

NWEAI. The California SCERT was built from scratch without the benefit of any existing rural development and rural industrial dislocation initiatives. (Tuchman et al, 1996)

5.6 While each SCERT was formed and operated differently, program implementation was guided by a set of common parameters. These parameters included: providing a process that identifies locally wanted and needed projects, facilitates project fundability, utilizes local priorities, coordinates funding sources, and integrates funding decision-making at all levels. The model for service delivery for SCERT was the “one stop shop model”, which was intended to bring eligible state and federal fund agencies to a common table, and through a process of discussion and negotiation among agencies, organise packages of funding for eligible projects. (Pacific Rim Associates, 1995)

5.7 The process for reviewing and funding NWEAI projects in the business and industry, and community and infrastructure categories of assistance, although different state by state, included the following basic steps:

- Invitations outlining funding agency programs and their eligibility were sent to governmental or nonprofit groups working or located in the eligible counties notifying them of the opportunity of submitting a proposal;
- Groups prepared and submitted projects to the SCERT for consideration. Priorities for locally developed projects for infrastructure, capacity building, and accessing capital were typically set at the county level before forwarding to the SCERT;
- Each proposal was assigned to a federal or state staff person who worked with the submitting group to clarify objectives and develop a funding strategy. The staff person guided the project through the application processes, and drew in other people as needed;
- If the project was deemed to have a well-defined scope, reliable budget, strong community support and no problems that would prevent implementation it was passed on to a participating funding agency for consideration. Projects that met the eligibility criteria of programs administered by one or more funding agency were passed to one funding agency to act as a lead agency on the project;
- Technical specialists from the funding agency, along with other funding agencies if necessary, worked with the applicant to prepare the proposal for final approval. (Berkholtz, 1999)

5.8 SCERT's did not play the same coordinating role with respect to projects in the workers and families, and ecosystem investment categories. Projects providing assistance to dislocated workers and their families were submitted to the federal Department of Labour by the Department of Labour state agencies responsible for worker retraining programs. State agencies then worked with local governments, private and non-profit groups to prepare the project proposals as required. Ecosystem investment projects were developed by the federal land management agencies in collaboration with state and tribal representatives. In the case of Washington, state agencies responsible for watersheds also developed project proposals. (Tuchman et al, 1996)

#### *Expenditures and Results*

5.9 The most comprehensive assessment of results achieved by the NWEAI to date was a report prepared by Tuchman et al (1996). That report assessed the progress that had been made in meeting the Presidential commitments for the NWEAI after three years of implementation. In

addition, the RCERT (no date) published a summary of NWEAI activities and expenditures during 1997. Several NWEAI program evaluations have also been completed.

5.10 An overall summary of 1998 NWEAI activities and expenditures, however, has not been completed. Moreover, there has been no comprehensive evaluation of the Initiative and its affect on communities. Forest Community Research (FCR), a non-profit organization advancing community well-being and community based approaches to ecosystem management has recently received funding to conduct 36 community case studies to assess how effective NWEAI funded programs were in meeting their stated objectives, and how they have impacted targeted communities. The project intends to improve understanding of the connection between resource-related jobs and community well-being with the aim of developing more socially and environmentally responsive resource management and community development policies. FCR commenced field research on the case studies in the fall of 2000 and expects to publish a progress report in August 2001. A final project report is expected in the fall of 2002.<sup>13</sup>

5.11 The U.S. Federal Administration committed itself to provide \$1.2 billion over five years under the NWEAI. Over the four-year period 1994 to 1997, approximately \$ 800 million in federal grants, loans and loan guarantees were awarded. Unpublished sources indicate that total NWEAI spending was just under \$1.2 billion.<sup>14</sup> It is also important to note that the additional funding provided under the NWEAI occurred during a period of significant downsizing within federal agencies.<sup>15</sup>

5.12 Table 8 summarises NWEAI expenditures over the period 1994 to 1997 by category of assistance. Brief descriptions of each category's programs, funding sources and results are provided below:

- Assistance to workers and families: Included an employment and training program that targeted primary, secondary and tertiary workers impacted by the decline in timber jobs. The program was administered by the Department of Labor. Workers were provided a broad array of reemployment services including: career assessment and planning, job search assistance, classroom training, on the job training, as well as supportive services such as transportation, child care, emergency medical car and needed tools and supplies. Workers were also provided job development and placement services, along with follow up assistance for a 90-day period after placement. In 1997, for example, 2,973 workers in Washington and Oregon received training (California did not apply for a job training grant). The goal of the training was reemployment to a minimum of 70 per cent of all enrolled participants in demand occupations at 90 per cent of their layoff wage. The Department of Labor indicates that cumulative efforts under the program have met this goal (RCERT, no date).
- Assistance to Business and Industry: Included six programs administered by the Department of Agriculture (Rural Development Administration, and Forest Service) and the Department of Commerce (Economic Development Administration). The programs were aimed at retaining existing businesses, and in the intermediate term, diversifying the business base in the region by improving access to capital, expanding technical assistance and support, and improving access to domestic and international markets. Over the period 1994 to 1997 \$189 million came to the NWEAI area to promote rural business investment. This included \$19 million in grants to public and non profit organizations to finance small business investment; \$78 million to businesses in loan guarantees; \$32 million in low interest loans to non profit

<sup>13</sup> Personal communication, Jonathan Kusel, Forest Community Research.

<sup>14</sup> Personal communication, Will Kaye, Forest Community Research.

<sup>15</sup> Personal communication, Terry Raettig, USDA Forest Service.

organizations to establish revolving loan funds for business and community development in rural areas; \$17 million in grants to the states to promote investment, technical assistance, and market access primarily for the wood products industry; and, \$43 million in grants to communities and other non profit groups for community development to support economic diversification. The Small Business Development Center program was also intensified and promoted as a means for providing assistance to small businesses in rural areas, and the Economic Development Administration provided \$32 million in technical assistance, including feasibility, marketing, strategic planning and implementation planning;

- **Assistance for Communities and Infrastructure:** Included four programs administered by the Department of Agriculture (Rural Development Administration), and the Department of Housing and Urban Development. The programs were aimed at developing community infrastructure and technical capacity needed for communities to effect the transition to a more diversified economy. Over the period 1994 to 1997 \$391 million was spent on community infrastructure. This included \$72 million on rural housing for low and medium income residents and rural economic development activities; \$254 million for construction and improvements in drinking water and waste-water facilities; and, \$66 million on other community facilities;
- **Ecosystem Investment:** Included a Jobs in the Woods program aimed at restoring watersheds to environmentally sustainable conditions by providing short-term jobs to workers in communities affected by federal forest policy changes, as well as watershed restoration research. The Department of Agriculture (Forest Service), and Department of the Interior (Bureau of Land Management, Fish and Wildlife Service and Bureau of Indian Affairs) jointly funded the Jobs in the Woods program, while the research was funded by the Environmental Protection Agency. Over the period 1994 to 1998 the cooperating agencies spent in excess of \$150 million to restore the region's watersheds (\$127 million of it over the first four years). This included 2,300 projects and provided 1,440 short-term jobs (at 200 days of work). (U.S. Forest Service, no date)

**Table 8**  
**NWEAI Federal Expenditures by Category of Assistance, 1994 to 1997**

(millions \$)	1994	1995	1996	1997	Total
Assistance to Workers & Families	\$8.40	\$19.20	\$12.97	\$14.65	\$55.22
Assistance to Business & Industry	38.79	49.83	63.15	68.84	220.61
Assistance for Communities & Infrastructure	47.41	115.28	108.20	120.34	391.23
Ecosystem Investment	32.00	33.53	31.51	30.36	127.40
<b>Total Federal Spending on NWEAI</b>	<b>\$126.60</b>	<b>\$217.84</b>	<b>\$215.83</b>	<b>\$234.19</b>	<b>\$794.46</b>

Sources: Tuchman et al (1996) and RCERT (no date).

5.13 Tuchman et al (1996) estimated that the different NWEAI programs created 14,799 job related effects from federal monies spent during 1995. Estimates of total job related effects for subsequent years of the program are not readily available. Job related effects included workers finding employment after completing training programs, jobs retained and created in 1995, and estimates of jobs expected to be created in future years. Job estimates by category of assistance and state are summarized in Table 9. The estimates include both short and long-term jobs and job opportunities. Jobs related to ecosystem investment (Jobs in the Woods program), for example, are exclusively short term. Approximately 12 per cent of the estimated total effects were jobs

retained or found by workers after worker-retraining programs, 44 per cent were jobs expected to be created during 1995 and 44 per cent were jobs expected to be created in future years.

**Table 9**  
**Job Related Effects of Federal Spending Under the NWEAI, 1995**

	Oregon	Washington	California	Total
Assistance to Workers and Families	449	368	0	817
Assistance to Business & Industry	5,160	1,730	1,420	8,310
Assistance for Communities & Infrastructure	1,013	585	401	1,999
Ecosystem Investment	2,361	701	611	3,673
<b>Total Job Related Effects</b>	<b>8,983</b>	<b>3,384</b>	<b>2,432</b>	<b>14,799</b>

Source: Tuchman et al (1996)

5.14 The following two examples describe how NWEAI expenditures impacted small, timber dependent communities in the Pacific Northwest. In many cases, NWEAI federal funding was successfully used to leverage funds from other sources in order to implement projects, thereby magnifying their impact.

- Weed, Siskiyou County, California – Located in the middle of the county near the Interstate 5 Corridor, the community possessed developable land but no water or sewage capacity. The community received grants and loans from the California Office of Rural Development, the Economic Development Administration and the Forest Service to install a water and sewage system. Subsequently, five new businesses entered the community and two original businesses expanded their operations, creating 169 new jobs. A second project aimed at attracting a water bottling plant to the community was expected to create an additional 150 jobs. (Anderson-Tyler and Ellis, 1999)
- Oakridge, Lane County, Oregon – Located in the Cascade Mountains, 41 miles southeast of the city of Eugene, the community lost its largest employer, a sawmill, in 1992.<sup>16</sup> The Oregon Economic Development Department developed a strategic plan for the community that included a goal of creating 50 quality jobs through industrial development. The old mill site offered the only large parcel of potential industrial land in the community. Grants were accessed from the Rural Development Agency, the Economic Development Agency and the Forest Service to purchase the land, plan, engineer and demolish the deteriorated buildings (including cleaning up environmental hazards) and construct new infrastructure. Community ownership of the site occurred in 1995. The new industrial park subsequently attracted five tenants (a lumber re-manufacturer, a manufacturer of specialty cedar products, small sawmill, manufacturer of roofing materials and a construction company), some of whom were inherited from the previous mill. The community hired a property manager and aims to attract more businesses to the site unrelated to the wood products industry. (Raettig et al, no date)

<sup>16</sup> The Oakridge mill, and one in neighboring Westfir were both closed by 1990. The unemployment rate at this time was about 25 per cent. The Oakridge mill was then purchased and reopened, and operated until 1992 when a fire partially destroyed it.

*Lessons Learned*

5.15 Evaluations conducted of selected NWEAI programs in Oregon and California suggest that the Initiative has been reasonably successful in delivering assistance to targeted communities, and boosting jobs and businesses (Garvey and Bargaen, 1995; Pacific Rim Associates, 1996; Raettig et al, no date).

