

An Analysis of Timber Supply And Future Timber Markets For Southwestern Idaho

Introduction

Just six years ago (1995), sawmills in Southwest Idaho consumed 229 million board feet of logs. While even that volume was down from the late seventies when mills in the area used 263 million board feet, it far exceeds that which current mills could possibly use. With the closure of approximately six mills in just Idaho plus approximately five in Eastern Oregon that might have purchased Idaho logs, the current capacity of the area has dropped to about 45 million board feet, the amount needed by the single significantly-sized surviving sawmill south of the Salmon River in Idaho.

Reductions in mill capacity of this magnitude and the corresponding drops in log demand and the prices offered for them raises a number of questions for log sellers, whether they are private landowners or public land managing agencies. Among them are:

- What markets for logs currently exist and how many logs will be required?
- How much log volume will be available each year to meet demand for them?
- What are reasonable price expectations for timber sales?
- Are there actions that log sellers can take to make their sales more attractive to more bidders?

This report seeks to help answer those questions by closely examining past trends in log demands and customers for them, as well as the current situation. In addition, it looks at likely future scenarios for log markets and offers some recommendations for adding to the value and attractiveness of timber sales that might be offered in an area where buyers are limited.

Historical Perspectives

The University of Montana's Charles Keegan provides an excellent historical review of log sources and destinations for them for Southwest Idaho (*Idaho's Forest Products Industry: A Descriptive Analysis, 1979-1996, Keegan et. al.*). Keegan's data shows that historically, most logs produced in Southwestern Idaho stayed there, with only 10-15 percent being shipped out of state or to other counties in Idaho. Over the period of Keegan's study, an even smaller amount of logs was shipped in to augment those produced in the region, although this amount increased steadily. Thus, mill usage and log production throughout the region remained more or less in balance during this period, with total log usage within the region ranging from 225,130 mbf to 267,398 mbf (table 1).

Table 1. Log Destinations, SW Idaho 1979-1995

Year	Cut, Used in Region¹	Imported to Region	Total Used	Exported From Region
1979	256,438	2,112	258,550	32,427
1985	235,506	8,500	244,006	2,500
1990	252,606	14,792	267,398	24,800
1995	199,952	25,178	225,130	33,309

(Source: Keegan, et. al., 1996)

As would be expected, the sources of logs used by mills in Southwestern Idaho reflects the predominance of national forest lands within the area and the dominant role those lands played in timber supply throughout the period. Even as late as 1995, national forest lands produced 50 percent of the logs consumed by southwestern Idaho mills, although this volume was relatively high as compared with sale trends on national forests outside the region because of the large volume of fire salvage being logged at that time (table 2).

Table 2. Sources of Logs, SW Idaho 1979-1995

Year	Total Logs Used	National Forests	State, Other Public	Private
1979	262,532	62%	9%	29%
1985	254,962	60%	9%	31%
1990	267,540	71%	11%	14%
1995	226,488	50%	23%	28%

(Source: Keegan, et. al., 1996)

Beginning in 1995, there has been a dramatic reduction in mill capacity and demand from timber from the closure of all but one mill in south Idaho and approximately 10 mills in eastern Oregon, some of which operate only occasionally. The Idaho mills, dates of their announced closures and typical annual log consumption is summarized below:

Table 3. Mill Closures in SW Idaho, 1995-2001

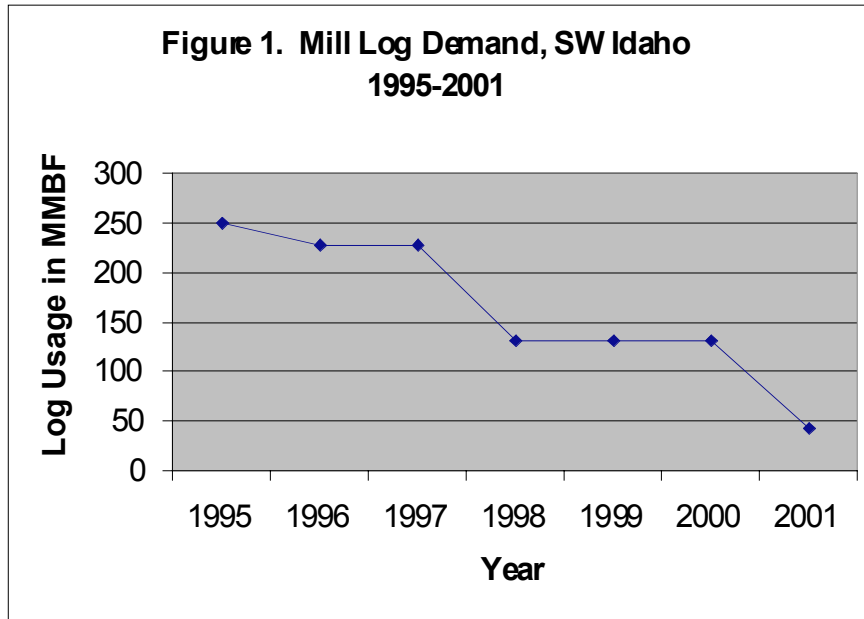
Mill	Location	Closure Date	Annual Log Consumption
Boise Cascade	Council	1995	25-30 mmbf
Producer's Lumber	Boise	1997	5-10 mmbf
Croman Corp.	Boise	1998	30-35 mmbf
Boise Cascade	Horseshoe Bend	1998	55-60 mmbf
Boise Cascade	Emmett	2001	45-65 mmbf
Boise Cascade	Cascade	2001	25-30 mmbf
Total Log Consumption			185-230 mmbf

