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The Woodland Workbook

Marketing Forest Products

Marketing Alder and Other Hardwoods

D.A. Cleaves

Many landowners have hardwood trees that appear to be of marketable size. Some of these landowners may want to replace the hardwoods with conifers immediately. Others may want to let the hardwoods grow and hope for better prices.

Still others may want to encourage regeneration of hardwoods whenever they're harvested on sites that are too wet, too dry, infected with root rot, or otherwise unsuitable for conifers.

To implement these strategies, owners need to find a market for hardwood trees, select a buyer, and log the stand.

One basic question arises: How can I get a fair price and encourage good use while accomplishing silvicultural objectives?

This publication answers questions about marketing and logging alder and other hardwoods:

- How do you decide whether to sell now or wait awhile?
- In what forms (products and units) can you sell hardwoods?
- How do you decide what mix of products will give you the best return?
- How do you find buyers?
- How do the size and condition of logs influence the price you receive?
- What points should you keep in mind when you log hardwoods?

Contents

Most of the information provided here applies directly to red alder because this species accounts for most of the annual commercial harvest of hardwoods in Oregon.

However, you can apply the general advice to other hardwoods such as bigleaf maple, ash, oak, tanoak, chinquapin, cottonwood, and Pacific madrone.

David A. Cleaves, former Extension forest management and marketing specialist, Oregon State University.

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Markets and management opportunities

Some landowners still don't realize that alder has market value as a timber product. Even if it doesn't result in profit, the revenue from marketing alder can cover the costs of logging and establishing new stands, while the harvesting phase reduces the amount of waste material left on the site.

Good markets and smart marketing procedures offer financial opportunities to implement silviculture objectives, such as:

- liquidating an alder stand and replanting it with conifers;
- thinning and improving an alder stand for later harvest;
- making a partial harvest in a mixed conifer/alder stand to encourage both conifer and alder crops;
- selling land and timber, together or separately; and
- letting unmanaged alder grow for harvest during better market conditions.

To use the market to your advantage, you must have a plan. You should know what you want in the new stand and what kinds of trees you want to remove. Complete your preparatory work early—inventorying stands, developing contracts, constructing roads, and other tasks—so you don't have to delay the marketing process once it has started.

You'll find more information on hardwood management in EC 1183, *Managing Hardwood Stands for Timber Production,* and EC 1197, *Managing Red Alder*.

Marketing options

Each merchantable tree will produce one or more types of wood products. These products may be sold in different units. The value of the tree depends on the relative prices of the different products, the size and quality of the tree, the costs of logging and hauling it to a mill destination, and the way it's bucked into different product lengths.

Different stands will produce different mixes of saw logs, pulp logs, firewood, and tops suitable only for chips.

Saw logs are usually greater than 10 inches on the small end. Some mills break their saw log requirements into large (greater than 9 inches) and small (4 to 9 inches).

Pulp logs can be purchased as barked or barky pulp logs, depending on their intended uses. Because saw logs, even small saw logs, are more valuable per unit of volume than pulp logs, a critical step in maximizing value is bucking the tree into logs in the best saw log lengths.

Product mixes to be sold from a stand may include the following seven:

Saw logs by volume: thousand board feet (MBF) on a mixed (also called camp run) basis

All lengths and diameters above a minimum size are included in a single price. Many mills attach minimum specifications on average sizes to discourage small or poor quality mixes.

Saw logs by volume with prices discriminated by diameters and lengths

Mills pay premium prices for preferred sizes, basically larger and longer logs. Some mills buy saw logs by the ton under specifications that reward mixes with high proportions of preferred sizes.

Pulp logs (chip logs) sold by the ton or cubic foot

Ton prices are based on weight measured on delivery at the mill. A cubic foot is a measure of actual volume as opposed to board foot, which is an estimate of the lumber volume that will be recovered. A cunit is 100 cubic feet.

Saw logs and pulpwood

Sold and sorted to different buyers by their respective units.

Saw logs and chip logs

With the chipping of small logs and tops done at the site. this can be a viable option on gently rolling ground that has good access for machinery and chip trucks. The chipper can process logs as small as 1 inch in diameter, and as large as 24 inches in diameter, usually during the same time the logger is removing the larger saw logs.

Chip logs are sold by the green or "wet" ton; the chips, by the Bone Dry Unit (BDU). Green logs are about 50% moisture content. BDU is 2,400 lb of dry (0% moisture) wood fiber.

