Forest Management for Small Landowners

Marketing & Final Harvest

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Marketing and Final Harvest

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Introduction

The final harvest of your timber is often a long time in the future. It is one of the shortest and most interesting of the different operations that take place over the 40-to-60-year life of the stand. Once it is over, the landowner will replant the site and they or their children will go back to "hurry up and wait" for the next silvicultural operation.

Entire books have been written about harvesting. This chapter briefly covers different options that are possible for the final harvest stage of a stand and the marketing of the wood. It is a complex subject and no one system is right for everyone. I recommend that forest landowners hire a consultant forester to guide them in making the best decisions for their situation. Most of the time, a consultant will end up making you more than you could have earned on your own. The information provided here will help you understand what choices a consultant is asking you to make and/or choices he will be making on your behalf.

This chapter DOES NOT cover the specific processes of logging, such as:

- How to fall a tree and yard it to the landing.
- How to merchandize, sort, load and ship the logs.

Chapter 11, "Thinning" covers partial harvests for release at younger stand ages. Some information provided here about marketing and logging may also be useful for those doing thinning.

Like with the other chapters, also keep in mind that my experiences will likely be different than landowners in other parts of western Washington, and certainly very different than eastern Washington.

Eliminate Clearcutting?

The demand by environmentalists to eliminate clearcutting in favor of more "visually pleasing" options makes headlines every few years. All other types of harvesting involve some form of selective cutting. What you never hear in these articles and conversations is the long-term cost of a selective cutting process.

- The biggest cost would be the loss of Douglas-fir as the main crop tree. Douglas-fir is a shade intolerant species which must have full sunlight to grow. You can learn more about Douglas-fir in *Chapter 13, "Growing Douglas-fir"*.
- The larger the trees become, the more likely the chance of damage to them during a selective logging operation, both from bumping and rubbing and from cable damage during yarding. Any damage to the bark allows an entry point for disease, which can have major consequences for trees being held for a later harvest.

For these reasons, clearcutting is the preferred choice of timber harvest in western Washington and it is what is covered in this chapter.

Marketing

Marketing: Who To Sell Your Logs To

- This is written as if you are going to do most of the pre-logging preparation work yourself. Later in this chapter, five options for conducting the logging process are described in detail. Regardless of which option you use, you should know how the logger or consultant is going to choose the markets that maximize your return.
- Many log market opportunities are available for forest landowners in western Washington. When it comes time to harvest, collect company names and log buyer contact information and group them by the type of wood they will purchase. They can be lumped into:
    - large domestic
    - small domestic
    - export
    - pulp
    - specialty buyers
        - alder slicing
        - peelers

  Ask other landowners and/or a consultant for ideas. If you are not going to be logging every year, then a list of local markets can be a real asset the next time you log.
- Once a list has been developed, ask your logger or consultant what the trucking rate will be from the logging site to the different mills or export facilities you might haul to. Also ask how much wood the average truck will carry. The amount of wood per truck will be different based on axle and wheels of the truck, type of wood hauled (*large export versus small domestic*), and time of the year (*wood is heavier in spring than late summer*).
- Determine where to sell your wood by comparing the price paid and haul distance. Below is an example where the mill paying the highest price is not the one that will bring you the highest return.

Mill #1	**Mill #2**
$850/*MBF paid for large domestic saw logs	$845/MBF paid for the same domestic sort
$135/MBF for logger to log & load the trucks	$135/MBF for logger to log & load the trucks
51 mile haul distance (d*istance to the mill*)	45 mile haul distance (d*istance to the mill*)
3,500 BF average load (*logger provided info*)	3,500 BF average load (*logger provided info*)
**$263.53 haul rate / tr. load (*logger provided*)	**$233.67 haul rate / tr. load (*logger provided)*
$263.53/3.5 MBF/load = $75.29/MBF to haul	$233.67/3.5 MBF/load = $66.76/MBF to haul
Stumpage	Stumpage
Log value – logging cost – hauling cost = stumpage	Log value – logging cost – hauling cost = stumpage
$850 - $135 - $75.29 = $639.71/MBF stumpage	$845 - $135 - $66.76 = $643.24/MBF stumpage

*MBF is “Thousand Board Feet” (*in forestry, “M” equals thousand*). Logs sell for some dollar value per MBF. Loggers are usually paid an agreed-upon $/MBF (based on the net value you receive after penalties and deducts are taken out.) Some loggers will only work under a percentage of total net value of logs sold. (*See comments on this subject later in this chapter.*)

**Trucking fees are derived from a complicated formula based on miles hauled, fuel and maintenance cost, divided by MBF or tons a given truck can legally haul. Sometimes the trucker will add a surcharge for new regulations or to update the previous formula.

At first glance Mill #1 is purchasing large domestic logs for $850/MBF, a $5.00 lift over Mill #2's price of $845/MBF. Remember that every extra dollar you can get out of the buyer is money in your pocket.

However, when the hauling cost is converted to $/MBF and it and the logging cost are removed from the purchase price, Mill #2 comes out ahead by $3.53/MBF. If you have 100 MBF of this type of wood, that is an extra $353 in your pocket. You and your logger or consultant may still decide to haul to Mill #1 because it can turn the trucks around faster than Mill #2 or for some other reason. You can make these kind of choices because you or your consultant did the computations above for every one of the multiple delivery options.

When examining these options, the final number after logging and hauling cost are removed is called "stumpage", that is, the money that goes into the land and/or timber owner's pocket. It is not all profit as taxes, road maintenance, site preparation, and planting costs also come out of the landowner's stumpage.

Marketing: Types of Markets

Logs harvested can fall into an Export market, a Domestic market or both. Export refers to any logs that are shipped outside of the United States, versus Domestic logs that are milled somewhere inside the United States. In either case it behooves you the supplier of the logs to know a bit about your markets and just what kind of wood each wants. Both markets will generally pay based on your wood being scaled, minus any deduction for defects. Scaled wood is normally paid on a thousand board foot basis, or MBF. The other option is payment by the delivered ton. A third type of market that is briefly covered is the Specialty Market.

Marketing: Export Market

- Generally but not always the export grades will be worth more to you. Once you have made contact with the different buyers in your area and evaluated the hauling distance and log prices for each, you will have a better idea of who to sell your logs to. It may be that even with higher export prices, a further haul distance will make it less profitable to you than a domestic mill.

High ring count

- Historically, logs marketed to Japan had to have a high ring count *(number of yearly growth rings per inch*). Demand is still high for logs with 6-8 rings per inch, but the 40 year old wood now being harvested is graded more on log quality. Issues such as change of log direction, falling outside the scaling cylinder, number and size of spike knots, splits and crack, and pitch seams associated with the cracks will all affect the log quality.

