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**Understanding the British Columbia
Environmental Forestry Policy Record in
Comparative Perspective**

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in Comparative Perspective**

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EXECUTIVE SUMMARY

This report is an effort to compare BC forest policy rules among other key forest producing jurisdictions in North America. It focuses on three key measures of sustainable forestry and environmental protection: streamside riparian rules, the clearcutting issue, protected area policy. It also briefly reviews Canadian governmental and industry initiatives over sustainable forestry.

The report *finds that the province of British Columbia has some of the strictest forestry protection rules*, in comparison to the vast majority of US softwood lumber-producing states. This report further finds that Canadian lumber-producing provinces rank at the top of a list of provinces and lumber-producing states protecting their lands from commercial development. States in the US South, fall at the bottom of this ranking. The report also notes that Canada has taken a proactive role in efforts to develop a global forest convention, while the United States continues to oppose such a call.

Efforts to attain sustainable forest management (SFM) have drawn the attention of environmental groups, governments, business, and the university community. This report is not a defense of BC forest policy, nor does it take a position on the complex and far reaching efforts to overhaul the way forestry is conducted in this province and elsewhere. What the report does is to recommend that any comparative claims about the BC record to other jurisdictions be rigorously examined. This report is an effort in this direction, and speaks to the need for further comparative researching among an array of environmental and sustainability measures. It is hoped that this and future examinations may assist ongoing efforts to construct a sustainable forestry management paradigm in North America and elsewhere.

COMPARING SETTINGS

A. Streamside Riparian protection

- a. Riparian streamside forestry management rules have gained much attention because of their effects on water quality and water habitat. The report found British Columbia to have some of the highest levels of harvesting protection rules in North America, much higher than most of its US competitor states.
- b. Most leading US forestry states possess no mandatory rules regarding streamside protection, but rather voluntary guidelines. On the other hand,

many of British Columbia's rules are legislated in its Forest Practices Code Act.

B. The clearcutting issue

- This report reviews scientific research being conducted into the ecological effects of clearcutting and other harvesting methods. Some of the key literature argues that clearcutting sometimes, though not always, is the most ecologically appropriate harvesting method.
- This report also finds that when comparing British Columbia, which represents approximately 50% of the Canadian softwood harvest with the top lumber harvesting states, also totaling 50% of the US production, *BC had the most strict rules governing maximum clearcut sizes*. Georgia, Alabama, Mississippi and Texas have no mandatory rules governing maximum clearcut sizes.

C. Protected Areas Record

- a. Citing the most recent and sophisticated “gap” analysis techniques, this section compares the level of protected areas in Canada and the United States by province and by state. It reveals that Canadian lumber producing provinces are, overall, much better at protecting a portion of their land base than are key lumber-producing states
- b. Of the top 16 softwood lumber harvesting US states (representing over 93% of the US annual harvest), 9 have protected *less than 1 percent* of their land base for “gap 1” first class protected areas (no Canadian provinces fell into this category). Of the top four lumber harvesting Canadian provinces representing over 93% of the Canadian annual harvest, British Columbia *had the best record*, with an 11% first class rate, followed by Alberta with 9.7%, Ontario 8.6% and Quebec 3.8%

Understanding the British Columbia Environmental Forestry Policy Record in Comparative Perspective¹

I. Introduction

Since the mid-1980s and accelerating throughout the 1990s, British Columbia forest policies have come under increasing international and domestic scrutiny (Bernstein and Cashore 2000; Stanbury, Vertinsky, and Wilson 1995). This pressure can be traced to two sources with fundamentally different very motivations. The first source comes from increasing concerns among citizens and non-governmental organizations about the need to promote sustainable forest management in BC that better address unique ecological functions of the forests (Bernstein and Cashore 2000; Stanbury, Vertinsky, and Wilson 1995). The second source is more materialistic in nature, and comes from some US forest companies wishing to increase operational costs of their foreign competitors, in this case BC and other Canadian forest companies (Cashore 1998; Cashore 2001). These US companies have asserted that BC's harvesting fees (stumpage rates), raw log export restrictions, and BC's environmental forestry record – all give an unfair trading advantage to their BC competitors.

As a result of this intense scrutiny, British Columbia's environmental forestry record has usually presented in isolation from other jurisdictions (Cashore et al. 2001; Tollefson 1998; Wilson 1998), or has been compared only selectively to rules governing those on US national forest lands in the Pacific Northwest² (Canadian Press 1994; Wyden

¹ The author wishes to thank Aran O'Carroll and Daowei Zhang for most appreciated comments on a previous version of this paper. All methodological decisions and content remain the responsibility of the author.

² Defined as Oregon and Washington.

1992), which account for a small fraction of timber harvested in the United States, only 1.3% of the US total harvest in 1996. Indeed, harvesting from *all* US National forest lands in 1996 accounted for only 6% of the timber harvested in the contiguous United States³ (See Chart 1), and this figure continues to decline.

The purpose of this paper is to review BC's environmental forestry policy in comparative perspective, exploring how BC's rules compare to a range of jurisdictions within North America. Despite the lack of attention⁴ to this type of comprehensive comparison, scholars and practitioners on both sides of the border have acknowledged its relevance to forest policy analysis. For example, Hoberg (1997) notes, "...the [BC/US national forest lands] comparison needs to be placed in context. BC rules are more stringent than the state government rules that regulate private lands in those states, and private lands comprise both more area and a higher percentage of the harvest level than USFS lands. USFS rules would almost certainly not be as stringent if the forest economy in the US northwest was not so reliant on less regulated private lands." Likewise former US Forest Service Chief noted over a decade ago that increased forest preservation on US national forest land could simply augment harvesting on private lands (Robertson 1990).⁵

II. Methodology and the Dependent Variable

Such a comparison is fraught with methodological challenges. Does one compare a jurisdiction's explicit goals and attitudes toward forest management? Do we study the

³ Alaska has been left out of the calculations for two reasons. First, when the US lumber companies through the CFLI claim that they have to operate under more severe environmental standards, they are referring to rules in the 48 contiguous states. Secondly, Alaska is so large that it would significantly skew US-wide data analysis.

⁴ For an exception, see Westland Resource Group (1995).

⁵ Environmental groups in the US (Rowland 1994) and myself (Cashore 1999) have made the same point.

way different interests are accommodated in the policy process? Do we study the various policy instruments used to create forest policies? Do we only compare the same types of forest ecosystems? These are important questions that often affect the development of forest policy rules. Since this paper is concerned with actual substantive rules affecting forest management, this paper will focus on what Hall (1993) refers to as “policy settings”, or the specific content of a policy output.⁶ This distinction allows us to separate out factors that political scientists reveal helps explain policy outcomes, versus the actual outcomes themselves. Measuring specific outcomes also facilitates comparative analysis across jurisdictions with different historical patterns of organizational and economic development.

Choosing specific policies

There are many rules that govern forest management. For the purposes of this paper, I have chosen three of the most scrutinized rules in BC and elsewhere that have come to represent key measures of sustainable forest management (SFM): maximum clearcutting sizes, streamside buffer zone rules, and the amount of land off limits to harvesting and other forms of industrial activity, commonly referred to as “protected areas” policy. A second section presents a brief qualitative review of Canadian and US governmental and industry efforts to achieve a set of global sustainable forestry rules.

⁶ Changing the speed limit from 120 to 100 kilometres and hour is an example of a change in settings.

