

## Chapter 3:

# US Pacific Northwest

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### Introduction

Most of the significant and controversial forest policy changes in the Pacific Northwest (PNW) since the 1960s have been in response to societal concerns about the environment. However, the manner in which policy, laws, institutions and organized interests have responded has been a tale of two journeys: federal forestland management has gone in a highly regulated, litigious direction, while the path followed by the states of Washington and Oregon was a more flexible and (comparatively) non-litigious path.

These different journeys are largely the result of two factors: each jurisdiction's legislative responses to the "first wave" of environmentalism in the 1960s; and the fact that federal forests are publicly owned, while state regulations concern mostly privately owned forestland. The private/public dichotomy is important, as many argue (Rowland, 1994; Citizen Forester, 1992b; Robertson, 1990) that the effects of increased federal forestlands environmental protection on the PNW forest economy and environment will be minimized, or even offset, owing to less strict regulations on private forestlands.

### The Forest Economy

Forestland accounts for about half of the total land base in the PNW. It is physically divided by the Cascades mountain range, with faster growing temperate rainforest to the West, and includes slower growing species to the drier East. The main species of tree harvested in the West is the Douglas-fir (*Pseudotsuga menziesii*), followed by western hemlock (*Tsuga heterophylla*) and Sitka spruce (*Picea sitchensis*). These trees are found in a biologically diverse

ecosystem, home to a wide array of flora and fauna. In the East, the ponderosa pine (*Pinus ponderosa*) is the main species, but true fir (*Abies*), larch (*Larix occidentalis*), and lodgepole pine (*Pinus contorta*) are also harvested (Kellogg, 1996). Harvesting does not occur near the top of the Cascade range or in the eastern "high desert" areas.

A fairly even split exists between privately owned and federal publicly-owned forestland in the US Pacific Northwest. Federal ownership would have been insignificant were it not for the decision of the Congress and White House to create a system of government-owned National Forests at the end of the 19th century and the beginning of the 20th century (Gregg, 1989; Steen, 1976, 1992a, 1992b), whose original purpose was to maintain a healthy supply of timber for future generations. In Washington, the federal government owns about 45% of the forestland (excluding 6% tribal lands) and in Oregon, it owns 58% (Figs. 3.1a and b). State governments own 10% and 3% of forestlands in Washington and Oregon, respectively. A large portion of federal land is permanently set aside for national parks and wilderness areas, so that the US government's share of commercial forestland is considerably less: 31% in Washington and 51% in Oregon (Waddell, Oswald and Powell, 1989). Federal lands produce an even smaller share of timber cut, largely as a result of being located in more remote and higher elevation areas. For example, aggregate data from the 1980s reveal that federal forestlands in Washington contributed about 19% of the gross volume cut; while in Oregon they accounted for a great deal more (52% of gross volume), but still less than its share of federal forestlands (Sierra Club and Lawler, 1993). The share of the federal forest cut has been declining further in the late 1980s and early 1990s, following US court orders to reduce timber sales in order to protect endangered species. As a result, federal policies governing forest harvesting practices have applied to an increasingly smaller share of the annual timber harvest in Oregon and Washington (Figs. 3.2a and b). As a result, lumber production has also fallen dramatically (Fig. 3.3).

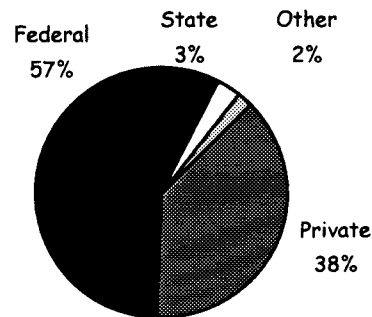


Figure 3.1a. Forestland ownership, Oregon (source: Warren, 1996).

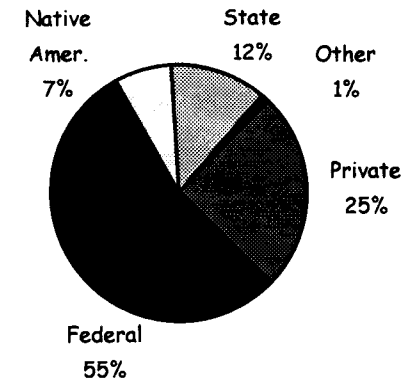


Figure 3.1b. Forestland ownership, Washington (source: Warren, 1996).

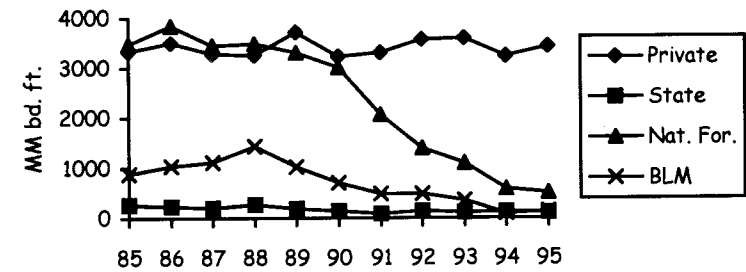


Fig. 3.2a. Oregon timber harvest by ownership, 1985-95 (source: Warren, 1996). Nat. For. = National Forest; BLM = Bureau of Land Management (Federal); Bureau of Indian Affairs and other public lands not included (small volumes). MM bd. Ft. = million board feet.

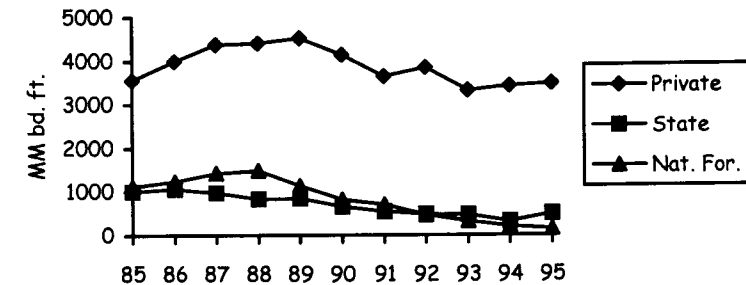


Fig. 3.2b. Washington timber harvest by ownership, 1985-95 (source: Warren, 1996). Nat. For. = National Forest; Bureau of Land Management, Bureau of Indian Affairs and other public lands not included (small volumes).

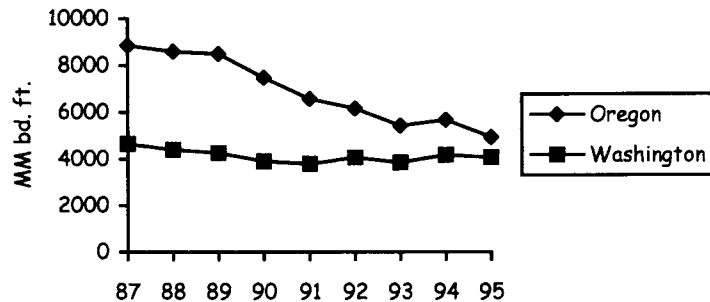


Fig. 3.3. Lumber production—Oregon and Washington, 1987–1995 (source: Western Wood Products Association, 1995).

Various agencies manage these different categories of forestland. At the federal level and within Washington boundaries, the US Forest Service (Department of Agriculture) manages the bulk of federal commercial forestland (about 2 million ha), but the National Park Service (Department of the Interior) manages 781,000 ha of protected areas in this state, and an additional 78,000 ha in Oregon. Native American lands are also important in Washington, where they comprise 6% of the forestland ownership. Federal land management agencies operating in Oregon also include the Bureau of Land Management (Department of the Interior) which oversees 18% of Oregon's federal commercial forestland base. The remaining federal land base in Oregon is managed by the US Forest Service (Waddell, Oswald and Powell, 1989).

Private land in Oregon is managed by the Department of Forestry and its rule-making body, the Board of Forestry. Similarly, in Washington, the key agencies are the Department of Natural Resources' Division of Forestry, and the Forest Practices Board. The DNR's Division of Land Management manages state land in Washington.

### Structure of the Industry

The forest industry is divided into wood products and pulp and paper production. There are a few large, vertically integrated forest companies that own large chunks of forestland. The large companies include industry giants such as Weyerhaeuser, Georgia-Pacific (GP), Champion Corporation, and Louisiana-Pacific. Weyerhaeuser and GP are the largest in terms of sales and employees. In 1995 GP had \$12.7 billion in sales and 47,000 employees, mostly located in PNW and US South (Dunn and Bradstreet, 1996). In the same year, Weyerhaeuser had sales of \$10.4 billion in sales and 36,665 employees. Despite owning a significant amount of its own forestland, Weyerhaeuser, like Champion and

Louisiana-Pacific, relies on federal forestlands for part of its timber supply, and is the Forest Service's largest single purchaser. At the same time, the forest industry is home to a number of small establishments—most of them non-land-owning sawmill and other wood product companies.<sup>2</sup> Ascertaining how many forest product companies exist in Oregon and Washington is difficult, since data are kept by number of establishments, rather than by corporate ownership. The 1992 Census of Manufacturers reports that Oregon had 2,088 establishments under the category "lumber and wood products", with the vast majority being logging operations and only 60 under the "paper and allied products" category. Washington was more diversified (Keegan, 1992) with 1,837 wood product establishments (1037 of these were logging) and 112 pulp and paper facilities.