(Source: Personal communications, 2001)

Figure 1 illustrates this dramatic decline in the capacity of the mills in the area to purchase and process logs. In recent years (1995-2001), the closure of the Council mill in 1995 lead the

¹ There are slight discrepancies between log usage data in different tables in this report. The differences are due to variances in the reported data by source or from differing reporting periods (calendar vs. fiscal year). However, these differences are neither substantial nor significant to the study.

decline in mill capacity. There were previous closures of mills in the area, most notably mills in Riggins, McCall, Mountain Home and Fairfield, but these were primarily in the late 1970's and early 80's. From 1985 to 1995, however, mill capacity remained steady at approximately 250 million board feet per year.



The Impact of Mills in Oregon

As Keegan's data shows, typically only about 10-15 percent of the logs available in Southwest Idaho are exported out of the region. Of this amount, fewer yet move out of state, presumably to Oregon, with the rest going to North Idaho locations. In the years 1979, 1985, 1990 and 1995 log volumes of 20 mmbf, 0 mmbf, 13.2 mmbf and 27.5 mmbf went to mills in Oregon. While the volume going to Oregon doubled from 1990 to 1995, mills in that state faced the same issues as their counterparts in Idaho and many of those that might have purchased logs in Idaho closed.

At this point, there are ten mills in Umatilla, Union and Grant counties that remain open and which could reasonably be expected to be interested in timber sales and log purchases from Southwest Idaho. Some of these mills are open only when lumber markets are strong. The Oregon mills and their approximate log processing capacities are shown in Table 4.

Table 4. Existing Mills and Log Usage in E. Oregon

<u>Company</u>	<u>Location</u>	<u>Type of Mill</u>	<u>Approx. Log Usage</u>
----------------	-----------------	---------------------	--------------------------

Ochoco	John Day	Dimension	15 mmbf
D.R. Johnson	John Day	Dimension	25 mmbf
Kinzua Resources	Pilot Rock	Dimension	43 mmbf
Blue Mountain	Pendleton	Dimension	27 mmbf
Boise Cascade	LaGrande	Dimension	45 mmbf
Joseph Timber	Joseph	Dimension	24 mmbf
D.R. Johnson	Prairie City	Studs	24 mmbf
Boise Cascade	Elgin	Studs	23 mmbf
D.R. Johnson	Wallowa	Studs	20 mmbf
Boise Cascade	Elgin	Plywood	32 mmbf

(Source: Paul F. Ehinger and Assoc., 2001)

It is important to note that while the total log usage of these mills is 278 million board feet each year, the counties in Oregon that are within a 50-100 mile haul of these mills produced 244.8 million board feet of logs in the year 2000. Therefore, there appear to be adequate supplies of logs for these mills without expensive hauls from Southwest Idaho. This is a likely explanation for the limited bidder interest in logs from Southwest Idaho.