III. Comparing Environmental Forest Policy Settings

A. Clearcutting

a. Background

One of the most controversial and highly scrutinized forest harvesting practices is that of even-aged management – commonly referred to as “clearcutting”⁷ (American Forest and Paper Association 1994). Clearcutting remains the most dominant forest harvesting method in the United States, Canada, and globally (Kimmins 1992: Chapter 6, pp. 73, 76), but its application has been reduced in recent years (Natural Resources Canada 2000), especially in British Columbia (Adbusters 1998; Lavoie 1994; The Forestry Source 1999; Travers and Dougherty 2000) and on US national forest lands (Robertson 1992). Explanations for these alterations in harvesting methods are found in the ongoing concern about the impacts of this method on forest ecosystems, the visual impacts of clearcutting (Wood 1971)⁸ and the corresponding societal criticisms (Bliss 2000) and international boycott campaigns that have resulted (Bernstein and Cashore 1999; Stanbury, Vertinsky, and Wilson 1995). These groups have chosen clearcutting as a strategic issue largely because of the initial visual image that exists after a clearcut is undertaken

Because British Columbia exports most of its forest products to foreign markets, environmental groups were more easily able to target its customers in other countries in

⁷ Kimmins defines clearcut as “an area of forest that has been completely cleared of all trees other than seedlings and occasional saplings” (Kimmins 1992: 73)

⁸ The Sierra Club (Devall 1993) issued a coffee table book picturing clearcuts throughout North America. In response, Canadian and US organizations issued their own pictures – often of the same regions years later when regeneration occurred (Moore 1995) (American Forest and Paper Association 1994).

their efforts to reduce harvesting in this province (Bernstein and Cashore 2000).⁹

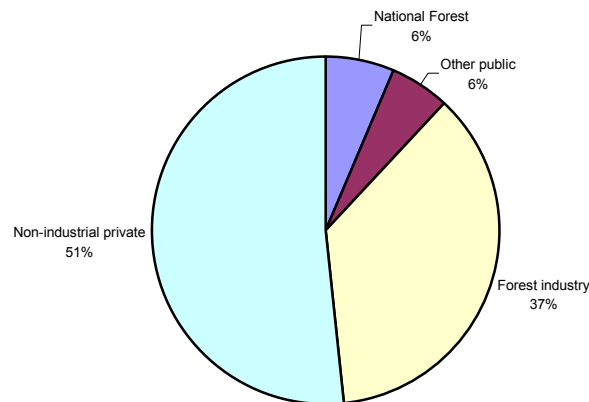
Environmental groups have criticized clearcutting in the US, but because the industry much more heavily oriented toward domestic supply, international critics have had much less success “forcing” companies to revise their clearcutting policies (Cashore 1997).

(The US media appears to pay much less attention to clearcutting practices in the US than the media pays to the same practice in British Columbia).

b) Clear cutting rules

While British Columbia has been criticized for its clearcutting rules, its companies must operate according to one of the most strict clearcutting rules within North America.

Chart 1: Softwood lumber harvesting in US, by ownership, 1996



⁹ It must be noted that the environmental group campaign to end clearcutting in BC, and particularly Clayoquot sound owed to a compromise that was made with BC aboriginal groups. Most environmental groups wanted no harvesting whatsoever, but aboriginal groups saw the forest sector as a place to lift them out of a cycle of poverty, were concerned more with “who” cuts the trees and “how” to do it, rather than not cutting at all. As a result, the campaign focused on “clearcutting” owing to the negative image it envisions in the imaginations of consumers in England and Germany (Vertinsky, Stanbury and Wilson, 1995)

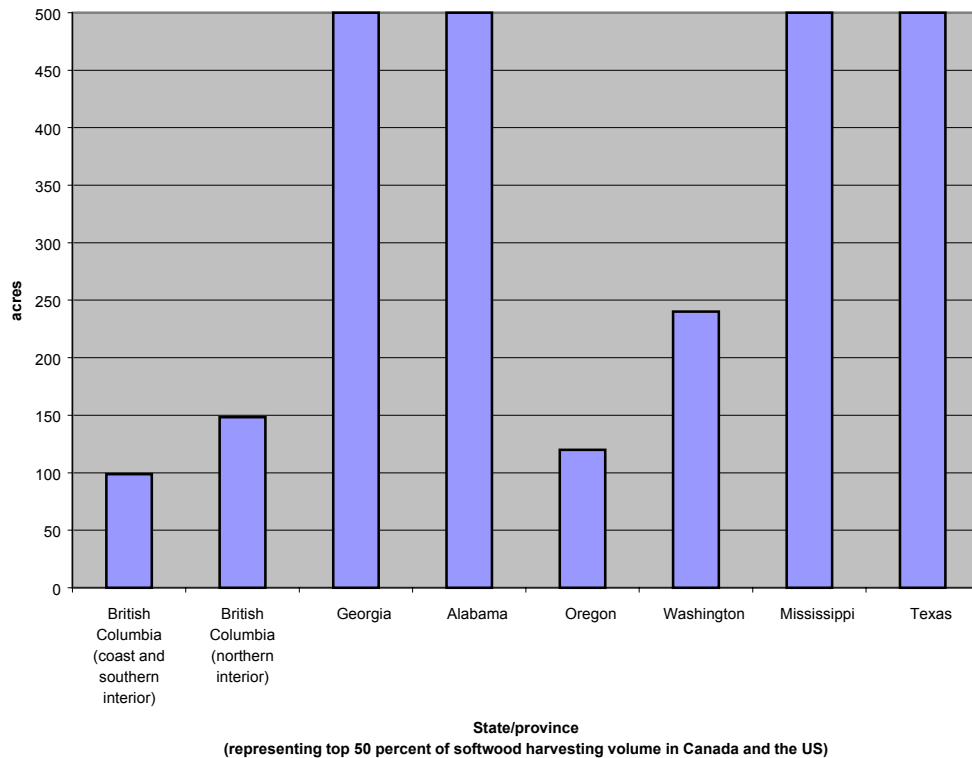
Aside from rules governing US federal forest lands, Chart 2 reveals that British Columbia has the most strict rules governing maximum clearcut sizes in comparison with the five leading US lumber harvesting states (which, together, represent over 50% of the softwood harvests in the United States. Likewise British Columbia softwood harvests hover around the 50% of the total Canadian provincial harvest).¹⁰ British Columbia has a maximum clearcut size policy of 98.8 acres (40 hectares) for its Coast and 148.2 acres (60 hectares) for its Interior region. Georgia, Mississippi, Alabama, and Texas have no rules governing maximum clearcut sizes. And while Oregon and Washington State have developed such rules, British Columbia's coastal clear cutting rules are the *lowest* of the jurisdictions under review. British Columbia coastal and interior rules tower over Washington State's. Oregon's maximum clearcutting rules compare to those governing BC's interior (Oregon regulations actually permit up to 240 acre clearcuts if approved by a state forester).¹¹ Indeed, the American Forest and Paper Associations' Sustainable Forestry Initiative Policy is to reduce the *average* clearcut size to 240 acres, essentially permitting existing practices to continue. At the same time British Columbia firms like Weyerhaeuser (formerly MacMillan-Bloedel) have agreed to phase out clearcutting in its

¹⁰ The share of the BC provincial harvest of all Canadian provincial softwood harvests was 50% in 1993, 47% in 1994 and 46% in 1995.

