

C I N T R A F O R

Working Paper 33

Back to [Publications List](#)

An Assessment of the Impacts of Recent Environmental and Trade Restrictions on Timber Harvest and Exports

John M. Perez-Garcia. 1991

Summary

The Pacific Northwest has traditionally been a strong participant in international forest products markets in the Pacific Rim. The combination of a substantial resource base, processing capabilities to manufacture high quality timber products and export facilities have contributed to a comparative advantage in the export of wood and wood products. The region has been able to maintain its comparative advantage, and hence its market share in the Pacific Rim at a time when other U.S. regions, notably the South, have successfully increased domestic market share.

Recent environmental legislation has reduced the timber resource base substantially and will impact the management of additional areas. A 44 percent decline in timber sales volume in 1989 will result in an annual 9.7 million cubic meters (2.0 billion board feet) reduction by 1995 in public timber harvest. As a consequence, public timber revenues will decline and there will be higher relative sawlog cost to both domestic and foreign purchasers of timber produced in the region. The 75 percent log export restriction by the state of Washington will lower these costs for domestic mills, but increase them further for foreign purchasers. The reduced timber harvest and trade restriction will also diminish the export value of logs and finished products originating from the region. Hence, the region's comparative advantage and market share will decline as other regions will become more competitive with the Pacific Northwest in forest products trade.

Specific measures of these impacts associated with a 2 billion board feet reduction in public timber harvests are:

- 1) The decline in timber sales volume from public lands reduces public timber receipts by \$176 million (in 1988 dollars) in 1995 and reaches \$188 million in 2000. The total revenue decline for the public sector amounts to \$1.9 billion dollars for the 11 year period (1989-2000).
- 2) The reduction in timber sales volume from public lands in the PNW region leads to increased log production from overseas producers. Other producers offset nearly 90 percent of the timber reduction in the public sector. Over half of the harvest reduction is made up overseas in only two years. The private sector in the PNW region is unable to effectively increase the share of the log market. Harvests from the private sector in the region begin to decline in 1993. By 2000 timber harvest from the private sector in the PNW is only ten percent of the contribution by other regions.
- 3) The impact on sawlog costs for the sawnwood and plywood sectors is substantial. A 9.7 million cubic meter reduction in public timber harvest will increase annual log costs by \$1 billion in 1995 and 2000 on a global basis. Log costs in 1995 in the PNW region will increase \$211 million compared to \$63 million for the South and \$34 million for Canada. A similar pattern is observed in 2000. In Japan, the impact of reduced timber supply increases log cost by \$131 million in 1995 and \$90 million in 2000. Log cost impacts in 2000 are lower as Japan adjusts to the decrease in public timber harvests. The price increase for sawlog will allow marginal softwood log producers to harvest more logs. The substitution of hardwood logs for softwoods can also be expected in regions where technological and economic constraints are not binding.
- 4) The impacts on profits for sawmills and plywood mills are also substantial and regionally distributed. Profits in the U.S. West decline in 1995 by \$79 million. There are only modest gains in profits in the South: \$7.4 million. In 1995, Canada increases its profit in the sawmill industry by \$84 million. The decline in profits in 2000 for the U.S. West is \$60 million, while the South's profit increase by \$1.3 million. Canada, by

2000 increases its profits in the sawmill industry by \$90 million. Japan's sawmill industry sees a decline in profits of \$77 million in 1995 and \$32 million in 2000.

- 5) In the export markets, the value of U.S. log exports declines by \$152 million in 1995 and \$168 million in 2000. Globally, the value of log exports decreases by \$75 and \$83 million in 1995 and 2000 respectively. Nearly one quarter of the decline in U.S. log export value is recovered by Chile and New Zealand during this period. In the sawnwood markets, the decline in value of coniferous sawnwood is matched by an increase in export value from Canada. The value sawnwood exports by U.S. West is reduced \$135 million and \$246 million in 1995 and 2000, respectively. Canada increases its export value of sawnwood by \$152 and \$205 million in 1995 and 2000 respectively. In the plywood sector, the U.S. West experiences a decline in export value of \$45 million in 1995 and 2000, while the U.S. South increases its export value by \$57 and \$58 million in 1995 and 2000 respectively.
- 6) The diminished supply of timber in the region will reduce lumber and plywood production globally and increase the prices of finished product. Globally the cost to consumers in increased lumber and plywood prices is \$849 million in 1995 and \$904 million in 2000. For the U.S., the consumer costs are \$161 million in 1995 and \$198 million in 2000. The price increase for lumber and plywood will promote greater non-wood substitution as end users will prefer new technologies that incorporate less wood inputs on the basis of factor cost.

While policies that promote the conservation of forest resources for non-timber outputs are likely to be successful within the regions in which they are implemented, allowing the region to achieve a higher environmental standard, the impacts of reduced timber harvests will increase timber output pressure on forest resources in other regions and other forests within the region and allow non-wood resources potentially more damaging to the environment to substitute for the wood-based items. The overseas regions that increase their timber outputs do not maintain their forest resources under a sustainable management regime, forest productivity and forest area will decline bringing into question the overall environmental gains achieved with conservation efforts in the Pacific Northwest. In effect, imposing a single regional environmental policy only shifts the environmental benefits from one region to another -- old growth forest area will stabilize in the Pacific Northwest, but forest area and productivity in other regions will fall. When evaluated globally, the environmental benefits of such a trade-off may be negative: restricting the use of renewable forest resources in one region may produce a negative environmental impact globally.

The study demonstrates the globalization of specific Pacific Northwest harvest constraints and illustrates the need for a better understanding of the environmental benefits which the forest products industry can provide on a global level. Allowing timber production to take place in regions where sustainable management is more likely to be successful will increase the comparative advantage of forest products versus non-wood substitutes, as well as maximizing environmental benefits within a global context. The present study is a first step in demonstrating these benefits. An extension of the present analysis will quantify the environmental effects with the appropriate linkages between forest products production and trade and the production of environmental by-products.

Full Report \$10.00: [To Ordering Instructions](#)

Back to [Publications List](#)