- High end logs (*which the domestic market has never given higher prices for*) have generally gone to Japan, while the remaining export logs have gone into the Chinese, Korean and other Asian markets, which historically have competed more with the local domestic markets.
- Market conditions change continuously. In some years both Japan and China may be buying large amounts of wood. In these years you will be able to ship almost all but the very small logs and fiber to the export market. Wait one year and everything may have changed. In 2016 we shipped 95% of a 26-acre clearcut to Japan and China. In 2018 the Japan export prices were near $1,000/MBF, yet we could only market about 6 loads from a 16-acre clearcut to Japan, and the China market prices were less than the local domestic by almost $50/MBF. So in 2018 our markets were the reverse; 95% of the wood was sold domestically.
- It is much easier to get high-end surface characteristics if you are logging 50- to 60-year-old stands. On the other hand, older stands will have more oversized logs (*logs with too large a diameter to be marketable to the majority of the buyers*), more breakage when the tree falls, more pitch seam issues, and more shake and internal rot issues.
- Export markets from western Washington have traditionally been to Japan, China, and Korea. Occasionally markets in the interior far-east and Europe have existed, but they have not lasted very long, mostly due to the distance involved. We compete with Scandinavia, New Zealand, and some other countries for these same markets so shipping cost will sometimes give those log owners an advantage. One of our big advantages is that Douglas-fir has characteristics that are desired over other species.
- Douglas-fir has been the majority of the export market. However, markets also exist for hemlock and what is called “whitewood mix”, which consists of the white-colored woods such as hemlock, grand fir, noble fir, and silver fir. Some pine shipments from eastern Washington have also occurred.
- In southwest Washington, excellent export sites exist in Longview, Olympia, and Tacoma. Some exporting has also been done out of Aberdeen, Seattle, and Port Angeles.

Marketing: Domestic Market

Types of Domestic Mills

- **Hardwood mills**: Most domestic mills saw 95% western red alder, with a small amount of bigleaf maple, ash, and wild cherry. Alder is the preferred species because of the varied markets for it. Anything else is going to be paid a lot less and have to sit in the yard until they have enough of the same species to run a mill shift of it. The mills cut alder boards in 1- to 2-inch thicknesses, and their markets are mostly furniture with the low-grade boards going into pallet stock. The price paid for alder logs increases by the inch of log diameter. The price per inch can jump over $100/MBF in the larger log diameters. If cut in the summer, alder must be yarded into the landing and shipped to the mill very quickly or a fungal stain will cause major grade and defect losses.
- **Softwood mills:** Most of the softwood mills in western Washington cut primarily Douglas-fir logs. The price sheet the log buyer gives you will tell what species the

mill will accept. A few mills prefer the white wood species (hemlock, noble fir, grand fir, and silver fir) and a few will accept western redcedar.
Most softwood mills will fit one of the following descriptions:

- **Domestic – High value in recovery process:** These mills will produce all types of lumber but put a high emphasis on recovering as much wood as possible from the logs.
- **Domestic – Fast in-line production:** These mills put more emphasis on fast production and don't take the time to cut a higher value log or get more wood from a log. Speed and production are the driving factors.

As a side note: when you purchase Hem/Fir at the lumber yard, you are not purchasing hemlock and Douglas-fir. Instead your purchase will consist of a mixture of hemlock and grand fir.

- **Panel or plywood mills**: Peeled veneer is cross laminated into panels of varying thicknesses, widths, and lengths.
- **Pulp mills:** Little competition exists in the pulp market because it utilizes low-valued logs, and does not have as much room for offering more money for the logs. If you have two mills near you, it does pay to ask what they are paying as one may pay a dollar more than the other, and your hauling cost may be the deciding factor. Pulp is purchased by the ton.

Specialty Markets

Specialty mills go beyond the commodity and dimensional mills by producing a product of higher value. Examples include:

- **Glue Laminate Beams**: The trade name is "Glulam". 2 x 6 inch lumber is layered and laminated (*glued*) together. By laminating a number of smaller pieces of lumber, a single strong structural member can be manufactured. In addition to being strong, they also are very fire resistant.
- **Cross Laminated Timber (CLT)**: CLT is a wood panel made from gluing perpendicular layers of lumber together. Each layer of boards is oriented perpendicular to adjacent layers and glued on the wide faces of each board. CLT normally uses 2 x 6 inch lumber. The resulting panels are very strong and fire resistant.
- **Slicing mills**: High quality logs are sliced into thin boards rather than cut with a circular or band saw. The slices are then laminated to another lower quality board, resulting in a very high quality, furniture board. The alder slicing market is fairly new but in a good market will pay $1,500 - $2,000/MBF for only the best portions of a log. Generally they want a minimum of a 13-inch SED log and 9 feet long. (*See Chapter 14, Growing Alder for more about alder slicing.)*
- **Cedar**: Western redcedar has always had a high market value, but now with reduced availability and increasing demand, it has moved into the high-valued specialty market. The number of mills has decreased as the amount of cedar produced off the land had decreased. *(See more on cedar in Chapter 15, Growing Western Redcedar.)*

Lewis County used to have 3 small family-run cedar mills and one large mill in the east end of the county. We now have just the one large mill. Fortunately, we have another mill to the south of Longview that will purchase cedar as well as Douglas-fir.

Additional domestic mill comments

- Oversize wood is a major concern of all forest landowners because the mills operating today have an upper limit on the size of the logs they can manufacture. The large end of the log (*LED*) is the limiting factor and that upper range can be as low as 20 inches to a high of 35 inches, depending on the size and type of saws and conveyor belt feeds the mill has. Each mill is different. Some small landowners would like to grow their trees for 60 years or more, but by 40 years some of the logs will be approaching 20 inches. Certainly by 60 years, many of the logs will be too large for most mills. Then the only option is to haul the oversize logs to one of the few large log mills that are left and sell them at a discounted price!

  In 2018 a local sawmill was paying $790/MBF for 40-foot logs, 12 inch+ SED and less than 32-inch LED. Logs over 32-inch LED were being purchased for $275/MBF!

- On the west side of the Cascades, landowners will likely have multiple options of where to send their wood. There will often be 2 or 3 small log mills within hauling distance, 1 to 2 larger mill locations, plus several pulp locations.
- On the east side of the state, there often is only one destination and then the hauling distance will sometimes remove all or most of the stumpage (*profit*).