5.16 The NWEAI framework, in particular, has been regarded as a successful service delivery model and was extended for an additional two years past 1998 to manage normal levels of agency funding in the region. There also appears to be interest to use elements of the NWEAI processes, policies and institutions to assist the transition process in other parts of the U.S. facing similar severe economic dislocations because of changes in natural resource policies and resource dependent industries (Christensen and Raettig, 1999). Sommers (1999), however, notes that the new forms of interagency cooperation in the U.S. Pacific Northwest have not been institutionalized in laws or agency rules, and are therefore not guaranteed.

5.17 A conference in Portland, Oregon in July 1997 brought together government staff, community leaders and community development practitioners to examine the experience in implementing the NWEAI. It identified a range of lessons learned through the process that were considered relevant to others undertaking major economic adjustment initiatives (Berblinger, 1999; Donoghue et al, 1999; Paul Sommers, 1999; Kupillas, 1999; and, Bonnel et al, 1997):

- Be understandable and realistic in announcing and promoting the program – many elected officials and their constituents expected NWEAI funding to come in the form of grants and to be available to any person, business or community with a good idea. As a result, many constituents were frustrated and confused to learn that most of the new money for communities and businesses came in the form of loans, that funding was not directly available to businesses, and that all the funding came with obligations and local share requirements;
- Emphasize community interests and needs, and build on existing local plans – communities identified problem areas and potential development opportunities rather than federal agencies. This not only forced agencies to examine previously existing barriers to interagency collaboration, it also generated opportunities for community empowerment. Projects that were most easily funded were those where economic planning teams had formed years earlier and projects had been envisioned in the context of a community plan. Communities that had not conducted economic assessments or economic development planning prior to the NWEAI were at a disadvantage. In these communities NWEAI funds had to be provided to augment existing staff and resources in order to do the necessary planning;
- Provide adequate staff – the NWEAI took place in the context of major downsizing of most federal agencies, including staff reductions of federal agency offices in the U.S. Pacific Northwest. Staffing was also an issue for the RCERT and California SCERT. A lack of adequate staff meant that project reviews and decision-making happened slowly, and constrained outreach to highly impacted communities. In general, larger communities located near transportation corridors with experience in implementing community projects received more NWEAI funding than more isolated, less prepared communities.
- Break down barriers (laws, regulations, policies and practices) that prevent programs responding effectively to community needs and priorities – The NWEAI was successful in shifting project funding away from applications responding to top down agency criteria, to ones identified by communities as most important to them. Other barriers, such as

duplicative paperwork on projects where more than one agency was involved, have not been resolved;

- Provide flexible retraining opportunities that fit with employment opportunities – Unemployment impacts were substantial in parts of the U.S. Pacific Northwest. Many impacted rural people were deeply attached to their community, and wished to build on their skills and traditions of working in the woods. Education and job-retraining programs worked best when they emphasized hands-on learning and were flexible in providing job seekers skills that prepared them for available employment opportunities. Unfortunately, under the NWEAI there was no coordination between the workforce retraining programs and the economic restructuring funding. As a result, communities tended to pursue new firms through industrial recruiting efforts, but gave limited attention to finding ways to utilize retrained ecosystem workers;
- Provide smaller scale opportunities – Timber sales and economic development projects have historically had a bias to bigness in terms of scale, scope and objectives. Smaller scale projects and opportunities, including small scale timber sales, may provide communities with the flexibility they need to adjust to changing ecosystem management practices;
- Ensure there is on-going monitoring and evaluation at the appropriate level – The NWEAI was not designed with a mechanism to monitor and evaluate the implementation and outcomes of the NWEAI. An initiative wide accounting system, along with a better accounting of socioeconomic indicators at the community level prior to implementation would have allowed for a more comprehensive evaluation of the program. The social and economic reporting that was done focused on the state and county level, and masked effects at the rural community level.

### **Success of the Plan in Providing a Predictable and Stable Supply of Timber**

5.18 Pipkin (1998) identified three accomplishments of the Northwest Forest Plan that he suggested made it “one of the singular achievements of the Clinton Administration in the natural resource field”. First, the Plan satisfied environmental laws, was upheld by the courts, and allowed the court injunctions to be lifted. Second, it provided regulatory and economic stability for owners of state and private lands, as well as benefits to the regional economy as a result of the resumption of a predictable timber supply program on federal lands. Third, the Plan fundamentally changed how the federal agencies in the Northwest related to each other, and how they related to the states, tribes and the general public.

5.19 Developments since 1997, however, suggest that the Plan has neither ended the impasse and divisiveness of the early 1990s, nor has it been able to provide the agreed volume of timber from federal lands.

5.20 Under the Plan, the targeted sustainable timber harvest of 1.1 bbf was to come largely from 4.0 million acres of matrix lands, and to a lesser extent from 1.5 million acres of adaptive management lands. Combined, these areas represented 16 per cent of the total federally managed land base in the Plan region. (Tuchman et al, 1996).

5.21 Over the period 1994 to 1996, annual timber volumes offered for sale in the Plan region by the Forest Service and Bureau of Land Management averaged 574 mbf (Tuchman et al, 1996). Over the period 1997 to 1998, the agencies managed to increase their annual timber volumes available for sale to an average of 800 mbf per year (Graybeal, 1999). Despite this increase, federal agencies managed to achieve just over 70 per cent of the Plan target of 1.1 bbf.

5.22 From the outset, federal agencies' ability to meet the Plan's timber harvest target was hampered by two factors. First, a majority of the matrix lands were old growth forests and it was inevitable that protests and the requirements for complex and unfamiliar watershed analyses would slow this effort. Second, the survey and management requirements specified in the agreed standards and guidelines for managing these lands were ambiguous and unwieldy, making them extremely difficult to implement. (Green, 1999) The new standards and guidelines, for example, obligated agencies to conduct surveys of 400 plant and wildlife species, many of which they possessed very little knowledge about.<sup>17</sup> (Committee on Resources, 1999). Further exacerbating the situation was a lack of funding, personnel and technical expertise within the agencies to undertake this work.

5.23 Conservation groups began to appeal timber sales in 1997 after the "salvage rider" that had been imposed by President Clinton prohibiting such appeals expired. Over 1997 and 1998 these groups filed over a 100 appeals citing agencies' failure to complete plant and wildlife surveys prior to putting the timber up for sale. Almost all of these appeals were denied. In July 1998, 13 conservation groups filed a complaint against the U.S. Forest Service in the Western Washington Federal District Court alleging that its regional directives violated the Northwest Forest Plan. (Oregon Natural Resources Council, 1999)

5.24 In July 1999, the US District Court ruled that the Forest Service and Bureau of Land Management had violated the Northwest Forest Plan, enjoined 47 timber sales in the Plan region, and ordered the parties to try to find a settlement. The agencies voluntarily withdrew additional planned and awarded sales until the lawsuit could be resolved. (Committee on Resources, 1999)

5.25 The US Government and the 13 conservation groups reached a settlement in November 1999. Under the settlement, the groups agreed to drop their suit and allow current timber sales to move forward without threat of further legal action. The Government, for its part, agreed to survey all the old growth sales approved in 1998 and 1999 that were appealed by conservation groups. The settlement was expected to free up between 250 and 315 mbf of timber volume by the fall of 2000. (Seattle Times, 1999; The Oregonian, 1999)

## **6. SIMILARITIES AND DIFFERENCES BETWEEN THE U.S. PACIFIC NORTHWEST AND BRITISH COLUMBIA DURING THE 1990s**

### **Comparability of Institutions and Forestry Policy Making Processes**

6.1 There are some significant differences between the extent of remaining old growth forests in British Columbia and the Pacific Northwest, as well as the institutions for forestry policy making.

6.2 According to Hoberg (1993) the U.S. has already liquidated far more of its coastal old growth than British Columbia. Approximately 13 per cent remains in the Pacific Northwest, virtually all on federal land, while between 50 and 60 per cent remains in British Columbia.

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<sup>17</sup> While the Plan provided agencies a number of years to implement fully the survey and manage requirements, the procedures for surveying some of the species have not yet been developed, in part, because of the lack of knowledge on how to develop practical survey methods. There is also concern that the agencies could be stuck with the survey and manage requirement in perpetuity since the issue of species status and requirements is unlikely to be addressed by project-by-project surveys.

6.3 In the U.S. Pacific Northwest the federal government (through the US Forest Service and the Bureau of Land Management) plays an important role in the regulation of forestry, unlike in British Columbia where virtually all forested land is owned by the province and managed by the BC Ministry of Forests.

6.4 The policy style employed in the U.S. is also considerably different than the one used in British Columbia. American forest policy style underwent a profound transformation in the 1970s. This resulted in the emergence of a new doctrine of “regulatory legalism”, characterized by formal administrative procedures, pro-regulatory interest groups with access to courts, a judiciary willing to challenge administrative actions, and non-discretionary government duties written into statutes. Judicial interventions in the early 1970s forced Congress to rewrite its forest management laws, significantly reducing the discretion of the US Forest Service. The legalism of the U.S. system contrasts with a predominantly “bargaining” policy style in British Columbia based on multi-stakeholder consultation processes. (Hoberg, 1993) Recent developments suggest that “regulatory legalism” continues to be the forest policy style in effect in the U.S. Pacific Northwest. In British Columbia, a number of trends have occurred in recent years that are affecting how forest policy, in particular land use decisions, is being made. First, First Nations have assumed greater prominence in the province and the role and importance of their rights and titles has increased. Second, the marketplace has emerged as an increasingly important participant in land use decisions. While British Columbia continues to use a bargaining versus a legalistic policy style, these recent trends appear to be affecting the nature of the bargaining process.

#### **Similarity in Socio-economic Trends**

6.5 British Columbia experienced many of the same socio-economic trends that occurred in Washington and Oregon over the past decade. In particular, population and employment growth were strong, the economy became more service sector oriented, and the high technology sector experienced significant growth.

6.6 During the 1990s British Columbia had the fastest growing population in Canada, much of it occurring through net in-migration from other countries and from other parts of Canada. Over the period 1992 to 1999 its population increased by 16.3 per cent, well above the national average of 7.7 per cent. (Business Council of British Columbia, 2000a).

6.7 British Columbia’s rising population in turn increased the size of its domestic market and created higher demand for consumer goods and services. As a result, the province also experienced high levels of job creation. Between 1992 and 1999, British Columbia’s total employment increased by 17.5 per cent. This rate job growth was second highest in the country behind Alberta, and better than the national average (+14.5 per cent). (Business Council of British Columbia, 2000a).

6.8 British Columbia’s economy during the 1990s also became more diversified as a result of a more liberal continental trading environment, a low exchange rate and a rapidly expanding domestic market and labor pool (BC Stats, 1998a). Natural resource extraction and processing industries continued to decline in relative importance, giving way to an increasingly important service sector, as well as some fast growing manufacturing industries such as the high technology

sector. Between 1989 and 1997 the service sector's<sup>18</sup> share of total GDP and employment increased from 25.4 to 27.5 per cent, and from 39.8 to 44.4 per cent, respectively. Approximately two-thirds of all the new jobs created in the province during this period were in the service sector (BC Stats, 2000a). The province's high technology sector also experienced high levels of growth. From 1990 to 1998, its output grew at an average annual rate of 5.7 per cent (while the provincial economy grew by 2.6 per cent per year), and employment doubled. Similar to the U.S. Pacific Northwest, growth in the high technology sector occurred predominantly in the province's urban areas. (BC Stats, 2000b)

### Differences in Socio-economic Trends

6.9 Alongside these similarities were several differences. In particular, unlike Oregon and Washington, GDP growth in British Columbia during the 1990s was weak. By the end of the decade British Columbia was also relatively more dependent on forestry than either Oregon or Washington. In addition, the province failed to experience the widespread rural population gains that occurred in the U.S. Pacific Northwest.

