of international road density standards for sensitive wildlife management areas such as the international Grizzly Bear Recovery Zones and mountain caribou recovery areas is imperative. It makes no sense for the U.S. government to spend resources developing and enforcing these standards, only to see them ignored and often nullified north of the border.

□ The establishment of regional, international interagency task forces made up of fish and wildlife experts, terrestrial and aquatic ecologists, and other appropriate scientific experts and members of the environmental NGO community is also advisable. These task forces would be responsible for identifying the threats to international at-risk species and making recommendations for their protection, for designing international reserves, for consulting on natural resource management decisions and impacts on shared wildlife, and for defining a process to protect international watersheds. In addition, improvement of the effectiveness of the 1997 U.S./Canada Framework for Cooperation in the Protection and Recovery of Wild Species At Risk and expansion of NGO participation would help achieve transboundary species protection.

□ Application of the Migratory Bird Treaty Act (MBTA), which requires the protection of migratory birds in U.S. and Canadian forests. There has been no documented compliance with the MBTA by Canadian logging companies, despite the fact that numerous bird species covered under the treaty are impacted by logging.

□ Establishment of a bilateral body on forestry (or other appropriate or similar body). Such a body could present non-partisan, objective information and research on environmental, economic and social concerns pertaining to

sustainable forestry in North America and to the implementation of reforms to eliminate forestry subsidies. Environmental organization and First Nation participation in such a body would be essential to its success.

f. Improve Ecological Information

Americans have only recently become aware of the extent of habitat destruction and fragmentation from old-growth logging in Canada and the effects of that logging on U.S. interests, namely water quality, transborder species, and aquatic and terrestrial habitat. Neither the U.S. nor Canadian governments have committed needed resources to watershed analyses, landscape planning, or cumulative effects analysis in the wake of extensive development, logging, and roadbuilding—despite the well-documented effects of these activities on ecological resources and American industry and dependent communities. The affected environment of the proposed action (or inaction) is the shared forest ecosystems of both countries.

Neither government has studied, in any depth, the integrity of ecosystems that span the border, despite extensive knowledge about the need for large landscape planning for wide-ranging species like grizzly bears, mountain caribou, bull trout and others. Long-term, cooperative conservation efforts between Canada and the United States cannot move forward without detailed information and assessment of current and future land management activities and their impact on species and habitat. The present trade and environment debate globally, perhaps best captured by the massive protests in Seattle in December 1999, is precisely about incorporating important environmental information into trade decision-making. To operate blindly without such an ecological understanding, as the two countries' governments are now doing and as the initial WTO panel did, is to decide that trade trumps all other values.

5.4 Public Accountability, Transparency, and Participation

Public accountability, transparency, and participation make up an important part of ensuring a durable solution to the softwood



Old growth in Walbran Valley, B.C. Photo by Bryan Evans.

lumber trade dispute. First, a durable solution cannot be crafted without a wide range of interests at the table, especially environmental and First Nations interests. Second, once a solution is crafted, the reform package will need to be monitored and enforced, and members of the public can effectively supplement government efforts in this regard.

Members of the public, environmental organizations, and First Nations have been entirely shut out of Canada's formulation of policy on the softwood lumber trade dispute. Despite repeated requests, Canada's Trade Minister will not even hold a meeting with non-governmental organizations on the matter. Canada does have a policy to include environmental information in the formulation of trade agreements, but the government has limited this to multilateral initiatives.¹⁵⁹

Further, members of the public have little opportunity for meaningful participation in decisions concerning forestry in Canada. It is also difficult to bring citizen enforcement suits to help enforce environmental laws in the face of government inaction. This despite the fact that the public is likely to be interested in sound forest management on its public land and capable of providing objective observations about the best use of the land and forests.

To help ensure oversight of forestry reforms and sustainable forest management in Canada, members of the public need to preserve what public participation rights they have and these rights much be meaningfully implemented and strengthened. For example, the public should not only be allowed to view and comment on logging plans in a timely fashion during development, but should have opportunities for substantive participation in shaping decisions about how forestlands will be allocated and used before logging is contemplated. Further, citizens should have the ability to bring enforcement actions directly.

In the United States, despite the well-intentioned efforts of the U.S. Trade Representative (USTR) and its willingness to include environmental organizations as a stakeholder, there is still no formal process through which interested stakeholders, outside of the U.S. timber industry, can engage with government. The U.S. administrative procedures demand a more certain and predictable process. Better integration of environmental concerns as voiced by the public into the softwood lumber trade considerations will inform the development of durable and long-term solutions and will gain broader support for those solutions.

Both the Canadian and the U.S. governments must ensure public input into the softwood lumber trade negotiations, legal processes, and forestry decisions. Public involvement must also be assured in any mechanisms established to monitor and oversee the implementation of a package of subsidy reforms and other solutions to the softwood lumber trade dispute. Specifically, proposals for forestry reforms should be evaluated by an independent commission made up of representatives that include environmental non-governmental organizations from the United States and Canada.

6. Obligation to Include Environment in Resolution of the Softwood Lumber Trade Dispute

In December of 1998, conservationists sued the U.S. Trade Representative and Department of Commerce for its entry into the Softwood Lumber Agreement with Canada.¹⁶⁰ The lawsuit sought the application of the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA) to the Softwood Lumber Agreement (SWLA). This would have required the Commerce Department, the USTR, the Interior Department, and, potentially, other federal agencies to identify and address the impacts of a SWLA upon globally significant Canadian forests, shared waters, and endangered wildlife habitat. Although that particular litigation is now moot given the expiration of the SWLA in 2001, this document, *Greening the Trade in Trees*, is in part an attempt to shape U.S. compliance with U.S. environmental law as a new softwood lumber trade agreement is negotiated.

Under both statutes, there is an administrative process for assessing the significance of the impact of agency actions on the environment and on threatened and endangered species. These processes force the agencies to conduct an objective assessment of the impacts, and in the case of NEPA, to present that assessment to the public for comment, while in the case of the ESA, to present that assessment to an expert fish and wildlife agency for its independent review and judgment.

In addition, Executive Order 13141 concerns the integration of environmental considerations

into the development of U.S. positions in trade negotiations. The agencies did not undertake NEPA or ESA assessments for the former Softwood Lumber Agreement despite its potential effects on forest ecosystems and at-risk species. To date, the agencies have also not undertaken environmental assessment nor integration of environmental considerations in the current softwood lumber trade discussions.