Marketing: What the Purchaser Wants to Have Delivered

What not to ship to the buyer

All mill or export locations will want a specific range of log products from you. If you want to stay on the best side of the purchaser, it is best not to ship them something they can't use and have to either re-manufacture (*cut into different lengths*), or ship to another purchaser. Even if you are not responsible for log merchandizing, it behooves you to understand what is happening, so the next time you can look for a different logger if you were not happy with the log preparation and marketing.

I have heard landowners brag about how they slipped a number of pulp logs inside one of their loads and no one was the wiser. They are wrong! Your loads are either rolled out at the delivery site or done later, but they know who those logs came from. If they have to pull those logs out of the mix and hold them until they have a truck load, and then re-haul them to the correct market, you will be paid a discounted price! And the next time the market conditions are not the best, that buyer may not be so interested in your wood!

If you ship the wrong wood to a mill, then you will lose value that could have been realized by shipping to the correct site! Whoever you sell your wood to, it is a good idea to push the log specification a bit or you will miss some opportunities – just don't cheat.

Scale Reports

Ask your log buyer if you can get the daily scale reports via the internet. Some log scale bureaus are better than others in providing this service. If they can't send them, the mill or exporter may arrange for your truck drivers to pick up copies the next day. This is not very reliable as the scalers don't always leave the reports where you or the truck drivers can get them, or the drivers forget, or give them to the shovel operator and he forgets. If you are able to get any of these reports, then you can look for types of deduct or wrong logs shipped and then go over the results with your logger.

If all this fails, ask your log buyer if they will let you know ASAP of any errors that need to be corrected. For instance, if you have a good market for 32' to 40' logs and 8" plus diameter and you ship 30' logs and 7" in diameter, the mill will still purchase them but the price they pay may be 25% to 50% under what you could have received elsewhere. This is the kind of information you can use if you get it to the logger in a timely manner.

Merchandizing the logs

Much of how logs are viewed and graded has to do with how well merchandized the logs are when delivered to the mill or exporter. If the mill wants both ends trimmed, and all limbs bucked off at the log surface, but they are shipped with broken ends and limb stubs, then the load is more likely to receive a series of deducts on those logs, greater than if shipped the way the purchaser wanted them to look.

Log preparation is one of the more important aspects of a harvest operation. If a landowner owns 20 acres and plans to have only one logging operation, then they will be at a disadvantage to do everything right the first time. This is where it is valuable to have a consulting forester come in and either handle the entire process or help the landowner through it. If a series of harvests are planned, then my recommendation is ask lots of questions and teach yourself the process. Log buyers will be an important resource because it is in their interest to help the landowner learn what to do.

- Each purchaser will want a different matrix of log diameters and lengths.
    - Each will have minimum and maximum diameter ranges they are limited to.
    - Each will have a minimum and maximum log length that the mill will take.
        - The mill may not want certain lengths, and if you send them, they may take it, but with a deduct, because they likely will have to re-manufacture the log, at a cost to them.
- The purchaser will want a certain amount of trim on every log.
    - Generally it will be 6- to 12-inches based on log length but sometimes on longer logs they will want 18 inches of trim.
    - Short trim will kick the log into a shorter category (*i.e. 40' plus trim becomes 38' plus trim*).
        - The trim is what allows the mill to cut a 40-foot log into 5 short logs, each 8 feet long, or some other break-down.

- Almost all purchasers will want both ends bucked flush, with no slabbing of the outer edge or pulled splinters from the log during the falling process. If present, the slabbed portion or the area of splinters will need to be bucked off, unless your buyer has indicated they will accept them.

Log deduct categories

Not all mills will enforce all of the following, but the higher the quality of logs you are selling, the pickier the mill or export representative will be.

- **Breakage:** When a log is felled in rough terrain and breaks, it will often have breakage cracks that will run a long way up either side of the break. This is more than the splits and cracks deduct.
    - Older, larger timber will have more breakage.
    - Breakage may also occur from the log merchandizing process.
- **Change of directions:** If a log has only one change of direction and it does not leave the scaling cylinder, then it often is acceptable. But two changes of directions will usually kick it out and it may end up in a fiber market.
- **Excess limbs per whorl:** Some trees have 6-12 limbs per whorl instead of the normal 3 or 4, which creates a weak area with many knots.
- **Excessive knots:** Too many knots spread over the entire log surface will also cause a downfall.
- **Excessively rough log:** The combination of 2 or 3 smaller items may collectively push the log into a lower category. The export market generally pays $100/MBF above the highest valued domestic logs and wants perfect logs.

Breakage

Change of directions & Outside the scaling cylinder

Excessive limbs per whorl

- **Freeze cracks**: Hard freezing weather can cause long cracks in bole (*tree trunk*) that affect quality.
- **Heart off center**: When a tree has competition for light on three sides and an open area on the fourth side, it will produce more wood on the fourth side, leaving the heart off-center.
- **Knot size:** Knots greater than a certain diameter will kick the log into a lower grade category, or reduced length.
- **Outside scaling cylinder:** Mills will usually specify a length with this deduct item, such as "if any section of the log greater than 10 feet falls out of the scaling cylinder".

Think of the cylinder that is formed by the small end and extrapolate it to the large end. If at any point due to change of direction of the log, or sweep, the log falls outside this imaginary cylinder, then there will be some kind of deduct.

Heart off center

Oversized 5-7 inch limbs and knots

- **Pitch Seams:** Douglas-fir is a very resinous species and the older the tree is, the greater the likelihood of having pitch seams.

Pitch seams

Splits and cracks

- **Rot:** Many domestic mills will accept small amounts of rot or stain but it is a real downfall for export logs.
- **Splits and cracks:** Splits and cracks from the falling process should be caught and cut out in the merchandizing of the log. However the dangle head processor can also cause them when the log is suspended and the processor bucks a log length. Often the split or crack will be even more evident the next day!

- **Sun splits:** If too much time passes between falling and log delivery, sun exposure can cause sun splits.
- **Sweep:** The purchaser will have guidelines on how much sweep is allowed. They often will say “4-inch sweep rule”, which means that when a tape is pulled tight, from end to end of the log, the gap between the log and the tape must be 4 inches or less.
- **Two centers:** If trees with a schoolmarm are bucked too close to the split, the log will have two hearts which is undesirable.

Sweep

Two hearts

How Deducts Effect You

Most log buyers will provide a current price sheet and log specification sheet which provides log quality information. Export buyers will often have a second log specifications sheet that will describe the deduct items in detail. Penalties may be given in several ways.