A good 40-year-old alder stand may have 5 to 10 MBF of saw logs per acre and 50 to 75 tons of chip logs (two to three truckloads). A mixed conifer/hardwood stand may have 15 to 35 MBF per acre and 25 to 50 tons of chippable hardwood logs.

Saw logs and pulpwood sold together by the ton

This offers simplicity and fair prices if two or more mills are competing for the material. Alder loses weight rapidly after cutting, however, so logging and hauling must minimize the delivery time.

Some mills may also purchase this mixture by the cubic foot or the cunit.

Firewood

Either alone or combined with a saw log or pulp log harvest, firewood can be a feasible product, but it requires a dependable market, usually close to urban areas. Firewood is usually sold by the cord, a unit of wood volume stacked 4 feet high, 4 feet deep, and 8 feet wide. A cord usually contains 80 to 90 cubic feet of solid wood.

Firewood marketing demands effort and astute marketing tactics. Firewood can be delivered to the customer's house or to a wholesale yard, or the buyer can cut it on your property.

Some large firewood operations buy hardwood "on the stump," harvest the trees, and sell the wood through their distribution system.

Firewood harvesting can help rehabilitate some stands and use the available wood more completely. Firewood production is labor-intensive, and it may be more attractive to landowners who can capture its value by harvesting and delivering the wood themselves.

Competition

_ Contact many buyers systematically.
_ Review product mis options.
_ Be open and fair with all buyers.

Timing

_ Prepare early for sale details.
_ Capitalize on seasonal markets.
_ Know how fast your trees are adding value.
_ Keep the marketing process moving.

Control

_ Know what you have to sell.
_ Choose experienced advisors and loggers.
_ Evaluate logging costs.
_ Follow forest practices regulations.
_ Compare all options on their net returns.
_ Use written logging contract and sales agreement.

Quality

_ Interview log buyers about their needs.
_ Buck logs to best lengths for markets.
_ Check for trim allowance on logs.
_ Watch out for defects.

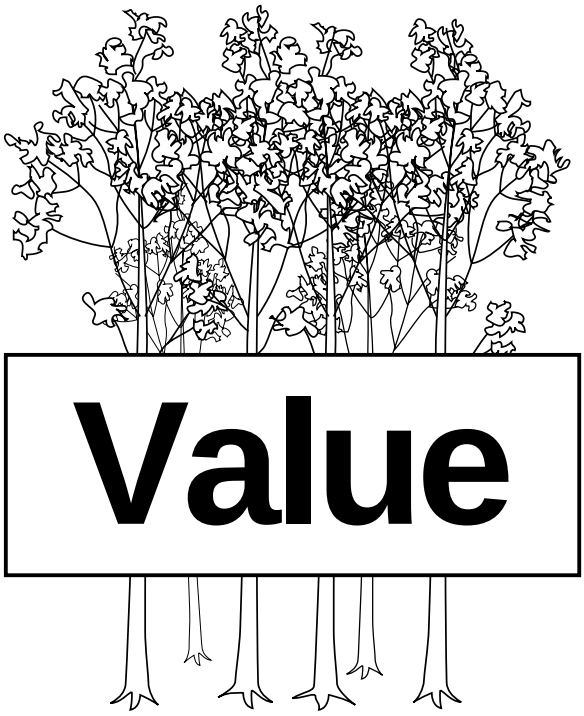

Figure 1.—*The four key elements of any successful marketing plan and a marketing checklist.*

Marketing basics

Getting the best prices for your hardwood timber and harvesting it to protect the remaining trees and site require careful planning and a systematic timber selling process.

The four key elements of any successful marketing plan are shown in figure 1.

- *Quality* is satisfied when you learn what log characteristics (such as size, length, freedom from knots) your buyers want and supply those characteristics to the buyer who needs them most.
- *Control* means becoming fully aware of all options, knowing exactly what you are selling, and making sure the harvesting and delivery steps go according to your plan.
- *Timing* is the ability to harvest trees just after their most rapid value growth and to enter the market during periods that are most financially rewarding.
- *Competitiveness* means offering your trees to many prospective buyers and identifying the highest prices the market will offer.

The competition factor is covered fully in EC 1384, *Selling Timber and Logs...Seven Steps to Success*. The next three sections specifically apply quality, control, and timing of events to alder and hardwoods.

Quality

Understand pricing systems.