6.1 Application of Executive Order 13141

In 1999 the Clinton administration issued Executive Order 13141 for the Environmental Review of Trade Agreements.¹⁶¹ This Executive Order must be implemented by the appropriate agencies so that policy makers have the necessary information to make informed decisions and

citizens can understand the relevance of U.S. trade policy and forest products consumption to communities and the natural environment.

The Canadian timber

industry is export driven and provincial logging levels are largely determined by access to American markets. Our countries are interdependent with regard to protection of ecological values and a healthy environment and trade policies must reflect that interdependency.

The stated objective of EO 13141 is to “fully integrate environmental considerations into the development of U.S. positions in trade negotiations.”¹⁶² The achievement of these objectives will require substantial changes in

The softwood lumber trade between Canada and the U.S. is having profound effects on shared ecosystems, watersheds and listed species such as grizzly bears, bull trout, salmon, marbled murrelet, spotted owl, mountain caribou, lynx, and Queen Charlotte and northern goshawk.

the trade policy-making process. The EO is clearly applicable to the ongoing softwood lumber trade negotiations. The range of possible options that could emerge from discussions will certainly require substantive agency consultation and public review. Environmental and species protection and sustainable development must be frontloaded into softwood negotiations and settlement, not treated as sidebars.

Therefore, we propose that Executive Order 13141 be applied to the softwood lumber trade negotiations and that interested parties and regulatory agencies be accorded appropriate time for adequate review of agreement provisions. Section 1 of EO 13141 commits the U.S. government to a policy of careful assessment and consideration of the environmental impacts of trade agreements.¹⁶³

Pursuant to this policy, the government will factor environmental considerations into the development of its trade negotiating objectives. The mechanism for achieving these goals will be a process of ongoing assessment and evaluation of environmental implications of trade negotiations. As part of this mechanism, some trade negotiations will include the preparation of written environmental reviews.

The proper and vigorous application of EO 13141 will not only enable the objectives articulated above and within the EO itself, but also will demonstrate and provide a model for the integration of environment and trade. Application of EO 13141 also will inform the more rigorous environmental assessment process mandated under NEPA.

6.2 Compliance with the U.S. National Environmental Policy Act and the U.S. Endangered Species Act

As discussed earlier, the softwood lumber trade between Canada and the U.S. is having profound effects on shared ecosystems, watersheds, and listed species such as grizzly bears, bull trout, salmon, marbled murrelet, spotted owl, mountain caribou, lynx, Queen Charlotte and northern goshawk, and others. The effects of Canadian logging practices on U.S./Canada shared threatened and endangered species and

terrestrial and aquatic habitat is well documented.¹⁶⁴

The National Environmental Policy Act and the Endangered Species Act present the best available mechanisms for democratic process, exploration of all relevant issues and options, and incorporation and consideration of impacts to threatened, endangered, and vulnerable species and their habitats and ecosystems. The NEPA and ESA also provide opportunities for interagency expertise to be brought to bear on the resolution of the softwood lumber trade dispute. NEPA demands that U.S. officials develop an environmental framework to any negotiations or resolution of the dispute, which would include reasonable agreement alternatives that achieve environmental protection and a comprehensive analysis of all cumulative ecological impacts of the United States-Canada timber trade (including upon the globally significant, boreal forest, as well as binational ecosystems).



Before and after for an old-growth stand at Sims Creek, British Columbia. Photos by John Clarke.

The ESA demands even more detailed analysis, and follow-up action, with regard to listed species facing extinction. Under the ESA, each federal agency must ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species or its habitats or ecosystems.¹⁶⁵ Each federal agency must also utilize its authority and programs to further the purposes of the ESA.¹⁶⁶ To discharge these duties, a federal agency must consult with the appropriate expert fish and wildlife agency with respect to its actions that may affect a species listed as threatened or endangered under the ESA.¹⁶⁷

The procedural guarantees and mandate to consider a range of alternatives and consult with, and be guided by, the appropriate agencies is especially appropriate in the softwood lumber trade context because the United States and Canada are considering:

- (1) a framework under which negotiations could proceed;
- (2) a range of options regarding provincial forestry reform demand sets and the application of U.S. countervailing duty law;
- (3) a series of border or export taxes on Canadian lumber that may either remain as the permanent fix in the softwood disputes or diminish as reforms are phased in;
- (4) a series of federal actions that may have adverse consequences for many sensitive, threatened, and endangered species and habitats; and
- (5) potentially unlimited access to U.S. markets for Canadian lumber.

All of the possible scenarios, including the participation in dispute resolution in the World Trade Organization and North American Free Trade Agreement mechanisms, have a direct influence on the logging levels and practices in the Canadian provinces. Logging levels and practices will, in turn, have implications for dozens of at-risk species, watersheds, communities, fisheries, and possibly even climatic conditions in transborder regions and beyond.

It should be noted that one intent of the NEPA is to “utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social science and the environmental design arts in planning and in decision making which may have an impact on man’s environment.”¹⁶⁸

Currently, this type of analysis has not been conducted by the U.S. government. Although USTR has assembled an interdisciplinary team to advise and consult on softwood negotiations and resolution, it is not clear that the team is being used effectively or even contains appropriate representation. For example, despite the possible implications of the softwood trade on dozens of at-risk species and watersheds, there do not seem to be any fish and wildlife experts, aquatic or forest ecologists, botanists, or other specialists on the team analyzing various negotiation and dispute resolution options. The collective expertise of the current softwood lumber trade negotiations team is largely economic. Furthermore, it is not clear whether the softwood lumber trade team representatives consult with such specialists, nor is there any evidence of continuity regarding the presence or input of team members over the course of the negotiations process. It will be impossible for U.S. trade negotiators to make informed decisions on softwood lumber trade-related environmental assessments without adequate baseline analyses of habitat conditions and species populations and the degree to which these are affected by current logging levels and practices.

The species profiles, and associated habitat management needs, contained in this Citizens’ Forest Trade Alternative, highlight the forest protection needs of many wildlife species and ecological processes associated with the affected environment at issue. In addition, these highly imperiled species trigger explicit legal requirements under U.S. law.¹⁶⁹ Indeed, the U.S. General Accounting Office is presently investigating the wildlife species impacts of the bilateral timber trade between the U.S. and Canada.¹⁷⁰ Furthermore, important international law principles are raised by the present trade regime between the two countries.¹⁷¹

7. Conclusion: Shaping Tree Trade to Come

The Canadian forest products industry is and will be dependent on the American markets for years to come, but how will that trade be shaped? Forests are living systems that provide numerous ecosystem services including but not limited to clean water, spiritual and recreational values, fish and wildlife habitat, and carbon sinks. They are not mere commodities. All citizens have an interest in the preservation of native forests and non-extractive values and thus, must be represented in forest products trade negotiations with Canada or any other country. Agencies that oversee natural resources must also participate in forest products trade policy formulation.