- **Lower log grade:** If a log is shipped to an export yard and they assign it to a domestic grade, then the entire log is paid at a discounted value.
- **Reduced log length:** A 40 foot log with excessive limbs per whorl may be paid as a 36 or 38 foot log.
- **Percentage deduct:** The scaler may assign a percentage deduct for items such as rot or shake. If your log was 150 BF and they assigned a 10% deduct, then your pay is based on a 135 BF log.

Marketing: Ton Wood Versus Scaled Wood

- **Scaled Logs:** Most logs deliveries are scaled. There are several Scaling Bureaus around Washington and Oregon that all use the Scribner Log Scaling Rules (*Puget Sound Log Scaling Bureau and Columbia River Log Scaling Bureau are two examples.*) These are independent third-party operations that attempt to offer a non-biased scale report of your logs. Some mills and export facilities have their own scalers, and they generally do try to be fair because if not, sellers will stop delivering logs to them. Scaled logs will have 6- to 12-inches of trim added to the log length to allow multiple length cuts be made out of the log. A scale report will show the gross volume, then the net volume after deducts. **You will be paid on the net scale**.

Depending on your wood quality and merchandizing, you may have as little as 1 to 5% deduct or it could go as high as 10 to 15%.

- **Ton Wood:**
  - Some domestic logs are sold by weight with any deductions as a reduction of the net weight.
  - Pulp wood is usually sold by weight and deductions might be given for excessive rot, oversize and undersize wood.
- **Conversion Rates:** The Washington Department of Revenue uses a conversion rate of 8 tons per 1 MBF. For instance wood being purchased for $70 per ton would equal $560/MBF. Conversion rates will differ throughout the year due to time of the year (*trees are heavier in the winter*), and the size of the wood. If you want a more accurate conversion factor to convert your wood between a ton price and MBF, then ask your consultant forester or log buyer what conversion rate to use.

Not really an easy log to merchandize!

Harvesting

There is no set way to harvest your timber. Five options are described below. Many other options are available, and there are repeated sections between the options.

Option I: Do Your Own Marketing But Hire A Logger

Option I: Preparatory Work

- If you have no idea of how much timber volume you are planning to log, then hire a cruiser to cruise the stand so you have something to tell your logger and log buyers.
- Determine unit boundaries and mark them clearly.
    - Don't be stingy with supplies as there is no such thing as too many flags or too much paint.
    - Property lines: If a property line is part of the logging unit boundary, it is very important there be no question of exactly where it is.
        - If the property lines are not already marked, then you need to hire a licensed land surveyor to establish them for you. It can be expensive but if you ask you may be able to do some of the work yourself.
        - Once you know your property line boundaries, it's a good idea to use paint to mark your line.
            - The common way of marking trees along a property line is to paint the side that faces the property line. At the minimum, paint the trees on your side of the line, so your neighbor can see the line.
            - If you ask, you may be able to get your neighbors' permission to paint their trees so the faller will see the line.
        - If the property line has been previously established and marked, then you should refresh the line markings so they are obvious.
        - Ribbon is not as good as paint because it is not very permanent and vegetation growth can easily hide it. However, for your harvest operation the DNR will want you to use ribbon to mark the line.
        - Keep in mind that what is a visible line to you may not be so to an operator who is cutting along the line, especially if there is a long distance between ribbons.
    - Other harvest boundaries need not be as clearly marked, yet it still is in your interest to mark the boundary well. You might show up some day and find the logger has harvested another 10 acres of your timber because you did a poor job of marking the boundaries.
    - If you cut your neighbor's trees by mistake, a penalty of "triple stumpage" can be assessed. The courts don't have to make the penalty that high, but if you did not do a very good job of marking your line, they are more likely to do so.
- Acquire a good map to show boundaries, road construction, and current roads. 1:400 (*1 inch = 400 feet on the* map) is a good scale to use. The DNR may want 1:1000 scale but if asked they may take the more accurate 1:400 scale plat.

- Provide a second map to show the best access to the site, including access on your land.
- Determine acreage of the unit to be harvested. You can also use the same acreage to determine how many trees to plant.
    - A traverse is one way to accurately determine acres.
    - A surveyor or consultant can make acreage determination from photos or survey plats.
- Determine where new roads need to be built or improved, who is to do the work and to what standards.
- Obtain an approved Forest Practice Application before you start logging. These generally take 30 days to process, and may take longer if there are streams or lakes on the unit. If you have never done this before, then contact a consultant forester to help you through the process.

Option I: Log Prices

A consultant forester friend of mine likes to tell his clients "the best deal" for you is often, but definitely not always, the highest price *(in other words, don't be drawn in by the highest price someone offers you for your wood*)

- When you are close to logging, call the local mills or exporters and ask for a buyer's name and phone number. Then call and ask for a current price list and if they want to look at the timber. Many of the log buyers will be interested in visiting your proposed logging site if the type of wood you have might meet their needs. It is an excellent way for you to learn more about the business. Most prices will be in effect for the current month. When you talk to the buyer, write down the pertinent information they give, along with names and contact information. This information will be very important the next time you log, or even while logging. Log buyers will come and go but the mill requirements and office phone numbers will likely remain unchanged.
    - I have a 7 page file that lists all the mill and export facilities within 50 miles and some beyond. It has log specifications and contact information. Every time I get ready to log, I look back and appreciate all that original work I did to set it up. We generally log every other year and I find that I have to re-familiarize myself with buyers and log specifications before I begin my calling (*especially the more forgetful I become*). The 7 page file is my way of doing this. If you are like most landowners, you probably tend to leave things until time is getting short. Having such a form will help expedite the process.
    - The price sheet that accompanies the contract you sign to deliver logs to a mill or exporter will be good for the current month. The buyer will send a price sheet at the end of the month for the next month or let you know if the prices will remain unchanged.
- Once you have dealt with a buyer, you can ask for preferential treatment if you are willing to commit yourself to shipping the wood to them.

- Buyers will also want some kind of longevity from you. If they give you a good deal, they will expect you to offer your wood to them the next time.
- They understand you are going for the higher price when you are asking for their price list, but do not understand when you commit your logs to them, then turn around and send them to a competitor.