Historic Harvest Levels

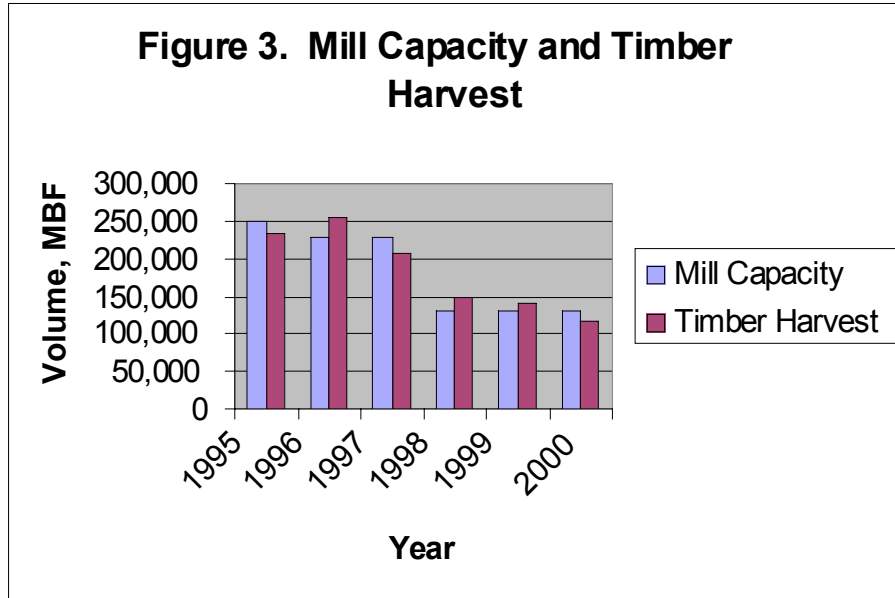
Up until the closure of the mills in Cascade and Emmett, reductions in mill capacity virtually matched reductions in timber harvests from state, federal and private lands within Southwest Idaho. Table 5 shows this data for each ownership during the period 1995-2000, while Figure 2 provides a graphical representation.

Table 5. Log Harvests by Ownership, 1995-2000 (MBF)

	Boise NF	Payette NF	IDL, Payette	IDL, SW	Industry	Priv. Non-Industry	Total
1995	85,446	33,617	18,927	21,573	29,463	44,564	233,590
1996	112,599	56,896	11,088	6,354	31,228	37,453	255,618
1997	64,881	60,539	17,523	8,988	23,156	32,056	207,143
1998	41,932	40,250	16,656	4,807	21,794	24,375	149,814
1999	35,197	27,231	12,751	190	24,935	40,843	141,147
2000	24,330	10,459	14,959	1,003	36,843	28,239	115,833

(Source: IDL and Forest Service unpublished reports)

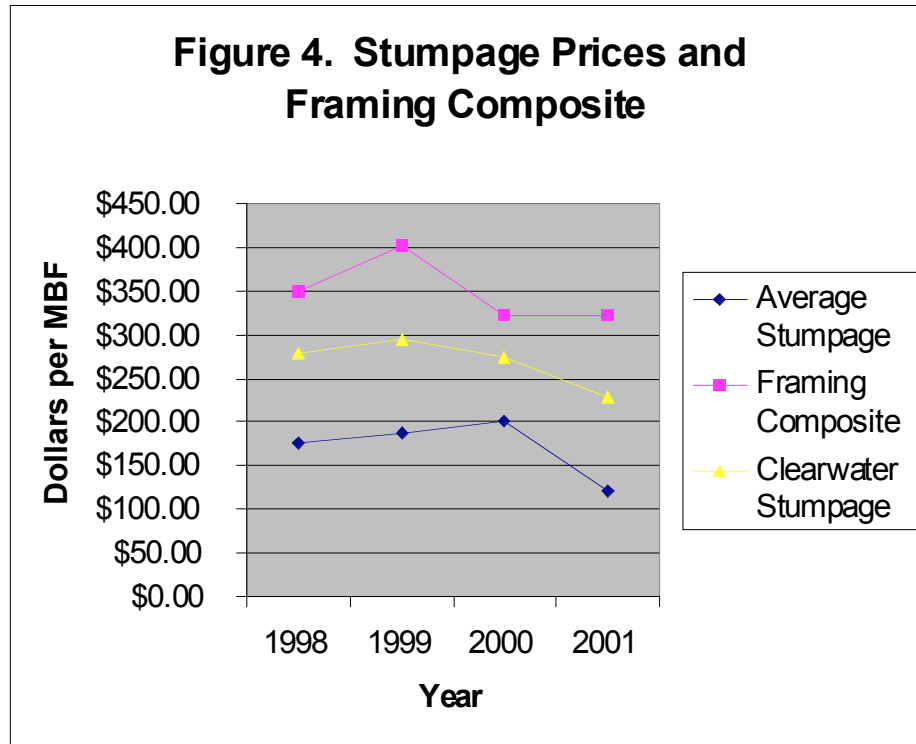
Figure 3 shows the almost 1:1 relationship between timber harvested each year and the capacity of the mills to process it. The consistency between harvests and mill capacity would seem to reflect the small volumes of logs harvested in Southwest Idaho but exported outside the area to north Idaho or Oregon and the fact that mills harvested the volume needed, and apparently preferring to “store” the logs in the woods as volume under contract rather than in decks on the millyard. If more logs had been exported to other areas or cut and then stored in mill decks, harvests would have exceeded mill capacity.