The World Trade Organization Ministerial meetings in Seattle in November of 1999 and subsequent events have illustrated the desire of the American and Canadian people to conduct trade in an open, transparent, and responsible manner. U.S. agencies must ensure that any forest products trade agreement with Canada is based on a full understanding and consideration of the environmental ramifications of all the viable options.

This Citizens' Forest Trade Alternative provides practical and long-overdue solutions to the worsening predicament of sensitive and at-risk species whose habitat and range span the Canada/U.S. borders. It is designed to help eliminate direct and indirect subsidies that lead to the over-exploitation of old growth forests and accompanying negative effects on First Nations cultures, U.S. industry and labor, water quality, carbon sequestration, fish and wildlife habitat, soils, and spiritual, quality of life, and recreational

Forests are living systems.... They are not mere commodities.

values. It is also designed to promote sustainable Canadian communities by encouraging a transition from volume-based commodity production to more value added and secondary manufacturing and an emphasis on ecologically sustainable production.

The Citizens' Forest Trade Alternative proposes a new model for the conduct of trade in natural resources, specifically forest products. However, for the solutions posed in this paper to work in practice, there are also several prerequisites that must be met, such as the recognition of aboriginal rights and title, development of a transparent and participatory process, up-to-date ecological information, and a sound basis of environmental law.



*School kids on a 1,020-year-old felled Douglas fir in the Sims Valley, Canada.
Photo by John Clarke.*

For more information

Coalition for Sustainable Forest Solutions
www.forestsolutions.ca

David Suzuki Foundation
www.suzukifoundation.org

Defenders of Wildlife www.defenders.org

Dogwood Initiative (formerly ForestFutures)
www.forestfutures.org

Global Forestwatch Canada
www.globalforestwatch.org

Natural Resources Defense Council
www.nrdc.org

Northwest Ecosystem Alliance
www.ecosystem.org

Raincoast Conservation Society
www.raincoast.org

Sierra Club www.sierraclub.ca

Sierra Legal Defense Fund www.sierralegal.org

Western Canada Wilderness Committee
www.wildernesscommittee.org

West Coast Environmental Law www.wcel.org

World Resources Institute www.wri.org



A load of lumber from Canadian old growth heading south to U.S. markets.

Endnotes

¹ World Resources Institute, *Canada's Forests at a Crossroads: An Assessment in the Year 2000* at 46.

² *Id.* at 44.

³ Natural Resources Canada, *The State of Canada's Forests, 2001-2002*, http://www.nrcan-rncan.gc.ca/cfs-scf/national/what-quoi/sof/sof02/sof_e/upfront/overview.html

⁴ World Resources Institute, *Canada's Forests At A Crossroads: An Assessment in the Year 2000* at 44.

⁵ *Id.* at 12.

⁶ Marchak, P., Aycok, Skott L., Herbert, Deborah M., *Falldown: Forest Policy in British Columbia*, David Suzuki Foundation and Ecotrust Canada, 1999.

⁷ Statistics Canada. www.statcan.ca/english/Pgdb/Land/Environment/envir03.htm

⁸ World Resources Institute, *Canada's Forests at a Crossroads: An Assessment in the Year 2000* at 11.

⁹ Sierra Legal Defence Fund, *British Columbia Forestry Report Card*, 1999 at 1.

¹⁰ See, Natural Resources Defense Council, *End of the Road: The Adverse Ecological Impacts of Roads and Logging: A Compilation of Independently Reviewed Research*, 1999.

¹¹ The "allowable annual cut" is set by the government through a policy and science process. In addition, allowable annual cuts tend to be set higher than sustainability would indicate with the governmental assumption that in future years cuts would be lower to compensate—essentially borrowing wood from the future to harvest today. In addition, many provinces also have a minimum cut mandate to ensure that mills remain supplied with raw material on a consistent basis.

¹² B.C. Ministry of Forests, British Columbia, *Forest Practices Code Timber Supply Analysis*, 1996.

¹³ For more information concerning forestry subsidies in British Columbia, see, Tom L. Green and Lisa Matthaus, *Cutting Subsidies or Subsidized Cutting? Subsidies to the BC forest industry and the BC Liberal's commitment to end them*, report commissioned by the BC Coalition for Sustainable Forestry Solutions, July 2001.

¹⁴ U.S. law states that a countervailable subsidy must do at least one of the following: provide a financial contribution, provide any form of income or price support within the meaning of Article XVI of the GATT 1994, or entrust or direct a private entity to make a financial contribution that confers a benefit, if providing the contribution would normally be vested in the government. See, 19 U.S.C. §1677(5)(B).

Also, see definition of subsidies from the *Economic Report of the President*, transmitted to the Congress February 1997, together with the Report of the Council of Economic Advisors, U.S. Government Printing Office:

First, a subsidy can exist when the price to the user is less than the government's cost of overseeing the activity. Second, a subsidy may exist when users of Federal (public) Lands pay the government a price below that paid for the similar use of comparable privately owned lands. Finally, resource users may receive a subsidy if they pay the government less than the opportunity cost of the land's use, which is defined as the value of the highest alternative use of the resource.

¹⁵ Nigel Sizer, *Perverse Habits: The G8 and Subsidies that Harm Forests and Economies*, World Resources Institute, 2000.

¹⁶ G. Porter, "Natural Resource Subsidies, Trade and Environment: The Cases of Forests and Fisheries," *Journal of Environment and Development*, vol. 6, no. 3, September 1997. See, <http://nautilus.org/papers/enviro/tepp/porterTEPP.html>

¹⁷ Tom L. Green and Lisa Matthaus, *Cutting Subsidies or Subsidized Cutting? Subsidies to the BC forest industry and the BC Liberal's commitment to end them*, report commissioned by the BC Coalition for Sustainable Forestry Solutions, July 2001.

¹⁸ Timber Data Company and Gladics and Associates, *Log prices in British Columbia 1999-2000*, Eugene, Oregon, March 25, 2001.