¹¹ In Oregon, a 240-acre clearcut size has been set where no exceptions can be granted (See Oregon State Legislature 1999). British Columbia Forest Practices Act does permit exceptions to its clearcut sizes rules as well if the district manager concludes that "the larger cutblock is designed to be consistent with the structural characteristics and the temporal and spatial distribution of natural openings." (My thanks to Aran O'Carroll for a detailed analysis of this point). Environmental groups on both sides of the border remain unhappy with these existing rules. As the US Northwest Ecosystem Alliance noted in 1998, "Under Washington state-approved forest practice rules, you'd have to undergo a more extensive environmental review to put up a roadside ice cream stand than to clearcut 240 acres adjacent to a salmon-bearing stream" (Environmental Media Services 1998).

old growth forest on BC’s central coast, in response to environmental groups’ market campaigns (Hamilton 2000b).

Chart 2: Maximum Clear cut sizes (500=no rules)



c) Clearcutting and sustainable forest management

The above comparison reveals that regardless of the environmental impacts of clearcutting, British Columbia has developed some of North America’s strictest regulations in comparison to leading US lumber producing states. While these political dynamics are important for understanding why the issue is so prominent in North America, more important and ecologically relevant ecological questions remain:

- *“What are the impacts of clearcutting on the natural environment?”*
- *“What does existing scientific research say about this issue?”*

One of North America's leading forest ecologists, Hamish Kimmins undertook a comprehensive and rigorous analysis of clearcutting. He states that, "clearcutting is not all bad" (Kimmins 1992: Chapter 6, p. 72). In some forest types, clearcutting "...satisfies most closely the ecological requirements of the young seedlings of the tree species to be grown as the next timber crop" (*ibid*, p. 76). Indeed, according to Kimmins, clearcutting can be an important aspect of sustainable forestry. The trick is to understand better when clearcutting is appropriate:

When done with a sensitivity to the ecology of the ecosystem being harvested and to the ecological requirements and tolerances of the local species, clearcutting is an environmentally sound timber harvest method in many kinds of forests (*ibid*, p. 76).

Kimmins work is in no way a defense of all clearcutting practices. His point is to better understand the forest type. He explains that in forests near slopes, water supplies, or species that depend on older trees forests, evidence clearcutting is often not the most suitable method. Still, Kimmins recognizes that clearcutting is one of a number of tools that need to be used to address holistic sustainable forestry practices. No one harvesting method is the best, as forest types vary dramatically in their ecological functions and structures (*ibid*, p. 77). Put another way, blanket restrictions on clearcutting may also have negative ecological consequences:

The use of uneven-aged silvicultural systems in northern Sweden in the earlier part of this century led to the forest in that area becoming degraded after successive partial cuts...Similarly, bad experiences with partial cutting in some forests in Oregon and Washington in the first half of this century led to a return to clearcutting in these forests (*ibid*).

The challenge, Kimmins reveals, is to conduct future research into the most appropriate mix of harvesting methods to best address sustainable forestry:

Further ecological research is required before we can design optimum management-caused disturbance regimes that will emulate the desirable effects of natural disturbance. For many northern forests, existing data suggest that the optimum disturbance is provided by clearcutting, while in others, partial cuts produce the appropriate levels of disturbance (*ibid*).

One of the key figures in the creation of ecosystem management principles, Jerry Franklin, conducted just such research in the mid-1980s on forest cutting, which appear to support Kimmins' findings. Franklin, with his colleague Richard Forman (then of Harvard University) conducted landscape level analysis of the ecological consequences of clearcutting in the western United States (Franklin and Forman 1987). They looked at a number of related questions, including the practice of using smaller clearcuts, known as "checker boarding" (*ibid*: 12). Checker boarding can occur when regulations governing clearcut sizes are so small that choices facing managers regarding sustainable forest management options are narrowed. Checker boarding also leads to the creation of increased road building (*ibid*, 16), which further exacerbates ecological impacts.

Based on their findings, Franklin and Forman recommended that forest managers in the Douglas-fir region "reduce the emphasis on dispersing small clearcut patches through the forest landscape. The fragmentation that results does not enhance many resource values" (*ibid*, 16). At the same time they support Kimmins' argument that large clearcuts should be avoided in such places as "a drainage basins" where flooding could occur (*ibid*). Franklin and Thomas also argue for the need to provide habitat for old-forest-dependent species. (A subject I detail in the next section).

Research by Kimmins, Franklin, Forman have been incorporated into many US forest management agency guidelines. For example, the Pennsylvania Best Management Practices policy document (Chunko Not dated, p. 92) produced by the Penn State College

of Agricultural Sciences states that, “Clear-cutting may be the best way to promote early successional forests that are essential for numerous plant and wildlife species. Clear-cutting is the best method for regenerating those tree species (such as black cherry, aspen, and yellow poplar) that require full sunlight, at least in their early life.”

The scientific evidence to date on clearcutting has led forest policy analysts to strongly criticize those calling for a complete end to clearcutting. One of North America’s leading forestry experts, Clark Binkley, former Dean of the University of British Columbia’s School of Forestry and current senior vice president of Hancock Resources Group, recently explained that the “no clearcutting” complaint “reflects an extraordinarily narrow and simplistic view of forest ecology” (Binkley 1999). Others analysts have a different take – arguing that even if scientific evidence reveals that clearcutting can be the most appropriate environmental harvesting method in some cases, clearcutting should nonetheless be ended in order to reflect societal pressures (Bliss 2000). While more research needs to be done, it is clear that in comparison, BC’s rules on clearcutting sizes is one of North America’s toughest.

B. Streamside riparian rules

Next to clearcutting, logging near fish bearing streams, has been a major concern to virtually all forest sector stakeholders, and has been subject to numerous studies in BC and elsewhere. The issue has gained particular attention in Oregon and Washington, where a variety of practices has led to serious reductions in Coho and other salmon stock (Ketcham 1993; Northwest Renewable Resources Center 1998) as well as in British

Columbia where environmental groups have argued that better enforcement of existing practices and expansion of rules to small fish bearing streams non-fish bearing streams are required in order to achieve sustainable forest management (Sierra Legal Defence Fund 1997).

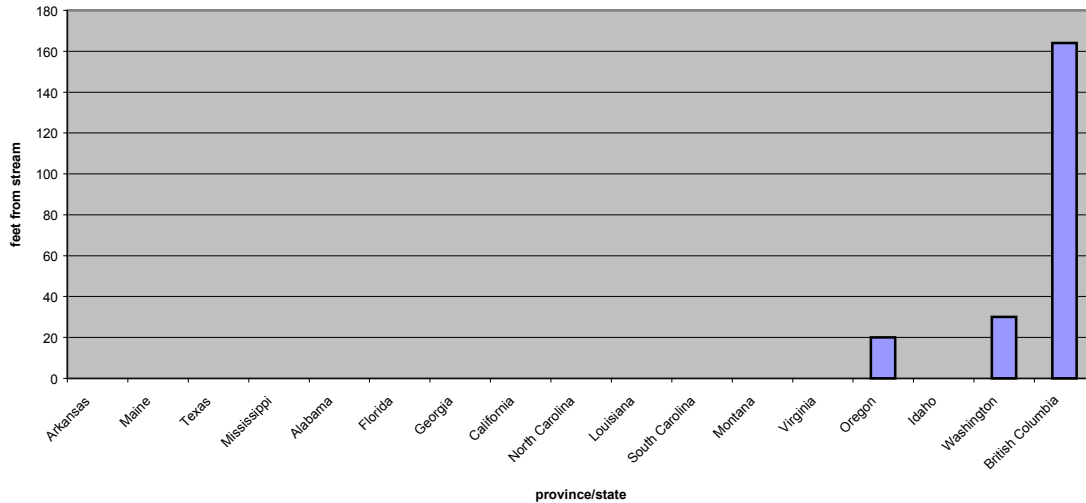
This analysis of streamside rules does not focus on whether all jurisdictions in North America could do more (certainly evidence on both sides of the border indicates that they could), but rather it focuses on the current rules developed by each jurisdiction in North America.