6.10 Gross State Product (GSP) in Oregon and Washington during the 1990s grew at annual rates well in excess of the national average. Despite solid job gains this past decade, Gross Domestic Product (GDP) growth in British Columbia was sluggish. Over the period 1992 to 1999, for example, it ranked second last among provinces in GDP growth. The Business Council of British Columbia (2000b) attributed the province's poor economic performance in large part due to weak private sector investment and a failure to increase productivity. These trends were attributed to poor business fundamentals relative to other jurisdictions, particularly uncompetitive taxation levels, a burdensome regulatory environment and rigid labor and employment laws (Business Council of British Columbia, 1998). BC Stats (1998b) suggested that the province's below average productivity growth was in large part due to declining productivity in the goods sector, concentrated mainly in the logging and manufacturing industries. Service sector productivity growth appears to have kept pace with productivity improvements in the rest of the country. BC Stats suggested that the relatively poor growth in British Columbia's economic output was due to the pressures being faced by its primary industries, which were forced to restructure in the face of changing world demand and fluctuating prices.

6.11 The British Columbia economy, despite diversification during the decade, was relatively more dependent on the forest sector (logging, wood product manufacturing and paper manufacturing) in the late 1990s than its neighbors to the south. Table 10 summarises the forest sector's contribution to GDP/GSP and employment in British Columbia versus Oregon and Washington in 1997, the most recent year for which comparable data is available. The forest sector's contribution to GDP/GSP in British Columbia is roughly three times that in Oregon and Washington combined, and accounted for just less than twice the share of total employment. The data also suggests that Oregon and Washington are likely importing timber supplies to augment local harvest levels, and possess a more developed secondary manufacturing industry than exists in British Columbia.

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<sup>18</sup> Includes professional, scientific and technical services; management, administrative and other support; educational services; health care and social assistance; information, culture and recreation; accommodation and food services; and other services.

**Table 10**  
**Timber Harvest and Forest Sector Contribution to GDP/GSP Employment in British Columbia, Oregon and Washington, 1997**

	British Columbia	Oregon	Washington	Total Oregon & Washington
<b>Total Timber Harvest</b> <sup>1</sup>	15,167 mbf	4,081 mbf	4,221mbf	8,302 mbf
<b>GDP/GSP (CDN\$ millions)</b> <sup>2</sup>				
Total	\$98,837	\$136,790	\$243,896	\$380,686
Forest Sector	\$8,617	\$5,229	\$4,714	\$9,943
% of Total	8.7%	3.8%	1.9%	2.6%
<b>Employment</b> <sup>3</sup>				
Total	1,869,000	1,550,148	2,593,426	4,143,574
Forest Sector	100,300	63,865	51,644	115,509
% of Total	5.4%	4.1%	2.0%	2.8%

Sources: (1) D. Warren, 2000. Production, Prices, Employment, and Trade in Northwest Forest Products. British Columbia's harvest in 1997 was 68,629 thousand cubic meters has been converted to mbf using a ratio of .221; (2) BC Stats, GDP at Factor Cost, current dollars, and Bureau of Economic Analysis [www.bea.doc.gov/bea/regional/gsp](http://www.bea.doc.gov/bea/regional/gsp). Oregon and Washington GSP converted to Cdn dollars using an average 1997 interbank exchange rate of 1.384; (3) BC Stats, Employment by Industry (based on NAICS), Oregon Employment Department [www.olmis.emp.state.or.us](http://www.olmis.emp.state.or.us), and Washington Employment Department, [www.wa.gov/esd/lmea](http://www.wa.gov/esd/lmea).

6.12 Diversification of the British Columbia economy also appears to have occurred predominantly in larger urban areas located in the southwest of the province. An analysis prepared by BC Stats (1999) suggests that many rural communities in British Columbia are highly dependent on public sector, forestry and transfer payments. This type of information is not readily available in the U.S. Pacific Northwest. In 1996, for example, almost half of the 62 British Columbia communities studied had basic income dependencies in excess of 20 per cent. Almost all of British Columbia's northern communities, except some in the northeast of the province, were highly dependent on the forest sector. Moreover, the analysis also indicates that the number of forest dependent communities in the province increased slightly over the period 1991 to 1996. Communities' reliance on tourism also increased during this period but remained relatively small in many cases because of the sector's tendency to support low levels of local indirect activity, and significant numbers of low paying entry-level positions. (BC Stats, 1996)

6.13 A significant factor that assisted small rural counties in the U.S. Pacific Northwest cope with employment losses in the timber industry during the 1990s was their ability to attract in-migrants through the amenities they offered. High levels of net in-migration similarly drove population growth in British Columbia. Despite a lack of survey data to help explain in-migrant motivations, it appears many people were also attracted by the province's perceived quality of life.<sup>19</sup> In-migration to British Columbia, however, does not appear to have been as widely dispersed as it was in Oregon and Washington. The majority of the in-migration between 1991 and 1999 occurred in the southwest and south central portions of the province - Greater Vancouver and the Fraser Valley, the eastern portion of Vancouver Island (Capital, Nanaimo, Cowichan Valley and Comox-Strathcona) and the Shuswap-Okanagan region (Central Okanagan, Thompson-Nicola, Okanagan-Similikameen). Many northern areas of the province failed to

<sup>19</sup> Personal communication, Ruth McDougall, Manager Population Statistics, BC Stats, Ministry of Finance and Corporate Relations.

benefit from this influx of people. In fact, seven regional districts experienced net out-migration during the 1990s: Skeena-Queen Charlotte (-4,111), Peace River (-2,349), Mount Waddington (-2,128), Kitimat-Stikine (-1,701), Alberni-Clayoquot (-930), Stikine (-731) and Central Coast (-385) (BC Stats, 2000c). Kunin (2000) suggests that many of the communities in these regions are experiencing difficulties (Kunin, 2000). Indications are that these regions are losing population due to declining employment opportunities in their natural resource sectors (BC Stats, 2000d). Unlike rural counties in Oregon and Washington, however, these regions appeared to lack the necessary amenities to attract sufficient numbers of retirees and entrepreneurs (in particular, people capable of bringing their jobs with them, such as writers, small manufacturers, as well as those seeking to develop tourism operations) to offset job declines in the natural resource industries. There are exceptions to this generalization. Gold River and Tumbler Ridge are examples. These communities appear to have been able to attract in-migrants following forestry and mining job losses. Their success in large part appears due to their relatively new infrastructure, excellent recreational facilities and scenic locations. Other communities appear to possess less competitive packages of amenities. In general, these areas will likely continue to face more challenges in attracting these types of migrants than the southern portions of the province because of their relative remoteness, and less developed social and cultural amenities.

### Community Transition

6.14 The U.S. Pacific Northwest faced its transition challenge in the early 1990s hampered by a lack of community level data and a lack of coordination among its federal agencies. Neither of these issues currently appears to be a major concern in British Columbia. A considerable amount of statistical information is readily available at the municipal level from BC Stats to indicate how communities are performing. With respect to the coordination issue, the federal government appears to play a less significant service delivery role in British Columbia than it does in the United States. Moreover, the provincial government established a Ministry in 1999 to assist communities experiencing job losses develop and implement a transition strategy. The Ministry also acts as a focal point for other provincial government programs and services.<sup>20</sup>

## 7. CONCLUSIONS

7.1 It is difficult to ascertain with any precision the magnitude and location of timber industry job losses that occurred as a result of federal forest policy changes in the U.S. Pacific Northwest. This is because several other trends and events were happening concurrent with the policy changes. They included timber harvest reductions on private lands, a nation-wide recession in 1989 and 1990, and continued technological change in the timber industry. Analysis was further hampered by a lack of socio-economic data at the community level. In addition, there is limited information available to indicate how other commercial users of federal lands responded to the reduced harvest levels.

7.2 In general, timber industry job losses appear to have had the greatest impact on small, isolated timber dependent communities. Small logging operations and family owned mills also appear to have been relatively harder hit than larger forest companies. Reductions in timber harvest also appear to have had positive effects on the tourism and non-timber forest product industries. Job gains in these industries, however, have been insufficient to replace lost timber industry employment in many of these small, isolated communities.

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<sup>20</sup> Personal communication, Tim Cottrell, Policy Manager, Community Transition and Corporate Policy, Ministry of Community Development, Cooperatives and Volunteers.

7.3 Overall, the U.S. Pacific Northwest easily accommodated the timber industry job losses. The majority of the job growth occurred in the service sector, and the high technology sector. Service sector growth was particularly critical to job gains made by the region's rural counties. Much of this occurred as a result of net in-migration from California by people motivated by amenity concerns, rather than economic factors. This was facilitated by new information technologies that enabled people to locate and conduct business in more remote areas, as well as a larger pool of potential migrants for whom employment was not the primary concern.

7.4 Research into well-being in timber dependent communities in the U.S. Pacific Northwest includes the following findings: high levels of timber harvest do not necessarily translate into healthy communities; encouraging greater employment diversity is likely an appropriate means of improving communities' ability to cope with economic changes; transition processes need to be given as much time as possible and should not be limited to job creation, but also consider issues such as wage structures, family stability and community cohesion.

7.5 The Northwest Economic Adjustment Initiative (NWEAI) appears to have played a useful role in providing rural communities with tools to diversify their economies. Federal agencies spent 1.2 billion under the NWEAI over the period 1994 to 1999. Most of this additional funding went to build community infrastructure, and assist communities retain existing businesses and create new ones. Indications are that rural communities located closest to the I-5 Freeway Corridor with strategic plans already in place benefited the most from the NWEAI.

7.6 Lessons arising from implementation of the NWEAI appear to be relevant to British Columbia. They included: (a) be understandable and realistic in announcing and promoting the initiative; (b) emphasize community interests and needs, and building on existing local plans; (c) ensure adequate staff is available to assist and administer the initiative; (d) break down barriers that prevent programs from responding effectively to community needs and priorities; (e) provide flexible retraining opportunities that fit with employment opportunities; (f) provide more small scale projects and opportunities in line with community capacities; (g) ensure there is on-going monitoring and evaluation.

7.7 British Columbia already possesses a number of characteristics that were not present in the U.S. Pacific Northwest when the NWEAI was initiated. First, the provincial government, the primary service provider in British Columbia, already has a framework in place to assist communities with transition. As such, the lack of coordination that characterized federal agency activities in the U.S. Pacific Northwest should not be as big an issue here. Communities and policy makers in British Columbia also appear to have better access to community level statistical data than their counterparts south of the border. This information is critical for identifying potential problem areas and monitoring transition efforts.

7.8 On the negative side, socio-economic trends in British Columbia during the 1990s suggest that several of its northern regions have not benefited from the population and job gains to the same extent as urban areas in southern Vancouver Island and the lower mainland. Seven regional districts in northern areas of British Columbia, for example, experienced net out-migration as employment opportunities declined in their forestry and mining sectors. This trend differed from U.S. Pacific Northwest where almost all rural counties, even the most severely affected by timber industry job losses, experienced a net in-migration. While there are exceptions, many of British Columbia's northern communities appeared to lack the necessary amenities to attract retirees and new information technology-based entrepreneurs in numbers sufficient to offset job declines in its natural resource industries, as was the case in the U.S. Pacific Northwest.

Because of their relative remoteness, and less developed social and cultural amenities, these communities will likely continue to face more challenges than southern parts of the province in attracting these types of migrants.