Most mills want the 10-inch and larger saw logs in the longest length possible. Most will pay $20 to $80 per MBF more for these than for smaller logs. Mills may pay more to consistent, high volume producers with a reputation for ethical practices.

You can determine these opportunities by talking with log buyers before you cut the first tree. Your telephone is your best marketing instrument.

Control stain

Red alder is susceptible to red stain discoloration. Log buyers don't want stained logs because they produce discolored lumber that is difficult to market. Staining begins within days after the trees are felled. It progresses rapidly (4 to 6 weeks) during the warm months of June through September.

The staining problem has several marketing implications. During summer, you must deliver alder to the mill no longer than 5 weeks after felling, so conduct all phases of harvesting, including hauling in quick succession. Don't wait to search for people to haul or buy your logs after you've already felled and bucked them.

Select a log buyer and transporter before you start to harvest. Staining is slower and less prominent in the winter (a 10- to 12-week staining period), so it may be safer to harvest then if logging conditions are suitable. A bonus is that prices are usually higher in the winter.

Manufacture quality logs

Improperly bucked logs is the most common complaint of hardwood log buyers. Remember that the value of your logs, both to you and your buyer, begins with felling and bucking decisions in the woods. Try to get their highest value by:

- meeting the buyer's needs for length, diameter, straightness, and other characteristics; and
- minimizing the handling and transportation of material whose value doesn't justify it.

Bucking logs poorly reduces the volume tallied during the scaling process, as well as the buyer's unit selling price. The most common problems are:

Improper log lengths. Improper log lengths can detract from sales. Most buyers prefer logs that are 30 feet and longer. Some mills deduct 20% or more from their advertised price for logs less than 20 feet long. Deductions may apply to logs 30 feet or less, depending on the mill's equipment and what lumber lengths that mill's markets are currently demanding.

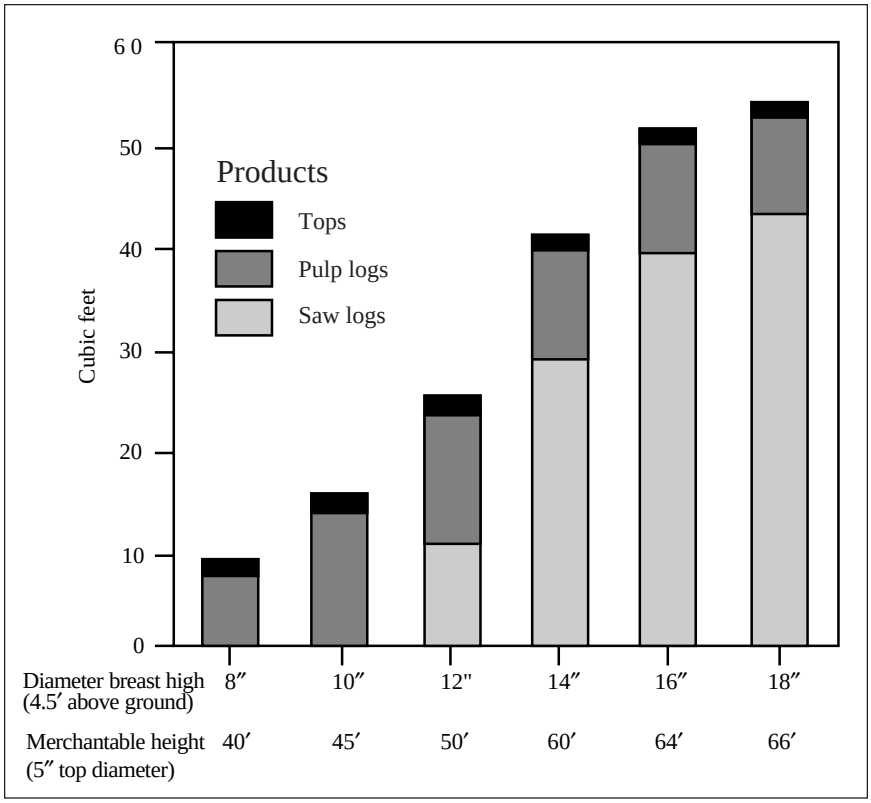

Figure 2.—*How alder trees of different sizes produce different product mixes.*

Sawmills often require logs in 10-foot multiples, but veneer mills prefer 8-foot multiples.