Despite the importance of the forest industry in the PNW, it has been declining in recent years. For example, the number of jobs in the lumber and wood products sector in 1995 fell to 89,700, two-thirds of the 1979 level (Fig. 3.4). Lumber production for 1995 was also two-thirds of the 1987 figure. This trend was due to environmental restrictions that dramatically reduced the timber harvest permitted on National Forest and BLM forestlands. Over 4 billion board feet of timber (scribner scale) were harvested on National Forest and BLM lands in Oregon in 1985, but only 654 million board feet in 1995 (see Fig. 3.3a). Similarly, Washington's National Forest and BLM harvests produced well over one million board feet in 1985, but only 150 million board feet in 1995.

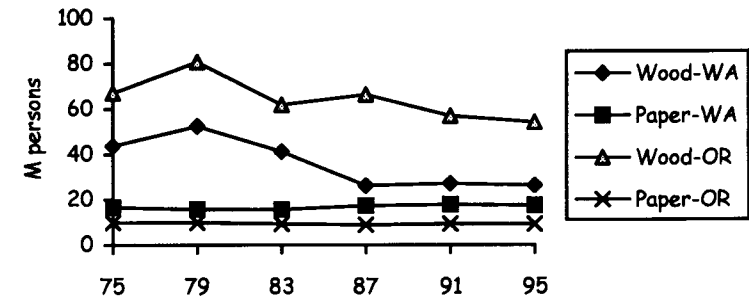


Fig. 3.4. Employment in forest products industries in Washington and Oregon: selected years (source: Warren, 1996). M = thousands; Wood = lumber and wood products; Paper = paper and allied products.

Figure 3.4 outlines employment differences in these sectors for each state. Since 1975 Oregon has consistently ranked above Washington in terms of the number of lumber and wood product jobs, but Washington has always ranked above Oregon in terms of paper and allied product employment. Nonetheless, lumber and wood products industries dominate in both Washington and Oregon and together produce much of the US timber supply. Oregon and Washington comprise 4.6% of the United States land base and 3% of its population. In the

1980s they produced an average of 25% of the nation's lumber (Reinhardt, 1991).

Due to its greater historical reliance on federal forests for timber, Oregon's overall timber harvest was affected more than that of Washington. While Washington's total harvest fell from 5,963 million board feet in 1985 to 4,392 in 1995, Oregon's harvest tumbled from 8,127 million board feet in 1985 to 4,307 in 1995—nearly a 50% reduction in a single decade. The plunge in federal timber harvests is reflected in the reduction in lumber production (Fig. 3.3). From 1992 to 1994, National Forest share of sawmill's fibre supply went from 31% to 16% in Washington and from 48% to 25% in Oregon.

Another important phenomenon occurring in the PNW and throughout much of the global forest industry has been corporate takeovers (Wood Technology Journal, 1995). This has caused problems for companies such as Weyerhaeuser, which takes proactive environmental stewardship measures (Taylor, 1991). A large part of this increasing globalization is attributed to recent environmental regulations and decline of timber supply, causing companies to look elsewhere for longer timber supply (Berman, 1996; Wood Technology Journal, 1995; Flynn, 1994; Lippke, 1991; Perez-Garcia and Moffett, 1991).

Overall, at the state level, the forest industry remains an important role in economic growth, jobs and tax revenue. Direct employment was 67,000 in Oregon and 54,000 in Washington in 1994. Of this amount, Oregon's employment was much more heavily weighted toward lumber and wood products than Washington's (Table 3.1). The forest economy is much more significant to these two states than to the US national economy. Decisions taken by the US Congress, agencies and the courts that may reduce the forest economies in the Pacific Northwest, will not have the same direct impact on the national economy as they do on the PNW forest economy.

**Table 3.1.** Relative importance (M persons) of each jurisdiction's forest industry, direct employment, 1994.

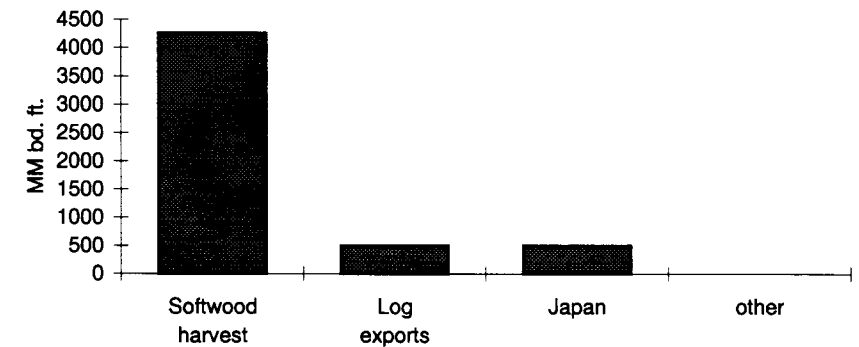
State	Lumber & Wood Products	Pulp, Allied & Paper	Total Forest Industry	Total Jobs	% of Jobs
Oregon	54.5	9.1	63.6	1,364	4.66
Washington	36.7	17.2	53.9	2,304	2.33

Source: Warren (1996).

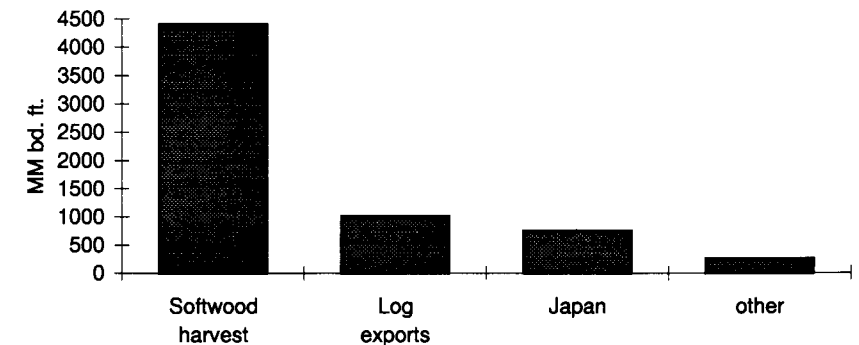
### Exports

The importance of forest product exports to the PNW varies depending on the nature of the product. Almost 80% of Washington State's softwood lumber production is destined for the domestic market, while almost 90% of Oregon's softwood lumber stays within the United States (Western Wood Products Association, 1995). However, log exports are an important component of the Pacific Northwest forest economy, with 23% of the harvest being exported as raw

logs in Washington, and 14% in Oregon (Figs 3.5a and b). The majority of softwood and raw log exports from these regions is destined for the Japanese market. Owing to much higher international market prices and the existing restrictions on raw log exports from public lands, log exports usually represent a higher value-added than any primary or secondary value-added of timber that is restricted to the US market.



**Fig. 3.5a.** Oregon harvest and log exports, 1995 (source: Western Wood Products Association, 1995).



**Fig. 3.5b.** Washington harvest and log exports, 1995 (source: Western Wood Products Association, 1995).

### Rent Charges, Taxation and Export Restrictions

Resource rent charges, taxation and export policies have important implications for the regional forest economy and deserve a brief review. Timber charges tend to be market driven. A "competitive bidding" is used for the rights to harvest federal forests. Most non-company owned private forestland is sold in a similar manner. This market-driven system stands in contrast to government set stumpage rate policy in Canadian provinces, the major source of US forest product imports. These differences have led to a decade and a half-long Canada-

US softwood lumber dispute, with many US forest companies arguing that Canadian provincial governments unfairly subsidize their Canadian competitors through below-market rates to harvest government-owned timber (Cashore, 1997a). The United States system has also been criticized for subsidizing US forest companies through "below cost" timber sales (Mattey, 1990; O'Toole, 1988) though the USFS Pacific Northwest forest region historically has tended to recover its costs (Gorte, 1994).

Taxation policy also has important implications. For example, the US Forest Service (USFS) and the BLM must, by law, pay counties up to 50% of the revenues from selling timber in lieu of property taxes (Barber, Johnson and Hafild, 1994). Similarly, revenues from Washington State "forest trust" lands are earmarked for state education costs. This means that any eco-forest policy outputs that attempt to reduce forest harvesting on these lands conflict with those policies aimed at increasing funding for schools, hospitals and other community development programs.