A direct comparison of rules poses methodological challenges, especially in jurisdictions such as British Columbia, Washington State, Oregon and California, where rules are much more complex and comprehensive than in most other US states. (Appendix B outlines in detail these differences, as well as providing additional primary sources). For the purposes of this analysis, I compared British Columbia's riparian harvesting rules in the leading 17 US states representing 93% of the US softwood lumber harvest. I specifically focused on harvesting rules near streams, distinguishing between buffer zones that forbid any kind of harvesting, and rules that limited harvest (for example forbade or limited clearcutting within a buffer strip, but permitted other types of harvesting).¹² I also treated states "best management practices" (BMPs) guidelines in this comparison, even though most of these guidelines are not officially required by law, while most of British Columbia's rules are required by law. Charts 3 and 4 summarize the findings.¹³

¹² It is hoped that future research could compare in detail the differing rules governing permissible harvesting near buffer zones. For a broad review of these differences see Blinn and others (2000).

¹³ The data presented in this table represents guidelines or rules governing fish bearing streams and data summarized in Blinn and others (2000). In most jurisdictions, this was a fairly easy measure, since most US

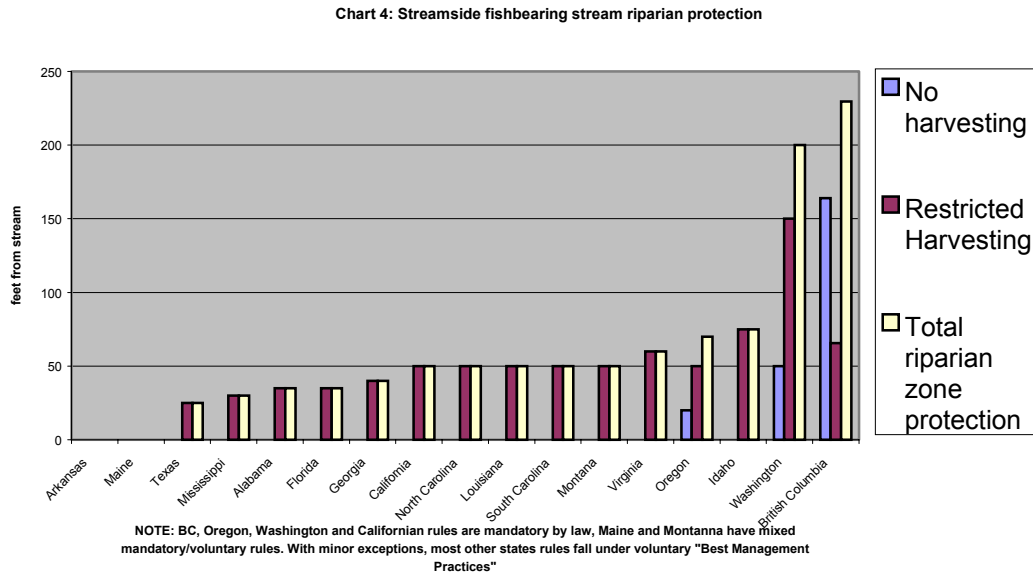
Table 4.6: Streamside no harvesting rules



The overall results indicate that British Columbia riparian rules are among the most stringent of most North American jurisdictions. Chart 3 reveals the results of our analysis for rules forbidding any harvesting near fish bearing streams are striking. Of the above cases, only Oregon, Washington and British Columbia have such rules, and British Columbia’s no harvesting buffer strips are much wider. When one includes rules that

states develop different guidelines according to fish and fish bearing streams. However, some states classify streams into additional categories, with increasingly complex rules governing buffer strips. This is particularly the case for Oregon and Washington, but also British Columbia and California. I attempted to choose a streamside measure that appeared to capture a good example of rules governing the average case for fish bearing streams. However, any single measure arguably cannot capture the more complex set of rules in these jurisdictions. The California data refers to rules governing class II streams, or those where "fish always or seasonally present off-site within 1000 feet downstream" (Blinn et al. 2000). The BC data refers to fish bearing riparian class "S1" streams (except large rivers), or streams less than 65.62 feet (20 metres) in width, since this appeared to be a good representation of a streamside rules. As appendix B reveals British Columbia actually has five different stream classifications, including S2 streams (between 16.4 and 65.6 feet in width), S3 streams between 4.9 and 16.4 feet in width). While the management zone stays the same for each of these streams (65.6 feet), the reserve zone width declines from 164 feet (50 metres) for S1 (except large rivers) streams, to 98.4 feet (30 metres) for S2 streams to 65.6 feet (20 metres) for S3 streams. The Oregon data refers to Large type "F" (streams that "have fish use"). These streams require a 100 foot Resource Management Area (RMA) including no harvesting within 20 feet of the high water mark. Washington State data refer to "type 1" fish bearing streams. See Appendix B for greater detail. More detailed information on BMPs for each state, including the effects of federal and state legislation, can be found at usabmp.net.

limit the type of harvesting near streamside buffer strips, rather than forbid them, British Columbia is still most advanced of *all* the cases reviewed here.¹⁴ (These cases were chosen solely according to their softwood lumber harvesting levels).



Not only were British Columbia buffer strips the widest, but it was one of the few jurisdictions to have legally mandatory rules.¹⁵ Indeed, most of the states rules for harvesting come from voluntary “Best Management Practices”, which are designed by state agencies in order to circumvent direct federal regulation under the Clean Water

¹⁴ See Cashore and others (2001: chapter three) for a detailed account of the development of these riparian standards. The exception is rules on US National Forest Lands in the Pacific Northwest. In 1992 in advance of the ultimate spotted owl protection initiative, Chief Dale Robertson issued a directive that no harvesting take place within 300 feet of fish bearing streams.

¹⁵ According to Ellefson and others (1997: 196) only “10 states have comprehensive forest practices regulatory programs: Alaska, California, Connecticut, Idaho, Maine, Massachusetts, Nevada, New Mexico, Oregon, and Washington” (Ellefson, Cheng, and Moulton 1997). The British Columbia rules do represent a hybrid case of legally binding rules and guidelines. Rules governing fish bearing streams with an average width of less than an average channel width of 4.9 feet (1.5 metres) fall under “best practices” guidelines, rather than legal requirements. This makes BC’s approach to rules of such streams more like most of the United States rules covered here, which fall under US “best management” practices and are not legally binding. British Columbia environmental groups have criticized such a voluntary approach because they argue it leads to poor compliance rates (Sierra Legal Defence Fund 1997). Such a critique raises the need for a rigorous comparison of compliance and enforcement across the jurisdictions.

Act.¹⁶ Some BMP policies may be mandatory owing to other legislation, but for the most part they are voluntary in nature, and are overseen by agencies whose practice is not to regulate. For example, the Alabama Forestry Commission (1993) states explicitly that as the “lead agency for forestry in Alabama” it is “not an environmental regulatory or enforcement agency” (ibid: p. 1), but “[avoids] environmental problems through voluntary application of preventative techniques” (ibid).

C. Protected Areas Record

In 1987, the World Commission on Environment and Development (1987) (commonly referred to as the “Bruntland report”) issued a report recommending that 12 percent of the world’s land base be protected from commercial development, environmental groups and other parties have pressured governments to commit to protecting such an amount of land under their jurisdiction (Noss et al. 1998; World Wildlife Fund 1998). In recent years non-governmental organizations and the United Nations have attempted to classify protected areas, because many of these so called “protected areas” actually permitted industrial and economic activity.