¹⁹ Mitch Anderson and John Werring, *Stumpage Sellout: How forest company abuse of the stumpage system is costing B.C. taxpayers millions*, Sierra Legal Defence Fund, January 2001.

²⁰ Gordon Hamilton, "Forest companies' scheme circumvents high stumpage rates," in *The Vancouver*

Sun, Saturday, November 4, 2000. See also, Mitch Anderson and John Werring, *Stumpage Sellout: How forest company abuse of the stumpage system is costing B.C. taxpayers millions*, Sierra Legal Defence Fund, January 2001.

²¹ Auditor General, Annual Report, Victoria, Government of British Columbia, 1989.

²² See, M. Pendelton, *The Nature of Forest Crime, Offenses, and Enforcement in British Columbia*, 1995. See also, B.C. Government Employees Union, *The inside story of BC's great outdoors: Why workers in the Ministry of Forests believe the public may not be getting full value for its timber*, June 2000 at 4.

²³ Environmental groups claim that these "waivers of environmental restrictions" constitute an industry-specific relief of the cost of an obligation that the industry would otherwise incur through implementation or enforcement of an environmental regulation. See, Natural Resources Defense Council, *et al*, In the matter of Certain Softwood Lumber Products from Canada, May 10, 2001 (Department of Commerce).

²⁴ Dovetail Consulting, "An Evaluation of DFO Involvement in Land and Resource Management Planning in British Columbia," prepared for the Habitat and Enhancement Branch, Fisheries and Oceans Canada, March 5, 1999 at 73. Submission pursuant to Articles 14 and 15 of the North American Agreement on Environmental Cooperation, David Suzuki Foundation, *et al*, March 15, 2000.

²⁵ B.C. Ministry of Environment, Lands, and Parks Comments on Draft Forest Development Plan 1999-2003—Head of Knight Inlet—TFL 45—Compartments 7-11, September 20, 1999.

²⁶ A new federal Canadian Species At Risk Act is making its way through Parliament in the fall of 2002. However, although it contains protections for aquatic species, it still contains only limited habitat protections for terrestrial species and no protections on provincial public lands where most of the commercial forestry takes place. The current Canadian Species At Risk bill passed the House of Commons in June 2002 and as of September 2002 is before the Canadian Senate as C-5. See, www.speciesatrisk.gc.ca/sar/strategy/index.htm. See also, www.wildcanada.net and www.cnf.ca/species. U.S. environmental groups have already filed a Pelly petition with the U.S. Secretary of Interior and other federal officials, seeking trade measures against Canada for failure of that country to possess endangered species protection consistent with international legal obligations. (Pelly) Petition for Certification of Canada Pursuant to 22 U.S.C. § 1978 for Failing to Adopt Endangered Species Legislation. March 23, 1999.

²⁷ Sierra Legal Defense Fund, Who's minding our forests? Deregulation of the forest industry in British Columbia, May 2002. See, www.sierralegal.org. For more information concerning the process of revising the B.C. Forest Practices Code see, www.resultsbasedcode.ca/

²⁸ A Review by the Ministry of Natural Resources Regarding the Class Environmental Assessment for Timber Management on Crown Lands in Ontario "MNR's Timber Class EA Review," July 17, 2002. See, www.timber.mnr.gov.on.ca/ea_submission.htm

²⁹ Case C-122-015, November 3, 1982.

³⁰ *Cabot v. U.S.*, 620 F. Supp. 722 (Ct. Intn'l Trade 1985).

³¹ For example, the 8.6 percent figure was the final figure settled on by the Commerce Department after a remand from the panel for a combined subsidy rate of 11.5 percent.

³² United States-Canada Softwood Lumber Agreement, April 1, 1996, to March 31, 2001.

³³ For documentation of Federal Fisheries Act violations, see, David Suzuki Foundation, Greenpeace Canada, Sierra Club of British Columbia, Northwest Ecosystem Alliance, Natural Resources Defense Council, Submission pursuant to Articles 14 and 15 of the North American Agreement on Environmental Cooperation, SEM-00-004, March 15, 2000. See, <http://www.cec.org/citizen/submissions/details/index.cfm?varlan=english&ID=55>

³⁴ For example, see, Interior Alliance submission in the WTO Panel, United States—Preliminary Determinations with Respect to Certain Softwood Lumber from Canada, WT/DS236, Submission of the Interior Alliance Indigenous Nations, April 15, 2002.

³⁵ Natural Resources Defense Council, Submission regarding Softwood Lumber Practices in Canada and Softwood Lumber Trade between the United States and Canada, April 13, 2000.

³⁶ The full text of this letter with a list of sponsoring organizations may be found at www.ecosystem.org/BCengo2002.html

³⁷ David Suzuki Foundation, Greenpeace Canada, Sierra Club of British Columbia, Northwest Ecosystem Alliance, Natural Resources Defense Council, Submission pursuant to Articles 14 and 15 of the North American Agreement on Environmental Cooperation, SEM-00-004, March 15, 2000. See, www.cec.org/citizen/submissions/details/index.cfm?varlan=english&ID=55

³⁸ *Inter alia*, Natural Resources Defense Council, *et al*, In the matter of Certain Softwood Lumber Products from Canada, May 10, 2001 (Department of Commerce). Natural Resources Defense Council, *et al*, Certain

Softwood Lumber from Canada: CEC Investigation of Canada for Failing to Stop Logging-Related Damages to B.C. Salmon Streams, August 13, 2001 (Department of Commerce). Natural Resources Defense Council, *et al*, Certain Softwood Lumber from Canada: Case Brief concerning Environmental Claims, February 22, 2002 (Department of Commerce). Natural Resources Defense Council, *et al*, Information pertinent to the investigation of Certain Softwood Lumber from Canada, March 19, 2002 (U.S. International Trade Commission). Natural Resources Defense Council *et al*, United States—Preliminary Determinations with Respect to Certain Softwood Lumber from Canada, WT/DS236, May 15, 2002.

³⁹ See August 9, 2001, Memorandum to Melissa G. Skinner from Team on New Subsidy Allegations.

⁴⁰ Letter from Sierra Legal Defence Fund (Canada) to Janine Ferretti, Executive Director, Commission for Environmental Cooperation of North America, April 17, 2002.

⁴¹ Thomas Michael Power, ed., *Economic Well Being and Environmental Protection in the Pacific Northwest, A Consensus Report by Pacific Northwest Economists*, 1995.