Taxation policy also affects support for export restrictions on raw logs. Since 1974, the federal government has banned the export of raw logs on western federal forestlands (except Alaska) through the use of riders on annual appropriations bills (Reinhardt, 1991; Gorte and Thomas, 1993). This ban was made permanent in 1990 with the passage of the *Forest Resources Conservation and Shortage Relief Act*. This Act also banned the export of raw logs from state and local government lands, except for those with annual timber sales exceeding 400 million board feet (Gorte and Thomas, 1993). The result was that Oregon could not export from state-owned lands, but Washington State—with a much more significant share—was able to continue this practice. The result is that, *ceteris paribus*, the highest prices for raw logs are paid for those harvested on privately owned land that are not covered by export restrictions, since competition from Japanese and other interests drives up the price. Consequently, those environmental groups, small sawmill owners that possess no forestland, and others that wish to maintain processing jobs in the domestic market, push for log export restrictions. Conversely, those counties and educational organizations that benefit from achieving the highest possible price on the timber face have an incentive to be opposed to raw log export restrictions. Opposition to log export restrictions for educational beneficiaries is not always automatic, however, because such support might entail retribution from other funding sources.

### Institutional Setting: the Statutory Regimes

Legislative developments in the US Congress, Oregon and Washington State in the early 1960s to mid-1970s, resulted in quite distinct "statutory regimes" affecting the Pacific Northwest. The federal regime includes non-discretionary (mandatory) requirements on agency officials while Oregon and Washington states' regimes leave considerable discretion in the application of these laws to

bureaucratic officials. The federal regime is a diverse one. It includes the non-discretionary procedural *National Environmental Policy Act*, the non-discretionary substantive *Endangered Species Act* and the comprehensive, eclectic *National Forest Management Act* that contains both discretionary and non-discretionary measures. These and other statutes have created a "complex web" of planning and substantive requirements, explicitly granting organized interests the right to sue government agencies for non-compliance.

Both Oregon and Washington ushered in forest practices legislation in the early 1970s. These forest Acts were aimed at facilitating forest extraction, creating forest practices boards that at first were dominated by industry interests, with the Acts and the rules explicitly worded to avoid litigation by organized interests. For the most part, these statutory regimes have reduced the ability of state legislatures and administrative agencies to initiate changes independently of the boards. Washington is different from Oregon in that court rulings regarding tribal fishing rights and a state Environmental Policy Act give it a degree of legalism. These state-level statutes are therefore important for directing and mediating conflict over forest harvesting requirements. Environmental regulations have been enacted and continue to be developed under this statutory regime, but change has been much more limited and gradual than federal lands regulations.

### The United States Eco-forest Statutory Regime

The first statutory response by the US Congress to environmental pressures was the 1960 *Multiple Use Sustained Yield Act*. This Act directed the USFS to manage National Forests for multiple values including "outdoor recreation, range, timber, watershed, and wildlife and fish" and gave statutory recognition to the principle of integrated resource management. Yet it was highly discretionary, with few substantive provisions about just how to balance these different values. At the same time as the Forest Service was being pressured to develop a multiple use mandate, wilderness groups were promoting national legislation to require the National Park Service, BLM, the Forest Service and the Fish and Wildlife Service to designate a certain proportion of their lands as wilderness, limiting economic development and promoting ecosystem values (Hamilton, 1994; Wondolleck, 1988; McCloskey, 1966). This effort resulted in the US Congress passing the *Wilderness Act* of 1964, which designated certain federal lands as wilderness areas and created a process for future designations. This Act severely limited US federal land use agency discretion for lands designated as wilderness, cutting off most forms of economic development and timber extraction. The legislation was also significant for focusing attention on sheltering forestland from timber harvesting, thus reducing potential timber supplies. It also directed environmental groups' efforts toward land use considerations rather than sustainable forestry practices. The *Wilderness Act* was followed by the *Wild and Scenic Rivers Act* (1968), which was less prescriptive in nature, allowing land use

agencies discretion in its administration.

The end of the 1960s and early 1970s saw the passage of three key "umbrella" statutes that would fundamentally alter forest policy and state/societal relations. These were the 1969 *National Environmental Policy Act* (NEPA), the 1972 *Clean Water Act* (CWA) and the 1973 *Endangered Species Act* (ESA). They contained explicit provisions allowing for organized interests and citizens to sue agencies for non-compliance with their non-discretionary provisions. Environmental groups were also given statutory authority to sue private companies that were in non-compliance (Vogel, 1993). These statutes were introduced during a time when both the Democratic and Republican parties were vying for an increasingly strong "environmental" vote. In the end, NEPA and ESA were passed by a Democratic Congress and Republican President, while the CWA was passed by a Democratic Congress over Republican President Richard Nixon's veto.

The NEPA is a procedural statute that requires that all federal agency planning to contain interdisciplinary Environmental Impact Statements (EIS) and that the agency solicit "comments from those persons or organizations who may be interested or affected" (Section 1503.1.a.4). This legislation is important not for the substantive content regulating forest practices, but for requiring in law that agencies *must* consult with the public and organized interests when developing its draft and final EIS. Each EIS must be accompanied by a Record of Decision outlining the proposed alternative and choice of action taken. Although there is no provision that agencies reflect these interests, this Act provides an important legal tool to organized environmental groups in their efforts to become full members in US forest policy decision making.

The second "environmental protection" legislation relevant to eco-forest policy was the CWA. The Act contained regulations restricting emissions on sources of pollution and required states to follow these regulations or to set their own if they were equal to or more restrictive than the federal standards. The Act also requires all federal agencies to adhere to state guidelines, giving state legislatures and regulatory agencies the ability to limit federal agency discretion.

Finally, the ESA provides a significant tool for environmental groups to use, or threaten to use litigation. It is a non-discretionary piece of legislation with clear direction not only in the regulations, but the statute itself. Administered by the US Fish and Wildlife Service (USFWS) or the National Marine Fisheries Services (NMFS), the ESA *requires* that these agencies list threatened and endangered species and their "critical habitat" and then ensure that a plan is developed that will result in species recovery. The determination of threatened or endangered must be based "solely on the best scientific and commercial data available" (section 4(b)(1)(A)) with explicit direction that the economic effects of such a decision should not be given consideration. The important caveat to this review is that the ESA provides for the establishment of an "Endangered Species Committee", or "God Squad" (Davis, 1992). This committee has the authority to decide that the "economic and social benefits of the proposed action outweigh

costs to the listed species" and can therefore exempt a particular action from the requirements of the ESA (Smith, Moote, and Schwalbe, 1993, p.1039). This committee can only be established when no "feasible alternatives" exist and where there is "considerable" economic or social importance (p.1038).

Congress directly addressed forest management in 1974, with the passage of the national planning-oriented *Forest and Rangeland Renewable Resources Planning Act* (RPA). The RPA detailed the process by which the Forest Service would comply with NEPA, requiring the Forest Service to provide an assessment, including an inventory of all private and public resources, every 10 years; and to offer a program proposing resource goals every 5 years. This legislation directed and increased the Forest Service's statutory responsibilities, but unlike the environmental protection legislation outlined above, the Forest Service still maintained *discretion* as to how the directives would be carried out.

Following the 1975 court ruling against clearcutting in the Monongahela National Forest, Congress passed the *National Forest Management Act* (NFMA) in 1976 which directed the Forest Service to develop National Forest Land and Resource Management Plans (LRMPs) integrating all multiple uses for each national forest. The NFMA requires that these plans be prepared by an "interdisciplinary team of specialists in forestry, wildlife, recreation, social sciences, and other relevant disciplines", challenging the traditional educational background of many Forest Service employees. This legislation also requires LRMPs to provide for "outdoor recreation (including wilderness), range, timber, watershed, wildlife and fish" (Section 1604(g)(3)(B)).

The NFMA also directs the Secretary of Agriculture to promulgate regulations for LRMPs that "provide for diversity of plant and animal communities". The resulting regulations require that LRMPs maintain "viable populations of existing native and desired non-native vertebrate species", "where appropriate" and "to the degree practicable." In addition to these umbrella protection requirements, the NFMA also contains numerous substantive forest practices provisions that limit clearcutting and harvesting near water. However, unlike the broad environment protection legislation of the early 1970s and despite its detailed forest practices requirements, much of the NFMA still provides for agency discretion and interpretation. The same year that the NFMA was passed to govern the Forest Service, Congress finally turned its attention to the Bureau of Land Management, when it passed the *Federal Land Policy and Management Act* (FLPMA). The FLPMA was similar in many ways to the NFMA, but contained less substantive forest practice direction and no provisions to maintain "viable populations" of desired species.