Moreover, a recent WWF/Conservation Biology Institute Report (DellaSala et al. In Press) found that “[previous] efforts in Canada and the United States to report on progress in meeting protection goals have been hampered by a lack of standardized protected areas inventories”. In response, a new protected area data base (PAD) was developed by WWF/CBI. Using sophisticated GIS techniques, this report represents to

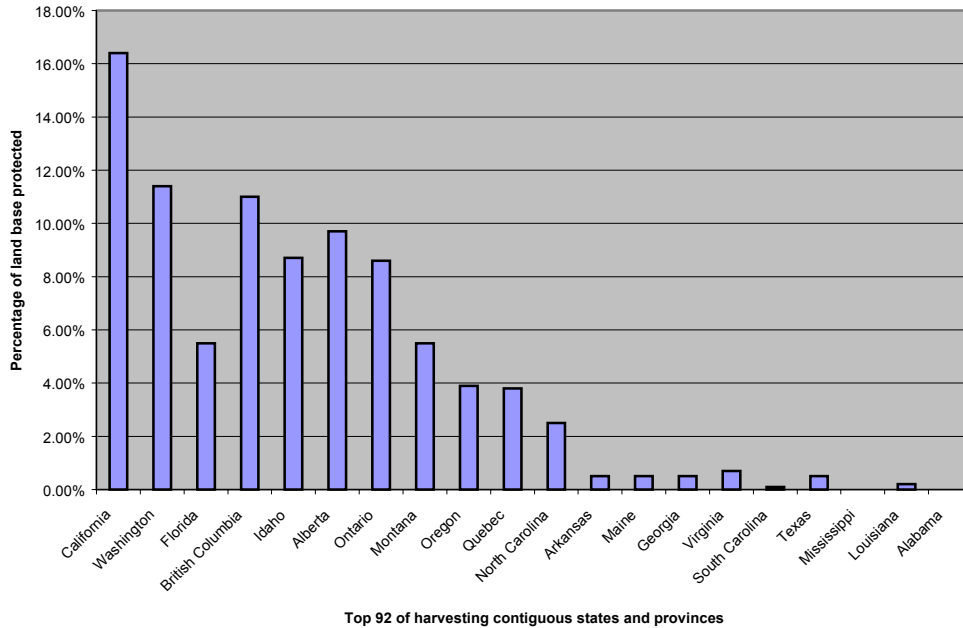
¹⁶ Best Management Practices guidelines have a fairly long history in the United States, going back first to the 1970s, with increasing guideline development after changes to the Federal Clean Water Act in 1987. They can cover a wide range of harvesting practices, though much of the content focuses on streamside issues, since the Clean Water Act permits state and land owners to avoid direct federal regulation if they develop BMPs. For greater detail see Aust, Shaffer and Burger, (1996). Existing evidence indicates that compliance is mixed depending on the particular guideline (Briggs, Cormier, and Kimball 1998). There are also difficulties in understanding what compliance actually means, as auditors are often not given uniform instructions in this regard.

date the most comprehensive GAP (Gap Analysis Project) analysis of existing levels of protection in the United States in Canada. DellaSala's data elaborates two categories of protection, those that do not allow any industrial economic development (GAP 1), and those where only limited economic development activities may occur (GAP 2).

Their findings are striking. In this section I compare those US softwood lumber harvesting states representing 93% of the US softwood lumber harvest (the 17 listed in Chart 5) and those Canadian softwood lumber-harvesting provinces representing approximately the same figure (the four provinces in Chart 5 harvested 87% of the provincial softwood lumber production). Stark contrasts between Canada and the United States exist, but it is not in the direction asserted by such organizations as the Coalition for Fair Lumber Imports (CFLI) or indeed, the impression left by many US media analyses.¹⁷ Canadian lumber producing provinces are, overall, much better and protecting a portion of their land base than are key lumber producing states. (Appendix A presents the DellaSala data for timber harvesting rates of these 17 states in comparison to all other 48 contiguous states).

¹⁷ See npr.org, "national forest" story on the morning edition, January 18, 2001.

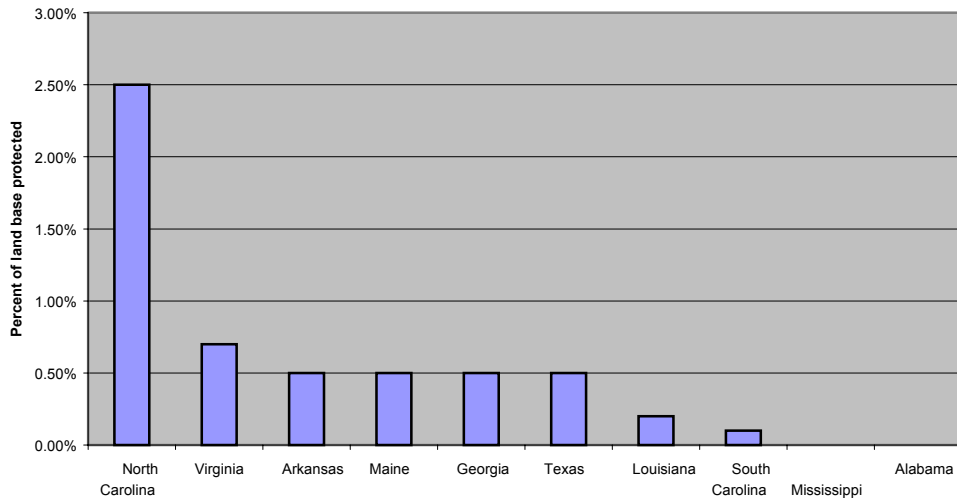
Chart 5: Gap 1 Protected Areas



Of the top 17 softwood lumber harvesting US states 9 have protected *less than 1 percent* of their land base (Chart 5) for “GAP 1” or first class protected areas (no Canadian provinces fell into this category). Of the top four lumber harvesting Canadian provinces representing about 9/10ths of the Canadian annual harvest, British Columbia *had the best record*,¹⁸ with an 11% first class rate, followed by Alberta with 9.7%, Ontario 8.6% and Quebec 3.8%. (See Appendix A for a list of all 48 contiguous states and provinces)

¹⁸ As of January 29, the BC government has placed 12.37% of its land in “parks and protected areas” See <http://www.env.gov.bc.ca/pac/foreverbc/>.

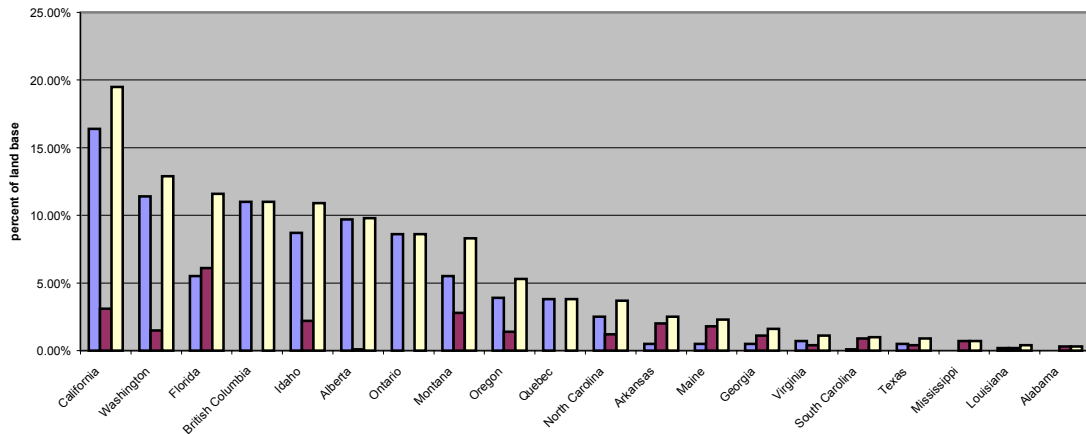
**Chart 6: Top 10 WORST Gap 1 protectors
(The lowest bar is the worst)**



Worst records of protection of top 90 % timber harvesting regions, contiguous states/provinces (No provinces made the top ten worst list)

The story is similar when one adds both types of protection (GAP 1 and 2) and makes the same comparison. Chart 7 reveals that British Columbia, Alberta, and Ontario are in the top seven. Even Canada's poorest record, that of Quebec's makes the top half. On the other hand the United State's top two lumber producing states, Alabama and Georgia, from where much of the Canadian environmental subsidy arguments comes, barely register.