Improper trim allowance. Improper trim allowance may cost your logs a class length. Trim is the extra length left on the log for processing loss, and it's a strict requirement. Most sawmills want at least 10 inches of trim for short segments and 12 inches for 20-foot and longer logs. The scaler hired to measure usable log volume will dock a log with too little trim to the next lowest length class.

Take, for example, a log 10 inches in diameter at the small end. Such a log 36 feet, 10 inches long that is scaled where 12 inches of trim is required by the mill would be scaled as a 34-foot log, yielding about 10 board feet less. That is $2.50 less for the log at $250/MBF. A truckload of 24 logs so misbucked would represent a loss to the landowner of about $60.

Some landowners who sell by the MBF try to buck logs into short lengths to obtain greater scale volume. The Scribner board foot scale gives a greater combined volume for two 20-foot log components than for a full 40-foot log. Most mills compensate for this somewhat by offering lower unit prices for short logs.

Ask log buyers about their log quality programs and whether they offer premiums for long, well-manufactured logs. Remember, too, that short logs are also more costly to handle, load, and haul. Calculate your net return under several log lengths before you decide to cut short logs.

Defects are deviations from the ideal clean, solid, and straight form desired by buyers. One common defect is called *butt crook,* or a sharp bend in one end of the log. *Sweep,* another defect, is a longer curve that extends farther down the log.

Leave severe crooks and sweeps in the woods or process them as firewood or pulpwood. Long, gentle sweeps are acceptable as long as 8 or 10-foot segments can be cut from the log.

Decay or rot can cause defects in the form of stained wood or hollow pockets. Important decays include *black knot,* a discoloration around the knots, and *red heart,* a deterioration of the log's center.

Many mills don't accept black knot because it reduces the amount of clear lumber that can be sawn. Some mills accept red heart if the decay hasn't yet softened the wood.

Depending on the mill's use policy, its scalers will deduct the log volume taken up by these defects to arrive at the net volume for which you will be paid. Log buyers can show you examples of defects and explain how to minimize their impact on your returns.

Control

Know what products and volumes you have

Whether you plan to sell stumpage (cutting rights to live trees) or to sell logs directly to the mill, you can benefit from knowing how much volume is present in different size trees (figure 2 on page 4).

This timber inventory or "cruise" is an estimate of the tonnage, cubic, or board foot volume in your timber stand.

Organize your estimate into saw log and pulpwood size trees; you can include an assessment of how fast the trees are growing. With this information, you can evaluate offers that are priced in different units and can better estimate your logging cost.

The percentage of the stand volume that is in saw logs may range from 0 to 60% or more, and the stand may be adding volume rapidly to these larger logs. You may decide that it's more profitable to let certain trees grow.

With cruise information, you're less likely either to be misled by high per-unit prices advertised for only the larger diameter logs or to agree to cut only saw logs and then be left with many tons of small material for disposal. A good cruise is relatively inexpensive; with some log price and logging cost information, it can help determine harvest feasibility.

Be sure the forester advisor you employ to do the inventory has some experience with use standards and logging feasibility factors that are unique to hardwoods. See EC 956, *Logging Woodland Properties,* and EC 858, *Timber Harvesting Options,* for more information on logging.

Evaluate logging costs and risks

Logging alder and other hardwoods is different from logging conifers in several ways. It's generally as expensive or more so than logging small conifer logs. Costs range from $100 to $140 per MBF, not including hauling costs.

Much of the difference occurs because alder is generally smaller and more crooked than conifer, and it often has less volume per acre.

Higher costs also result because:

- Felling and bucking are often more dangerous, especially for beginners or on steep ground.
- Breakage losses may be as high or higher than in conifers, up to 15% or more. Breakage loss occurs during felling, bucking, and skidding.
- Alder trees lean heavily downhill, making felling direction difficult to control.
- Larger trees may have rotten stumps that demand extra bucking efforts to produce saleable logs.
- "Barber chairs" (trees splitting up the bole during felling) may be more frequent. These mishaps reduce a log's scaled volume and increase the costs per unit of usable volume. Avoiding barber chairs requires extra caution and higher felling costs.
- Loading logs on the truck is difficult and time-consuming because logs aren't uniform in size, and they're heavy when green. There are often too few long logs to support and contain the shorter logs in the load.
- Alder's spreading branch form and breakage tendencies result in more postharvest cleanup. Enough tops and broken sections may be present to make a firewood harvest feasible. Some landowners permit neighbors to cut their own firewood, but they should make adequate provisions for accident liability.