## APPENDIX 1

### **Historical Context To the Impasse that Occurred on Federally Managed Forest Lands in the U.S. Pacific Northwest in the Early 1990s**

While the spotted owl controversy matured in the late 1980s and came to a head with the court injunctions imposed on the Forest Service and Bureau of Land Management in the early 1990s, its origins stretched back several decades.

Prior to World War II government land management agencies assumed a predominantly custodial role with respect to federally managed forest land in the Pacific Northwest. This was supported by the forest products industry that generally opposed federal timber sales to avoid flooding the timber market and competing with timber from private lands. (Tuchman et al, 1996)

The post-war years, characterized by population growth and economic expansion, led to an increased demand for timber and calls for more intensive forest management. Over the 20 year period 1945 to 1965 Forest Service timber harvest on the west side of Oregon and Washington increased more than five-fold (149 million cubic feet to 807 million cubic feet). Not surprisingly people started to look at where continued timber would come from. Subsequent studies projected increasing timber demand, reduced timber supply from private lands in the Pacific Northwest and a stable supply source from the federal land based on traditional sustained yield calculations. Throughout the 1970s and 1980s, administrations and Congress continued to fund the Forest Service's and Bureau of Land Management's timber sale programs at around historically high mid-1960s rates. (Tuchman et al, 1996)

In addition to a rising demand for commodities produced from raw materials from public lands, there was a growing interest in protecting the non-commodity values in public lands. The growing population had become increasingly urban and affluent, and as a result of the development of an extensive national highway system and rise of the automobile culture were easily able to access public lands. These new recreationists tended to view public lands as objects to view, experience and use nonconsumptively. Disagreements between the use and preservation of federal lands intensified through the 1950s, and an increasingly diverse environmental movement grew through the 1960s. (Yaffe, 1994)

Competition for political leadership on the environment, a growing and maturing environmental constituency, and an increased belief in federal regulation as appropriate public policy led to numerous legislative victories for environmentalists in the early 1970s. Two of these laws – National Environmental Policy Act (NEPA), and the Endangered Species Act (ESA) – have had significant effects on the ability of non-governmental interests to challenge forest management decisions. NEPA, enacted in 1970, requires that any federal action significantly affecting the quality of the human environment must be evaluated for its environmental effects. This law has had the effect of opening up the decision-making processes of federal land management agencies to public scrutiny. Because full disclosure is never entirely possible, the law has become the grounds for legal challenge and delay as judges decided that agencies failed to fully consider the environmental impacts of their activities. The EPA, revised in 1973, requires federal land management agencies to ensure that their actions do not jeopardize the continued existence of a listed species, or result in the destruction or modification of critical habitat. It gave the right to anyone to sue anyone else, including federal government agencies, for violations of the Act. With a minimum of biological information, these two laws could be used as devices to delay or change land management direction if management would harm a listed species' critical habitat. (Yaffee, 1994)

The US Fish and Wildlife Service first proposed the northern spotted owl as a threatened species in 1973. Due to uncertainties over the need for a listing the petition was dropped, although it was listed as threatened in Oregon and sensitive in Washington. By 1979 sufficient evidence had accumulated concerning the species for the Fish and Wildlife Service to classify it as vulnerable. Continued pressure by environmental groups finally compelled the Fish and Wildlife Service to list the spotted owl as threatened in 1990. They then pressed the Forest Service to fulfill its requirements subsequent to that listing, in particular the designation of critical habitat. (Hoberg, 1993)

In summary, at the same time the new environmental legislation was being implemented and used by environmental groups on behalf of the northern spotted owl, the executive and legislative branches of the federal government were proposing continued timber sales at historical high levels on federally managed forest land in the Pacific Northwest. Following the recession in the early 1980s, these high levels of timber sales were again maintained but on a reduced timber base as a result of forest planning to account for other forest values. It was this scenario that led to the impasse of the early 1990s.

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APPENDIX 2: Land Ownership, Timber Harvests and Timber Industry Employment in the Northwest Forest Plan Region

	Land Ownership <sup>1</sup>		Timber Harvest <sup>3</sup>		Average Annual Forest Sector Employment (#) <sup>4</sup>								
	Total Land Area (millions acres)	% Total that is FS/BLM Administered Forest Land	Change in Public Hvt 1989 to 1994	Change in Public & Private Hvt 1989 to 1994	1989	1994	1997	Diff 1989 to 1994	% Change 1989 to 1994	Diff 1994 to 1997	% Change 1994 to 1997	Diff 1989 to 1997	% Change 1989 to 1997
		% of Total that is Private Timberland <sup>2</sup>	Public Hvt	Private Hvt									
<b>Washington Total</b>	<b>42.61</b>	<b>22%</b>	<b>-1,533 mbf</b>	<b>-2,632 mbf</b>	<b>40,434</b>	<b>35,795</b>	<b>34,692</b>	<b>-4,639</b>	<b>-11%</b>	<b>-1,103</b>	<b>-3%</b>	<b>-1,103</b>	<b>-14%</b>
<b>Washington (NWEA)<sup>5</sup></b>	<b>25.57</b>	<b>32%</b>	<b>-1,337 mbf</b>	<b>-2,398 mbf</b>	<b>29,354</b>	<b>24,236</b>	<b>23,790</b>	<b>-5,118</b>	<b>-17%</b>	<b>-446</b>	<b>-2%</b>	<b>-446</b>	<b>-19%</b>
A <sup>5</sup> Whatcom	1.36	33%	-2	-2	1,113	1,218	1,383	105	9%	165	14%	165	24%
Snohomish	1.34	47%	-2	-3	3,277	2,655	2,907	-622	-19%	252	9%	252	-11%
Pierce	1.07	12%	-2	-2	4,268	4,081	4,047	-187	-4%	-34	-1%	-34	-5%
Kitsap	0.25	0%	-1	-1	274	200	107	-74	-27%	-93	-47%	-93	-61%
Clark	0.40	0%	-1	-2	1,789	1,499	1,216	-290	-16%	-283	-19%	-283	-32%
Skagit	1.11	33%	-2	-3	1,176	607	631	-569	-48%	24	4%	24	-46%
Okanagan	3.37	46%	-2	-2	1,284	1,046	993	-238	-19%	-53	-5%	-53	-23%
Chelan	1.87	71%	-2	-2	364	208	240	-156	-43%	32	15%	32	-34%
Mason	0.62	21%	-1	-3	1,506	1,377	1,405	-129	-9%	28	2%	28	-7%
Ciallam	1.12	18%	-3	-3	1,562	763	961	-799	-51%	198	26%	198	-38%
Jefferson	1.16	14%	-3	-3	114	77	68	-37	-32%	-9	-12%	-9	-40%
Grays Harbor	1.23	11%	-2	-3	3,122	2,347	2,316	-775	-25%	-31	-1%	-31	-26%
Pacific	0.62	0%	+1	-3	576	550	595	-26	-5%	45	8%	45	3%
Wahkiakum	0.17	0%	+1	-2	135	110	n/a	-25	-19%	n/a	n/a	n/a	n/a
Cowlitz	0.73	3%	-2	-3	3,097	2,512	2,544	-585	-19%	32	1%	32	-18%
Skamania	1.06	80%	-3	-3	535	172	208	-363	-68%	36	21%	36	-61%
Klickitat	1.20	3%	-1	-2	931	596	n/a	-335	-36%	n/a	n/a	n/a	n/a
Kittitas	1.47	29%	-2	-3	192	145	125	-47	-24%	-20	-14%	-20	-35%
Lewis	1.54	29%	-3	-3	2,616	2,481	2,637	-135	-5%	156	6%	156	1%
C Ferry	1.41	35%	n/a	n/a	n/a	-207	198	n/a	n/a	-9	-4%	-9	n/a
Stevens	1.59	16%	n/a	n/a	1,288	1,231	1,105	-57	-4%	-126	-10%	-126	-14%
Pend Oreille	0.90	59%	n/a	n/a	135	154	104	19	14%	-50	-32%	-50	-23%
D King	1.36	26%	-2	-3	6,970	6,389	5,864	-581	-8%	-525	-8%	-525	-16%
Thurston	0.47	0%	-1	-2	1,011	1,147	918	136	13%	-229	-20%	-229	-9%
Yakima	2.75	19%	-3	-3	1,359	1,884	1,632	525	39%	-252	-13%	-252	20%
E San Juan	0.11	0%	-1	-1	42	44	45	2	5%	1	2%	1	7%
Island	0.13	0%			28	n/a	46	n/a	n/a	n/a	n/a	n/a	64%

APPENDIX 2: Land Ownership, Timber Harvests and Timber Industry Employment in the Northwest Forest Plan Region

	Land Ownership <sup>1</sup>			Timber Harvest <sup>3</sup>		Average Annual Forest Sector Employment (#) <sup>4</sup>								
	Total Land Area (millions acres)	% Total that is FS/BLM Administered Forest Land	% of Total that is Private Timberland <sup>2</sup>	Change in Public Hvt 1989 to 1994	Change in Public & Private Hvt 1989 to 1994	Primary Cause of Change	1989	1994	1997	Diff 1989 to 1994	Diff 1994 to 1997	% Change 1989 to 1994	% Change 1994 to 1997	% Change 1989 to 1997
<b>Oregon Total</b>	<b>61.44</b>	<b>51%</b>	<b>14%</b>	<b>-4,268 mbf</b>	<b>-4,253 mbf</b>	<b>Public</b>	<b>67,532</b>	<b>54,892</b>	<b>52,641</b>	<b>-12,640</b>	<b>-2,251</b>	<b>-19%</b>	<b>-4%</b>	<b>-22%</b>
<b>Oregon (NWEA)<sup>6</sup></b>	<b>24.94</b>	<b>46%</b>	<b>25%</b>	<b>-3,213 mbf</b>	<b>-3,709 mbf</b>	<b>Public</b>	<b>54,755</b>	<b>43,746</b>	<b>42,004</b>	<b>-11,009</b>	<b>-1,742</b>	<b>-20%</b>	<b>-4%</b>	<b>-23%</b>
A														
Lane	2.92	59%	27%	-4	-4	Public	11,319	7,960	7,347	-3,359	-613	-30%	-8%	-35%
Columbia	0.42	3%	70%	+1	-2	Private	1,232	781	791	-451	10	-37%	1%	-36%
Yamhill	0.46	13%	37%	-2	-2	Private	1,621	1,250	1,290	-371	40	-23%	3%	-20%
Polk	0.47	9%	43%	-1	-2	Public	884	696	729	-188	33	-21%	5%	-18%
Jackson	1.78	49%	26%	-3	-3	Equal	5,743	5,040	4,529	-703	-511	-12%	-10%	-21%
Marion	0.76	29%	17%	-2	-2	Public	3,104	3,822	3,657	718	-165	23%	-4%	18%
Clackamas	1.20	51%	24%	-3	-3	Public	2,223	1,435	1,662	-788	227	-35%	16%	-25%
Clatsop	0.53	0%	53%	+1	-2	Private	816	551	534	-265	-17	-32%	-3%	-35%
Tillamook	0.71	20%	25%	-2	-2	Equal	423	516	518	93	2	22%	0%	22%
Lincoln	0.63	31%	51%	-3	-3	Public	499	400	195	-99	-205	-20%	-51%	-61%
Douglas	3.22	51%	32%	-4	-4	Public	8,228	6,040	6,311	-2,188	271	-27%	4%	-23%
Hood River	0.33	62%	13%	-2	-2	Public	532	479	276	-53	-203	-10%	-42%	-48%
Benton	0.43	18%	36%	-2	-2	Equal	1,496	1,126	1,072	-370	-54	-25%	-5%	-28%
Linn	1.47	38%	31%	-3	-3	Public	4,280	3,606	4,018	-674	412	-16%	11%	-6%
Josephine	1.05	68%	15%	-3	-3	Public	2,187	1,484	1,408	-703	-76	-32%	-5%	-36%
Curry	1.04	66%	25%	-3	-2	Public	929	630	653	-299	23	-32%	4%	-30%
Coos	1.02	24%	50%	-3	-3	Equal	2,545	1,718	1,770	-827	52	-32%	3%	-30%
Deschutes	1.93	77%	5%	-1	-2	Equal	3,428	2,756	2,185	-672	-571	-20%	-21%	-36%
Jefferson	1.14	27%	19%	-2	-2	Public	1,001	1,245	1,388	244	143	24%	11%	39%
Wasco	1.52	14%	15%	-3	-3	Public	327	225	176	-102	-49	-31%	-22%	-46%
Crook	1.91	50%	4%	-2	-2	Public	1,938	1,986	1,495	48	-491	2%	-25%	-23%
D														
Multnomah	0.28	29%	18%	-1	-2	Public	2,406	1,813	1,881	-593	68	-25%	4%	-22%
Washington	0.46	3%	36%	-1	+1	Private	1,888	1,950	1,966	62	16	3%	1%	4%
Klamath	3.81	53%	18%	-3	-3	Public	3,743	2,814	2,811	-929	-3	-25%	0%	-25%