Option I: Logging Contractor

- Begin calling and talking to loggers early in this process. (*See resource information at end of this chapter for the contact information of the Washington Contract Loggers Association and their list of loggers.)*
- If this is your first time selecting a logger, then you need to realize that you cannot expect the logger to drop everything they are doing to come and log your land immediately. You will go into their system and when you are next up on the list, they will schedule your logging.
- Once you get to know your logger, you may be able to call them 6 months ahead and request they reserve time for you to log at a specific future time.
- Make a decision on who will log your timber. Be sure the logger you select has the right equipment to do the job, and if you don't know the logger, then ask for references.
- Sign a contract with the logger. A good service contract will handle 99% of the situations you may find yourself in with your logger. Most loggers will have their own standard contract. (*See the separate Appendix for sample service contracts that can be modified to fit many situations.)*
- Determine the payment method from the mill or exporter.
- One option is for the mill to send you the entire payment and you make payments to the logger and trucker.
- Another option is for the mill to pay the logger based on dollars per net MBF (*or per ton if sold that way*) and send the remainder to you. This process will likely work easier for you and the logger.
- The mills will not be interested in paying the trucker if their pay is based on dollars per delivered load, so you or the logger will have to pay the trucker. If the logger lined up the hauling, then ask him to adjust his charge to reflect the hauling. That way the mill only sends two checks and you don't have to worry about the trucking payments.

Option I: Before Logging Commences

Meet with your logger to discuss any concerns you may have. Some of these concerns may include:

- Will they need spur roads built, and if so, who will do it and to what standards?
- Where will the landings be located, and are they planning to operate on a well rocked road? If a logging shovel parks on top of your rocked road to load a truck, in a short time they will have destroyed that section of your road. You can always

clean it up and re-rock it, but it may never be the same. It may be better to build a short road spur for trucks and the loading shovel to operate on.

Spur road to sort and load logs

- Check for power lines in or near the logging unit. If they are adjacent, then check for difficulties of falling without taking out the power line. The logger needs to know this kind of information! If there are power lines to deal with, then check with your local PUD to see if they can cut the power or drop the lines.
- Are there parts of the tree farm you do not want logging equipment to be on? If so, one of your maps should cover this point.
- Is the road gated and is the logger comfortable with the security? Depending on the location, the logger may want to hire an overnight security guard.
- If you want the gates locked at all times, you need to let the logger know. If so, you need to think through how to get emergency equipment or mechanics into the site.
- Do you have any neighbor concerns that the logger needs to know about?
- Did you contact all your neighbors and ask them not to approach the logging equipment without the operator approval?
- Will the logger be working on weekends? Log deliveries are normally Monday through Friday. However, the logger will often work Saturdays (*and some Sundays*) to get logs yarded and processed and ready for Monday morning.
- During fire season the logger is required to provide a fire protection water trailer and required tools.
- Provide a log specification sheet to your logger, and a second one for the shovel operator who is loading the logs. Unless you know your logger or have used them several times, you will not know what kind of wood they have been logging or what markets they are accustomed to. Many loggers will just go to the same mill they have dealt with for many years. If this is the case they may not know or understand what kind of log to send to an export facility or a mill they have not dealt with. Preparing a sheet that describes just what the buyers will accept and not accept may be of assistance to them and bring higher value to you. A sample log specification sheet is on the next page.

Sample Log Specification Sheet

Priority #1: Weyerhaeuser Export, Olympia - PO# B438A	
Need to average 36 ft. log	
IS Sort (Japan) [Sorts 23, 25, 26, & 36]	**SLC Sort** (Japan) [Sorts 6 & 9]
12 inch+ minimum dia. 33 in. max. Butt	**9-11 inch Dia. range**
Knots: up to 2.5 inch diameter	Knots: up to 2 inch diameter
Knots over 1.5 inch must be well scattered	Knots over 0.5 inch must be well scattered
Ignore sound tight knots <1.5 inch	Ignore sound tight knot under 1.5 inch
3 oversize up to 3 in. if high-end surface	2 oversize up to 2.5 inch if high-end surface
One spike knot up to 2.5 inch, ignore <1 inch	One spike knot up to 2 inch, ignore <1 inch
Common Guidelines	
26 - 40 foot log lengths	**Knots:** Ignore spike knots 1 inch and less
40; 36; & 26 feet **Preferred** lengths	**Shape:** Heart centered and round
39; 34; 33; & 30 feet **Acceptable** log lengths	**Stain:** Sound stain allowed
28; 32; & 38 feet Unacceptable log lengths	**Sweep:** No sweep in 4 Meters - **No** double sweep
Trim: 12-14 inch all lengths	**Rot:** None
10% total deduct per log allowed	
No cracks; buck flush; no stump pulls; 10% max. sound stain; no change in direction	

Priority #2: Weyerhaeuser Co. LV Domestic Mill - PO# LP2367B
Try 8 inch minimum diameter
23 inch maximum Butt dia. (if straight and does not exceed the 23" limit)
40', 36', 32' 20', & 16' **Preferred** log lengths
22" Unacceptable log length
Weyerhaeuser ideal log length are increments of 16 & 20 feet
12 inch trim - minimum
Logs bucked square on both ends with no slivers, hinge wood, or shattered ends.
Buck out school marms to a single heart, hooked butts & pistol grips
Sweep, no more than 8" (logs 32' - 40'), 6" (24' - 30'), & 4" (logs 16' - 22")
No payment for fiber or cull logs
No mixed species

Option I: After Logging Commences

- During the logging process, keep the log buyers informed of your completion status. Is the logging half completed or will it be more or less? If the prices are falling in the following month and you only have one week of logging left, the log buyers may be able to hold the higher prices for you.
- Be available frequently if not daily to answer questions.
    - If you are following the scale sheets, then both the logger and the loading operator will be interested in what you find.
    - You will find most loggers and their crew want to do a good job. Anything you can do to help them will be appreciated.
- Near the end of the logging operation, meet with the logging owner or representative to ensure they comply with the road and logging cleanup operation as stated in the contract.

Option II: Logger Does Everything For You

Option II: Prior to Finding a Logger

It is unlikely you will find a logger who will do everything for you. Some of the preparatory work needed before any actual logging will likely fall to you the landowner, or you can jump to Option III and hire a forestry consultant. The preparatory work that needs to be done is basically the same as for Option I.