If you contract for logging, the total volume you offer must cover at least the logger's fixed costs of equipment ownership, and moving to and setting up on the site. There's no "average" logging cost; timber size, terrain, roads, and many other factors determine a cost unique to your site.

Get at least three estimates from prospective operators, especially if you think your timber might have substantial value. Start checking early, because there's a limited number of contractors who specialize in logging hardwoods.

Loggers may be reluctant to move equipment to a site for less than a week's work. But don't assume anything until you have talked with loggers about their operations. A combined softwood/hardwood harvest could make the alder harvest viable.

There are no hard-and-fast rules for acreage minimums. Even a small tract can be viable if it contains enough volume that can be easily logged. For planning purposes, 10 to 15 acres may be a minimum for saw log, veneer log, and pulpwood harvesting. Thirty acres is a reasonable minimum for whole tree chipping, although this varies widely.

In chipping, the roads and landings should accommodate loaded chip vans, which have special requirements for grades and curvature. Hauling costs become critical if you can't get three loads a day to the mill.

Follow the Forest Practices Law

Alder logging near streams requires environmental protection and compliance with Oregon's Forest Practices Act. Rules for leaving standing trees and downed material in riparian areas will influence how you harvest alder from those sites. See EC 1194, *Oregon's Forest Practice Rules,* for more information.

Check also with the Extension forestry agent who serves your county or with Oregon Department of Forestry forest practices foresters. They can provide a list of reputable operators.

Choose the right advisor and logger

Many landowners market timber every 7 to 10 years—some, only once in a lifetime. This isn't frequent enough to stay abreast of complex and rapidly changing markets. Loggers, consultants, service foresters, and Extension forestry agents become popular sources of advice.

Your satisfaction with this advice depends on the expertise, reputation, and the diligence of the individual advisor and how his or her services compare with your expectations.

Loggers are often paid a share of the proceeds. Loggers may receive 50 to 90% of the delivered value to cover their costs of logging and hauling and a reasonable profit margin. Standard percentage splits may not match the quality of your timber or the costs of logging your site.

High quality, large trees on level ground, with good access and close to a mill, may return you 40% to 50% of the delivered value. Timber stands with less desirable qualities often barely pay the logs' way out of the woods. Ask prospective loggers to describe their costs and why they vary; invite them to look at your stand. With a better picture of the situation, the logger may consent to use a written contract with a mutually agreeable logging cost per MBF or per ton.

Make sure the logger you select has experience in logging alder and a reputation for fair dealing and clean logging. Know what mills will receive the logs or chips and why these mills are being selected. Check with local log buyers to see if the logger normally delivers logs according to purchase order specifications.

Some loggers concentrate on volume production so much that they neglect the art of cutting logs in the right way for the buyer. Your logger should be willing to meet with you and with prospective log buyers to discuss the specifics of your marketing and harvesting plans.

Check out consultants in a similar manner. Consulting foresters should use their knowledge of the market and supervision to net you a fair return, meet your land management objectives, and relieve you of the many details.

Consultants should promote communication between buyer, seller, and logger, oversee the logging process, and try to avoid or provide for contingencies. Consultants come from many backgrounds, so ask for references and check each one with landowners, log buyers, and others.

Think in terms of net return.

Your net return—after you subtract logging, hauling, fees, and taxes from the delivered log price—is the most important figure you can calculate. For example, in selecting a mill, you can sell to a distant mill that offers a high price but lose out as high transport costs eat up your net return.

If you plan to pay the logger on a percentage basis, evaluate prospective loggers in terms of net return also. Offers given in different units or on different terms are difficult to compare unless they're converted to a common basis.