Effects on Stumpage Prices

The combination of lower prices for finished lumber, reductions in timber sales, particularly from federal lands, and closure of mills in Southwest Idaho have all affected the price that mills and loggers are willing to pay for standing timber. As indicated in Figure 4, however, the average price paid to the Forest Service and Department of Lands in Southwest Idaho for the past four years tracked the composite framing index of lumber prices reasonably well, with the exception of 2001. The closure of the Cascade and Emmett mills—a loss of 90-120 million feet in mill capacity—has apparently had an effect on prices that goes well beyond the current market for finished lumber.

On the other hand, when compared to prices bid for Department of Lands stumpage offered in the Clearwater Area immediately to the north, the drop-off in 2001 seems only slightly larger than for Clearwater sales. In fact, although prices are lower for Southwest Idaho stumpage in general, bid trends are about the same between the two areas. Since the mills in Southwest Idaho closed in February of 2001, it may take more time and more timber sales to pinpoint the impacts on timber prices.

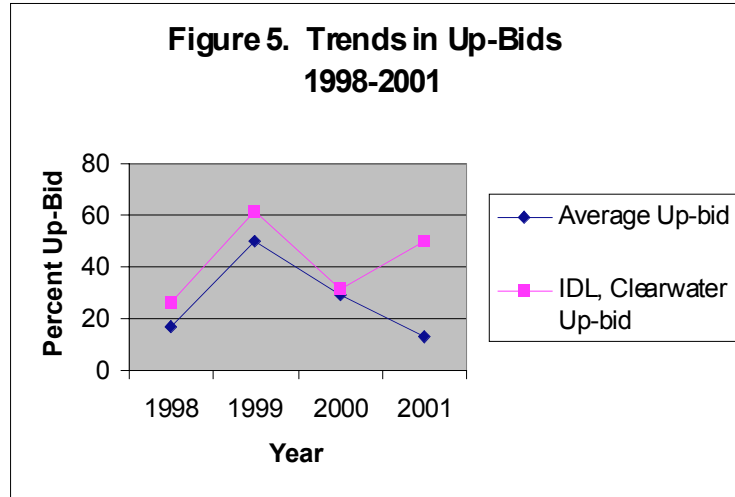


(Sources: Timber Data Company (stumpage prices) and Random Lengths, Inc. (framing composite), 2001)

The early 2001 closure of Boise Cascade’s mills will likely prove to be the event that will trigger most dramatic changes in timber prices. For the first time, the closure of these two mills has created an imbalance in timber supply and demand within the region. Now, the volume of timber offered (approximately 70-90 million board feet) far exceeds current mill capacity of only approximately 43 million board feet. In such a situation, prices for timber will fall. In fact, they have done so dramatically so far this year, with the resulting bids nearly \$100/MBF less than one would expect for the current lumber market.

In addition to the obvious effects on prices paid for timber sales, there is also evidence of the current supply/demand imbalance in the competition for sales. Both the Forest Service and the Department of Lands offer timber at an appraised price which both sets a minimum acceptable bid and a floor from which bidding can commence. If there is only one bidder, then the minimum bid becomes the winning bid, with no other potential purchasers willing to up the bid in order to buy the sale.

As measured against the original appraised prices for each timber sale, the percentage of “up-bids” (the added value of the sale gained through the bidding process) has decreased sharply from previous years. By contrast, in the Clearwater Area where there is considerable competition for timber sales, up-bid rates tracked almost perfectly with Southwest Idaho during the years where mill capacity exceeded timber availability. So far in this year, there is a dramatic departure, however, with up-bids in the Clearwater increasing while those in Southwest Idaho remained very low.



(Source: Timber Data Company, 2001)

The Current Situation

At current levels of timber sales from public agencies and harvests from private lands, annual supply of logs in Southwest Idaho will exceed the single remaining mill’s ability to convert them by a factor of approximately 3.5 to 1. Table 6 shows current sale plans, plus average harvests from industrial and non-industrial private lands in the area.