- Determine unit boundaries and mark them clearly.
    - Don't be stingy with supplies as there is no such thing as too many flags or too much paint.
    - Property lines: If a property line is part of the logging unit boundary, it is very important there is no question of exactly where it is.
        - If the property lines are not already marked, then you need to hire a licensed land surveyor to establish them for you. It can be expensive but if you ask you may be able to do some of the work yourself.
        - Once you know your property line boundaries, it's a good idea to use paint to mark your line.
            - The common way of marking trees along a property line is to paint the side that faces the property line. At the minimum paint the trees on your side of the line, so your neighbor can see the line.
            - If you ask, you may be able to get your neighbors' permission to paint their trees so the faller will see the line.
        - If the property line has been previously established and marked, then you should refresh the line markings so they are obvious.
        - Ribbon is not as good as paint because it is not very permanent and vegetation growth can easily hide it. However, for your harvest operation the DNR will want you to use ribbon to mark the line.
        - Keep in mind that what is a visible line to you may not be so to an operator who is cutting along the line, especially if there is a long distance between ribbons.
    - Other harvest boundaries need not be as clearly marked, yet it still is in your interest to mark the boundary well. You might show up some day and find the logger has harvested another 10 acres of your timber because you did a poor job of marking the boundaries.
    - If you cut your neighbor's trees by mistake, a penalty of "triple stumpage" can be assessed. The courts don't have to make the penalty that high, but if you did not do a very good job of marking your line, they are more likely to do so.
- Acquire a good map to show boundaries, road construction, and current roads. 1:400 (*1 inch = 400 feet on the* map) is a good scale to use. The DNR may want 1:1000 scale but if asked they may take the more accurate 1:400 scale plat.
- Provide a second map to show the best access to the site, including access on your land.
- Determine acreage of the unit to be harvested. You can also use the same acreage to determine how many trees to plant.
    - A traverse is one way to accurately determine acres.

  - A surveyor or consultant can make acreage determination from photos or survey plats.
- Determine where new roads need to be built or improved, who is to do the work and to what standards.
- Obtain an approved Forest Practice Application before you start logging. These generally take 30 days to process, and may take longer if there are streams or lakes on the unit. If you have never done this before, then contact a consultant forester to help you through the process.

Option II: Find a Logger

- If you don't have a recommendation for a logger from a fellow tree farmer or consultant forester, start by visiting the Washington Contract Loggers website and looking at their list of Master Loggers. Do not hire the first logger who comes to the door offering to cut your timber!
- You will need a contract if you hire a logger and most will have their own. A good service contract will handle 99% of the situations you may find yourself in with your logger. (*See the separate Appendix for sample service contracts that can be modified to fit many situations.)*
- Ask the logger if they can complete the Forest Practice Application (*FPA*). Some loggers will do everything for the landowner, but they do tend to be few and far between. Most often you will end up hiring a logger who will also market the wood, but the landowner may end up filing the Forest Practice Application (FPA), paying the taxes, and anything else the logger needs to be done.
- Most loggers will do the job of logging and hauling for a dollar fee per net MBF hauled to a mill/exporter. However some will want a percentage of the delivered price. (*See discussion on percent pay under "General Logging Comments" at the end of this chapter.*)
- If you expect to log more than once, try to develop a relationship with a contract logger. If you do this, you can give them a heads up that you would like to log next summer or fall if markets continue to hold, etc. However you need to keep in mind that your logger cannot quit one job at your beck and call just to keep you happy. It is very expensive to move equipment in and out and sometimes the landowner they are working for will want additional acres logged, thus changing the logger's schedule. All this tends to make a logger's forecast a bit of a guess when they tell you they should be free in a month or two.
- If the logger is paying for trucking, get a copy of the trucker's invoice and logger payment. The landowner is responsible for all the contractors – directly or indirectly!

Option II: Before Logging Commences

Meet with your logger to discuss any concerns you may have. Some of these concerns may include:

- Will they need spur roads built, and if so, who will do it and to what standards?
- Where will the landings be located, and are they planning to operate on a well-rocked road? If a logging shovel parks on top of your rocked road to load a truck, in a short time they will have destroyed that section of your road. You can always

clean it up and re-rock it, but it may never be the same. It may be better to build a short road spur for trucks and the loading shovel to operate on.

- Check for power lines in or near the logging unit. If they are adjacent, then check for difficulties of falling without taking out the power line. The logger needs to know this kind of information! If there are power lines to deal with, then check with your local PUD to see if they can cut the power or drop the lines.
- Are there parts of the tree farm you do not want logging equipment to be on? If so, one of your maps should cover this point.
- Is the road gated and is the logger comfortable with the security? Depending on the location, the logger may want to hire an overnight security guard.
- If you want the gates locked at all times, you need to let the logger know. If so you need to think through how to get emergency equipment or mechanics into the site.
- Do you have any neighbor concerns that the logger need to know about?
- Did you contact all your neighbors and ask them to not approach the logging equipment without the operator's approval?
- Will the logger be working on weekends? Log deliveries are normally Monday through Friday. However, the logger will often work Saturdays (*and some Sundays*) to get logs yarded and processed and ready for Monday morning.
- During fire season the logger is required to provide a fire protection water trailer and required tools.

Option II: After Logging Commences

- The marketing responsibilities that you would be doing under Option I are being done by your logger, who you are hiring to log the unit and take care of daily issues. However you need to meet with the logger regularly to ensure each knows what the other expects.
- Be available frequently if not daily to answer questions from the owner or the crew:
    - If you are following the scale sheets, then both the owner and the loading operator will be interested in what you found.
    - You will find most owners and their crew want to do a good job. Anything you can do to help them will be appreciated.
    - It's amazing how many little things you can do over the course of the logging operation to make life easier on the logger!
- Near the end of the logging operation, meet with the logger to ensure they comply with the road and logging cleanup operation as stated in the contract.
- If your logger knows very little about acquiring seedlings or the planting process, then tell him you will take care of it. If you have no knowledge of planting, then this is the time to look for a consultant who you can learn the process from. If you are intent on doing it yourself, then get in touch with fellow WFFA members and ask those who have logged to give you some pointers.

Option III: Hire A Consultant

This is the best option for a new forest landowner, but the least information is provided here because you are leaving all the details of the previous options to the consultant. For a person who knows very little about forest land management, or is lacking time, my recommendation is to choose this option!

- See the reference section at the end of this chapter for the WSU Extension Forestry listing of Consulting Foresters. Join the Washington Farm Forestry Association (*WFFA*) and attend their meetings where you can talk to fellow tree farmers who can provide helpful suggestions such as consultant recommendations.
- Normally a consultant is hired to do the entire job for you. This can include cruising the stand prior to logging, hiring the logger, overseeing the entire logging process, making all the contractor payments, providing progress reports to you, paying the taxes, and arranging for the planting. However, there is no one set of rules of what a consultant can or will do. It is entirely up to you and the consultant as to who does what.
- The consultant has the advantage of knowing the markets, the buyers, and the logging contractors that a landowner is often lacking.
- You will need a contract if you hire a consultant and most will have their own. A good service contract will handle 99% of the situations you may find yourself in with your consultant. (*See the appendix for sample contracts that can be modified to fit various situations.)*
- In many cases a good consultant can save a landowner enough money to pay their fees and earn as much, or more than if the landowner did it alone.
- If you know nothing but want to learn, and intend to log multiple times, then ask your consultant to teach you the ropes. You may still want to use the consultant but perhaps do some of the projects that you like and feel comfortable with doing.