**APPENDIX 3**  
**OTHER SOCIO-ECONOMIC INDICATORS - NORTHWEST FOREST PLAN REGION**  
**Table 1: Change In Population by County 1980, 1989, 1994 and 1997**

	1980	1989	1994	1997	% Chg 1980 to 1989	% Chg 1989 to 1994	% Pop Growth 1990- 94 due to net In-Migration	% Chg 1989 to 1997
<b>Lge Hvst Decr 1989-94</b>								
<u>Oregon</u>								
A Lane	275,226	278,665	298,775	311,356	1%	7%	43.1%	12%
B Douglas	93,748	93,367	98,268	101,818	0%	5%	59.1%	9%
<b>Med Hvst Decr 1989-94</b>								
<u>Washington</u>								
A Snohomish	337,720	446,325	523,504	564,610	32%	17%	44.4%	27%
B Skagit	64,138	76,054	91,657	97,705	19%	21%	67.1%	28%
B Mason	31,184	37,051	45,765	49,477	19%	24%	89.2%	34%
B Clallam	51,648	55,241	61,616	63,857	7%	12%	65.0%	16%
B Jefferson	15,965	19,273	24,053	25,945	21%	25%	26.0%	35%
B Grays Harbor	66,314	63,330	66,664	67,945	-4%	5%	48.5%	7%
B Pacific	17,237	18,481	20,306	21,116	7%	10%	85.5%	14%
B Cowlitz	79,548	80,982	87,409	90,834	2%	8%	48.3%	12%
B Skamania	7,919	8,147	8,935	9,642	3%	10%	32.1%	18%
B Kittitas	24,877	26,203	29,818	31,383	5%	14%	64.6%	20%
B Lewis	56,025	58,663	64,643	67,585	5%	10%	77.1%	15%
D King	1,269,898	1,476,320	1,584,625	1,632,852	16%	7%	0.7%	11%
D Yakima	172,508	187,574	209,457	218,318	9%	12%	33.3%	16%
<u>Oregon</u>								
A Jackson	132,456	143,549	162,004	170,960	8%	13%	74.1%	19%
A Clackamas	241,911	272,546	310,271	331,106	13%	14%	63.4%	21%
B Lincoln	35,264	38,031	43,148	45,587	8%	13%	100%*	20%
B Linn	89,495	89,890	97,769	103,440	0%	9%	71.5%	15%
B Josephine	58,855	61,865	69,276	73,459	5%	12%	96.9%	19%
B Coos	64,047	59,753	62,710	62,531	-7%	5%	72.1%	5%
B Wasco	21,732	21,439	22,712	23,252	-1%	6%	62.7%	8%
D Klamath	59,117	56,888	60,647	63,009	-4%	7%	38.6%	11%
<u>N. California</u>								
B Siskiyou	39,732	42,800	44,589	44,199	8%	4%	18.2%	3%
B Humboldt	108,525	117,000	123,949	126,070	8%	6%	6.6%	8%
B Trinity	11,858	13,000	13,382	13,245	10%	3%	39.6%	2%
B Mendocino	66,738	78,500	83,825	85,956	18%	7%	**	9%
<b>Smaller Hvst Decr 1989-94</b>								
<u>Washington</u>								
A Whatcom	106,701	123,294	145,736	154,249	16%	18%	54.5%	25%
A Pierce	485,667	570,569	637,353	664,776	17%	12%	29.2%	17%
A Kitsap	147,152	182,461	216,258	234,608	24%	19%	64.0%	29%
A Clark	192,227	228,760	282,360	316,526	19%	23%	60.0%	38%
B Okanagan	30,663	33,169	36,182	38,652	8%	9%	43.1%	17%
B Chelan	45,061	51,698	56,509	59,717	15%	9%	39.5%	16%
B Wahkiakum	3,832	3,327	3,617	3,895	-13%	9%	75.5%	17%
B Klickitat	15,822	16,386	17,806	19,069	4%	9%	55.1%	16%
D Thurston	124,264	155,365	187,213	200,362	25%	20%	63.2%	29%
E San Juan	7,838	9,609	11,442	12,261	23%	19%	51.7%	28%

**APPENDIX 3**  
**OTHER SOCIO-ECONOMIC INDICATORS - NORTHWEST FOREST PLAN REGION**  
**Table 1: Change in Population by County 1980, 1989, 1994 and 1997**

	1980	1989	1994	1997	% Chg 1980 to 1989	% Chg 1989 to 1994	% Pop Growth 1990- 94 due to net In-Migration	% Chg 1989 to 1997
<u>Oregon</u>								
A Columbia	35,646	36,708	40,770	43,751	3%	11%	100%*	19%
A Yamhill	55,332	64,010	73,286	80,212	16%	14%	52.8%	25%
A Polk	45,203	48,620	56,044	60,130	8%	15%	69.1%	24%
A Marion	204,692	224,980	251,037	265,123	10%	12%	48.0%	18%
B Clatsop	32,489	33,040	35,125	35,546	2%	6%	100%*	8%
B Tillamook	21,164	21,356	23,177	24,384	1%	9%	100%*	14%
B Hood River	15,835	16,839	18,363	19,618	6%	9%	**	17%
B Benton	68,211	69,879	74,151	76,544	2%	6%	30.3%	10%
B Curry	16,992	18,810	20,735	21,283	11%	10%	62.4%	13%
B Deschutes	62,142	71,415	90,878	101,367	15%	27%	50.9%	42%
B Jefferson	11,599	13,239	15,624	16,587	14%	18%	80.4%	25%
C Crook	13,091	13,664	15,951	16,958	4%	17%	76.1%	24%
D Multnomah	562,647	576,816	611,734	624,619	3%	6%	8.2%	8%
D Washington	245,860	300,230	360,332	391,335	22%	20%	47.4%	30%
<u>N California</u>								
A Shasta	115,613	141,800	159,801	163,254	23%	13%	43.7%	15%
B Del Norte	18,217	20,400	27,543	28,391	12%	35%	21.5%	39%
B Tehama	38,888	48,000	53,421	54,623	23%	11%	27.9%	14%
B Glenn	21,350	24,200	26,106	26,889	13%	8%	**	11%
C Lake	36,366	49,200	54,642	55,034	35%	11%	56.1%	12%
<b>Unknown Hvst Decr 1989-94</b>								
<u>Washington</u>								
C Ferry	5,811	6,159	6,997	7,256	6%	14%	n/a	18%
C Stevens	28,979	30,416	36,411	39,243	5%	20%	n/a	29%
C Pend Oreille	8,580	8,868	10,338	11,271	3%	17%	n/a	27%
E Island	44,048	57,493	65,841	70,664	31%	15%	49.7%	23%
<b>Washington Total</b>	<b>4,132,353</b>	<b>4,746,316</b>	<b>5,250,176</b>	<b>5,610,362</b>	<b>15%</b>	<b>11%</b>		<b>18%</b>
<b>Washington (NWEAI) <sup>2</sup></b>	<b>1,823,070</b>	<b>2,144,857</b>	<b>2,473,937</b>	<b>2,639,361</b>	<b>18%</b>	<b>15%</b>		<b>23%</b>
<b>Oregon Total</b>	<b>2,633,105</b>	<b>2,720,520</b>	<b>3,009,879</b>	<b>3,160,105</b>	<b>3%</b>	<b>11%</b>		<b>16%</b>
<b>Oregon (NWEAI) <sup>2</sup></b>	<b>1,595,130</b>	<b>1,691,665</b>	<b>1,880,074</b>	<b>1,985,012</b>	<b>6%</b>	<b>11%</b>		<b>17%</b>
<b>California Total</b>	<b>23,782,000</b>	<b>29,142,000</b>	<b>31,790,557</b>	<b>32,956,588</b>	<b>23%</b>	<b>9%</b>		<b>13%</b>
<b>California (NWEAI) <sup>2</sup></b>	<b>457,287</b>	<b>534,900</b>	<b>587,258</b>	<b>597,661</b>	<b>17%</b>	<b>10%</b>		<b>12%</b>
<b>Non-Metro NWEAI <sup>2</sup></b>	<b>1,499,941</b>	<b>1,609,135</b>	<b>1,784,070</b>	<b>1,861,373</b>	<b>7%</b>	<b>11%</b>		<b>16%</b>
<b>U.S. Total</b>	<b>227,224,681</b>	<b>246,819,230</b>	<b>260,327,021</b>	<b>267,783,607</b>	<b>9%</b>	<b>5%</b>		<b>8%</b>

(\*) County experiencing natural decreases during period that are offset by in-migration.

(\*\*) County experiencing outmigration during period offset by natural increase.

- 1 Counties organized into the following categories: A (in region affected by spotted owl decision, classified as a metro county and eligible for assistance under NWEAI); B (in region, non-metro county and NWEAI eligible); C (outside region, non-metro county and NWEAI eligible); D (in region, metro county and not eligible for NWEAI); E (in region, non metro and not eligible for NWEAI).
- 2 NWEAI totals include counties in categories A, B and C.