Table 6. Projected Timber Availability by Ownership

<u>Source</u>	<u>Projected Log Volume (MMBF)</u>
IDL, Payette Lakes	20
IDL, SW Idaho	10
Payette Nat'l Forest	30
Boise Nat'l Forest	30
Industry Lands	27.9*
Priv., Non-Indust. Lands	34.6*
Total	152.5

* Average harvests from 1995-2001

Obvious questions arise from these projections, most notably is their accuracy, given previous projections, particularly for federal lands. While any timber supply projection must be viewed critically, the senior staffs of both the Boise and the Payette National Forests offer some useful observations that would argue for the validity of their current projections.

- Both forests feel they “have bottomed out” (the Payette offered no sales in 2000),
- The sales now planned will not be in roadless areas and few will be in anadromous drainages,
- Consultation procedures and relationships seem to be much smoother than in previous times,
- The current Forest Service leadership has restored the importance of setting and meeting targets,

- “Ecosystem restoration” will produce logs and is gaining agency and environmental group support,
- Both forests have experienced and enthusiastic leadership, including the managers of the timber programs.

To be sure, there are obstacles to even these relatively small timber sale programs for these two national forests. Both are revising their forest plans and these will be subject to appeal and litigation. There are groups opposed to all logging and, while their influence seems to be waning, they can be expected to explore the tactics available to them. Finally, over the past years, the Forest Service’s “timber” staff has been decimated. There is little timber in the “pipeline” and fewer experienced people to prepare and administer the sales. On the other hand, the agency managers acknowledge these issues and remain confident in their ability to meet these challenges.

The Idaho Department of Lands has a long history of consistently meeting their timber sale goals. Even though the Payette Lakes area recently increased their timber program goal from 17 to 20 million board feet each year and the Southwest Idaho area has suffered large fires, both area managers believe their targets will be met and their plans reflect that commitment.

Finally, as Dizzy Dean once observed, “If you can do it, then it ain’t braggin’”. The current fiscal year will likely see a number of additional timber sales from the Forest Service that will be attributable to FY 2001. However, to date, there has been good progress toward meeting timber sale goals from all the agencies, and this must be taken as a hopeful sign that, once again, accomplishments will equal projections.

Table 7. Public Agency Timber Goals and Accomplishments, 2001

Source	Projected Volume	Sales to Date in 2001
IDL, Payette Lakes	20,000	29,810
IDL, Southwest Idaho	10,000	2,800
Payette National Forest	30,000	19,547
Boise National Forest	30,000	21,313
Totals	90,000	73,470

Volumes in MBF

Timber sales from private lands follow no regimen such as the “annual sale plan”. However, amounts of logging on these lands are effectively capped, over the long run, by the volume of growth on existing sawtimber size trees and by the volume of smaller trees that grow into the sawtimber category each year. Harvests that repeatedly exceed this annual growth will deplete the timber resource and future logging must be curtailed until the land is, once again, stocked with merchantable trees.

The Forest Service’s Intermountain Research Station most recently updated growth data for private lands in Southwest Idaho in 1991. In 1995, David Chojnacky found the following for Southwest Idaho:

Table 7. Private Lands, Area and Growth

Area in Acres	Annual Sawtimber Growth
----------------------	--------------------------------

		(MBF)
Industry Lands	173,406	36,434
Private, Nonindustrial Lands	173,271	41,025

Since 1995, industry land managers and private, non-industrial landowners have, on the average, harvested 77 and 84 percent of their annual growth each year (see Table 5). Assuming that reforestation standards are being met and that the lands aren't being converted to other uses, then it is safe to assume that both ownerships in Southwest Idaho can maintain or even slightly increase their most recent levels of harvests.