Take your pick of a new forestry consultant

Option IV: Sell the Timber Through a Timber Sale Process

Option IV: Reasons Why You Should Consider This Option

- Most of this section is written for those doing a "Lump Sum" sale.
- Putting your harvest unit up for bid is best in certain circumstances:
    - If you are someone who knows very little about harvesting.
    - In a family with multiple owners with the potential for disagreement.
    - If you are someone just wanting to get their land logged with a minimal of hassle.
    - Lastly if you are someone who enjoys the forest land but not necessarily all the paperwork and dealing with people that other options require.
- Before you do this, think through the process of logging, post-logging, and logging cleanup. Anything the seller (*landowner*) wants the purchaser to do needs to be spelled out in the prospectus and in more detail in the contract. The more the seller can do to assist the purchaser, the higher the bid price will likely be. For example, if a purchaser makes a successful bid in November and the seller wants 10 stations of road built (*a station equals 100 feet*) as part of the contract and the purchaser can't start construction until the weather warms up and soil moisture dries out in July, then the seller may not get top dollar. Markets have a tendency to change fast and no one can accurately predict the market in 6 months or next year so bid prices will likely reflect this.
- This may be a good point to look for a knowledgeable attorney and/or consultant forester who is familiar with timber sale contracts.

Option IV: Work Prior to the Prospectus

- After you decide to have a timber sale, ask around for cruiser to cruise your timber. Once it is done, you will have an estimate of how much volume you are placing on the market, and the type of logs that make up that volume. Be sure to ask several people who can give cruiser recommendations. Ideally you have someone who cruises full time. It is a profession where a person can become careless very easily which will not help your cruise results.
- Determine boundaries and flag them.
    - Don't be stingy with your supplies as there is no such thing as too many flags, or too much paint.
    - Property lines: If a property line is part of the logging unit boundary, it is very important there are no questions of what is in and what is outside of the boundary.
        - If the property lines are not marked, then you need to hire a licensed land surveyor to establish them for you.
            - It can be an expensive project but if you ask you may be able to do some of the work yourself.
        - Once you know your property line boundaries, it's a good idea to use paint to mark your line. At the minimum paint the trees on your side of the line, so your neighbor can see the line.

        - If you ask, you may be able to get your neighbor's permission to paint their trees so the faller will see the line.
        - If the property line has been established and marked, then you need to refresh the line markings.
        - Ribbon is not very permanent and vegetation growth can over time change a property line or corner appearance.
        - For your harvest operation the DNR will want you to use ribbon to mark the line.
        - Keep in mind that what is a visible line to you, may not be so to an operator who is cutting along the line, especially if there is a long way between ribbons.
    - The term "triple stumpage" has been used by the courts for years in trespass issues. The courts don't necessarily have to award this high of a penalty but if you as the landowners doing the logging did not do a very good job of marking your line it is more likely to be the case.
    - Other harvest boundaries need not be as clearly defined, yet it still is in your interest to mark the boundary well. You might show up some day and find the logger has harvested another 10 acres of your timber because you did a poor job of marking the boundaries.
- Acquire a good map to show boundaries, road construction, and current roads. 1:400 (*1 inch = 400 feet on the* map) is a good scale to use. The DNR may want 1:1000 scale but if asked they may take the more accurate 1:400 scale plat.
- Provide a second map to show the best access to the site, including access on your land.
- Determine acreages
    - A traverse is one way to accurately determine acres.
    - Or a surveyor or consultant can make acreage determination from photos or survey plats.
- The landowner can also use the same acreage to determine how many trees to plant.
- Determine where new roads will need to be built or improved, who is to do the work and to what standards.
- You will need an approved Forest Practice Application before you start logging. These generally will take 30 days to process, and even longer if there are water issues. If you have never done this before then contact a consultant forester to help you through the process.

Option IV: Prospectus and Bid Forms

(*See the Appendix for a sample Timber Sale Prospectus.)* The prospectus is like a cover letter in that it lays out what is being offered and has a form and instructions for submitting a bid.

- The seller will generally ask for a bid deposit of something like 10% of the bid submitted, in the form of a money order, bank draft, certified check or cashier's check payable to the seller when the bid is received. Or the bidder may be allowed to offer a performance bond issued by an insurance or bonding company acceptable to the owner.

- When the purchaser is selected, it is in your interest to ask for a performance bond of about 10% of the purchase price at the time of contract signatures. This can be the same deposit submitted for their bid.
- You need to decide early on how you want to be paid for the timber sale.
    - The purchaser may be required to pay for the entire purchase up front at the time of awarding the contract, or within some time period after being awarded the sale.
    - Another option is to require something like 25% when the contract is awarded to the highest bidder, and the final 75% when the contract is signed or prior to beginning logging operations.
- The prospectus will generally include specific information.
    - Acres, timber age, and cruised volumes.
    - General information on what is required for logging, clean-up, and road construction. These are covered in more detail in the accompanying contract.
    - Who will pay the harvest taxes.
    - Access issues and permission for the purchaser to use roads.
    - Condition of roads at time of contract completion.
    - Permits needed or provided.
    - Auto and General Liability insurance requirements.
    - Termination of contract statement.
    - Date bids are due and a place to mail or deliver the bid.
    - A place to sign the bid form and the amount of the bid.

Option IV: Contract

(*See the Appendix for a sample Timber Sale Contract.)* The contract is generally delivered with the prospectus. It will cover much of what was in the prospectus but go into more detail.

- The contract will cover the same opening items in the prospectus: location, acres, cruise data, and when the bid is due.
- Warranties and title of the timberland.
- Start and expiration date of the contract (18 months minimum, 2 years often best).
- Payment process. Will there be one person receiving the payment or multiple payments to partners?
- Performance bond to ensure that the purchaser follows the contract.
- Wood utilization standards
    - Pulp: Do you want it hauled away in a poor market or can they leave it for firewood?
    - Landings: Does the seller want the wood and debris that develops on the landings randomly spread-out, bunched into piles, or left for firewood?
- Logging standards. Instructions on what to cut and not cut, or cut only marked timber, etc.
    - “No cut” riparian areas need to be described by location, width, and how they are flagged.
    - Do you care if required standing wildlife trees are scattered (*more likely to be blown down*) or left in clumps in some particular place that is specified?

