

Pacific North-West Wood Supply, Environmentalism and Uncertain Market Prospects for New Zealand

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Over the last decade, the Western United States forest industry has become very important for New Zealand's export-orientated forestry sector. It is a source of investment funds and expertise aiding development of New Zealand's forest industry; it is our biggest and most sophisticated competitor for Asia-Pacific Rim wood product markets, and it is a rapidly developing market opportunity for our better grades of radiata pine. Given this importance, it behoves us to better understand the forces that are shaping forestry in the Western United States.

The United States, with a population of about 260 million people, has 196 million hectares of commercial timberlands (USDA 1989 defines commercial timberlands as having yields mean annual increments (MAI) above 1.4 cubic metres per hectare per year). The effective area of commercial timberland is much smaller than the defined area due to the effects of the Federal Endangered Species Act 1989 and State government environmental regulations. In addition to commercial timberlands, there are over 100 million hectares of non-commercial forestlands in the U.S. (National Parks, State reserves, and forestlands forested areas unsuited for timber production).

The Pacific Northwest forest region embraces the moister forest types of Western North America, from northern California to British Columbia where Douglas-fir is either dominant or co-dominant. Pacific Northwest forests total about 30 million hectares. In addition to sheer resource size, the high quality and diversity of timbers produced distinguishes the region. The forests are also North America's most esteemed forests, a national icon, embodying the ideal of American wilderness, and valued as habitat for wildlife, including many species listed under the Federal Endangered Species Act 1989.

The Pacific Northwest region has a long tradition of trading timber, being the major source of softwood timber exports around Pacific Rim markets for over 150 years. Consequently the Pacific Northwest wood products industry is the main setter of market expectation and standards for softwood timber in the Pacific Rim, and is the main competitor for New Zealand radiata pine exporters.

The Pacific Northwest is also the leading producer of lumber and plywood products for greater U.S. markets. The main markets for the region's lumber and timber products are central and eastern U.S. The Pacific Northwest has produced about 80 per cent of US lumber in recent years, although this figure is now declining with the shortfall being increasingly met by the south-eastern U.S., primarily plantation-grown loblolly pine (*Pinus taeda*).

The average productivity of the Pacific Northwest forests is 7.2 cubic metres per hectare per year, about twice the average for U.S. commercial timberlands. The most productive (Site Class I) Douglas-fir and Western Hemlock forests on very moist, near-coastal areas of Oregon and Washington have maximum MAI's approaching 20 cubic metres per hectare per year. Interestingly New Zealand has at least 0.5 million hectares of farmland that would provide Douglas-fir sites better than Pacific Northwest Site Class I sites. Increasing interest from Pacific Northwest forest-growing companies in the New Zealand land-bank for Douglas-fir forestry might therefore

be expected.

The Pacific Northwest has been declining in importance to the U.S. timber industry as harvest levels fall due to reduced availability of high-volume, old-growth forest, and increasing conservation requirements (set-asides). The largest reductions in harvest have been on Federal and State timberlands, because government agencies are particularly constrained by political directives on environmental considerations. Timber production from Oregon, Washington and California declined by almost 40 per cent from 1989 to 1993, the period of steepest decline.

The 1993 Clinton "Option 9" Plan reduced Federal timberlands harvest levels over a 10 year period to only 15 per cent of the 1980s level. Before 1990, Federal government forests provided about 40 per cent of the Pacific Northwest harvest whereas under the Clinton Plan the contribution is less than 10 per cent. As indicated, the main reason for the decline was the sharp reduction in harvest from Federal timberlands and State Department of Natural Resources timberlands. In Pacific Northwest forests within the territory of the spotted owl, harvest from federal forests dropped from about 25 million cubic metres before 1989 to about 6 million cubic metres in 1994, and has since stabilised at about 4 million cubic metres following implementation of the "Clinton Plan".

Conservation set-asides on privately-owned timberlands have also had a large impact, and are increasingly the focus of environmental battles. Set-asides of private forests are required to meet State environmental regulatory standards, and requirements stemming from the Endangered Species Act, to preserve forest habitat for listed species such as spotted owl, marbled murrelet, and various salmon species.