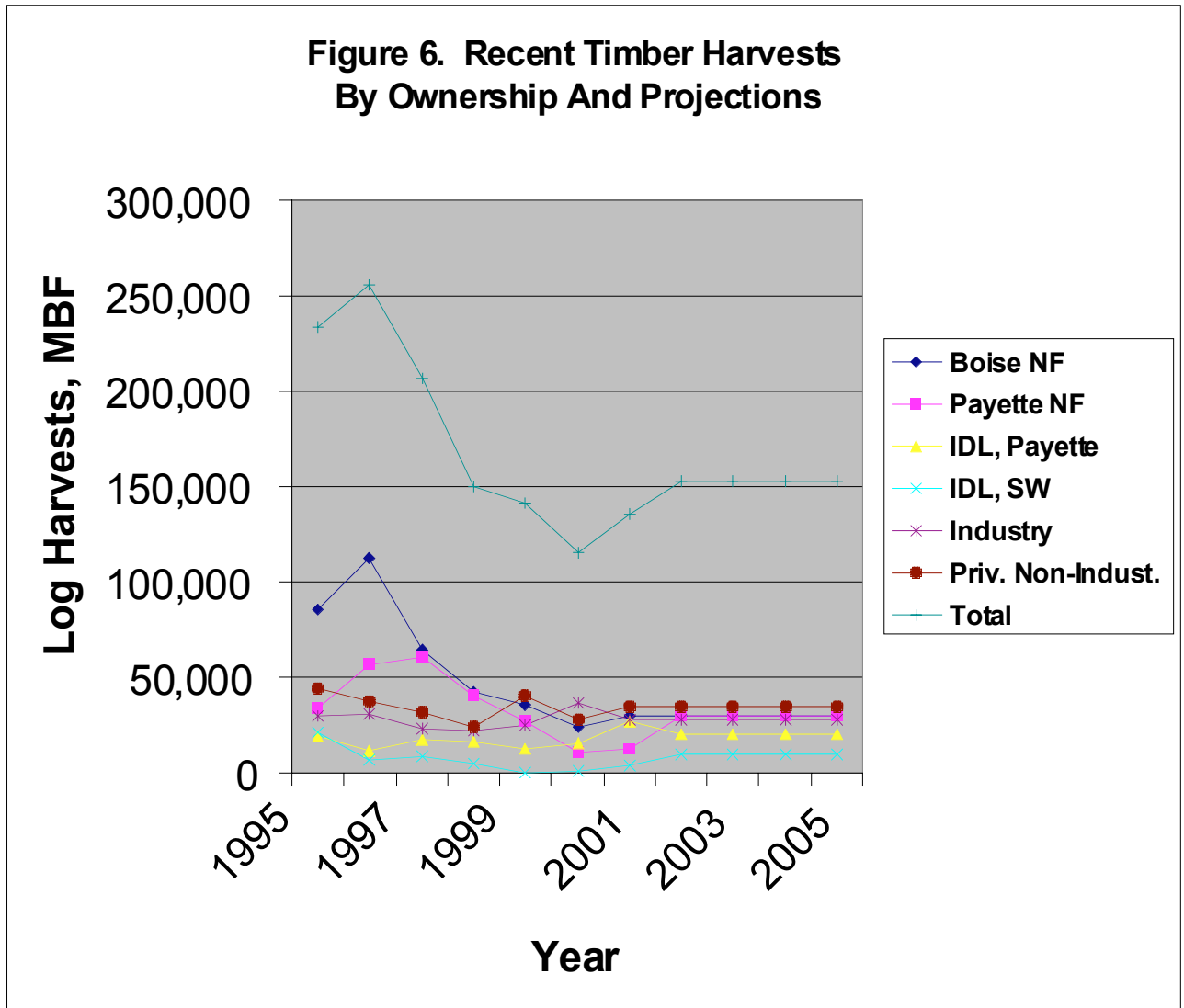


Figure 6 paints a picture of a stabilizing harvest volume that is greatly reduced from five years ago, but a modest increase from the low of 2000. There are two important aspects of the historic volume harvested and projections for the future. First, harvests at the projected levels will exceed existing mill capacity by approximately 60 million board feet. Second, the volume that would conceivably create this surplus of logs is that which might come from the Boise and

Payette National Forests. It is those lands that have become the most uncertain providers of timber and where the greatest reductions in sales have taken place. However, if, indeed, the issues that lead to those reductions are working toward resolution and if the Forest Service can meet their, relatively modest as compared with recent years, projections, then there will be many more logs available than can be used by the local mills.

Options for the Future

At the outside, potential log availability in Southwest Idaho is 152.5 million board feet, an amount that exceeds mill capacity by at least 100 million board feet. Logs that might flow from the area to North Idaho or to Eastern Oregon effectively reduce this amount. With the closure of its remaining mills in the area, Boise Cascade will clearly send most of the logs from its private lands to the company's mills in the LaGrande area. This volume, combined with the volume from the area that has normally been destined for mills in North Idaho might total as much as 50 million board feet annually. Nevertheless, even under that scenario, there is an apparent excess of logs in the area that totals approximately 60 million board feet.

There will be buyers for this timber. Timber purchasers from eastern Oregon and north Idaho will be interested in timber offerings from southwest Idaho under two conditions. First, the cost of the timber must be sufficiently affordable to offset high hauling costs. This means that appraisals must take these costs into consideration and the sellers (Department of Lands or Forest Service) must recognize that the price they receive will reflect them.