In sum, from 1960 through 1976, the US Congress addressed environmental and non-timber values concerning its national forests through a series of legislative measures—starting with discretionary and procedural legislation, building with broad non-discretionary umbrella environmental protection legislation, and ending with detailed legislation directing management of forestlands. Taken as a whole, these laws create a cumbersome statutory regime

that includes non-discretionary substantive requirements within the legislation itself. The non-discretionary aspects have allowed environmental groups to pursue litigation. At the same time, critics of the US statutory regime have argued that it is "a crazy quilt of apparently mutually incompatible statutory directives"<sup>3</sup> that has led agency officials to concentrate on "bomb-proofing" proposed forest plans, instead of focusing on long-range strategic planning (US Congress, Office of Technology Assessment, 1992).

### The Oregon Statutory Regime

The key piece of forestry legislation governing Oregon is its 1971 *Forest Practices Act*. The precise timing of the 1971 Act can be traced to the US Congress's deliberations and eventual enactment of the *Clean Water Act* of 1972. The federal *Clean Water Act* worried the Oregon forest industry about possible unwelcome federal and/or state regulation of forest practices on private lands. The industry feared that a non-forestry agency might end up with regulatory responsibility over forest practice regulations, with uncertain and unpredictable consequences for industrial landowners. In addition, there was a widely held belief among forest industry officials that state regulation of private forest practices would be much less severe than federal regulation.

This Act would also consolidate decision-making authority to the Board of Forestry, the State Forester and the Department of Forests. Although Oregon created the Department of Environmental Quality in 1969, a Department of Fish and Wildlife in 1975 and a Department of Land Conservation in 1973, these agencies were excluded from participating in administering and enforcing the 1971 *Forest Practices Act*. Over the next 20 years, the statutory regime allowed the Oregon Forest Industries Council successfully to fend off, for the most part, efforts to have the Board of Forestry and the Department of Forests share their authority with non-timber extraction oriented agencies.

The membership of the Forest Practices Board was at first dominated by industry, which led Anderson (1977, p.41) to note that "that the timber industry, is, in effect, allowed to regulate itself". Changes were made to the structure of the Board in 1987 that reduced the membership to seven, and stated that no more than three members were allowed to "have a substantial interest in forestry" (Ellefson, Cheng and Moulton, 1995, p. 175). Critics argue that with no environmental group representative, the Board continues to be heavily weighted toward industry interests. Procedurally, the Act makes compliance relatively easy, since it simply requires that notification be given to the Department of Forests that forest practices (logging, or actions preparing for logging) are planned, rather than requiring state officials to issue a permit (Cubbage, O'Laughlin and Bullock, 1993). In some cases notification itself is not even required. Many of the regulations employed non-mandatory language such as "should" instead of "must." According to the OFIC, the 1971 Act was based on "strong compliance, not litigation." An appeals process was created, but its

purpose was to allow forestland owners to appeal against any fines imposed by the State Forester to the Forest Practices Board.

In sum, the Oregon *Forest Practices Act* (1971) extended regulating private forest practices beyond reforestation matters, and directed the Board of Forestry to create standards over a comprehensive array of forest practices. However, this legislation and accompanying rules created little opportunity for environmental groups to pursue litigation.

### The Washington State Statutory Regime

A significant catalyst to the Washington State 1974 *Forest Practices Act* was the forest industry's desire to limit the effects of the federal *Clean Water Act*. In addition, the forest industry also wanted to avoid or limit review of its forest practices under the new *State Environmental Policy Act* (SEPA) of 1971, which created the Department of Ecology and "an environmental impact review process for agencies which regulate industrial activities" (Pinkerton, 1992, p.333).

The *Forest Practices Act* itself has a pro-extraction focus, with the preamble stating that "a viable forest products industry is of prime importance to the state's economy" and that "coincident with maintenance of a viable forest products industry, it is important to afford protection to forest soils, fisheries, wildlife, water quantity and quality, air quality, recreation and scenic beauty" (Title 76 RCW: Forests and Forest Products 76.09.010 (1)). The Act is similar to Oregon's Act in that it contains few substantive regulations.

The Act also established a Forest Practices Board to create rules and delegates most management authority to the Department of Natural Resources' Division of Forestry. Membership on the Board includes representatives of different state agencies (including the Departments of Ecology; Agriculture; and Commerce, Trade and Economic Development), industry, small private land owners and the general public. While forest practices rules apply both to private and state-owned land, the Board of Natural Resources (BNR) has responsibility for land use management on state-owned land and thus has the ability to impose additional regulations on these forestlands.

Washington's Act relies on a notification process for practices that have no "direct impact for damaging a public resource", and a permit process for those practices that "have the potential for substantial impact on the environment" (Cubbage and Ellefson, 1980, p.466). In contrast to Oregon, the Washington Department of Ecology may conduct inspections for water quality and local governments have the power to require environmental impact statements and additional forest practices. (As of 1980 landowners can appeal against enforcement to a Forest Practices Appeal Board.)

Forest practices have also been influenced in 1981 by the *Wildlife Code* and its creation of a Fish and Wildlife Commission. The Code created a Commission that oversaw the Director and Department of Wildlife. Since 1987, the Commission has had the power to designate threatened or endangered species

(Haddock, 1995, p.43).

Overall the Washington State statutory regime is similar to Oregon's in that the substantive provisions of its *Forest Practices Act* are contained in the regulations, and there is little room for court enforcement. Differences between the two states include: the existence of Washington's SEPA that applies to some forest practices, the Washington State Department of Ecology's enforcement of certain forest practices, and the existence of an Endangered Species Commission in Washington State.

Reflecting on these differences, Cabbage and Ellefson (1980, p. 432) found Washington's *Forest Practices Act* slightly stronger than Oregon's:

The aggressiveness of the Oregon law may be weakened by the dominance of timber interests on the State Forestry Board, the timber production orientation of the Department of Forestry, and the strong timber interests in the state...Oregon...operates on a notification system which is less strict than a permit system. These factors combine to make their laws less stringent than the Washington law.... Washington [has] the same wide scope of authority and sanctions available as in the Oregon...[law]. In addition, ...Washington requires notification for less significant forest practices and application and approval for more significant forest activities.... The enforcing agencies are rigorous in review and approval of plans and in inspections. Strong environmental group and other state agency input into the rule making process also increases the degree of regulation.

## Stakeholders

PNW forest industry organizations mirror federal and state jurisdictional divisions. At the federal level, the American Forest and Paper Association (AFPA) is the largest forest industry association in the United States, and includes most PNW forest companies. The AFPA was formed to give "the nation's forest and paper industries a stronger, more effective voice to address major business and public policy issues" (American Forest and Paper Association, 1993, p.1). The Northwest Forestry Association (NFA) is the regional association representing those companies with interests on PNW federal lands. Both the AFPA and NFA are the result of early 1990s mergers of smaller forest industry organizations. The mergers were undertaken in order to have industry "speak as a central voice" on federal forest policy matters and to avoid land management agencies "playing one group off over the other" (personal interview, senior official, Northwest Forestry Association).

The main Oregon forest industry organization is the Oregon Forest Industries Council (OFIC). The OFIC strongly supported and helped write the 1971 *Forest Practices Act*. The OFIC believed that by being pro-active and promoting its own

act, it would reduce the risk of regulations being imposed by the federal government, or other state agencies. Industry also felt that such a pro-active effort would improve industry's support with the general public. The main Washington-focused organization is the Washington Forest Protection Association (WFPA), representing most forest companies at the state level, including large private landowners. The small landowner organization, the Washington Farm Forester's Association, is becoming more important as federal lands produce smaller harvests.

In addition, the Northwest Forest Resources Council was created in 1987—as an association of virtually all the state and federal forest industry organizations in the Pacific Northwest in order to focus exclusively on timber supply issues. Overall, the large-industrial organizations tend to have the professional and organizational resources to make them effective lobbyists, whereas small land owners are less effectively organized, lacking "the financing and the technical forestry and business skills that long-term efforts require" (Leman, 1988, p.159).

## Environmental Groups

Since the early 1970s, an abundance of national and regional environmental groups have sought to influence policy affecting federal forestlands in the PNW. In the late 1980s, there has been the creation of new alliances, the establishment of radical "zero cut" groups, and those who take a more holistic approach to eco-forest policy change. In contrast, the number of environmental groups that have developed interests in the two state jurisdictions has been comparatively more limited. National-based groups are almost never involved, while the number of local, state level, and regional groups interested in state-level forest policy making is strikingly smaller than those interested in the Pacific Northwest federal lands. Where groups do show interest, they have historically played a more limited role and have been relatively unsuccessful in maintaining well-developed organizational structures. Whether groups will focus increasingly on private forests now that federal forests are greatly "locked up" is uncertain. To date, groups have focused on implementation of the PNW forest plan, and on fighting attempts in Congress to increase the PNW timber supply (Cashore, 1995).