⁴² Peter Woodbridge, *et al*, *Evolution of the North American Homebuilding Industry: An Opportunity for Value Added Manufacturing Investment*, Forest Renewal B.C., 2001.

⁴³ *Id.*

⁴⁴ Council of Forest Industries (COFI), Factbook. Vancouver, BC, 2000.

⁴⁵ Sierra Legal Defence Fund, Profits or Plunder: Mismanagement of BC's Forests, 1998. See, www.sierralegal.org/reports/profits_or_plunder.pdf.

⁴⁶ T. M. Power, ed., *Economic Well Being and Environmental Protection in the Pacific Northwest, A Consensus Report by Pacific Northwest Economists*, 1995.

⁴⁷ 57 Fed. Reg. 22589 (May 28, 1992).

⁴⁸ Redetermination Pursuant to Binational Panel Remand at 51, 59 (September 17, 1993).

⁴⁹ *Id.* At 86.

⁵⁰ J. W. Thomas, *et al*, *Forest Ecosystem Management: An Ecological, Economic and Social Assessment*, Report of the Forest Ecosystem Management Assessment Team, 1993, P VI-31.

⁵¹ J. D. Hall and R. L. Lantz, *The effects of logging on the habitat of the coho salmon and cutthroat trout in coastal streams*, in T.G. Northcote (ed.) Symposium on salmon and trout streams, University of British Columbia, Vancouver, B.C., 1969 at 355-375.

⁵² L. B. Holtby, *et al*, *Stream temperatures and interannual variability in the emigration timing of coho salmon smolts and fry and chum salmon fry from Carnation Creek, British Columbia*, Canadian Journal of Fisheries and Aquatic Sciences 46: 1396-1405, 1989.

⁵³ Institute for Fisheries Resources, *The Cost of Doing Nothing: The Economic Burden of Salmon Declines in the Columbia River Basin*, 1996.

⁵⁴ C. Alkire, *The Living Landscape: Volume 1: Wild Salmon as Natural Capital: Accounting for Sustainable Use*, The Wilderness Society, August 1993.

⁵⁵ E. Niemi, E. Whitelaw, M. Gall, and A. Fitfield, *Salmon, Timber, and the Economy*, ECONorthwest for the Pacific Rivers Council, October 1999.

⁵⁶ Whale Watch Museum. www.whale-museum.org

⁵⁷ Department of Fisheries and Oceans Canada, *Survey of Recreational Fishing in Canada*, 1995.

⁵⁸ Thomas M. Quigley and Sylvia Arbelbide, eds., *An Assessment of Ecosystem Components in the Interior Columbia Basin and Portions of the Klamath and Great Basins: Volume I*, U.S. Department of Agriculture, Forest Service, and Pacific Northwest Research Station (Portland, Oregon), June 1997 at 82. See, www.fs.fed.us/pnw/pubs/gtr405v1.pdf

⁵⁹ The former value is from R.W. Haynes and A.L. Horne, *Economic Assessment of the Basin*, In T.M. Quigley and S.J. Arbelbide (eds.) *An Assessment of Ecosystem Components in the Interior Columbia Basin and Portions of the Klamath and Great Basins*, General Technical Report, PNW-GTR 405, V.4, USDA, Forest Service, Pacific Northwest Research Station, Portland Oregon, 1997. The latter value is from Thomas, J. W., *et al*, *Forest Ecosystem Management: An Ecological, Economic and Social Assessment*, Report of the Forest Ecosystem Management Assessment Team, 1993.

⁶⁰ Camping from \$175 to \$3; picnicking from \$204 to \$17; backpacking from \$194 to \$0; hiking from \$363 to \$139; and fishing from \$386 to \$153. See, Loomis, J.B. and R.G. Walsh, "Net Economic Benefits of Recreation as a Function of Tree Stand Density," Presented at Future Forests of the Mountain West: A Stand Culture Symposium, in Missoula, MT, 1986.

⁶¹ R. S. Rosenberger and E. L. Smith, *Nonmarket Economic Impacts of Forest Insect Pests: A Literature Review*, USDA Forest Service Technical Report PSW-GTW-164, 1997.

⁶² W. J. Mead, *Review and Analysis of Recent State-of-the-art Contingent Valuation Studies*. Contingent Valuation: A Critical Assessment, J. A. Hausmann (ed.), New York, 1992.

See also, D. A. Hagen, J. W. Vincent, and P. G. Welle, *Benefits of*

Preserving Old-Growth Forests and the Spotted Owl. Contemporary Policy Issues, Vol. X, April 1992.

⁶³ S.H. Verhovek, *They Exist, Therefore They Are. But, Do You Care?* New York Times, Oct. 17, 1999.

⁶⁴ D. Olsen, J. Richards, and R.D. Scott, "Existence and Sport Values for Doubling the Size of Columbia River Basin Salmon and Steelhead Runs," *Rivers* 2(1):44-56, 1991.

⁶⁵ Washington Department of Fish and Wildlife, *Opinion Survey*, Washington Department of Fish and Wildlife, 1996.

⁶⁶ House of Representatives Committee on Resources, *The Endangered Species Act How Much Does It Cost The Taxpayer?: A Study of ESA Related Expenditures and the Budget of the Fish and Wildlife Service as It Relates to Protecting Endangered and Threatened Species*, Washington, DC, 1998.

⁶⁷ Marvin Schaffer and Associates LTD, *Pacific Northwest Recovery Efforts and the Pacific Salmon Treaty*, Prepared for the Departments of Fisheries and Oceans, and the Foreign Affairs and International Trade of the Government of Canada, 1999.

⁶⁸ Canadian Senate Subcommittee on the Boreal Forest, *Competing Realities: the Boreal Forest at Risk, 1999*. See, www.parl.gc.ca/36/1/parlbus/commbus/senate/com-e/bore-e/rep-e/rep09jun99part2-e.htm#Climate%20Change%20and%20the%20Boreal%20Forest

⁶⁹ E. Niemi, M. Gall, and A. Johnston, *The Sky Did Not Fall: The Pacific Northwest's Response to Logging Reductions*, ECONorthwest prepared for Earthlife Canada Foundation and Sierra Club, BC., 1999.

⁷⁰ J. A. Jones and G. E. Grant, "Peak flow responses to clearcutting in small and large basins, Western Cascades, Oregon." *Water Resources Research* 32(4), 1996.

⁷¹ The Canadian federal Species At Risk Act is expected to pass through Parliament in fall of 2002.

⁷² From a speech given in Chadwick, British Columbia in 2000.