The reduction in allowable cut on private timberlands also became significant after 1989 when legal actions under the Endangered Species Act for spotted owl habitat set-asides began to take effect. Private forestry ownership in California, Oregon and Washington has seen a 15 to 25 per cent loss of harvestable timberland due to set-aside requirements. However, the loss in sustained yield potential is greater than these area figures might indicate. Set-asides have tended to be concentrated towards riparian and other more productive areas of forestland, and the net losses in sustainable cut may be closer to 20 to 30 per cent. It is notable that there is no provision for compensation to forest owners for loss of commercial timberland due to environmental regulations, and consequently the continuing trend toward more set-aside requirements represents a major business risk for forest owners. This perception has prompted many small holders of timberland to accelerate their harvest planning and to have their mature timber harvested "before they are deprived of the right to cut". As a consequence, small forest owners will have a lesser role in future wood supply in the future.

The pressure for further set-asides continues, and further major reductions in allowable harvest from private timberlands can be expected. The most recent development is the listing of six salmon species as endangered. This will result in pressure for even more

extensive riparian set-asides, and more stringent regulation of forest management adjacent to the riparian areas. Another significant noteworthy factor affecting availability of private resource is the diminishing productive land-base bank as timberland blocks are subdivided into smaller life-style holdings. The majority of these new landowners are anti timber production.

Forest owners are understandably very motivated to minimise the economic risks associated with any further requirements for conservation set-asides. In a recent initiative, Washington forest industry representatives have tabled a state-wide forest conservation strategy. This strategy would allow conservation set-asides to be voluntarily increased to 30 per cent provided no further concessions would be required. Also, more intensive forest management of the remaining commercial timberlands would be permitted, free of weighty regulations and encumbrances. The risk for industry is that the Washington forest industry accord could "go the way" of the 1986 West Coast Forests Accord in New Zealand, where a decade later conservation interests have re-litigated the issues with no account taken of the concessions made when the accord was negotiated.

In Oregon, a state referendum was held in November 1998 on whether clear-cutting should be banned on all commercial forestlands. Oregon has had comparatively liberal clear-cut provisions, permitting coup felling up to 120 acres. Industry assessed that if the referendum was successful it would reduce harvest to about a third of current levels, and harvest costs would escalate. A huge and very costly (>US\$15 million, according to one industry source) industry media and political campaign saw the motion defeated 4:1. However, notice of a further referendum in two years time has already been given, thus the campaigning continues. Meanwhile, the promotion of "continuous cover" management systems, and sustainable forestry certification gain ground, further altering the political landscape for future forest conservation debates.

The cost of State Government environmental regulatory processes to forestry businesses is a considerable overhead expense. State harvest notice regulations typically address a wide range of operational factors, including the size of clear cuts, retention of mature trees within "clear cuts", buffer zones around harvest areas, maximum allowable thinning intensities with retention of different age classes and species, and riparian buffers alongside streams. The regulations also address a wide range of environmental considerations including, roading and harvest impacts, water quality effects, shade retention on streams, comprehensive site ecology and wildlife surveys, environmental impact assessments, impact mitigation rules, and restocking requirements. Harvest notices require public notification and independent (third party) audits are required on environmental matters of importance. In many forestry companies effectively half of their professional staff are involved in meeting regulatory reporting and monitoring requirements. Harvest plans may cost as much as US\$10 per cubic metre harvested.

Since 1994, there has effectively been a wood supply surplus in the Pacific Northwest that has exerted downward pressure on prices. The "over supply" situation arose partly from big reductions in processing capacity following the 1989 to 1993 mill closures. Also, the high prices have flushed a lot of private wood onto the market, particularly from owners of small private timberlands. Since the mid-1997 Asian market collapse, and drop in Japanese market demand, large volumes of wood products have been redirected onto North American markets. The Canadian forest industry has been particularly active in selling down

into the U.S.

Despite these developments, wood demand in the U.S. is close to record levels, and the trend line is steadily rising. The Western U.S. is arguably the world's richest and most rapidly growing economic region. Demand for wood products is expected to double over the next 30 years. Over this period available wood supply from within the region will reduce considerably.

Thus it seems likely the current "over supply" situation could be relatively short-term.

Forest sector analysts emphasise that forest growth exceeds removals of timber across the U.S. by a huge margin. However, the greater part of the total growth increment is within Federal timberlands and the eastern hardwood estate. U.S. softwood removals are about 90 per cent of softwood increment from non-government commercial timberlands, (whereas for hardwoods U.S. removals are only 20 per cent of growth). The significance of reconstituted wood product developments, such as OSB's and LVL's utilising hardwoods to further utilise the hardwood resource is apparent.