Second, there can be no institutional barriers that would reduce the number of potential markets for timber. Right now, mills in eastern Oregon lose their ability to buy future Department of Lands timber sales of over 5 percent of the state volume under their control is shipped outside the state. Even though Oregon mills bidding for state of Idaho timber sales has been relatively minor (as one would expect when local mill capacity was sufficient to handle all the timber available each year), this provision of Idaho state law potentially limits bidding from Oregon purchasers in the future. The Board of Land Commissioners can open state sales to all bidders upon a finding that there are more logs available than can be used by the qualified bidders (*IDAPA 20.02.11.020*).

Another potential institutional barrier surfaced during the research for this report. Both Forest Service and Department of Lands staff reported that individual loggers were often reluctant to participate in oral auctions for timber sales if they were bidding against a sawmill that might be the potential purchaser of their logs. The loggers believe that "running up the bid" against a mill that might subsequently purchase logs from a sale owned by a logger would cause that mill to refuse to either buy the logs or pay a reasonable price for them. The Forest Service reported some success in overcoming this perception and thereby adding to the bidders for individual sales by using sealed bids as opposed to oral auctions, with all bidders in the room and each bid visible to all.

There is perhaps a need to gather empirical data on the success of sealed versus oral bidding. The Department of Lands relies on oral auctions for timber sales, and it needs to explore

whether this method reduces the participation of some potential bidders or dampens the enthusiasm for raising bids among those who do participate.

A third institutional barrier to Department of Lands timber sales may be the expense of the “carrying charges” paid on the uncut volume. Compared to federal or private timber, state timber is expensive because interest (6%) is charged on the uncut volume from the date of the contract to the time the value of the harvested timber is billed. Although purchasers typically factor the anticipated interest costs into their bids, these charges can become burdensome if the timber cannot be harvested according to the plan. If the original term of the sale is extended, then interest charges revert to a higher market rate, calculated over the entire term of the sale and for all the uncut volume.

The whole question of who has and will bid for timber and are there any conclusions to be drawn regarding bid amounts for various products, types of sale and by category of bidder deserves serious consideration as future sales are being planned. Historically, sawmills have been the principal bidder for all sales, from either state or federal lands. Table 8 summarizes historic sale patterns, according to class of purchaser.

Table 8. Summary of Timber Purchases by Types of Purchaser, 1998-2001

	1998	1999	2000	2001	Averages
<u>Mill Purchasers</u>					
Volume (#sales)	89,435 (26)	47,066 (11)	16,303 (4)	61,099 (14)	53,475 (14)
Avg. Volume per Sale	3,439	4,278	4,076	4,364	4,039
Avg. Price	\$165.16	\$189.83	\$196.70	\$136.27	\$171.99
% Up bid	9.5	94.8	*	12	38.8
<u>Logger Purchasers</u>					
Volume (#sales)	2,931 (16)	2,288 (11)	2,772 (7)	13,579 (5)	5,292 (8)
Avg. Volume per Sale	183	208	396	2,715	876
Avg. Price	\$153.34	\$104.42	\$212.20	\$63.56	\$133.38
% Up bid	10.8	76.7	104	81	68.1

Source: Timber Data Company, 2001

* Only one mill purchase, with abnormal values

On the surface, Table 8 indicates that sawmills typically have purchased most of the timber sold by state or federal agencies and have paid more for it. Mills also purchased the larger sales, with an average sale size of just over 4 million board feet, while sales purchased by loggers averaged less than one million. Mills also purchased most of the sales on state lands, while loggers purchased slightly more on federal lands. As shown in Appendix 4, loggers purchased 29 sales from the Payette and Boise National Forests during this period, while mills purchased 27. On state lands, loggers purchased 9 while mills bought the remaining 28.

All this would appear to be consistent with the relative abilities of sawmills and loggers to make and maintain large investments in timber. Loggers have traditionally been more able to buy smaller sales and those with lower appraised prices. However, the data to this point in 2001 seems to challenge that premise a bit. While loggers have not purchased a single sale on state lands, they have purchased over 12 million board feet on the Boise and Payette National

Forest, while mills have purchased 27 million feet. Moreover, the average size of the sales purchased by loggers has been about 3,160 million board feet, over three times the average for the previous three years.

There is not enough data for purchases of timber sales after the Boise Cascade mill closures to be definitive. However, what has happened so far in 2001 does indicate that loggers can become a customer for larger, more expensive sales than perhaps previously thought. With this in mind, it might be advantageous for the state to conduct some customer “focus groups” with all potential purchasers of their timber sales, but most particularly loggers, to better ascertain the kinds of sales that might be attractive to them.