## Federal Lands

There are four key national membership-based groups that concern themselves with all US government-owned forestland, including the PNW. They are the National Audubon Society, the National Wildlife Federation, the Sierra Club and the Wilderness Society—all of whom witnessed an explosion of membership, during the 1970s and again in the late 1980s. With the exception of the Audubon Society, all of these groups have established offices in the PNW. In addition, the National Audubon Society and Sierra Club have numerous local chapters spread throughout communities in Oregon and Washington.

Other groups have developed in the PNW that have no direct links to national-based groups. The most important of these groups is the Oregon Natural Resources Council, established in 1971 as an organization with both individual and group membership. Developing both scientific and in-house legal expertise, it has earned the reputation among government and industry officials as "uncompromising". Its official policy is not to enter into dispute resolution processes (Oregon Natural Resources Council, 1993). Another group important in Southern Oregon issues is Headwaters, which has developed a regional profile.

As would be expected, groups based in Washington, DC, tend to focus on interaction with senior bureaucratic officials, the White House, Congressional offices and committees, while groups based in the PNW are much more involved in the activities of individual National Forest and BLM Forest Districts.

During the late 1960s and early 1970s, a number of litigious environmental groups were formed, including the Environmental Defence Fund (EDF) in 1967, the Natural Resources Defence Council (NRDC) in 1970, and the Sierra Club Legal Defense Fund (SCLDF) in 1971. These groups were joined by Defenders of Wildlife, which adopted a litigious approach to its environmental advocacy. With the exception of the SCLDF, whose sole purpose is to litigate, these groups also act as policy advocates, advising on policy changes at both the congressional and executive levels. The Natural Resources Defence Council and the SCLDF have developed as the two leading US groups regarding federal forest policy. Defenders of Wildlife and EDF are indirectly involved in forest policy through their focus on endangered species issues.

These four litigious groups have seen their membership and budgets expand significantly. SCLDF's membership went from a few thousand members in 1971, to 120,000 in 1990, and to 150,000 in 1994. Its budget has grown from \$670,000 in 1990, to \$1.5 million in 1994. NRDC's membership has followed a similar path, moving from 6,000 in 1972, to 29,000 in 1979, to 48,000 in 1983, and to 170,000 in 1994. With significant foundation funding, its current budget is over \$20 million.

The second wave of environmentalism, beginning in the late 1980s, also witnessed the emergence of new alliances, and new coalitions; and the creation of new organized interests. The new groups that emerged tend to divide between those that have a membership base but rely heavily on foundation money and choose to work with the existing forest policy framework, and more radical "zero cut" groups that rely heavily on membership for funding but have difficulty attracting foundation support.

Three new alliances were formed, all with the assistance of foundation resources. The first alliance is the Western Ancient Forest Campaign (WAFC), created in 1991 to "disseminate information between grassroots conservation organizations [in the PNW] and national environmental groups" (Western Ancient Forest Campaign, 1992). The second alliance is the Ancient Forest Alliance, and the third is the National Forest Protection Campaign, established in 1994.

At the regional level, the Pacific Rivers Council was formed in 1987 with the help of foundation money, and steadily increased its influence in federal PNW forest policy, developing an expertise on salmon and other fish species. Other key groups falling in this category include the Associations of Forest Service Employees for Environmental Ethics (AFSEE)—an organization formed in 1991 which by late 1994 had 1,000 Forest Service employees members and an additional 8,000–10,000 public supporters. It is devoted entirely to better management of USFS lands, and recently spawned a wider coalition, Public Employees for Environmental Responsibility. Similarly, the Public Forestry Foundation, created in the late 1980s, is a coalition of foresters, resource professionals, and citizens whose purpose is to "monitor the Pacific's public forests" by "seeking out good models of forest management and exposing bad forest practices" (Citizen Forester, 1992a).

Some new groups are not membership-based at all, but rely almost completely on foundations for their funding. One such group is Northwest Environment Watch, created by employees from the Worldwatch Institute (based in Washington, DC). Its mission is "to foster a sustainable economy and way of life in the Pacific Northwest" by monitoring key indicators (Ryan, 1994). Equally significant is the formation of Eco-trust in 1991, by former employees of Conservation International. Eco-trust is perhaps the only group that has consciously chosen not to be influenced by the incentives and structures of the US legalistic statutory regime. It has chosen to focus on preserving ecosystems and watersheds in the PNW and British Columbia through working with communities affected by Eco-trust goals.

At the same time, more radical groups were created focusing on both the national and regional level. One such group is Save Our Forests, a group claiming over 500 affiliate organizations, representing a combined membership of over 3 million. This group focuses solely on lobbying Congress for better legislative protection of remaining ancient forests and wilderness areas on US federal lands. Although not a new environmental organization, Greenpeace reflected this increased radicalism by injecting itself into federal forest policy issues, and lobbying for the *Northern Rockies Ecosystem Protection Act*. Of the more radical zero cut groups established in the PNW, three stand out: the Native Forest Council, Save the West, and the Forest Conservation Council. All of these groups emerged after the spotted owl/old-growth debate began in the Pacific Northwest, and all of them oppose any future cutting of old-growth forests on PNW federal lands (Durbin and Koberstein, 1990; Hermach, 1994; Pryne, 1994; Taylor, 1994). However, their development and strategy is heavily determined by the incentives of the legalistic statutory regime. What distinguishes them from the other environmental groups is that they failed to join the main litigation effort to improve Option 9. Instead, these groups filed a much more radical suit opposing the very spirit of Option 9 (Pryne, 1994). Both the "mainstream" and more radical environmental organizations play public land issues off against private land ones, arguing that saving public lands from harvesting will not mean a

reduction in the PNW forest industry because of the increased role private lands can play (Sierra Club and Lawler, 1993; Stiak, 1991).

### **Oregon and Washington: Private and State Lands**

The group with the longest history in the Oregon forest policy community is the Oregon Environmental Council. It has been involved since the early 1970s and is perceived by industry as being "less extreme" than other groups. Its interest in state forest practices has fluctuated significantly. Satisfied with the 1987 rule changes, the Council has absented itself from the forest policy community since that time. The only group to maintain an ongoing presence since the mid-1980s on private forestry issues has been Portland Audubon. A limited number of environmental groups, including Oregon Trout, have been involved in the development of strategic land use planning exercises on the limited amount of Oregon state-owned land. The number of environmental groups active in Washington State forest policy matters is similarly small. There are only two key groups: the Washington Environmental Council (WEC), and the Washington State Audubon Society. Formed in 1967, the WEC is an organization of about 2,000 individual members and 110 loosely affiliated group members. The WEC focuses solely on the state level. Owing to its diffuse and loosely integrated structure, WEC officials have had difficulty obtaining widespread support from the environmental movement when negotiating with industry, government and tribal officials.

### **Unions**

Labour organizations do not take a lead role in forest policy change in the PNW. After the late 1980s, industry sought partnerships with organized labour over how to respond to increasing environmental pressures. The strongest linkages were developed with the United Brotherhood of Carpenters and Joiners of America, the Western Council of Industrial Workers and the International Woodworkers of America.<sup>4</sup> Also involved, sporadically, were the United Paperworkers International Union, the Association of Western Pulp and Paper Workers and the national AFL-CIO. These efforts culminated in the establishment of the Forest Products Industry's National Labor Management Committee (LMC) as a "coalition representing the shared policy interests of labor unions and management in the forest products industry," working to ensure that public policy decisions affecting "timber supply balance environmental concerns with economic realities" (American Forest and Paper Association, 1994).

### **Professional Organizations/Other Interested Stakeholders**

Other national and regional organizations are important stakeholders in this debate. The Society of American Foresters (SAF) and its Oregon and Washington offices are the main representatives of professional foresters. These organizations add a reflective element to forest conflicts, as evidenced by the SAF's publication of the highly respected *Journal of Forestry*. Other key organizations are research groups that are actively involved in preparing analyses and conducting important studies. These groups include American Forests, founded over 100 years ago (formerly called the American Forestry Association) and the World Resources Institute. These organizations are important for developing expertise for environmental groups and other members of the forest policy to use.

Fishers groups have also been involved as stakeholders because of the impact of logging on fish-bearing streams. The Pacific Coast Federation of Fishermen's Associations has been active at both the state and federal levels, focusing on streamside forest practices issues.<sup>5</sup> In Oregon, the Northwest Steel Headers and the Pacific Coast Federation of Fishermen's Association emerged as environmental group allies, concerned about salmon stock depletion and riparian rules.