In the Pacific Northwest over 60 per cent of the softwood inventory is on public land, and only a very small percentage is available for harvest.

Pacific Northwest softwood growth has been estimated to exceed removals by between 10 to 15 per cent. This is a very small margin, and some industry analysts privately indicated that harvest might already exceed the growth increment from the catchment of timberland actually available for production.

In addition to these factors, U.S. population is growing by 1.1 per cent per annum. Demand for wood fibre is predicted to double across the U.S. by 2030. Consumption of wood is also still increasing on a per capita basis. The use of wood as feedstock for energy generation is now a major development and forest industry co-generation plants are significant contributors to Pacific Northwest electricity supplies.

While this picture suggests that timber supplies will become increasingly tight, and the need for imports could steadily increase in the medium term, there remains the possibility of a political reaction to the extreme environmental demands that which have effectively closed up the vast federal timberlands. These forests are steadily accumulating volume, and they therefore remain a vast strategic reserve.

The forest industry is becoming increasingly effective in combating misinformation from the environmental movement, witness its success with the recent Oregon referendum on clear-cuts. Furthermore, many of the environmental reference points being exploited by the green lobby are demonstrably wrong. Lack of scientific rigour makes the green movement's "lock up" strategy vulnerable to discrediting. To take the example of the best-known endangered species, the spotted owl, the rationale for the extreme limitations on forest management around nesting circles is looking increasingly ludicrous. Since its listing in 1989, known spotted-owl nesting-pair territories have tripled. It is also now established that the highest owl populations are not in extensive old-growth, which the proponents of listing maintained was essential habitat, but in managed timberlands with farmland nearby. Mid- 1990's maps of North California spotted owl territories showed a correlation between nests and proximity to roads - which may reflect on the mobility of wildlife biologists more than anything else.

Perhaps more important than the misinformation on spotted owl is the impact of the preservationist "lock up" management strategies on the diversity of forest ecosystems and the food chain opportunities for forest wildlife. The U.S. wildlife and game hunting lobbies are

very powerful. As closed-canopy, overstocked forests extend their range, the habitat opportunities for many species of wildlife, including large mammals, decline.

Fire control is another conundrum. The incidence of timberland wildfire since about 1920 has been about 10 per cent of pre-1920 levels. It is now well established that Native American land management involved frequent use of fire over extensive areas of the Pacific Northwest to improve game habitat and passage. As a result of "unnatural" levels of fire suppression, fuel levels within western timberlands have steadily increased. The extreme forest fires of 1993 in Oregon and Washington indicate the risk of major catastrophes in the future.

A possible future scenario is that U.S. timber costs will again escalate as demand again outstrips supply, encouraging American consumers (voters) to be more realistically concerned about the reasons for the environmental constraints which are excluding the vast federal timberlands from being harvested. If the voting public also becomes educated to the fact that managed forest ecosystems are highly resilient, and actually require significant fluxes of disturbance (by fire or harvest) to maximise ecosystem diversity and productivity, there could be a pendulum swing against the lockup mentality.

Thus, any expectation of a steady trend of demand and price increases based on a long-term U.S. supply/demand squeeze should be tempered with caution, given that huge federal and state timber resources wait in the wings, and only need a significant change in voter perceptions is all that is needed to secure their release.

Notwithstanding this possibility, my view is that in the near to medium future a recurrence of politically induced timber famines seems more likely. The most important political constituency in US ecopolitics is the affluent, urbanised American. This group can easily be made to feel good by supporting the prevalent and beguiling notion of forest conservation predicated on minimising disturbance to "nature" and protecting individual organisms from trauma. For this group, continuation of clear-cutting of natural forests on any scale is an anathema. Their needs are better met by further reducing the "impacts" of commercial forestry through increasing the level of environmental regulation, and constraining harvest activity (with expansion of continuous cover management as a predictable outcome), and inevitably, extending the zones of harvest prohibition. This is the direction that political expediency and democratic process will lead to. The economic strength of the US means it can readily afford to lockup its Pacific Northwest region forests as nature reserves and wildlife habitats, while importing all the extra wood it needs to meet domestic demands. This scenario suggests a very considerable opportunity for forestry businesses located outside the US. It also implies that Pacific Northwest forest industry will continue to shift out of the region.

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