Regardless of who buys timber sales, each log must have a market and the closer that market is to the location of the timber, the more valuable the timber sale will be to the seller. Even though there are increasing markets for house logs, small logs for rustic furniture and other “niche” log markets, sawmills and plywood mills still provide the most value for the greatest volume of logs. At this point, Southwest Idaho desperately needs a mill to bring log supply back in balance with mill capacity.

There may be room for the state and federal government to develop some creative ways to attract a new mill to Southwest Idaho. These include such traditional economic development tools as low cost loans, property tax reductions or tax incentives for new job creation or capital expenditures. While these are costly and sometimes controversial measures, the reality of the timber supply situation is that demand for timber from the state’s 147,000 acres of timberland in Southwest Idaho will remain weak and with low stumpage values until there is another mill in the area.

The state must recognize that a new mill in the area will not be forthcoming. Given that potential, the Department of Lands and Board of Land Commissioners would be well advised to adapt the state’s timber sale program to a reduced demand. There are options for such a scenario and they might include:

- Refrain from selling “green” sales in the area and sell only salvage sales and timber where there is a high risk from insects, disease or fire until mill capacity adjusts to log supply,
- Temporarily transfer the “green” volume not sold in the Southwest or Payette Lakes Areas to other areas where overstocking and age class distribution issues could be resolved from greater harvests,
- Open all state sales in southwest Idaho to all bidders, regardless of “bidder qualification” as defined in relevant sections of the Idaho Code and administrative rules,
- Consider modifying or eliminating the requirement for purchasers to pay interest over the life of the timber sale contract, to make state sales more competitive with federal sales,

- Postpone, modify or eliminate costly and complex timber sales requiring extensive road construction or helicopter or skyline logging systems,
- Target timber sales to the species, quality and size of logs most needed by potential customers for state timber sales. Base this on a comprehensive “market survey” to identify the needs of “traditional” customers as well as potential new or emerging demands for state timber sales,
- Consider land trades with the Forest Service to concentrate state timber ownerships in areas where demand for timber remains strong.

Conclusions

Ten years ago, no one would have predicted the drastic reductions in the forest products industry in the West that we have witnessed. By the same token, it would have been inconceivable that timberland, as a component of the state’s endowment asset, would lose any of its luster. Yet, in eastern Idaho, all the larger mills that purchased state timber and which lent endowment lands their value for timber production closed during the past decade, and timber from state and federal lands in that area of the state finds few buyers.

Now, a similar situation looms across the state in Southwest Idaho, where all but one mill has ceased to operate. However, the situation is somewhat different in two ways. First, the state’s ownership in timberland is much higher in this area, and, therefore, the economic risks are greater. Second, there is some potential to recapture some of the mill capacity in Southwest Idaho if a new mill can be persuaded to locate in the area.

It would be a mistake to write off the forest products industry in Idaho. Indeed, even in Southwest Idaho, there appears to be growing stability in the federal timber sale program and there has been interest expressed in operating a new mill in the area. But it would also be a mistake for state managers to not heed the signs and the financial risk at which the state finds its timberland asset. This is a time for both innovation in bringing a mill to the area and for caution as the state positions its sale program for greatly reduced demand, even if a new mill becomes a reality. We are all learning the painful lesson that the economic laws of supply and demand can nullify the best land management plans.

Sources

1. Charles E. Keegan, et. al., Idaho's Forest Products Industry, A Descriptive Analysis 1979-1996, The Bureau of Business and Economic Research, University of Montana, December, 1997.
2. David C. Chojnacky, Southern Idaho's Forest Land Outside National Forests, 1991; USDA Forest Service, Intermountain Research Station, May 1995.
3. Idaho Department of Lands "Timber Sales Plan, FY 2002", May 2001.
4. Personal interviews, Chris Clark and John Roberts, Idaho Department of Lands; Darlene Arana, Boise National Forest; Bob Giles and Steve Patterson, Payette National Forest.
5. Random Lengths, Inc. "Framing Composite Lumber Price Data", 2001
6. Unpublished data, "Historic Timber Sales for the Idaho Dept. of Lands Clearwater, Payette Lakes and Southwest Idaho Areas and the Boise and Payette National Forests", Timber Data Company, Eugene, Oregon 2001.
7. Unpublished Data, "Mill Capacities and Recent Closures and E. Oregon Timber Harvests", Paul F. Ehinger and Associates, Eugene, Oregon 2001.