Chart 7: Gap 1 and 2 protection, by top 90% timber harvesting states/provinces*

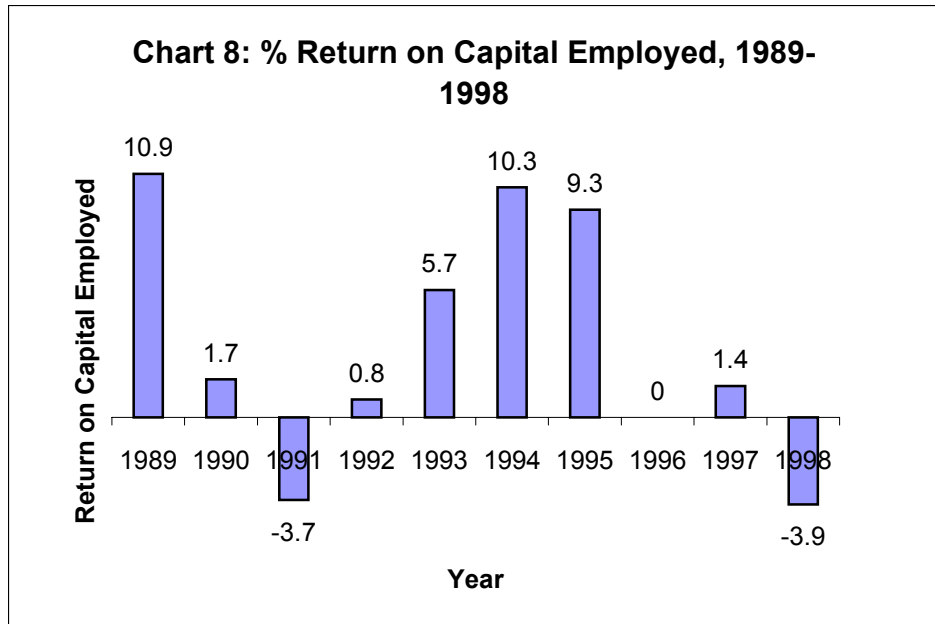


*Approximately. Figures vary slightly year to year

Environmental rules in perspective

Reviewing the clearcutting issue, riparian zone protection, and protected areas, reveal that forestry practices and environmental policies in British Columbia compare favorably to US jurisdictions. This paper has not addressed whether all jurisdictions need to improve, nor has it examined alternative forms of forest management such as community forestry or broad-based ecosystem management – all of which would have ramifications far beyond policy setting. Nor has it addressed important enforcement and implementation issues that are also important issues governing all forest policy jurisdictions. Rather, the report places British Columbia’s forest policy settings in comparative perspective, revealing a much different story than that asserted in media reports and by some US lumber interests. It also speaks to the need to think more holistically if one is to achieve sustainable forest management (SFM) that transcend a single region or country.

As referred to above, while most US forest policy jurisdictions are covered by voluntary “best management practices”, the British Columbia forest industry is governed by a host of legally binding initiatives that have contributed toward increasing costs to its forest industry (Price Waterhouse Coopers 2000). These costs are partly responsible for the decline in “return on capital employed” in recent years (Chart 8).¹⁹



In this vein, Clark Binkley lamented in his analysis of Weyerhaeuser’s purchase of MacMillan-Bloedel that:

For British Columbians, the only regrettable part of the merger story is that MacMillan Bloedel is the prey rather than the predator. This unfortunate circumstance is a *direct result of recent forest policy in B.C.*, premised on the idea that "the days of big profits are over," as a provincial minister once put it. With provincial policy focused on keeping profits low via costly regulations and *increased payments for Crown timber*, B.C.-based firms are unlikely to have the financial strength needed to lead the worldwide consolidation occurring in the forest industry. Indeed, the market is skeptical about the wisdom of investing in B.C. at all: Weyerhaeuser's market value fell by about \$500-million (US) on the announcement of the merger. “ (Binkley 1999)

¹⁹ This table appears in Chapter Seven of Cashore and others (2001).

Binkley's analysis stands in direct contrast to US CFLI claims on both stumpage and environmental regulatory policy. We now turn to an analysis of Canadian and US roles in international forestry issues, and reveal the leadership Canada has taken on global sustainable forestry issues.

IV. Sustainable Forestry Initiatives

Whereas the above sections examined specific quantitative settings, I review here a brief qualitative examination of sustainable forestry initiatives taking places in Canada.

A. Governmental initiatives

Canadian efforts on sustainable forestry can be divided between governmental and private sector initiatives. On the government side, for over a decade now, Canada has used its position as a forestry superpower to shape and develop an international sustainable forestry policy (Hocking 1996). Two key directions have been undertaken: ongoing leadership efforts to develop a global forest convention, and heavy involvement in the development of international criteria and indicators (Bernstein and Cashore Forthcoming). The United States, on the other hand, opposed a global forest convention at the Rio Earth Summit, a large reason why Canadian efforts to achieve international sustainable forestry rules were unsuccessful²⁰ and continues to oppose, through its UN participation, an international agreement on forestry. Indeed, the US has failed to ratify the convention on biological diversity or the Kyoto protocol (Gupta 2000).

Efforts to achieve a global forest convention stem from Canada's National Forest Strategy for 1998-2000 (Canadian Council of Forest Ministers 1998). After countries like

²⁰ Instead, a "Non-legally binding authoritative statement of principles for global consensus on the management, conservation and sustainable development of all types of forests," or "forest principles" (IDRC 1993) was agreed to.

the United States failed to support a global forest convention at Rio, Canada worked doubly hard through United Nations forestry forums to press its case. While the US continued to balk, Canada took a similar approach to increasing attention to environmental issues at the WTO (Hocking 1996).

Canada has had more success focusing on the issue of criteria and indicators (C&I) for sustainable development, and is a leader of the nations involved in the C&I “Montreal Process”. Moreover, Canada has used its National Forest Strategy as a vehicle for promoting its commitments both internationally and domestically. Canada’s strategy is to position itself as a leader in sustainable forest management (Canadian Council of Forest Ministers 1998: 3). Indeed, the 1998 report directly addresses the need to address “forest ecosystems”.

B. The Private Sector and Sustainable Forestry

It is at the level of private sector agreements that Canada in general, and British Columbia in particular, has been a global innovator on sustainable forestry. For example, Weyerhaeuser operations in British Columbia include a joint venture with First Nations using leading edge ecosystem management approaches (Canadian Press 2000). Likewise four leading forest companies in the province, including Weyerhaeuser, have worked with environmental groups to address issues of sustainable logging in old growth forests (Coady 2000; Hamilton 2000b).