### **Policy Changes**

Until the 1960s, the dominant forest management paradigm was the "German school" of forestry, aimed at enhancing the volume of timber cut through wise management of the forests (Gregg, 1989, pp.144-6). Until World War II, private forestlands dominated harvesting, with the US Forest Service's role often aimed at aiding private forest management. Reforestation and fire issues were important, but environmental concerns were rarely on the agenda. There were efforts to "conserve" and "preserve" forestlands, but these had more to do with protecting areas from harvesting, than with creating environmentally sensitive forest harvesting rules.

Increased concerns about the environment beginning in the 1960s led to criticism of the German school of forestry. By the mid-1970s, the management paradigm for US federal lands changed to a "multiple-use" one, in which the forests were to be managed for more than just their timber values. The same kind of shift did not occur at the state level in the PNW. Instead, existing forest fire and reforestation rules were expanded to include explicit environmental regulations. Thus, the number of regulations increased, but the overall management paradigm remained timber driven.

Incremental policy changes were made since the 1970s, but it wasn't until the late 1980s that another discernible paradigm shift occurred on US federal lands, this time a managed move toward the concept of "ecosystem management".

Ecosystem management means different things to different people, but its general principles come from a concern about the maintenance of forest biodiversity. It recognizes that political boundaries mean nothing to the natural environment, and that more "holistic" planning is needed. The effect of ecosystem management has in many ways been to make timber harvesting a "residual", whatever is left after biodiversity and the ecosystem are protected. This management paradigm increases the role of regulatory agencies in the PNW, the two most important being the Fish and Wildlife Service and the National Marine and Fisheries Service. At the same time, USFS and BLM officials have seen their decision-making autonomy dwindle. As practised to date, ecosystem management has increased the role of federal forest scientists, whose *opinions* regarding the effects of different northern spotted owl recovery plans were instrumental in the choice that was ultimately made. These wholesale changes were not matched at the state level. Instead, forest regulations were increased incrementally at Oregon and Washington state level and most had industry support.

In order to understand what these changes meant for specific forest policy, the following examines seven measures in Oregon, Washington State, and on US federal forestlands from 1975 to 1995. They are rules regarding clearcuts, riparian zones, endangered species/biodiversity, reforestation, road building, the level of cut allowed per year, and forest protection. These were chosen because arguably they represent the most controversial areas of eco-forest policy areas. However, it should be noted that increases in each of these measures does not necessarily mean increased environmental protection. For example, smaller clearcut sizes can often necessitate increased road building, while in some cases clearcutting is the most appropriate method of harvest to ensure regeneration.

### **Clearcutting/Harvesting Techniques**

Clearcutting was first limited on US National Forest lands where it was "silviculturally essential to accomplish the relevant forest management objectives" (NFMA, Section 6(g)(3)(f)). Moreover, harvesting methods were not supposed to be chosen because they give the "greatest dollar return". Specifically, clearcut sizes in the PNW are limited to 60 acres (24.28 ha) for Douglas-fir forests and 40 acres for others. Despite these rules, clearcutting continued to be the dominant method of harvesting, which led to a Forest Service policy directive on June 4, 1992, limiting clearcutting to where it is "essential to meet forest plan objectives" (Robertson, 1992).

Conversely, there were no rules establishing clearcut sizes on state forestlands until 1991. At this time, Oregon limited most clearcuts to 120 acres (48.56 ha) within a single ownership (ORS 527.740). This same year, Washington also limited clearcuts to 240 acres (97.13 ha) with DNR reserving the right to have an interdisciplinary team review clearcuts in excess of 120 acres (48.56 ha). Since 1987 Washington has limited clearcuts on state-owned lands to 100 acres (40.47 ha; Waldo, 1987).

### **Streamside Riparian Areas**

As of the mid-1970s, regulations on National Forestlands required that "no management practices causing detrimental changes" shall occur 100 feet from any body of water (36 CFR s.219.19). Since 1991, much tougher riparian rules banning harvesting have been introduced for those streams within federal forests in the range of the northern spotted owl.<sup>6</sup>

In Oregon, rules originally focused on what practices (such as road construction) *should* be avoided near streams. Changes to these rules occurred 1987 when logging operations occurring near the most ecologically important streams required a written harvesting plan, and approval by the State Forester. The width of streamside riparian management areas was also required to "average three times the stream width, but it shall not average less than twenty five feet or average more than one hundred feet" (OAR 629-24-117.) Changes made in 1991 increased these restrictions by requiring that a certain percentage (depending on classification of the stream) of trees be left when clearcutting or selective harvesting (Oregon Department of Forestry, 1994, p.56). The Washington Board of Forestry's riparian rules originally emphasized what kind of timber practices should be avoided near streams but also established Streamside Management Zones in which use of logging equipment was to be minimized. No significant changes to these rules were made until 1987 when rules required that a certain percentage of trees are left after harvesting occurs.<sup>7</sup> As of the Spring of 1998, additional regulations owing to the *Clean Water Act* requirements were being developed by an advisory body which included industry, tribes representatives, and the Washington Environmental Council.

### **Endangered Species/Biodiversity**

Biodiversity generally refers to the multitude of plant and wildlife species that together make up a functioning ecosystem. The main protection for endangered species results from the ESA and Forest Service regulations requiring the maintenance of species diversity. It was these provisions that led to litigation by environmental groups to list the northern spotted owl as endangered, and to the eventual "Option 9" plan that saw the principles of ecosystem management embraced, and the dramatic decline in the amount of timber that could be harvested on federal lands.

Originally Oregon's rules simply required that "consideration" be given to wildlife habitat (Cubbage and Ellefson, 1980, p.463). However, changes made in 1987 required the Department of Forestry to collect inventories of threatened and endangered species and "ecologically and scientifically significant" sites. If, after conducting this analysis, the Forest Practices Board decides that forest harvesting may conflict with these resource sites, the Board must then "consider the consequences of the conflicting uses and determine appropriate levels of protection" (ORS 527.710(3)(b)). Rules have tended to focus on limiting

harvesting during reproductive seasons or specifying areas around particular sites in which no logging can occur. Rules in Washington State originally called for harvesting practices to “leave the area conducive for timber production and encourage wildlife” (Cubbage and Ellefson, 1980, p.468). The Forest Practices Board has the power to designate critical habitat areas for individual species.<sup>8</sup> Any forest practices on critical habitat lands require an environmental assessment under Washington’s SEPA legislation. The 1987 Wildlife Code creates a process whereby the Director of the Department of Fish and Wildlife can ask the Wildlife Commission to list a species if it is “seriously threatened with extinction”. After much deliberation, rules were introduced in 1996 and 1997 to regulate harvesting near spotted owl and marbled murrelet habitat. Facilitated by the BNR’s capacity to impose increased restrictions on state land, the BNR implemented a plan to protect northern spotted owls that withdrew forestland from the commercial land base, negatively impacting the harvest rate of state lands.

### Reforestation

Reforestation efforts have historically been an important part of the US Forest Service’s mission. However, changes were made in the 1970s to require the Forest Service to ensure restocking and growth and to ensure that harvesting occur only where land can be “adequately” restocked within 5 years.

With the exception of new 1991 reforestation rules for clearcuts in Oregon, neither Oregon, Washington State nor the federal PNW lands have changed their reforestation rules since the mid-1970s. However, reforestation has long been a preoccupation of major forest industry interests in each state, going back to the turn of the century. Reforestation is one of the few mandatory rules, and specific levels of replanting and regeneration are required on most lands that have had their original stock reduced between 25–50%.

### Road Building

Regulations in the 1970s on National Forestlands required that all non-permanent roads must be “designed with the goal of reestablishing vegetative cover ... within ten years”,<sup>9</sup> Road building restrictions were increased on spotted owl lands in the early 1990s to limit road building in riparian zones and require watershed analyses before road construction begins (US Department of Agriculture Forest Service and US Department of Interior Bureau of Land Management, 1994, pp.B123–4).

Oregon issued a number of rules in 1971 that *should* be followed when planning road location. These included *minimizing the risk* of harvesting equipment and material entering streams and *avoiding* locating roads in unstable or sensitive areas” (OAR 629-24-521). Where roads are to be located in riparian management areas, prior approval must be given by the State Forester (OAR 629-24-521(8)). In Washington State, early 1970s rules were similar to Oregon’s and

most remain in place today. In 1987 the DNR agreed to undertake a number of management initiatives to address the impact of road building and to reconvert retired roads to forested areas.