Sources: Christensen et al (2000); Raettig (1999); County Portraits; California Dept Finance; US Census

**APPENDIX 3**  
**OTHER SOCIO-ECONOMIC INDICATORS - NORTHWEST FOREST PLAN REGION**  
**Table 2: Change in Total Employment by County 1989, 1994 and 1997**

	1989	1994	1997	Chg 1989 to 1994	Chg 1994 to 1997	% Chg 1989 to 1994	% Chg 1989 to 1997
<b>Lge Hvst Decr 1989-94</b>							
<u>Oregon</u>							
A <sup>1</sup> Lane	111,141	122,031	131,712	10,890	9,681	10%	19%
B Douglas	33,229	32,915	36,606	-314	3,691	-1%	10%
<b>Med Hvst Decr 1989-94</b>							
<u>Washington</u>							
A Snohomish	151,263	181,104	202,847	29,841	21,743	20%	34%
B Skagit	28,471	35,786	38,806	7,315	3,020	26%	36%
B Mason	9,264	10,475	11,885	1,211	1,410	13%	28%
B Clallam	17,398	18,331	19,528	933	1,197	5%	12%
B Jefferson	5,175	6,546	6,965	1,371	419	26%	35%
B Grays Harbor	22,848	22,441	23,114	-407	673	-2%	1%
B Pacific	5,253	5,786	5,956	533	170	10%	13%
B Cowlitz	32,213	34,704	36,241	2,491	1,537	8%	13%
B Skamania	1,852	1,912	1,916	60	4	3%	3%
B Kittitas	8,579	10,772	11,491	2,193	719	26%	34%
B Lewis	20,262	23,278	25,536	3,016	2,258	15%	26%
D King	880,054	932,746	1,044,399	52,692	111,653	6%	19%
D Yakima	75,407	90,022	92,753	14,615	2,731	19%	23%
<u>Oregon</u>							
A Jackson	52,057	61,336	67,813	9,279	6,477	18%	30%
A Clackamas	86,915	106,817	121,779	19,902	14,962	23%	40%
B Lincoln	13,541	15,743	16,775	2,202	1,032	16%	24%
B Linn	32,573	35,993	41,297	3,420	5,304	10%	27%
B Josephine	18,177	19,244	20,516	1,067	1,272	6%	13%
B Coos	19,268	20,310	21,151	1,042	841	5%	10%
B Wasco	7,801	8,896	9,192	1,095	296	14%	18%
D Klamath	20,138	20,768	22,573	630	1,805	3%	12%
<u>N. California</u>							
B Siskiyou	14,290	13,900	14,360	-390	460	-3%	0%
B Humboldt	44,300	46,100	49,000	1,800	2,900	4%	11%
B Trinity	3,320	3,170	3,200	-150	30	-5%	-4%
B Mendocino	27,610	28,350	31,530	740	3,180	3%	14%
<b>Smaller Hvst Decr 1989-94</b>							
<u>Washington</u>							
A Whatcom	47,872	59,434	64,316	11,562	4,882	24%	34%
A Pierce	179,990	207,599	222,225	27,609	14,626	15%	23%
A Kitsap	60,690	67,961	69,879	7,271	1,918	12%	15%
A Clark	73,184	91,802	105,557	18,618	13,755	25%	44%
B Okanagan	13,316	18,122	18,678	4,806	556	36%	40%
B Chelan	26,446	34,023	34,714	7,577	691	29%	31%
B Wahkiakum	768	698	773	-70	75	-9%	1%
B Klickitat	4,896	5,579	5,994	683	415	14%	22%
D Thurston	60,390	74,048	78,849	13,658	4,801	23%	31%
E San Juan	3,247	3,960	4,195	713	235	22%	29%

**APPENDIX 3**  
**OTHER SOCIO-ECONOMIC INDICATORS - NORTHWEST FOREST PLAN REGION**  
**Table 2: Change in Total Employment by County 1989, 1994 and 1997**

	1989	1994	1997	Chg 1989 to 1994	Chg 1994 to 1997	% Chg 1989 to 1994	% Chg 1989 to 1997
<u>Oregon</u>							
A Columbia	9,081	8,665	9,496	-416	831	-5%	5%
A Yamhill	20,211	24,824	27,791	4,613	2,967	23%	38%
A Polk	10,194	12,140	14,639	1,946	2,499	19%	44%
A Marion	97,369	114,042	122,508	16,673	8,466	17%	26%
B Clatsop	13,917	14,197	15,498	280	1,301	2%	11%
B Tillamook	5,812	7,069	7,672	1,257	603	22%	32%
B Hood River	7,702	9,113	9,887	1,411	774	18%	28%
B Benton	26,963	30,580	35,651	3,617	5,071	13%	32%
B Curry	5,446	5,765	5,965	319	200	6%	10%
B Deschutes	29,336	37,818	43,625	8,482	5,807	29%	49%
B Jefferson	4,972	5,789	6,366	817	577	16%	28%
C Crook	4,965	6,013	5,889	1,048	-124	21%	19%
D Multnomah	369,019	397,244	440,077	28,225	42,833	8%	19%
D Washington	127,579	163,724	202,209	36,145	38,485	28%	58%
<u>N California</u>							
A Shasta	47,800	53,000	56,100	5,200	3,100	11%	17%
B Del Norte	5,930	7,310	7,820	1,380	510	23%	32%
B Tehama	12,250	13,610	15,100	1,360	1,490	11%	23%
B Glenn	7,840	7,600	7,890	-240	290	-3%	1%
C Lake	10,800	12,420	12,910	1,620	490	15%	20%
<b>Unknown Hvst Decr 1989-94</b>							
<u>Washington</u>							
C Ferry	1,682	1,896	1,855	214	-41	13%	10%
C Stevens	7,668	9,195	9,774	1,527	579	20%	27%
C Pend Oreille	2,644	2,254	2,473	-390	219	-15%	-6%
E Island	10,589	12,750	13,753	2,161	1,003	20%	30%
<b>Washington Total</b>	<b>2,025,929</b>	<b>2,303,539</b>	<b>2,508,962</b>	<b>277,610</b>	<b>205,423</b>	<b>14%</b>	<b>24%</b>
<b>Washington (NWEAI) <sup>2</sup></b>	<b>721,734</b>	<b>849,698</b>	<b>920,523</b>	<b>127,964</b>	<b>70,825</b>	<b>18%</b>	<b>28%</b>
<b>Oregon Total</b>	<b>1,192,967</b>	<b>1,357,593</b>	<b>1,522,053</b>	<b>164,626</b>	<b>164,460</b>	<b>14%</b>	<b>28%</b>
<b>Oregon (NWEAI) <sup>2</sup></b>	<b>610,670</b>	<b>699,300</b>	<b>771,828</b>	<b>88,630</b>	<b>72,528</b>	<b>15%</b>	<b>26%</b>
<b>California (NWEAI) <sup>2</sup></b>	<b>174,140</b>	<b>185,460</b>	<b>197,910</b>	<b>11,320</b>	<b>12,450</b>	<b>7%</b>	<b>14%</b>
<b>Total NWEAI <sup>2</sup></b>	<b>1,506,544</b>	<b>1,734,458</b>	<b>1,890,261</b>	<b>227,914</b>	<b>155,803</b>	<b>15%</b>	<b>25%</b>

1 Counties organised into the following categories: A (in region affected by spotted owl decision, classified as a metro county and eligible for assistance under NWEAI); B (in region, non-metro county and NWEAI eligible); C (outside region, non-metro county and NWEAI eligible); D (in region, metro county and not eligible for NWEAI); E (in region, non metro and not eligible for NWEAI).

2 NWEAI totals include counties in categories A, B and C.

Sources: Raettig (1999); Washington, Oregon and California Departments of Employment

**APPENDIX 3**  
**OTHER SOCIO-ECONOMIC INDICATORS - NORTHWEST FOREST PLAN REGION**  
**Table 3: Change in Employment Structure by County 1989, 1994 and 1997**

	% SIC24 of T Employment			% T. Mfg of T Employment			% T. Svcs of T Employment		
	1989	1994	1997	1989	1994	1997	1989	1994	1997
<b>Lge Hvst Decr 1989-94</b>									
<u>Oregon</u>									
A <sup>1</sup> Lane	10.2%	6.5%	5.6%	19.2%	15.8%	16.2%	23.8%	26.9%	26.9%
B Douglas	24.8%	18.4%	17.2%	29.8%	24.3%	24.2%	17.1%	19.8%	21.2%
<b>Med Hvst Decr 1989-94</b>									
<u>Washington</u>									
A Snohomish	2.2%	1.5%	1.4%	32.2%	29.0%	30.6%	15.9%	18.6%	18.6%
B Skagit	4.1%	1.7%	1.6%	14.2%	12.5%	12.5%	17.7%	17.7%	20.5%
B Mason	16.3%	13.1%	11.8%	23.3%	18.1%	16.9%	14.5%	15.0%	18.3%
B Clallam	9.0%	4.2%	4.9%	16.8%	11.2%	10.4%	18.7%	22.5%	23.0%
B Jefferson	2.2%	1.2%	1.0%	14.4%	11.7%	12.4%	18.9%	22.7%	22.6%
B Grays Harbor	13.7%	10.5%	10.0%	25.5%	18.8%	19.8%	20.7%	21.0%	21.2%
B Pacific	11.0%	9.5%	10.0%	25.5%	21.4%	18.5%	16.0%	18.4%	18.4%
B Cowlitz	9.6%	7.2%	7.0%	31.6%	27.1%	25.5%	17.3%	19.6%	20.1%
B Skamania	28.9%	9.0%	10.9%	31.8%	12.9%	15.5%	5.9%	24.1%	24.9%
B Kittitas	2.2%	1.3%	1.1%	9.4%	6.0%	6.9%	18.3%	17.3%	18.3%
B Lewis	12.9%	10.7%	10.3%	20.6%	18.1%	17.1%	15.8%	17.7%	18.0%
D King	0.8%	0.7%	0.6%	18.9%	15.0%	14.7%	23.9%	27.5%	29.7%
D Yakima	1.8%	2.1%	1.8%	11.7%	11.8%	11.7%	18.0%	19.2%	20.4%
<u>Oregon</u>									
A Jackson	11.0%	8.2%	6.7%	17.6%	14.9%	13.5%	21.6%	25.0%	27.2%
A Clackamas	2.6%	1.3%	1.4%	18.1%	14.7%	13.5%	18.1%	21.3%	22.9%
B Lincoln	3.7%	2.5%	1.2%	12.6%	10.3%	7.5%	22.5%	23.6%	27.7%
B Linn	13.1%	10.0%	9.7%	32.8%	29.2%	29.7%	17.0%	17.4%	18.4%
B Josephine	12.0%	7.7%	6.9%	23.0%	16.6%	15.2%	20.3%	24.0%	25.3%
B Coos	13.2%	8.5%	8.4%	19.7%	14.4%	14.1%	17.0%	19.3%	22.2%
B Wasco	4.2%	2.5%	1.9%	14.2%	12.7%	12.3%	20.5%	21.1%	23.0%
D Klamath	18.6%	13.5%	12.5%	23.7%	18.8%	17.9%	18.1%	21.1%	23.9%
<u>N. California</u>									
B Siskiyou	11.4%	5.3%	6.8%	13.9%	8.6%	10.1%	17.1%	20.7%	21.3%
B Humboldt		9.1%	9.0%	14.9%	14.1%	13.7%	21.0%	24.3%	25.3%
B Trinity				13.6%	17.0%	10.0%	13.3%	12.3%	16.3%
B Mendocino		8.7%	7.9%	19.1%	16.7%	16.9%	20.9%	22.9%	23.7%
<b>Smaller Hvst Decr 1989-94</b>									
<u>Washington</u>									
A Whatcom	2.3%	2.0%	2.2%	16.5%	14.5%	14.4%	21.5%	23.7%	24.6%
A Pierce	2.4%	2.0%	1.8%	12.1%	10.3%	11.2%	23.6%	25.6%	27.4%
A Kitsap	0.5%	0.3%	0.2%	2.5%	2.8%	2.9%	20.5%	22.6%	25.0%
A Clark	2.4%	1.6%	1.2%	23.2%	20.3%	19.0%	19.5%	21.3%	21.6%
B Okanagan	9.6%	5.8%	5.3%	10.4%	6.5%	6.6%	12.9%	14.4%	18.1%
B Chelan	1.4%	0.6%	0.7%	10.4%	7.2%	7.3%	19.0%	16.9%	19.3%
B Wahkiakum	17.6%	15.8%		18.9%	18.3%	30.0%	12.4%	13.2%	13.3%
B Klickitat	19.0%	10.7%		34.0%	22.0%	22.1%	10.5%	11.2%	10.0%
D Thurston	1.7%	1.5%	1.2%	6.1%	7.2%	5.4%	17.7%	20.2%	22.3%
E San Juan	1.3%	1.1%	1.1%	7.8%	5.9%	3.8%	24.9%	27.8%	28.1%

