

# C I N T R A F O R

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## The Importance of Oregon's Forests in US and International Markets: Meeting the Needs of Future Consumers of Forest Products and Environmental Services

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### Executive Summary

The consequences of decisions regarding the management of forest resources in Oregon are local, national and international. This is to say that unilateral policies implemented to achieve an objective associated with Oregonian forest management programs will have unintended consequences elsewhere. This study examines the unintended consequences that arise from a simulated policy to maintain Oregon's harvest levels constant over the next 4 decades.

Forest economies other than Oregon and their associated environments are affected by our local choices. With a projected increase in the demand for wood products, what does it mean for Oregon to constrain its participation by restraining timber harvest? This study projects a future scenario for the global forest sector with and without Oregon's increased participation to describe the impact the Oregon forest sector has on national and international markets. It also discusses several potential impacts on the environment associated with the changes in wood flows. This study addresses the following questions: What does a reduction in Oregon's timber output mean for forest products markets locally, across the US and internationally? Which regions pick up the market share vacated by Oregon? What tradeoffs exist between timber production and the environment? What is Oregon's role in providing forest products, environmental protection, social and economic benefits into the future for its citizens and the global community?

To estimate the effect of Oregon's annual harvest level on US and foreign markets, we first analyze the future demand for wood products to 2040, and identify the producers of wood products that meet this demand. We next constrain the annual harvest level in Oregon to be constant throughout the projection period (2000 to 2040), and note the changes in harvest volumes in markets outside of Oregon. Once recorded, environmental measures for the areas that increase harvest activities are examined. We also note the potential social and economic benefits associated with changes in market shares.

An estimate of future global demand for wood fiber is based on annual projections of gross domestic product (GDP) of 3.5% and two historical trends in consumption of wood fiber. Consumption is estimated to reach between 2.0 and 2.8 billion cubic meters (Bm<sup>3</sup>) over the next 5 decades, adding from 0.5 to 1.3 Bm<sup>3</sup> by the end of the 50-year period.

Many regions participate in meeting this growing demand for wood products, including Oregon, in this business-as-usual scenario. Focusing on softwood saw logs, the South contributes over 100 million cubic meters (MMm<sup>3</sup>) or 17.7 billion board feet (BBF) followed by Canada (40 MMm<sup>3</sup> or 7.1 BBF) and the US West (including Oregon) (10 MMm<sup>3</sup> or 1.8 BBF). This study estimates that the southern states will meet more than half of the projected demand growth.

When Oregon's annual harvest levels are maintained constant—i.e. harvest levels are not allowed to expand to meet the projected demand growth—two effects occur in the market. The first effect is an increase in timber prices. This is followed by responses from other regions and alternative material producers to increase production. The South captures 43% of the decline in Oregon's annual harvest levels. Alternative material producers—i.e. lost wood demand—capture 32% of the lost market. They are followed by Asia and Canada, which capture 15% and 10% respectively of the projected demand growth without an increase in Oregon's annual harvest levels.

These results suggest there are several competing regions with the capacity to increase harvest volumes that an Oregonian forest manager must contend with including southern states, Canada and countries outside of the US with established plantations. Recent data on import trends confirm increased market activity from several countries with expanding forest resources. Latin America, as a region, has increased its exports of softwood lumber and plywood to western ports from less than \$10 million in 1990 to over \$100 million in 2002 for softwood lumber and from nearly no activity in 1997 to over \$8 million in softwood plywood (mostly from Chile). While Brazil's share appears to have peaked in 1999 at less than \$25 million (mostly lumber), other countries have increased exports to western ports including Chile (both lumber and plywood), Uruguay (lumber) and Argentina (plywood). Softwood lumber entering western ports from Australia and New Zealand has increased from negligible numbers in 1990 to nearly \$150 million in 2002. Imports of softwood plywood from New Zealand topped \$1 million in 2002. These trade flows are small but significant since they signal new market suppliers to the US through western ports that directly compete with Oregonian products.

Within the southern states, annual harvest levels are projected to increase over the next twenty years in those states outlying the traditional timber-producing central states of Georgia and Alabama. Fringe regions in eastern Texas and the Carolinas are expected to increase annual harvest volumes by 15% or more in some areas more than offsetting declines in Georgia, Alabama and Mississippi.

We examine several environmental measures for those regions expected to increase market share due to constant annual harvest levels in Oregon. In general, since regions that compensate for Oregon's lower harvest volume have shorter rotations and lower volumes per acre at harvest time, there will be more acres disturbed by harvest activities than would have been if the harvest activity were to occur in Oregon. Conservation concerns in the South are growing as they continue to augment their share of the US market. They include a decline in ecosystem communities that are endangered and not under public management. Also, with much wood growing in emerging plantation regions around the world, and their rankings in biodiversity and other indices low, there is concern that the shift to Asian and Latin American producers may lead to lower conservation efforts abroad. Carbon dioxide and other green house gas emissions also increase with greater use of alternative materials like steel and concrete. Estimates place the additional emissions as high as 1.4 million metric tons annually by 2040.

A loss in future market share also has implications for investment strategies in Oregon, with its social and economic consequences. One conclusion of the analysis suggests that the South, with continued growing demand for wood fiber, will increase its management intensity of forests augmenting productivity. Without the larger market for Oregon producers such management investments become more questionable in Oregon with a concomitant effect on its own forest productivity. While prices for timber may go up, the revenues that landowners receive maybe reduced since they are not able to harvest the same volumes as before. In addition, the lower harvest level removes any incentive for new capacity expansion in Oregon, amounting to 7 to 8 average-sized mills. There are also extensive areas of plantations internationally. These areas are likely to come into play in the near future representing low-cost sources of wood and attracting investments to produce wood products for a globalized market.

These results suggest that planners need to evaluate the tradeoffs associated with an unexpected change in harvest levels for Oregon. Since there is a need to meet growing demand and Oregon can increase its annual harvest level to meet a part of the growth in demand, any program that limits its potential to supply wood products will allow other regions and countries to expand their harvest levels, with an associated environmental tradeoff and shift in social and economic benefits. The question becomes whether the tradeoffs are favorable for Oregon and the global community or not. These tradeoffs need to be considered in order to reach environmental, social and economic goals, which may extend outside of Oregon's boundaries. This study, combined with others that detail Oregon's environmental management, should prove useful in answering that question.

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