In order to facilitate these market mechanisms, the BC government has created an advisory body on forest certification (British Columbia 2000), which is a method of recognizing sustainable forestry practices through market incentives (Cashore 2000). And

while most US firms are balking at one prescriptive and detailed certification program initiated by environmental groups and known as the Forest Stewardship Council, many BC companies are committing to become certified under this program. Indeed, the BC Forest Alliance, an association of forest companies created to address forestry and environmental issues, has been accepted as a *member* in the Forest Stewardship Council. Likewise the Canadian World Wildlife Fund and Tembec company have worked together to address forest protection and sustainable forestry certification on Tembec forest lands (World Wildlife Fund Canada 2001).

CONCLUSION

This report is an effort to compare specific policy settings in British Columbia that have generated so much controversy in this province. The comparison revealed a story is quite different from the one asserted by the US Coalition for Fair Lumber Imports and others critical of BC forestry practices. This paper is not a defence of current practices, especially because most of the scientific evidence reveals there is much more that scientists do not know about harvesting practices than they do know. What this paper does do is to separate out unsubstantiated assertions from what the rules actually are.

From clearcutting rules to streamside regulations to protected area initiatives, British Columbia stands out as having relatively strict rules in comparison to same policies governing harvesting in most jurisdictions in the United States. It also serves as a reminder that criticisms of any one case as being worse than another need to be accompanied by logical comparative analysis. The paper speaks to the need to conduct

future comparative research into other measures of environmental quality, including rigorous implementation and “effects on the ground” type research.

The paper also cautions against whether it is in the best interests of environmental groups to form a “bootleggers and Baptists” coalition of environmental groups and US CFLI critical of BC forest practices (Canadian Press 1994). Vogel (1992: 173) explained these motivations well when he wrote that:

To the extent that producers and employees who stand to suffer financially from liberalized trade find themselves on the defensive, they are apt to make greater use of health, safety, and environmental arguments to justify their case for trade restrictions. These economic arguments resonate with significant segments of the electorate in a way that economic defenses of protectionism no longer do

Indeed, environmental groups and the US CFLI are split on their support of BC raw log export restrictions (Western Canada Wilderness Committee 1994), but it is BC’s raw log export restrictions represent a core part of the CFLI’s subsidy allegations.²¹ These short term political strategies might do irreparable harm to long-term and important environmental goals championed by environmental groups. Indeed, this alliance does not appear to advance the long-term interests of environmental groups. As Saunders notes:

The [softwood lumber] dispute also suggests a possible downside to environmentalists forming common cause with industry groups pursuing normal self-interest. By playing the trade card in concert with such groups, there is a real danger that the environmental dimensions of the problem will be lost in the inevitable backlash against protectionism. If one of the longer-term objectives of environmental groups is to educate the public and develop broad support for an environmental ethos, it is not clear that alliances of temporary convenience will always prove useful"

²¹ The last time the US Department of Commerce ruled on allegations of subsidy, British Columbia’s raw log export restrictions were deemed to confer a 3.6 % subsidy, while stumpage prices were deemed to have conferred a 2.9% subsidy

Indeed, for strategic purposes it would seem to make sense for environmental groups to link with US consumers of Canadian lumber, such as Home Depot, Lowes, and Centex corporation, who have committed to purchasing timber from environmentally friendly sources (Carlton 2000; Hamilton 2000a; The Forestry Source 2000). It is these organizations that, in response to environmental group pressures, have already committed to purchasing sustainable forest products from sources certified by third parties as being “well managed”.

Finally, the lesson of this paper is that the North American forest sector needs more rigorous comparative analyses if it is to be shaped less by rhetoric, and more by broadly based approaches to achieving sustainable forest management. In this regard, Canada and the United States would do well to develop a bi-national North American Forestry Commission, which could become a center for bi-national collaborative research among industry, environmental groups, governments and other parties interested in developing the forest resource in a way that better addresses ecological functions of the forest, and the social and economic impacts of doing so.