**APPENDIX 3**  
**OTHER SOCIO-ECONOMIC INDICATORS - NORTHWEST FOREST PLAN REGION**  
**Table 3: Change in Employment Structure by County 1989, 1994 and 1997**

	% SIC24 of T Employment			% T. Mfg of T Employment			% T. Svcs of T Employment		
	1989	1994	1997	1989	1994	1997	1989	1994	1997
<u>Oregon</u>									
A Columbia	13.6%	9.0%	8.3%	26.5%	24.8%	24.0%	14.4%	14.7%	15.3%
A Yamhill	8.0%	5.0%	4.6%	27.5%	23.6%	23.3%	18.0%	18.9%	20.3%
A Polk	8.7%	5.7%	5.0%	26.5%	20.2%	20.2%	15.3%	20.1%	27.2%
A Marion	3.2%	3.4%	3.0%	13.4%	13.3%	12.5%	19.1%	20.3%	22.0%
B Clatsop	5.9%	3.9%	3.4%	25.0%	19.9%	18.2%	18.8%	22.1%	26.0%
B Tillamook	7.3%	7.3%	6.8%	18.3%	18.1%	17.1%	18.3%	20.4%	21.1%
B Hood River	6.9%	5.3%	2.8%	15.7%	14.8%	12.1%	20.6%	21.0%	21.6%
B Benton	5.5%	3.7%	3.0%	19.8%	21.6%	23.8%	21.0%	23.5%	25.7%
B Curry	17.1%	10.9%	10.9%	21.9%	15.2%	14.9%	14.3%	17.3%	18.4%
B Deschutes	11.7%	7.3%	5.0%	18.0%	13.5%	12.2%	24.9%	24.8%	27.7%
B Jefferson	20.1%	21.5%	21.8%	29.8%	29.3%	28.8%	20.0%	20.2%	20.3%
C Crook	39.0%	33.0%	25.4%	40.2%	35.6%	27.7%	11.6%	13.4%	14.6%
D Multnomah	0.7%	0.5%	0.4%	13.0%	12.3%	11.9%	27.0%	29.0%	29.8%
D Washington	1.5%	1.2%	1.0%	25.6%	23.4%	24.1%	21.3%	24.0%	25.3%
<u>N California</u>									
A Shasta	4.6%	3.2%	3.2%	10.3%	7.9%	8.2%	24.1%	27.9%	30.1%
B Del Norte	7.9%	3.0%	2.8%	13.2%	7.3%	6.8%	16.0%	17.8%	20.8%
B Tehama	13.7%	9.8%	9.7%	20.6%	20.5%	16.8%	17.6%	18.2%	17.7%
B Glenn				17.6%	16.4%	13.6%	9.1%	7.4%	8.9%
C Lake				4.0%	3.5%	3.5%	21.9%	23.5%	25.6%
<b>Unknown Hvst Decr 1989-94</b>									
<u>Washington</u>									
C Ferry		10.9%	10.7%	16.8%	11.9%	11.1%	14.9%	12.6%	14.8%
C Stevens	16.8%	13.4%	11.3%	27.8%	24.2%	21.2%	17.5%	21.0%	24.9%
C Pend Oreille	5.1%	6.8%	4.2%	13.7%	17.6%	15.3%	8.1%	12.1%	16.5%
E Island	0.3%		0.3%	5.7%	4.1%	4.6%	20.6%	22.0%	23.3%
<b>Washington Total</b>									
<b>Washington (NWEAI) <sup>6</sup></b>	4.1%	2.9%	2.6%	19.2%	16.5%	17.0%	19.3%	21.2%	22.3%
<b>Oregon Total</b>									
<b>Oregon (NWEAI) <sup>6</sup></b>	5.7%	4.0%	3.5%	18.3%	16.3%	16.0%	22.1%	24.3%	25.6%
	9.0%	6.3%	5.4%	20.0%	17.0%	16.5%	20.0%	22.2%	23.8%
<b>California (NWEAI)</b>									
				14.0%	12.0%	11.6%	20.5%	23.2%	24.6%
<b>Total NWEAI</b>									
				18.9%	16.2%	16.2%	19.7%	21.8%	23.2%

1 Counties organised into the following categories: A (in region affected by spotted owl decision, classified as a metro county and eligible for assistance under NWEAI); B (in region, non-metro county and NWEAI eligible); C (outside region, non-metro county and NWEAI eligible); D (in region, metro county and not eligible for NWEAI); E (in region, non metro and not eligible for NWEAI).

2 NWEAI totals include counties in categories A, B and C.

Sources: Raettig (1999); Washington, Oregon and California Departments of Employment

**APPENDIX 3**  
**OTHER SOCIO-ECONOMIC INDICATORS - NORTHWEST FOREST PLAN REGION**  
**Table 4: Change in Service Sector Employment by County 1989, 1994 and 1997**

	1989	1994	1997	Chg 1989 to 1994	Chg 1994 to 1997	% Chg 1989 to 1994	% Chg 1989 to 1997
<b>Lge Hvst Decr 1989-94</b>							
<u>Oregon</u>							
A <sup>1</sup> Lane	26,429	32,882	35,380	6,453	2,498	24%	34%
B Douglas	5,692	6,517	7,753	825	1,236	14%	36%
<b>Med Hvst Decr 1989-94</b>							
<u>Washington</u>							
A Snohomish	24,021	33,626	37,828	9,605	4,202	40%	57%
B Skagit	5,043	6,331	7,942	1,288	1,611	26%	57%
B Mason	1,340	1,573	2,178	233	605	17%	63%
B Clallam	3,245	4,117	4,494	872	377	27%	38%
B Jefferson	977	1,489	1,572	512	83	52%	61%
B Grays Harbor	4,720	4,707	4,909	-13	202	0%	4%
B Pacific	840	1,063	1,095	223	32	27%	30%
B Cowlitz	5,582	6,807	7,269	1,225	462	22%	30%
B Skamania	109	460	477	351	17	322%	338%
B Kittitas	1,571	1,863	2,102	292	239	19%	34%
B Lewis	3,193	4,114	4,587	921	473	29%	44%
D King	210,559	256,886	310,401	46,327	53,515	22%	47%
D Yakima	13,537	17,307	18,954	3,770	1,647	28%	40%
<u>Oregon</u>							
A Jackson	11,267	15,338	18,456	4,071	3,118	36%	64%
A Clackamas	15,692	22,711	27,856	7,019	5,145	45%	78%
B Lincoln	3,041	3,711	4,650	670	939	22%	53%
B Linn	5,543	6,256	7,600	713	1,344	13%	37%
B Josephine	3,695	4,624	5,200	929	576	25%	41%
B Coos	3,282	3,921	4,701	639	780	19%	43%
B Wasco	1,599	1,878	2,114	279	236	17%	32%
D Klamath	3,652	4,373	5,395	721	1,022	20%	48%
<u>N. California</u>							
B Siskiyou	2,450	2,880	3,060	430	180	18%	25%
B Humboldt	9,300	11,200	12,400	1,900	1,200	20%	33%
B Trinity	440	390	520	-50	130	-11%	18%
B Mendocino	5,780	6,500	7,460	720	960	12%	29%
<b>Smaller Hvst Decr 1989-94</b>							
<u>Washington</u>							
A Whatcom	10,304	14,081	15,804	3,777	1,723	37%	53%
A Pierce	42,394	53,218	60,901	10,824	7,683	26%	44%
A Kitsap	12,460	15,353	17,450	2,893	2,097	23%	40%
A Clark	14,248	19,525	22,783	5,277	3,258	37%	60%
B Okanagan	1,721	2,613	3,379	892	766	52%	96%
B Chelan	5,016	5,751	6,709	735	958	15%	34%
B Wahkiakum	95	92	103	-3	11	-3%	8%
B Klickitat	515	624	597	109	-27	21%	16%
D Thurston	10,713	14,945	17,560	4,232	2,615	40%	64%
E San Juan	809	1,100	1,179	291	79	36%	46%

**APPENDIX 3**  
**OTHER SOCIO-ECONOMIC INDICATORS - NORTHWEST FOREST PLAN REGION**  
**Table 4: Change in Service Sector Employment by County 1989, 1994 and 1997**

	1989	1994	1997	Chg 1989 to 1994	Chg 1994 to 1997	% Chg 1989 to 1994	% Chg 1989 to 1997
<u>Oregon</u>							
A Columbia	1,311	1,278	1,456	-33	178	-3%	11%
A Yamhill	3,630	4,699	5,633	1,069	934	29%	55%
A Polk	1,561	2,446	3,981	885	1,535	57%	155%
A Marion	18,571	23,189	26,983	4,618	3,794	25%	45%
B Clatsop	2,610	3,143	4,036	533	893	20%	55%
B Tillamook	1,064	1,440	1,616	376	176	35%	52%
B Hood River	1,586	1,910	2,140	324	230	20%	35%
B Benton	5,673	7,190	9,157	1,517	1,967	27%	61%
B Curry	778	996	1,095	218	99	28%	41%
B Deschutes	7,309	9,390	12,071	2,081	2,681	28%	65%
B Jefferson	995	1,172	1,294	177	122	18%	30%
C Crook	575	808	859	233	51	41%	49%
D Multnomah	99,639	115,343	131,189	15,704	15,846	16%	32%
D Washington	27,137	39,353	51,248	12,216	11,895	45%	89%
<u>N California</u>							
A Shasta	11,500	14,800	16,900	3,300	2,100	29%	47%
B Del Norte	950	1,300	1,630	350	330	37%	72%
B Tehama	2,150	2,480	2,680	330	200	15%	25%
B Glenn	710	560	700	-150	140	-21%	-1%
C Lake	2,370	2,920	3,300	550	380	23%	39%
<b>Unknown Hvst Decr 1989-94</b>							
<u>Washington</u>							
C Ferry	251	238	274	-13	36	-5%	9%
C Stevens	1,343	1,929	2,431	586	502	44%	81%
C Pend Oreille	214	272	408	58	136	27%	91%
E Island	2,178	2,802	3,210	624	408	29%	47%
<b>Washington Total</b>	438,192	563,450	644,744	125,258	81,294	29%	47%
<b>Washington (NWEAI) <sup>2</sup></b>	139,202	179,846	205,292	40,644	25,446	29%	47%
<b>Oregon Total</b>	263,967	329,957	390,371	65,990	60,414	25%	48%
<b>Oregon (NWEAI) <sup>2</sup></b>	121,903	155,499	184,031	33,596	28,532	28%	51%
<b>California (NWEAI) <sup>2</sup></b>	35,650	43,030	48,650	7,380	5,620	21%	36%
<b>Total NWEAI <sup>2</sup></b>	296,755	378,375	437,973	81,620	59,598	28%	48%

1 Counties organised into the following categories: A (in region affected by spotted owl decision, classified as a metro county and eligible for assistance under NWEAI during the period, but a positive increase in service sector jobs); D (in region, more service sector jobs over the period, but a net job gain)

2 NWEAI totals include counties in categories A, B and C.

Sources: Raettig (1999); Washington, Oregon and California Departments of Employment

**APPENDIX 3**  
**OTHER SOCIO-ECONOMIC INDICATORS - NORTHWEST FOREST PLAN REGION**  
**Table 5: Change in Travel Sector Employment by County 1993 to 1997**