### The Annual Allowable Cut

The annual allowable cut is an important measure of long-term forest sustainability. Distinctions must be made between changes in how the “sustainable rate” is calculated, and changes in variables within the equation that affect the outcome. In the PNW federal forestlands, changes to the equation took place in the mid-1960s requiring “non-declining even flow” (NDEF) policy. (Departures from the NDEF can only occur in order to meet, “overall multiple-use objectives” (16 U.S.C. 1611 (a)1988).<sup>10</sup> This is at odds with a conception of sustainability that recognizes there will be a one-time “fall down effect” as old-growth forests are converted to second growth. The reason for this fall down effect is that second-growth forest, although faster growing than an old-growth forest, produces less volume of timber per unit.

No recent changes have been made to the allowable cut equation, but the level of harvest has been drastically reduced in PNW lands inhabited by spotted owl. Sales have dropped from about 5 billion board feet in the late 1980s to an estimate of a “sustainable” timber harvest of 1.2 billion board feet annually from federal PNW forests inhabited by the northern spotted owl. As a result of these restrictions, in 1995 federal PNW harvests has dropped to 150 million board feet in Washington and 515 million board feet in Oregon (see Figs. 3.2a and b).

Oregon has never imposed limits on its annual allowable cut. Nor are there limits on the annual allowable cut for private lands in Washington State. However, since 1992, the Washington State Forest Practices Board has required DNR to prepare an annual report detailing harvesting rates on private land (WAC 222-30-120, quoted in Haddock (1995)). For Washington’s state-owned lands, the Board of Natural Resources determines the annual cut when approving the Forest Resource Plans and is guided by a statute that requires “harvesting on a continuing basis without major prolonged curtailment or cessation of harvest” (RCW 76.68.030-40). In addition, the Forest Resources Plan approved by the Board calls for “an even flow harvest plan” (quoted in Haddock, 1995, p.34; Washington State Board of Natural Resources, 1992).

### Forest Preservation Policies

Forest preservation (withdrawal of forestland from the harvesting base) generally occurs in two distinct ways: through strategic initiatives directly aimed at preserving selected forest areas, or as a consequence of wildlife protection and forest practice policies. Most of the forest protection in the PNW before the 1990s was caused by the former, while protection in the 1990s was caused by the latter.

Much forest protection was caused by the 1964 *Wilderness Act* and the *Wild and Scenic Rivers Act*, which immediately protected a number of areas, and set in stage a process for future designations to occur. No exact goals were set, but to date over 100 million acres have been protected as a result of these federal statutes, including a significant share in the PNW (Hamilton, 1994, p.46–49).

Even before these statutes, federal and state parks were created, although their existence is mostly owed more to recreational than environmental concerns.<sup>11</sup> Thus, the current percentage of protected areas in either jurisdiction is the result of a number of historical initiatives. However, the most significant amount of federal forestland protection occurred in the PNW in the 1990s, as a result of efforts to save the spotted owl.

### Explaining Change

The change in societal values that came with the first and second waves of environmentalism certainly helps to explain why all jurisdictions responded with increased eco-forest protection policies—first in the late 1960s to mid-1970s; and then again in the late 1980s to early 1990s. However, where change in values might explain similarities, it cannot explain the dramatic differences between the approaches taken on US federal lands and those on mostly privately owned state regulated lands. Nor can these similarities in environmental concerns explain the dramatic increase of environmental interests in federal lands and the limited number of groups interested in influencing state forestry regulations.

Economic explanations may shed some light on this puzzle. Since the forest economy plays a much larger role in Washington State and Oregon, than it does in the US as a whole, this may help to account for the reluctance to usher in strict and onerous regulations at the state level. It is arguably safe to assume that an awareness of the importance of the forest industry in Oregon and Washington is a constant factor when the legislature and Board of Forestry render decisions.

However, this chapter argues that the key differences have to do with the fact that Washington State and Oregon govern mostly private land, and that the statutory regimes noted above mediate eco-forestry conflicts in distinct ways. Both of these factors help to explain why most environmental groups focus on federal lands, and the very different directions of forest policy change in the late 1980s.

### Private Land

The significance of different levels of private and public land ownership is highlighted in four ways. Firstly, common law regarding private property significantly limits the kinds of forest extraction practice regulations that governments can impose on private forestland (Ellefson, Cheng, and Moulton, 1995). Secondly, private forestland use issues are usually limited to questions of zoning and forestland conversion. Broader issues of permanently reserving

forestland from being harvested are simply not a consideration for private land, dramatically reducing the kinds of “eco-forest” policies the state can consider. Thirdly, this limited policy scope translates into less interest on the part of environmental groups, and helps to explain the comparatively limited attention environmental groups have paid to state regulation (Salazar, 1989). Fourthly, private land interest associations stand to benefit directly from efficient and effective efforts to influence land policy and therefore will exert most of their energies at the state level.

### Statutory Regimes

The most important explanation for federal/state-level forest policy differences appears to be the influence of the distinct statutory regimes noted above. They are important in two ways: first, for the immediate impact they have on forest policy; and second, for the way they have mediated future eco-forest conflicts. The US statutory regime at once created a number of key regulatory agencies to oversee existing administrative agencies, and was specific about a number of key forest policy measures. At the same time, the most important characteristic of the US federal statutory regime is less specific: it gives environmental groups the legal right to sue administrative agencies if they fail to live up to statutory requirements. This tool also gives environmental groups additional access to the policy making process, because agencies want to avoid being sued. At the same time, environmental group litigation is often the source of dramatic policy change.

Conversely, the state legislation is worded both to avoid litigation and to reduce the ability of other government agencies to have influence in the forest regulatory process. As the review above shows, Oregon and Washington State forest practice boards did respond to environmental concerns by increasing regulations in the 1990s, but they did so in a more incremental fashion and in a way that did not have the same impact on logging operations as occurred on US federal forestlands.<sup>12</sup> Indeed, legislative changes in Oregon and Washington in the 1980s *limited* the influence of other agencies over forest practice rules. However, this is not to say that poor forestry is practiced on private land. In fact, Sharma and Vredenburg (1998) provide evidence that the most proactive and innovate firms regarding “corporate greening” may come from sectors that are not highly regulated and from those that encourage voluntary corporate initiatives. What this review does say is that the process for arriving at environmental forestry public policy choices in the PNW will accommodate different interests and perhaps the best example of these differences is the case of the northern spotted owl. The US statutory regime permitted environmental groups to litigate this case, and its final resolution led directly toward the change to the adoption of ecosystem management on US federal lands. Virtually all of the late 1980s and early 1990s policy changes noted above can be traced to the spotted owl litigation. At the state level, the Boards of Forestry in Oregon and

Washington at first had difficulty creating even limited rules for the spotted owl. Washington's BNR responded quickly and comprehensively to protect owls on state-owned land, reinforcing the important role land ownership plays in influencing policy choices.

Environmental groups focusing on federal PNW lands have attempted to use these public/private land ownership patterns to their advantage. For instance, the Sierra Club's Northwest Office has produced an economic analysis showing that reductions in harvesting on US federal lands in order to protect the northern spotted owl will not be matched on private lands. Citing Adams *et al.* (1992) and Sessions *et al.* (1991), the Sierra Club and Lawler (1993, p.10) note that:

It is ... assumed ... that spotted owl recovery plans will have little impact upon overall non-federal timber production, and that total non-federal output .... can maintain approximately 1980s levels or higher into future decades.

The legalism opportunities of a statutory regime have an important influence in how each region deals with protection of forest dependent species. This is to say not that legalism is unimportant at the state level, but that it does not drive overall policy choices. For example, Washington State experimented with the Timber/Fish/Wildlife (TFW) process, whose initial impetus came from Washington business interests after court rulings that extended aboriginal fishing rights.

This was a multi-stakeholder body over a defined range of forest practices and management issues. Although sparked by tribal litigation, the process was supported by industry interests who wanted to reduce regulatory uncertainty. Halbert and Lee (1990) have noted the closed nature of the TFW process, and even environmental group participants such as the WEC were critical of the process for excluding other environmental groups from participating. Washington State experimented with a much larger Washington State Sustainable Forestry Roundtable, but it failed to get the ratification of environmental groups. Instead, the 1991 changes noted above were made after industry supported legislation was passed by the Washington State legislature. Oregon's history is remarkably similar. It, too, experimented with an alternative dispute resolution process in 1987, following a concern that increasing environmental values might lead to an anti-industry ballot initiative. The results of this process were the limited but increased regulatory changes noted above. As with Washington State, increasing criticism of state forest regulations led to more regulatory changes in 1991, all of which occurred after industry-supported forestry legislation was passed.

In responding to environmental pressure, each jurisdiction's institutional settings lead to different catalysts for change: environmental group litigation on US federal lands, and industry-supported initiatives in Oregon and Washington State. The same societal pressures and concerns about the environment have led to very different policy regimes, and quite different methods to address

environmental protection.