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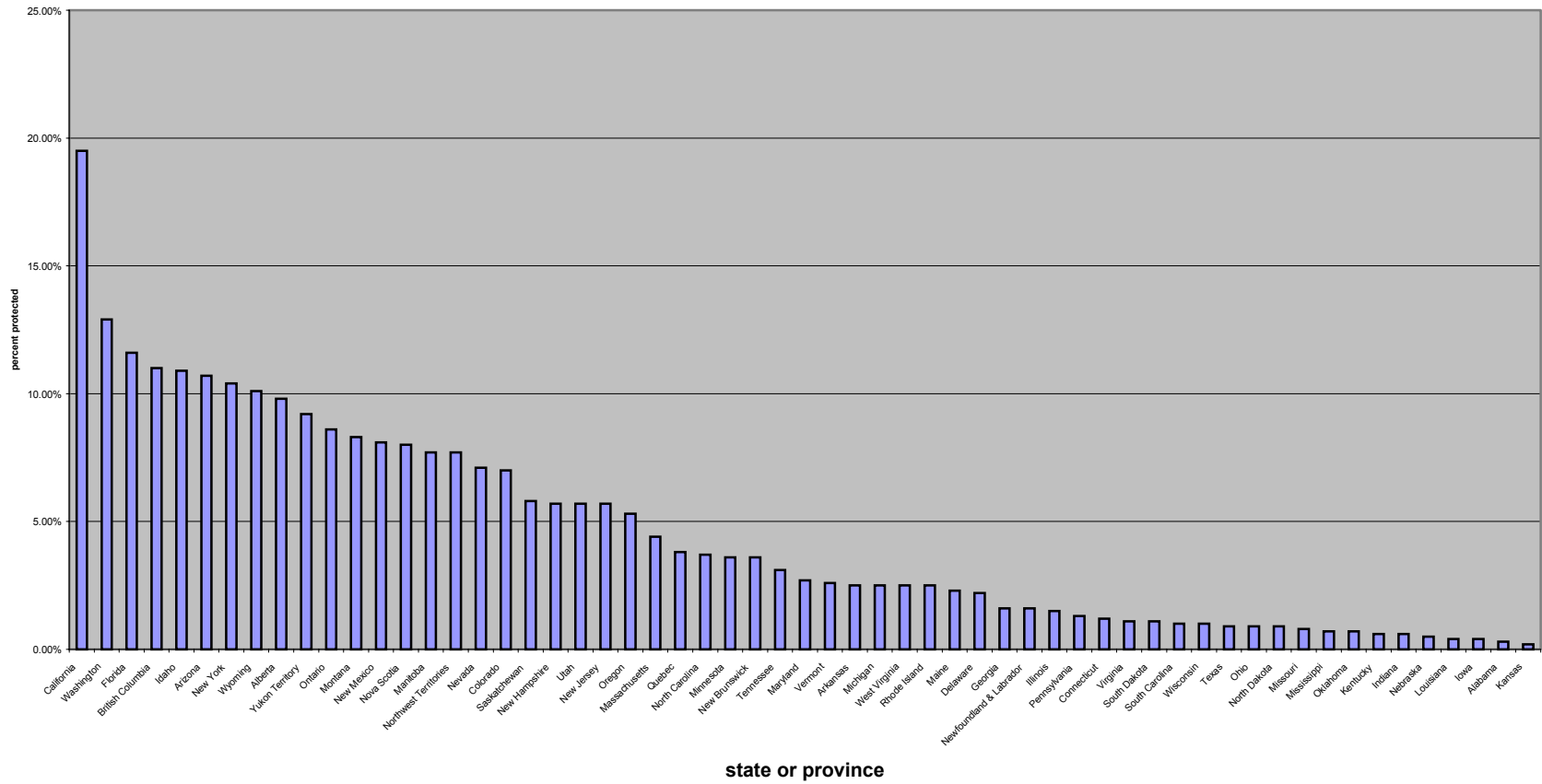
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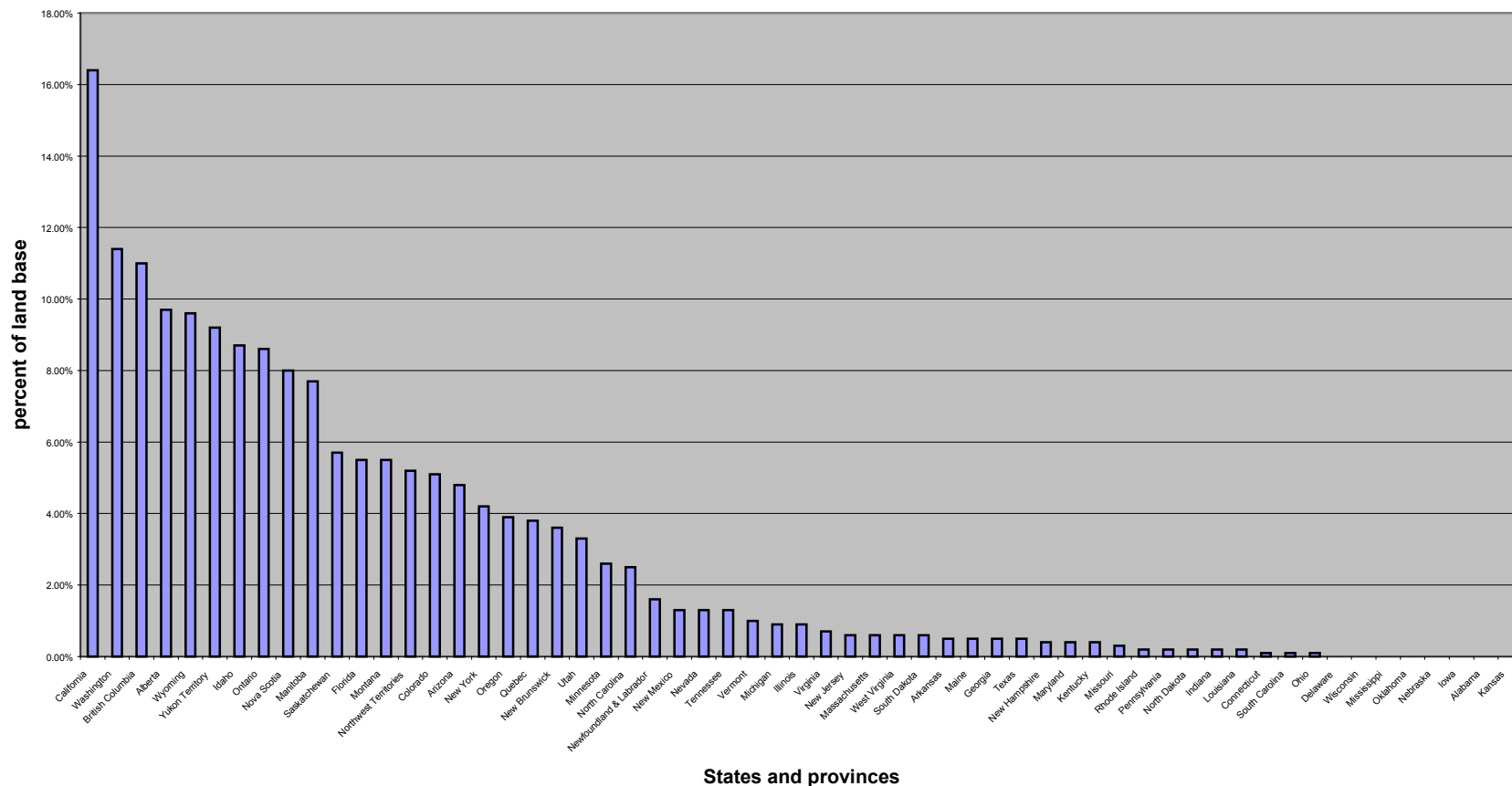
Appendix A

All Provinces and states Gap 1 and 2



Source: DellaSala, Dominick A., Nancy L. Staus, James R. Stritholt, Arlin Hackman, and Antonio Iacobelli, "An Updated Protected Areas Database For The United States And Canada," *Natural Areas Journal* (In Press).

All provinces and states Gap 1



Source: DellaSala, Dominick A., Nancy L. Staus, James R. Strittholt, Arlin Hackman, and Antonio Iacobelli, "An Updated Protected Areas Database For The United States And Canada," *Natural Areas Journal* (In Press).

Appendix B: Further Sources on Riparian Management Rules

Riparian Management rules in Washington and Oregon have become increasingly complex following efforts to address declining Salmon species. Washington has three classes of streams all subject to Riparian Management Zones, with are further divided into “core” (no harvesting), “inner” (strictly regulated harvesting) and “outer” (must leave trees per acre) zones with differing rules for each zone. Indeed, the complexity of these rules has led the American Fisheries Society (2000) to criticize them for being “exceedingly complicated” Oregon rules are not quite as complex, but still wide ranging and vary according to streamsid es and region of harvest. Additional rules govern harvesting on state owned lands.

Oregon State Administrative Rules for the Department of Forestry Regarding Riparian Zones as of September 15, 2000 comprise the following categories :

Large Type F Streams- 100 ft.	Medium Type F –70 ft.	Small Type N- 70 ft.
Large Type D Streams- 70 ft.	Medium Type D-50 ft.	Small Type D-20 ft
Large Type N Stream- 70 ft.	Medium Type N- 50 ft.	Small Type N-apply specify water quality

For further information on Oregon’s rules, see (Blinn et al. 2000; National Marine Fisheries Service 2000; Oregon Department of Forestry 2000a; Oregon Department of Forestry 2000b; Oregon Department of Forestry 2000c; Oregon State Government 2000a; Oregon State Government 2000b; Oregon.Executive Order 1999; The Independent Multidisciplinary Science Team 1999).

For further information on Washington’s riparian rules see, (American Fisheries Society and the Society for Ecological Restoration 2000; Blinn et al. 2000; Pollack 1999; Washington 2000; Washington Environmental Council and Society 1998; Washington Forest Protection Association 1999) ; and <http://www.wa.gov/dnr/htdocs/fp/fpb/forests&fish.html#SCHEDN-2>


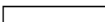
Examples of streamside classes in Western Washington are:

<u>Site Class</u>	<u>Western Washington Total RMZ Width</u>
I	<u>200'</u>
II	<u>170'</u>
III	<u>140'</u>
IV	<u>110'</u>
V	<u>90'</u>

See also <http://www.wa.gov/dnr/htdocs/fp/fpb/rules.html>

British Columbia riparian rules have similar classifications: See (British Columbia 2000; British Columbia. Ministry of Forests. Ministry of Environment 1995; Cashore et al. 2001)

Riparian class	Average channel width (m)	Reserve zone width (m)	Management zone width (m)	Total RMA width (m)
S1 large rivers	≥100	0	100	100
S1 (except large rivers)	>20	50	20	70
S2	>5≤20	30	20	50
S3	1.5≤5	20	20	40
S4	<1.5	0	30	30
S5	>3	0	30	30
S6	≤3	0	20	20

-  Fish stream or community watershed
-  Not fish stream and not in community watershed

NOTE: Rules governing S4 streams fall under voluntary guidelines

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