	1993 Employment	1997 Employment	%Chg 1993 to 1997
<b>Lge Hvst Decr 1989-94</b>			
<u>Oregon</u>			
A Lane	6,100	6,680	10%
B Douglas	2,010	2,690	34%
<b>Med Hvst Decr 1989-94</b>			
<u>Washington</u>			
A Snohomish	8,300	9,450	14%
B Skagit	3,320	2,460	-26%
B Mason	1,830	1,290	-30%
B Clallam	2,410	2,300	-5%
B Jefferson	1,500	1,530	2%
B Grays Harbor	2,670	3,340	25%
B Pacific	1,280	1,450	13%
B Cowlitz	1,650	1,940	18%
B Skamania	730	840	15%
B Kittitas	1,920	1,650	-14%
B Lewis	1,950	1,970	1%
D King	46,950	55,540	18%
D Yakima	3,900	4,250	9%
<u>Oregon</u>			
A Jackson	3,220	3,440	7%
A Clackamas	3,320	3,770	14%
B Lincoln	4,970	5,940	20%
B Linn	980	1,090	11%
B Josephine	1,260	1,320	5%
B Coos	1,650	1,940	18%
B Wasco	1,130	1,270	12%
D Klamath	1,410	1,610	14%
<u>N. California</u>			
B Siskiyou	2,010	2,170	8%
B Humboldt	3,750	3,910	4%
B Trinity	1,040	1,160	12%
B Mendocino	4,640	4,810	4%
<b>Smaller Hvst Decr 1989-94</b>			
<u>Washington</u>			
A <sup>5</sup> Whatcom	5,520	6,300	14%
A Pierce	11,050	11,110	1%
A Kitsap	3,820	3,340	-13%
A Clark	3,710	4,410	19%
B Okanagan	1,230	1,300	6%
B Chelan	3,800	3,970	4%
B Wahkiakum	50	70	40%
B Klickitat	400	400	0%
D Thurston	3,110	2,980	-4%
E San Juan	1,460	1,530	5%

**APPENDIX 3**  
**OTHER SOCIO-ECONOMIC INDICATORS - NORTHWEST FOREST PLAN REGION**  
**Table 5: Change in Travel Sector Employment by County 1993 to 1997**

	1993 Employment	1997 Employment	%Chg 1993 to 1997
<u>Oregon</u>			
A Columbia	200	240	20%
A Yamhill	490	530	8%
A Polk	330	1,510	358%
A Marion	2,660	2,900	9%
B Clatsop	4,040	4,610	14%
B Tillamook	2,500	2,770	11%
B Hood River	930	920	-1%
B Benton	790	920	16%
B Curry	1,540	1,540	0%
B Deschutes	4,440	5,200	17%
B Jefferson	760	900	18%
C Crook	310	340	10%
D Multnomah	13,550	16,590	22%
D Washington	3,460	4,220	22%
<u>N California</u>			
A Shasta	4,620	4,820	4%
B Del Norte	1,510	1,670	11%
B Tehama	1,180	1,300	10%
B Glenn	470	580	23%
C Lake	2,480	2,870	16%
 <b>Unknown Hvst Decr 1989-94</b>			
<u>Washington</u>			
C Ferry	300	350	17%
C Stevens	1,060	860	-19%
C Pend Oreille	370	400	8%
E Island	2,740	2,700	-1%
 <b>Washington Total</b>			
	134,900	146,600	9%
<b>Washington (NWEAI) <sup>2</sup></b>	58,870	60,730	3%
 <b>Oregon Total</b>			
	65,700	77,100	17%
<b>Oregon (NWEAI) <sup>2</sup></b>	43,630	50,520	16%
 <b>California (NWEAI) <sup>2</sup></b>			
	21,700	23,290	7%
 <b>Total NWEAI <sup>2</sup></b>			
	124,200	134,540	8%

- 1 Counties organised into the following categories: A (in region affected by spotted owl decision, classified as a metro county and eligible for assistance under NWEAI); B (in region, non-metro county and NWEAI eligible); C (outside region, non-metro county and NWEAI eligible); D (in region, metro county and not eligible for NWEAI); E (in region, non metro and not eligible for NWEAI).
- 2 NWEAI totals include counties in categories A, B and C.

Sources: Dean Ruyan Associates (2000a), (2000b) and (2000c)

**APPENDIX 3**  
**OTHER SOCIO-ECONOMIC INDICATORS - NORTHWEST FOREST PLAN REGION**  
**Table 6: Other Indicators**

	Econ Diversity Index 1993 <sup>2</sup>	Change in Poverty Rate 1989 to 1993 <sup>3</sup>	% Pop without High School Diploma 1990	Unemployment Rate		
				1989	1993	1997
<b>Lge Hvst Decr 1989-94</b>						
<u>Oregon</u>						
A <sup>1</sup> Lane	High	Increase	17.0%	5.5%	7.6%	5.7%
B Douglas	Medium	Increase	25.5%	7.8%	11.8%	8.8%
<b>Med Hvst Decr 1989-94</b>						
<u>Washington</u>						
A Snohomish	High	Large Increase	14.3%	4.9%	6.7%	3.5%
B Skagit	High	Increase	19.0%	8.4%	11.2%	7.1%
B Mason	Low	Increase	20.8%	7.3%	9.6%	6.8%
B Clallam	Medium	Increase	20.3%	8.5%	9.9%	7.9%
B Jefferson	Medium	Decrease	17.3%	5.8%	8.3%	6.8%
B Grays Harbor	Medium	Increase	26.0%	10.3%	15.2%	9.3%
B Pacific	Low	Decrease	25.8%	9.8%	12.0%	9.0%
B Cowlitz	Medium	Increase	22.7%	8.2%	10.9%	7.1%
B Skamania	Low	Large Increase	22.6%	18.4%	14.8%	10.1%
B Kittitas	Low	Large Increase	18.8%	9.0%	15.8%	6.0%
B Lewis	High	Increase	24.6%	8.9%	11.0%	7.8%
D King	High	Increase	11.8%	4.5%	6.4%	3.3%
D Yakima	High	Large Increase	33.9%	12.0%	14.5%	10.0%
<u>Oregon</u>						
A Jackson	High	Increase	19.9%	6.7%	8.6%	7.6%
A Clackamas	High	Increase	14.3%	3.6%	5.4%	4.0%
B Lincoln	Medium	Increase	19.5%	6.0%	7.6%	8.7%
B Linn	High	Increase	23.8%	7.5%	9.6%	7.3%
B Josephine	High	Increase	24.8%	7.8%	10.8%	9.4%
B Coos	High	Increase	24.5%	9.8%	10.8%	9.6%
B Wasco	Medium	Decrease	22.6%	8.3%	9.3%	9.1%
D Klamath	Medium	Increase	23.8%	7.8%	10.9%	9.6%
<u>N. California</u>						
B Siskiyou	Medium	Large Increase	22.6%		15.5%	12.0%
B Humboldt	Medium	Decrease	19.5%		9.8%	7.3%
B Trinity	Low	Decrease	25.8%		16.3%	13.6%
B Mendocino	High	Large Increase	21.3%		11.3%	8.0%
<b>Smaller Hvst Decr 1989-94</b>						
<u>Washington</u>						
A Whatcom	High	Decrease	16.8%	6.7%	7.8%	5.8%
A Pierce	Medium	Increase	16.8%	6.3%	7.5%	4.5%
A Kitsap	Low	Increase	13.4%	5.4%	6.8%	5.5%
A Clark	High	Increase	16.1%	5.9%	5.8%	3.6%
B Okanagan	Low	Decrease	28.7%	11.9%	12.0%	9.4%
B Chelan	Medium	Increase	25.7%	10.3%	10.7%	7.9%
B Wahkiakum	Low	Increase	22.2%	8.3%	7.8%	6.1%
B Klickitat	Medium	Increase	29.6%	13.4%	15.0%	10.6%
D Thurston	Low	Increase	13.5%	6.3%	7.0%	5.1%

**APPENDIX 3  
OTHER SOCIO-ECONOMIC INDICATORS - NORTHWEST FOREST PLAN REGION**

**Table 6: Other Indicators**

	Econ Diversity Index 1993 <sup>2</sup>	Change in Poverty Rate 1989 to 1993 <sup>3</sup>	% Pop without High School Diploma 1990	Unemployment Rate		
				1989	1993	1997
E San Juan	Medium		8.8%	4.0%	7.7%	5.6%
<u>Oregon</u>						
A Columbia	High	Decrease	22.0%	7.3%	9.6%	6.1%
A Yamhill	High	Increase	20.9%	5.6%	5.9%	5.0%
A Polk	Medium	Decrease	20.0%	6.2%	6.2%	5.0%
A Marion	Medium	Increase	21.3%	5.8%	7.3%	6.0%
B Clatsop	High	Decrease	18.2%	6.4%	8.6%	6.8%
B Tillamook	Medium	Decrease	23.7%	6.8%	6.4%	6.5%
B Hood River	Medium	Increase	28.7%	8.2%	10.6%	11.3%
B Benton	Low	Large Decrease	10.7%	3.5%	3.4%	2.5%
B Curry	Medium	Increase	21.9%	6.4%	9.1%	9.4%
B Deschutes	High	Decrease	16.8%	6.8%	8.7%	8.1%
B Jefferson	Low	Decrease	26.1%	6.0%	9.0%	6.6%
C Crook	Low	Decrease	28.2%	7.2%	9.7%	10.1%
D Multnomah	High	Increase	17.1%	5.6%	6.6%	4.9%
D Washington	High	Increase	11.8%	3.0%	5.2%	3.9%
<u>N California</u>						
A Shasta	High	Large Increase	21.6%		12.6%	9.1%
B Del Norte	Low	Large Increase	29.1%		13.6%	10.1%
B Tehama	High	Large Increase	27.8%		13.2%	9.1%
B Glenn	Low	Large Increase	33.1%		17.2%	13.3%
C Lake	Medium	Large Increase	29.1%		13.5%	10.6%
<b>Unknown Hvst Decr 1989-94</b>						
<u>Washington</u>						
C Ferry	n/a	n/a	n/a	11.5%	15.5%	9.8%
C Stevens	n/a	n/a	n/a	9.4%	10.3%	9.1%
C Pend Oreille	n/a	n/a	n/a	9.5%	14.1%	13.0%
E Island	Low		11.7	4.6%	5.4%	3.4%
<b>Washington</b>				6.2%	7.6%	4.8%
<b>Oregon</b>				5.7%	7.3%	5.8%
<b>California</b>				n/a	9.4%	6.3%
<b>U.S.</b>				5.3%	6.9%	4.9%

1 Counties organised into the following categories: A (in region affected by spotted owl decision, classified as a metro county and eligible for assistance under NWEAI); B (in region, non-metro county and NWEAI eligible); C (outside region, non-metro county and NWEAI eligible); D (in region, metro county and not eligible for NWEAI); E (in region, non metro and not eligible for NWEAI).

2 Based on the Shannon-Weaver entropy index using two-digit SIC level of detail. The index is equal to 0 when all employment is one industry and equal to 1 when it is equally distributed across all 70 industries. Low diversity (0.5976 to 0.7425); Medium diversity (0.7438 to .07801); and High diversity (0.7828 to 0.8265)

3 Large Increase (2.1 to 5%); Increase (0 to 2.0%); Decrease (-0.05 to -3.9%); and Large Decrease (-4.0 to -6.54%)

Sources: Christensen et al (2000); Raettig (1999); California Employment Department