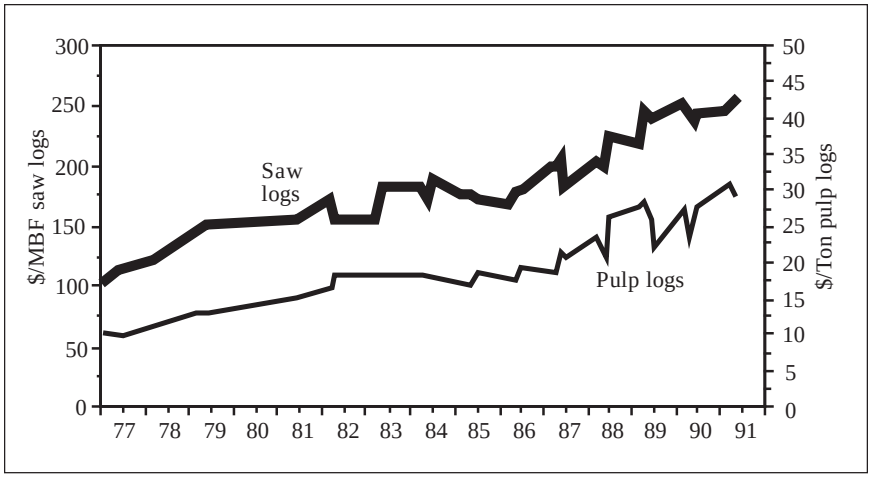

Figure 3.—*Alder saw log and pulp log price rises since 1976.*

See EC 1384, *Selling Timber and Logs...Seven Steps to Success*, for instructions on calculating and comparing net returns. Analyze your offers before the trees are cut to allow yourself plenty of flexibility in decision making.

Timing

Be prepared to take advantage of markets.

Too many landowners hear about hardwood prices or are approached by a buyer, and then decide to act. By the time they've made all the legal, logistical, financial, and other arrangements, markets may have turned down. Some landowners lament that they were rushed into making decisions they later regretted.

It will pay you to plan your sale, getting necessary advice, and then waiting for or seeking out the best prices or sales terms. Plan sales at least 6 months in advance. Let prospective buyers look at your standing timber and tell you the details of logging that would best match their log requirements.

Give yourself time to select a logger and/or consultant and to negotiate satisfactory terms.

Seasonal prices are often influenced by the rainy season's effect on access to logging sites. Saw log prices in wet winters can be $10 to $30 per MBF above summer or dry winter prices. Spring (April, May, June) prices are the most variable, depending on how the previous winter weather affected mill inventories and how much demand there is for furniture.

The highest and the lowest prices usually occur during the spring. You may want to take advantage of these trends by marketing alder that can be logged during winter and spring in wet conditions.

Your or your advisor's ability to read local conditions and prepare sales in advance are vital in timing to the seasonal market. Discuss these trends with a consulting forester or some other advisor.

Once you start the process, keep it moving.

Follow through with your delivery schedule to the buyer. Most have a maximum time in which their prices are valid. Don't leave logs in the woods or at the landing very long. If you do, rapid staining will occur, and the moisture content will drop rapidly, reducing your net return if you sell by the ton.

If you're selling by volume, losing some moisture isn't as critical, and it may actually allow you to haul more volume without exceeding the truck's weight limits. These are good reasons to contract with a full-service (logging and hauling) operator and set delivery goals up front.

Understanding the alder market

Markets

Markets for alder have improved steadily since 1975. Alder lumber has gained acceptance in domestic furniture and cabinet construction, primarily in California. Furniture industries in Canada, Japan, and Taiwan have also gradually increased their demand for alder.

Most alder lumber is sawn from logs larger than 10 inches in diameter (inside bark on the small end). Smaller logs are used to make pallets for shipping and storing.

There's usually a strong demand in the U.S. and Japan for alder chips for pulping into fine printing papers and corrugated medium—the wavy center of cardboard shipping containers.

Chips are manufactured from small logs and portions of saw logs not usable as lumber or pallets. Chip logs can be processed in the woods with the bark on if they will be used in corrugated medium. Although the market is very erratic because of the surges in chip supply, opportunities for chips have grown, and they've created new outlets for small logs.

Supplies

Supply is sometimes more important than demand in determining prices. Too much wood on the market means lower prices; too little results in mill closures and fewer markets.

Sawlog-size alder is a scarce material as shown by the rising prices in figure 3 on page 6. Seasonal supplies of alder logs are variable; plentiful in the summer, but quite limited in wet winters.

Most alder is harvested from mixed conifer/hardwood stands, so reduced harvest in conifer forests (caused, perhaps, by low lumber demand or restricted timber availability) likewise reduces alder supplies. About 75% of the alder volume is owned by the forest industry and small woodland owners.

From 10 to 80% of the alder harvest, depending on the county, comes from private woodland owners whose harvesting activity is difficult to predict. Shortages of softwood logs from public and industry lands have led to high timber prices, which have encouraged increased harvesting of small woodland properties and sent more alder to mills.