⁷³ D. C. Thomas and D. R. Gray, *Updated COSEWIC Status Report on "Forest-Dwelling" Woodland Caribou*, Prepared for the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), 2002.

⁷⁴ I. Hatter, Preliminary assessment of Caribou from the Southern Mountain National Ecological Area for listing by COSEWIC, unpublished report, Wildlife Branch, B.C. Environment, 2000.

⁷⁵ *Defenders of Wildlife et al v. U.S. Department of Commerce, submitted January 2000*. Declaration of Dr. Brian Horejsi: "An Overview of the Status and Conser-

vation of Woodland Caribou (*Rangifer tarandus caribou*) in British Columbia Relative to the Province's Forest Utilization Agenda."

⁷⁶ I. Hatter, *Preliminary assessment of Caribou from the Southern Mountain National Ecological Area for listing by COSEWIC*, Unpublished report, Wildlife Branch, B.C. Environment, 2000.

⁷⁷ E. M. Rominger and C. T. Robbins, Winter foraging ecology of woodland caribou in northeastern Washington, *Journal of Wildlife Management*, 60:719-72, 1996.

⁷⁸ M. Paquet, *Toward a Mountain Caribou Management Strategy for British Columbia*, British Columbia Ministry of Environment, Lands, and Parks, 1997.

⁷⁹ K. Simpson, *et al*, Critical habitats of caribou (*Rangifer tarandus caribou*) in the mountains of Southern British Columbia, *In Proceedings of the Second North American Caribou Workshop*, Val Morin, Quebec, Centre for Northern Studies and Research, McGill University, McGill Subarctic Research Papers, 1985 at 188-191.

⁸⁰ D. C. Thomas and D. R. Gray, *Updated COSEWIC Status Report on "Forest-Dwelling" Woodland Caribou*, Prepared for the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), 2002.

⁸¹ *Defenders of Wildlife et al v. U.S. Department of Commerce, submitted January 2000*. Declaration of Dr. Brian Horejsi: "An Overview of the Status and Conservation of Woodland Caribou (*Rangifer tarandus caribou*) in British Columbia Relative to the Province's Forest Utilization Agenda."

⁸² *Id.*

⁸³ D. C. Thomas and D. R. Gray, *Updated COSEWIC Status Report on "Forest-Dwelling" Woodland Caribou*, Prepared for the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), 2002.

⁸⁴ *Id.*

⁸⁵ *Defenders of Wildlife et al v. U.S. Department of Commerce, submitted January 2000*. Declaration of Dr. James Bergdahl.

⁸⁶ David Suzuki Foundation, Greenpeace Canada, Sierra Club of British Columbia, Northwest Ecosystem Alliance, Natural Resources Defense Council, Submission pursuant to Articles 14 and 15 of the North American Agreement on Environmental Cooperation, SEM-00-004, March 15, 2000.

⁸⁷ David Suzuki Foundation, Forest Watch B.C. as cited in Greenpeace 2002, Forest Views. A Newsletter for Customers and Investors in Canadian Logging Companies.

⁸⁸ See, Brian Horejsi, *et al*, *British Columbia's Grizzly Bear Conservation Strategy: An Independent Review of Science and Policy*, 1998.

⁸⁹ *Id.*

⁹⁰ I. Blackburn, A. Harestad, *et al*, "Population Assessment of the Northern Spotted Owl In British Columbia 1992-2000—draft (Vancouver: Ministry of Water, Land and Air Protection, July 27, 2001) at 2.

⁹¹ *Id.*

⁹² Updated from draft based on personal conversation with Alton Harestad, Associate Professor, Simon Fraser University, July 8th, 2001, co-author of population assessment.

⁹³ Lehmkuhl, J.F., M.G. Raphael, "Habitat Pattern Around Northern Spotted Owl Locations on the Olympic Peninsula," *Washington, Journal of Wildlife Management*. 57(2): 302-315, 1993.

⁹⁴ Guitierrez, R. J., A. B. Franklin, and W. S. Lahaye. "Spotted Owl (*Strix Occidentalis*)" 1995, in A. Poole and F. Gill, eds. *The Birds of North America* No. 179. Acad. Nat. Sci. Philadelphia, PA, and Am. Ornithol. Union, Washington, D.C.

⁹⁵ Ministry of Forests, *Growing Together*. See, www.growingtogether.ca/facts/old_growth.htm, Aug 26, 2002.

⁹⁶ Detailed information about the annual cycle of northern spotted owls may be found in E. D. Forsman, E. C. Meslow, and H. M. Wright. "Distribution and biology of the spotted owl in Oregon," *Wildlife Monographs* 87:1-64, 1984.

⁹⁷ Forsman, Eric D., "A preliminary Investigation of the Spotted Owl in Oregon," M.Sc. Thesis, Oregon State University, Corvallis. 1976.

⁹⁸ Fraser, D. F., W. L. Harper, S. G. Cannings and J.M. Cooper, *Rare Birds of British Columbia*, Victoria: Ministry of Environment, Land and Parks, Wildlife Branch, 1999.

⁹⁹ B.C. Ministry of Forests, *Growing Together*. See, www.growingtogether.ca/facts/old_growth.htm, Aug. 26, 2002.

¹⁰⁰ Western Canada Wilderness Committee, *Logging to Extinction: The Last Stand of the Spotted Owl in Canada*, September 2002.

¹⁰¹ *Id.* at 7.

¹⁰² Passage of the Canadian federal *Species At Risk Act* is expected late in 2002, however, even this new legislation will not protect threatened and endangered species on provincial lands where most commercial logging takes place. See, www.wildcanada.net

¹⁰³ Peter Woodbridge, *et al*, *Evolution of the North American Homebuilding Industry: An Opportunity for Value Added Manufacturing Investment*, Forest Renewal B.C., 2001 at 1.

¹⁰⁴ See, Forest Act, R.S.B.C. 1996, c. 157, s. 1, "major licence." The vast majority of major licenses are Tree Farm Licences (TFL) and Forest Licences (FL), and over 80 percent of the volume cut on Crown lands is held through TFLs and FLs. Ministry of Forests, *Annual Report 1998/99* (Victoria: Ministry of Forests, 2001), Table C-7.

¹⁰⁵ B.C. Forest Act, Section 8(1) (1996).

¹⁰⁶ B.C. Forest Act, Section 63 (1996).

¹⁰⁷ B.C. Forest Act, Sections 69-71 (1996).