## Assessment

What are the consequences of these different policy journeys? On the one hand, there is a new ecosystem management paradigm being embraced for federal lands. On the other hand, there are incremental increases in state regulations. Yet, there is a strong relationship between these two approaches. The Option 9/ecosystem management plan on spotted owl recovery in federal lands has been criticized strongly by those in PNW forest communities, but this criticism was muted by the fact that private lands did not suffer the same kind of harvesting restrictions. Environmental groups promoted this difference in their efforts to reduce harvesting on public lands.

Kellog (1996, p.2) has noted these two approaches to forest management will have divergent effects on silviculture practices in the PNW. He predicts that "overall, even-aged management, with commercial thinning and clearcutting, will remain the most common silvicultural system on industrial land where the bulk of commercial forestry operations will occur" while the federal ecosystem approach will simply lead to little harvesting.<sup>13</sup> Certainly where PNW harvesting will occur on federal lands, reduced impact harvesting methods should become more common within economic constraints.

One irony is that ecosystem management is not supposed to be about political boundaries. Yet, boundary problems exist even within federal forestlands managed by different agencies. Ecosystem management cannot replace the current statutory planning requirements that focus on individual National Forests and BLM Forest Districts, and must rely instead on administrative plans that overlap with existing statutory requirements. Thus, the statutory regime that led to the adoption of ecosystem management is the same one that is hindering its implementation.

At the same time, if forest companies want to increase their supply of fibre, they will have to look to other regional, national and international sources (perhaps less regulated or with more available private land or with faster growth rates). This indicates that for environmental regulations to achieve their ultimate goals, improved international cooperation and agreements are needed.

## Conclusions

Far from a traditional pluralistic view of public policy outputs, the evidence suggests that eco-forest policy responses are dramatically constrained or influenced by previous policy choices and the institutional constraints they impose.

The US policies were changed by a government on the defensive, with

virtually no autonomy and little room to manoeuvre. Although the public debate was significant, it was litigation over listing the northern spotted owl that caused the significant planning and practice changes in the PNW. Once the statutory regime was in place in the US in the mid-1970s, litigation efforts tended to be the catalyst for change.

The environment may know no boundaries, but environmental groups certainly do. The opportunity structure of the US federal forest statutory regime is comparatively much more rewarding for environmental interests than exists at the state level. In a region split by public and private land ownership, the result is the adoption of quite different policy and management approaches on these lands. Even at the firm level where the federal *Endangered Species Act* does have a direct effect on forest practices, firms will use Habitat Conservation Plans (HCP) and other provisions to minimize regulatory burdens.<sup>14</sup>

What kind of changes can be expected in the future? In the absence of a change in statutory regimes, we can expect to see environmental groups, industry associations and forest companies focusing much of their attention on individual forest management plans, and to continue the ongoing process of lobbying Congress over road building and timber salvage issues. At the state-level, we will continue to see lobbying of forest practice boards for incremental regulatory changes. Firms will focus their attention on the ESA and, where required by law, will introduce HCPs and other initiatives that will reduce the effects of future ESA endangered species listings, while at the same time fighting in the courts any regulatory burdens that may impact their private property rights.

All of this takes place in a polarized atmosphere. It is in this context that many have pointed to the ability of consensus making bodies or alternative dispute resolution (ADR) processes as a way to bring all stakeholders together in a more productive manner. However, experience in the PNW and other jurisdictions amply illustrates the limitations of such initiatives in changing the direction of forest policy management. Unless industry gives up its stronger position at the state level, and groups at the federal level give up their right to litigate, the pressure to arrive at long-term consensus approaches will be virtually non-existent.

Indeed, the federal statutory regime currently limits federal government efforts to invoke regional consensus-oriented processes, with the result that ADR is usually left to individual national forest management planning processes (Wondolleck, 1985, 1986, 1988). At the state level, ADR will continue to be conducted in an "unequal" atmosphere, rendering significant change from such processes unlikely.

The general lesson from this review is that more attention has to be placed on the interrelationship between jurisdictional forest policies—both domestically and internationally. This is especially so as the forest industry becomes increasingly globalized. If this is not done, domestic eco-forest regulation may have unintended and minimal overall consequences.

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## Endnotes

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- <sup>2</sup> The reason for the greater number of firms in wood products is that a pulp and paper mill costs about 20-30 times more than a sawmill or plywood mill (Reinhardt, 1991, p.7).
- <sup>3</sup> From Federal District Court Judge Lawrence K. Karlton's ruling in *United States v. Brunskill*, Civil S-82-666-LKK (E.D. Cal. Nov. 8, 1984). Quoted in Forest Service *National Forest System Land and Resource Management Planning Proposed Rule* Page 18886 (36 CFR Parts 215, 217 and 219).
- <sup>4</sup> The IWA dissolved in 1987, in part due to divisions over the Canada-US softwood lumber conflict and a reversal in the wage/benefit relationship between BC and PNW contracts (Widenor, 1996, p. 285-286).
- <sup>5</sup> The Pacific Coast Federation of Fisherman's Associations is the largest organization of commercial fishers in the Pacific Northwest. Due to its primary concern about maintaining fish habitat, it is one of the few organizations involved in both the federal and state-level forest policy issues.
- <sup>6</sup> For fish-bearing streams, riparian reserve is to be at least 300 feet on each side (or approximately 100 metres), but for permanently flowing non-fish-bearing streams at least 150 feet (50 m) and for seasonally flowing intermittent streams at least 100 feet (33 m) protected. Timber harvesting is not permitted in these riparian areas with minor exceptions (Haddock, 1995, p.50).

<sup>7</sup> This depends on stream classification. Type 1 waters fall within "shorelines of the state" and identified according to the *Shoreline Management Act* (RCW 90.58.030). Type 2 waters have a "high fish, wildlife or human use" with 20 feet or greater channels. Type 3 have a "moderate fish, wildlife or human use" with 20 feet or greater channels. Type 4 waters are "upstream of Types 1, 2, or 3 or until the channel becomes less than 2 feet" (see Haddock, 1995, p.51).

<sup>8</sup> As of 1996, the Board had been unable to define critical habitat for the northern spotted owl, relying instead on emergency rules that both industry and environment organizations agree are not adequate. See Rowland (1994).

<sup>9</sup> 16 U.S.C. 1608(b); 36 CFR 219.27(11) (quoted in Haddock, 1995, p.63). In addition, the US RARE I and II processes and initial LRMPs were to evaluate all roadless areas for their potential listing as wilderness areas.

<sup>10</sup> At the same time, the NFMA recognizes that ASQ can be increased as a result of intensive management—an Earned Harvest Effect. Despite these rules, Congress can mandate a certain level of timber sales, notwithstanding existing statutes and not open to judicial review. This occurred during the spotted owl controversy in 1992 and again in 1995 with respect to a "timber salvage rider" attached by Washington Senator Slade Gorton to a US Senate bill.

<sup>11</sup> The *Wilderness Act* actually designates some US National Park Service lands as "wilderness areas," affording for these lands an even greater degree of protection.

<sup>12</sup> Incremental change can still have important consequences. For example, Lippke *et al.* (1998) estimate that increased environmental forestry regulations in Washington in the mid to late 1990s resulted in 20% less revenue potential, up from about 4% in the early 1990s.

<sup>13</sup> Kellog (1996, p.2) predicts that non-industrial private land silviculture practices will be a diverse mixture, from the use of clearcutting to "multiple thinnings, fertilization, and pruning".

<sup>14</sup> Private owners are not always required to stop actions that might harm a listed species. Instead, ESA allows private owners to develop a "habitat conservation plan" (HCP) that the Secretary of Interior must approve. The HCP includes a list of possible impacts of an action (e.g., logging), steps to be taken to limit detrimental effects, and a justification for the plan over other options (Smith, Moote and Schwalbe, 1993, p. 1039). If approved, an "incidental take permit" is issued. Also, a "4(d)" rule can be developed by the Fish and Wildlife Service to relieve designated private land owners from "incidental take" requirements, where such measures "are no longer deemed necessary or advisable for conserving the" threatened or endangered species (Tuchmann *et al.*, 1996, p.131). Regulations under the Act define "taking" of a species to include harming its habitat. These rules were struck down in 1994 by a Washington, DC judge in the *Sweet Homes* court case who ruled that this definition was *ultra vires* (see Haddock, 1995, p.43). However, the Supreme Court overturned this ruling, which would have applied the *Endangered Species Act* only to private lands when the actions of a private owner directly resulted in a species being threatened or endangered (Associated Press, 1995; Washington Post and New York Times News Service, 1995).