The availability of alder for purchase is determined by landowner attitudes, how difficult the logs are to harvest, riparian zone regulations, and other factors. Many log buyers say that high quality logs are already difficult to find; they're pessimistic about future supplies.

Other buyers hope that both public and private resource surveys have underestimated what will be available in the future. Alder still has a "weed" status in most forest inventory definitions and standards, and, as such, isn't sampled completely.

Alder saw log prices have risen since 1978 at or above the general inflation rate (figure 3). In 1977, you'd have received $125/MBF for delivered saw logs that will probably bring $250/MBF or more today. Prices for pulp (also called *fiber*) logs have also risen, but they fluctuate widely—from less than $20 to $30 or more per ton.

On a common unit basis, the difference between pulp and saw log prices has ranged from $40 to $80/MBF. In these prices, you can see the advantage of producing larger logs, by letting stands grow and by carefully harvesting and bucking. In addition, larger logs are cheaper to harvest and haul, further increasing their net advantage.

Alder price trends haven't been smooth, so don't count on prices quoted today to be effective for more than a few weeks. Saw log and pulp log prices don't always move together in trend. Steep rises for saw log prices have come in approximately $50/MBF one year jumps. The largest 1-year drops have been $20 per MBF.

Pulp logs prices have generally paralleled saw log price increases, but they've been more volatile. The export market for wood chips is influenced by exchange rates and world events that cause fluctuating demand. A weaker U.S. dollar relative to the Japanese yen encourages the Japanese to buy more chips, which drives up our domestic prices.

The supply of chips (and chip logs) has also fluctuated because of fluctuations in the overall harvesting rate. Chip prices often show rises and drops of $8 per ton ($50 to $60 per MBF) within a year's time.

Peaks and valleys in prices indicate what you might expect over the next few years and how much you chance to lose or gain by putting your timber on the market. Using hindsight—always perfect vision—you could have held your alder trees until the price covered the costs of logging and hauling.

That assumes you obtained the average price by offering your timber to a wide variety of buyers. Because prices have gone higher during rises than they have dropped, you'd have been relatively better off not selling everything early, even if you had to sell later in a market turndown.

Summary

Don't be afraid to ask questions about hardwood marketing and logging. Ten to 15 years ago, you might have received many blank stares from people who saw no value in hardwoods. The world has changed, however, and steady prices for hardwood logs are convincing more landowners to take a second look at their woodlands.

Most hardwood log buyers are willing to visit your property to look at its timber and to answer any questions you have about defects, logging, delivery, prices, and other aspects of the marketing process. Take advantage of their expertise.

Then use the "4 keys" checklist (figure 1 on page 3) to make sure you cover all the bases we talked about in this publication. You'll be successful!

For More Information

In July 1992 the OSU Extension Service publications warehouse was destroyed by fire. We are replacing our supplies. The publications listed below may be available in the office of the OSU Extension Service that serves your county. Check with that office for current prices.

You also may call Agricultural Communications at Oregon State University, (503) 737-2513, to learn the availability and current price of the publications.

Garland, John J., *Timber Harvesting Options*, Oregon State University Extension Circular 858 (Corvallis, revised 1983). No charge.

Garland, John J., *Logging Woodland Properties: A Worksheet for Landowners*, Oregon State University Extension Circular 956 (Corvallis, revised 1983). 50¢

Hibbs, David E., *Managing Hardwood Stands for Timber Production*, Oregon State University Extension Circular 1183 (Corvallis, 1986). 75¢

Adams, Paul W., *Oregon's Forest Practice Rules*, Oregon State University Extension Circular 1194 (Corvallis, revised 1988). $1.00

Hibbs, David E., *Managing Red Alder*, Oregon State University Extension Circular 1197 (Corvallis, 1986). 75¢

Cleaves, David A., *Selling Timber and Logs. . . Seven Steps to Success*, Oregon State University Extension Circular 1384 (Corvallis, 1991). $1.75.

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The Woodland Workbook is a collection of publications prepared by the Oregon State University Extension Service specifically for owners and managers of private, nonindustrial woodlands. *The Workbook* is organized into 10 sections, containing information of long-range and day-to-day value for anyone interested in wise management, conservation, and use of woodland properties. It's available in a 3-ring binder with tabbed dividers for each section.

For information about how to order, and for a current list of titles and prices, inquire at the office of the OSU Extension Service that serves your county.

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