¹⁰⁸ B.C. Forest Act, Section 56 (1996).

¹⁰⁹ A.L. Peel, *The Future of Our Forests*, Victoria: Forest Resources Commission, 1991, pages 40-41. See, www.for.gov.bc.ca/hfd/pubs/Docs/Mr/Rc001.htm

¹¹⁰ Weyerhaeuser, *Coastal Competitive Reform: A Proposal for Market-based Stumpage and Tenure Diversification for Coastal BC* (October 2001).

¹¹¹ Tenures were granted in exchange for obligations such as operating mills (appurtenancy) and employing workers.

¹¹² T. Green and Matthaus, L. *Cutting Subsidies or Subsidizing Cutting?* BC Coalition for Sustainable Forestry Solutions, July 2001.

¹¹³ In fact, this power extends to private property as well: *A.G. v. DeKeyser's Royal Hotel*, [1920] A.C. 508 at 542 (H.L.), cited with approval in *B.C. v. Tener*, [1985] 3 W.W.R 673 at 681 (S.C.C.).

¹¹⁴ "Where expropriation or injurious affection is authorized by statute the right to compensation must be found in the statute." *B.C. v. Tenor*, *ibid.* at 696; *Rockingham Sisters of Charity v. R.*, [1922] 2 A.C. 315 at 322 (P.C).

¹¹⁵ Deletions of area from licenses occur only in area-based licenses such as Timber Licences and Tree Farm Licences.

¹¹⁶ B.C. Forest Act, Section 80 (1996).

¹¹⁷ B.C. Forest Act, Section 60 (1996). Provides a statutory right to compensation if a deletion is made that reduces a licensee's allowable annual cut by more than 5 percent and the deletion is for purposes other than timber production (*i.e.*, park creation etc.). See, www.for.gov.bc.ca/tasb/legsregs/forest/foract/part4-31.htm#60

¹¹⁸ Ministry of Forests, *Provincial Linkage AAC Report*, 2000. See, www.for.gov.bc.ca/ftp/Branches/

Resource Tenures & Engineering/external!/publish/apportionment/aptr043.pdf

¹¹⁹ A. L. Peel, *The Future of Our Forests*, Victoria: Forest Resources Commission, 1991 at 40. See, www.for.gov.bc.ca/hfd/pubs/Docs/Mr/Rc001.htm

¹²⁰ B.C. Forest Act, Division 7.1 (1996).

¹²¹ B.C. Forest Act, Division 8 (1996).

¹²² Over 100 communities have expressed an interest in acquiring a community forest agreement pilot. Twenty-seven communities submitted full-proposals and only eleven have been granted. Community Forest Agreement Program, Annual Report 2000-2001, see, www.for.gov.bc.ca/pab/jobs/community/. Unfulfilled demand for woodlot licenses significantly exceeds supply as numerous applications are received for every woodlot license granted. For woodlot license program, see, www.for.gov.bc.ca/RTE/woodlots/woodlot-program.htm

¹²³ Environics, August 2000. See, www.environicsinternational.com

¹²⁴ B.C. Forest Act, Section 20 (1996).

¹²⁵ The Community Ecosystem Trust proposal of the University of Victoria's Eco-Research Chair of Environmental Law & Policy is one example of a potential framework for Community Management Authorities. See, Michael M'Gonigle *et al.*, *The Community Ecosystem Trust: A New Model for Developing Sustainability*, University of Victoria, 2001.

¹²⁶ A. L. Peel, *The Future of Our Forests*, Victoria: Forest Resources Commission, 1991 at 40-41. See, www.for.gov.bc.ca/hfd/pubs/Docs/Mr/Rc001.htm

¹²⁷ With the exception of the Small Business Program.

¹²⁸ T. Green and L. Matthaus, *Cutting Subsidies or Subsidized Cutting?* BC Coalition for Sustainable Forestry Solutions. July 2001.

¹²⁹ M. Anderson and J. Werring, *Stumpage Sellout*. Sierra Legal Defence Fund. January 2001.

¹³⁰ Forest Act, Section 64 (1996).

¹³¹ Ken Drushka. "Stumpage Solutions: Making Them Reality," *Trucklogger Magazine*, Summer 2001 at 18.

¹³² A.L. Peel, *The Future of Our Forests*, Victoria: Forest Resources Commission, 1991. See, www.for.gov.bc.ca/hfd/pubs/Docs/Mr/Rc001.htm

¹³³ Northwest Ecosystem Alliance, *Log Price Comparisons in the Vancouver Log Market*, December 2001.

¹³⁴ The British Columbia Forest Act, section 136(1), requires any person "who harvests timber, who buys

or sells timber or products manufactured from timber or who operates a timber processing facility" to report, *inter alia*, "the volumes and prices of timber, or of products manufactured from timber, that are bought and sold."

¹³⁵ Graham Bruce (Chairman), *Second Report of the Select Standing Committee on Forest and Lands: Forest Act Part 12 and the Vancouver Log Market*, Mar. 12, 1991, quoted in Northwest Ecosystems Alliance, *Log Price Comparisons in the Vancouver Log Market*, December 2001 at 4.

¹³⁶ Pearse, Peter H., *Ready for Change: Crisis and Opportunity in the Coast Forest History*, A Report to the Minister of Forests on British Columbia's Coastal Forest Industry, Vancouver, November 2001 at 24.

¹³⁷ Council of Forest Industries, *Response to the Select Standing Committee on Forest and Lands First Report on the Vancouver Log Market and the Forest Act—Part 12*, Aug. 1990, at 13.

¹³⁸ Catherine M. Mater and Scott M. Mater. *Vernon Forestry: Log Sorting for Profit. A Case Study from "The Business of Sustainable Forestry"* (Project of The Sustainable Forestry Working Group, n.d.), 15-10:

"One of the largest increases [due to sorting of logs] occurred in the sale of lower-grade logs, which included a large percentage of dry logs and logs that had died on the stump.... A typical dry sort was sold at \$110 per cubic metre. After deducting the average cost of \$55/m³ for logging and sort yard and stumpage costs, these sorts provided a return of \$54.75/m³ more than if sold for traditional lower-grade uses."

¹³⁹ *Coastal Competitive Reform, A Proposal for Market-Based Stumpage and Tenure Diversification for Coastal B.C.*, Weyerhaeuser, October 2001.

¹⁴⁰ Forest Act, B.C. Reg. 354/87, 1987. See, www.for.gov.bc.ca/tasb/legsregs/forest/faregs/minstump/msr.htm

¹⁴¹ Sierra Legal Defence Fund, *Profits or Plunder: Mismanagement of BC's Forests*, Vancouver, December 1998 at 12. See also, M. Anderson and J. Werring, *Stumpage Sellout: How Forest Company Abuse of the Stumpage System is Costing B.C. Taxpayers Millions*, Sierra Legal Defence Fund, Vancouver, 2001.

¹⁴² See, e.g., Forest Service Manual, Portland, Oregon, Timber Management, R-6 Supplement No. 2400-96-2, September 12, 1996.

¹⁴³ Using 1 m³ = 0.35ccf, and US\$1 = C\$1.50

¹⁴⁴ British Columbia Ministry of Forests, Timber Supply Review Backgrounder, updated as of August 2002. See, www.for.gov.bc.ca/tsb/back/tsr/tsrbkg.htm

¹⁴⁵ T. Green, *Cutting for the Economy's Sake:*

Setting Timber Harvest Levels that are Good for B.C.'s Economy, Working Paper prepared for Sierra Club of B.C., April 2000 at 79.

¹⁴⁶ Ministry of Forests, Port McNeill Forest District to Interfor, August 10, 1999.

¹⁴⁷ See, e.g., 16 U.S.C. § 1604(g)(3)(B); 36 C.F.R. § 219.19; 36 C.F.R. §§ 219.26; 219.27(a)(5),(g) (provisions of National Forest Management Act and implementing regulations requiring maintenance of diversity and viability of species, partly through focus on “management indicator species,” on U.S. federal forests).

¹⁴⁸ Sierra Legal Defence Fund, *Who's minding our forests? Deregulation of the forest industry in British Columbia*, May 2002. See, www.sierralegal.org. For more information concerning the process of revising the B.C. Forest Practices Code see, www.resultsbasedcode.ca

¹⁴⁹ To understand the magnitude of those cost structures, in addition to the stumpage break, in 1998, B.C. also passed 550 roll-backs to the Code, saying that this would result in a savings to the B.C. industry of an estimated \$300 million per year. There is still hundreds of millions of dollars more at stake.

¹⁵⁰ B.C. Ministry of Forests, Financial State of the Forest Industry and Delivered Wood Cost Drivers, April 1997. See, www.for.gov.bc.ca/het/costs/fin-10.htm

¹⁵¹ A Review by the Ministry of Natural Resources Regarding the Class Environmental Assessment for Timber Management on Crown Lands in Ontario “MNR’s Timber Class EA Review,” July 17, 2002. See, www.timber.mnr.gov.on.ca/ea_submission.htm

¹⁵² Sierra Legal Defence Fund, *Stream Protection Under the Code: The Destruction Continues*, Febr. 1997.

¹⁵³ Canadian federal Fisheries Act, Section 35(1) (“no person shall carry on any work or undertaking that results in harmful alteration, disruption or destruction of fish habitat”). Section 36(3) (“no person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish...”)

¹⁵⁴ Dovetail Consulting, “*An Evaluation of DFO Involvement in Land and Resource Management Planning in British Columbia*,” prepared for the Habitat and Enhancement Branch, Fisheries and Oceans Canada, March 5, 1999 at 56.

¹⁵⁵ *Id.* at 59.

¹⁵⁶ Pulp and Paper Effluent Regulations, SOR/92-269.

¹⁵⁷ A Canadian Species At Risk Act is expected to pass in the fall of 2002. See, www.wildcanada.net. See also, www.speciesatrisk.gc.ca/sar/strategy/

¹⁵⁸ COWESIC, Summary of the Full List of Species

at Risk, May 2002. In Canada, species in at-risk categories include those designated as extinct, extirpated, endangered, threatened, or of special concern. See, www.cosepac.gc.ca/eng/sct5/index_e.htm

¹⁵⁹ Framework for Conducting Environmental Assessments of Trade Agreements, Canadian Department of Foreign Affairs and International Trade, February 2001. See, www.dfait-maeci.gc.ca/tna-nac/Environment-e.asp. See also, Cabinet Directive on the Environmental Assessment Policy, Plan and Program Proposals, 1999. www.ceaa.gc.ca/act/dir_e.htm

¹⁶⁰ The case was brought by *inter alia* Defenders of Wildlife and the Northwest Ecosystem Alliance.

¹⁶¹ In 1999 the Clinton administration issued Executive Order 13141 for the Environmental Review of Trade Agreements.

¹⁶² Statement by President Clinton, November 16, 1999

¹⁶³ Comments on Guidelines for Implementation of EO 13141 Earthjustice *et al.* April 7, 2000.

¹⁶⁴ (Lawsuit) *Defenders of Wildlife, et al., v. U.S. Department of Commerce, et al.* December 10, 1998. (Pelly) Petition for Certification of Canada Pursuant to 22 U.S.C. § 1978 for Failing to Adopt Endangered Species Legislation. March 23, 1999. Submission Pursuant to Articles 14 and 15 of the North American Agreement on Environmental Cooperation, David Suzuki Foundation *et al.* (lead petitioner), March 2000.

¹⁶⁵ 16 U.S.C. § 1536(a)(2).

¹⁶⁶ 16 U.S.C. § 1536(a)(1).

¹⁶⁷ For terrestrial and freshwater species, the Department of Interior is the appropriate fish and wildlife agency. For most marine species, it is the Commerce Department.

¹⁶⁸ 42 USC § 4332(A). See, <http://ceq.eh.doe.gov/nepa/regs/nepa/nepaeqia.htm>

¹⁶⁹ See, e.g., *T.V.A. v. Hill*, 437 U.S. 153 (1978)(absolute terms of ESA held inviolate); *Defenders of Wildlife v. Norton*, 130 F. Supp. 2d 121 (D.D.C. 2001)(federal agencies must account for cumulative impacts of their actions under ESA and NEPA); *Kleppe v. Sierra Club*, 427 U.S. 390 (1976)(federal agencies must take a “hard look” at their actions under NEPA); *Baltimore Gas and Electric Co. v. NRDC*, 462 U.S. 87 (1983)(agencies must inform and include public that environmental concerns of action have been thoroughly considered).

¹⁷⁰ The GAO report is expected in late 2002.

¹⁷¹ See, e.g., *U.S. v. Canada* (Trail Smelter Arbitration, 3 R.I.A.A. 1905 (1941)(one country cannot harm the environment of another).

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