- Slash disposal
    - Is the logging slash to be piled? If so, how large and how clean of dirt must the piles be?
    - Or do you want the debris scattered?
- Roads:
    - Will the seller want the purchaser to build the temporary and permanent roads? If the purchaser is to build the roads, what standards must be met? Standards are usually specified in cubic yards of rock per station (*100 feet*) or depth of rocked road.
    - What condition must the roads be left in? Conditions can be hard to describe but some contracts state "the road must be drivable in the winter with a 2-wheel drive vehicle".
    - If the seller builds the roads, then they need to be completed prior to the prospectus and contract being sent out.
- Indemnity clauses.
- Default process.
- Venue clause: Where a lawsuit will take place if it goes to a court. (*This can be very important – you don't want to travel to Seattle for a lawsuit!*)
- Who pays forest excise tax and B&O taxes?
- Insurance requirements and certificate of insurance. This is for your protection.
- Can the contract be assigned to others?
- Force Majeure: Liability issues.
- Permits: Does the purchaser need any permits to access through neighbor's land or state permits to operate? Some counties require road haul permits.
- Access: What kind of access is between the logging site and the county or state road?
- Somewhere in the contract you need to discuss fire season requirements that the logger will be required to meet. Your DNR service forester can help you with this.
- Termination of contract clause.

Option IV: Before Logging Commences

Meet with your logger to discuss any concerns you may have. All of the possible concerns should be in the contract!!! This meeting is to make the purchaser aware of them and the locations.

- If they want spur roads that are not built, have them show you the locations. The FPA may need to be amended.
- Where will the logger locate the landings and are they planning to operate on top of a well-rocked road? If so, they need to know what your standards are when they are done with the contract.
- Show them where any power lines are located.
- Show them the parts of the tree farm you do not want the equipment on.
- If you have a gated tree farm, then ask if they are comfortable or will they want to have a 24 hour security in place.
- If you want the gates locked at all times, you need to let the logger know. If so, you need to think through how to get emergency equipment or mechanics into the site.

- Are there any neighbor concerns and if so, the purchaser will need to know.
- Will the logger be working on weekends? Log deliveries are normally Monday through Friday. However the logger will often work Saturdays (*and some Sundays*) to get logs yarded and processed and ready for Monday morning.
- It is in the seller's interest to have a pre-harvest meeting with the purchaser and their logger and any other parties (*such as a road builder*). This is the time for the landowner to try and bring everyone to the same page of what the contract states, and also cover any DNR regulations such as slash pull back from public roads.

Option IV: Timber Sale Comments

- The landowner might be successful in getting a letter from the DNR releasing the landowner from any liability issues.
- The seller will have no say in where and how the logs are merchandized or sold.
- In a lump-sum sale, it is the purchaser's responsibility to pay the Forest Excise tax. In Washington State, a 5% excise tax is paid on the stumpage value of the logging operation.
- The seller does have to make a B & O tax report to the State Department of Revenue, but does not have to pay a fee for gross revenue under $100,000.
- Before sending the prospectus out, be sure that you the seller know your limitations and what you can and cannot do.
- The purchaser may want to ensure that the seller owns the timber. In cases I am familiar with, the purchaser paid for a title search of the timber ownership.
- Think twice about having the purchaser plant the site for you. If your purchaser is a logger, then they are less likely to be accustomed to handling seedling purchases and planting crews. If a large timber company or export facility is the purchaser, then do have them handle the process; because they do it all the time.
- If you contract your own planting, then you will need seedlings. If you have no experience or knowledge, check with local timber companies, DNR foresters, extension agents, or your consultant for crews and how to purchase the seedlings. You will need to work with the purchaser so you know the logging schedule and planned completion in order to order seedlings in advance.
- Another option to the Lump Sum sale is the "Pay as Cut" option. The purchaser will provide scale receipts of the ton wood, or scaled wood sold and pay a set fee for each type and size of wood. For instance you might receive $60 per ton for wood sold for pulp, and $780 per thousand board feet (*MBF*) of wood sold to XYZ mill.

Option V – Do the Logging and Paperwork Yourself

Option V: When You Should Not Consider This Option

- If you are new to forestland ownership, then you should forget this option until you know more and can better evaluate your choices.
- If you know nothing about marketing, you should not try this.
- If you don't already have logging equipment, you should not jump into this option.
- If you know nothing about falling and bucking, then you should not consider this option.
- If you are doing this in your retirement, you may not want to spend every day logging.
- If you want to capture the best markets, then you should not consider this option. You will be at the job so long that you will see all the highs and lows of the market while you are gathering 1- to 2-loads a week.
- If you are not good at tinkering with old equipment (*you will not be able to afford new equipment*), then you should forget this option!

Option V: When You Should Consider This Option

- If you have equipment and experience that comes from many years owning forestland property and learning about the processes, this option is appropriate.
- This is something that you have been planning for many years and you definitely know what you are getting into.

Option V: Personal Experience

Like many other forest landowners, I thought I wanted to do my own logging. After taking an early retirement, I bought an old log skidder for what I thought was a very good price. After putting an equal amount into repairs, I ended up with an overpriced old skidder. While waiting for the trees to grow a bit larger, I put out my consultant shingle and earned some real money. After two years I realized that:

- Although I had set chokers as a youth and worked around loggers all my working career, I still did not have the necessary logging skills.
- I had a lot to learn to become an efficient skidder operator.
- I did not have the mechanical skills that were definitely needed to keep that old skidder operating.
- I had some training on falling timber but realized I was an accident waiting to happen.
- I wanted to spend more time at home and traveling, rather than logging every day all year.
- Additionally I was probably making more money as a consultant than as a would-be logger.

At the end of those two years I sold the skidder for the original purchase price and decided not to tell anyone how many mistakes I had made.

This was one of my more humbling experiences in life. I mention it because so many new landowners have the same dream of logging their own land. Perhaps my experiences will help temper that interest in others a bit.

For the past 20 years we have hired the same logger (Tree Management Plus, Inc., Tom Fox owner) to harvest a small unit every few years. I do the logging clean-up with my dozer, arrange for planting, and do hand spraying as the plantation grows. Few landowners have the luxury of owning timber to log when they are young. By the time we reach retirement age, we have learned to focus on the jobs that we can realistically expect to accomplish, and hire others to do the rest.

Hauling a load of logs to the landing with my new dozer

Horse logging

Hand falling

Feller buncher with hot saw

Feller buncher high-topping tree with hot saw

Hot saw chips

Hot saw teeth

Logging shovel swinging logs toward the landing

Logs bunched during logging process

CRT processor

Logging shovel #1 processing trees with Warath
Logging shovel #2 swinging trees to #1

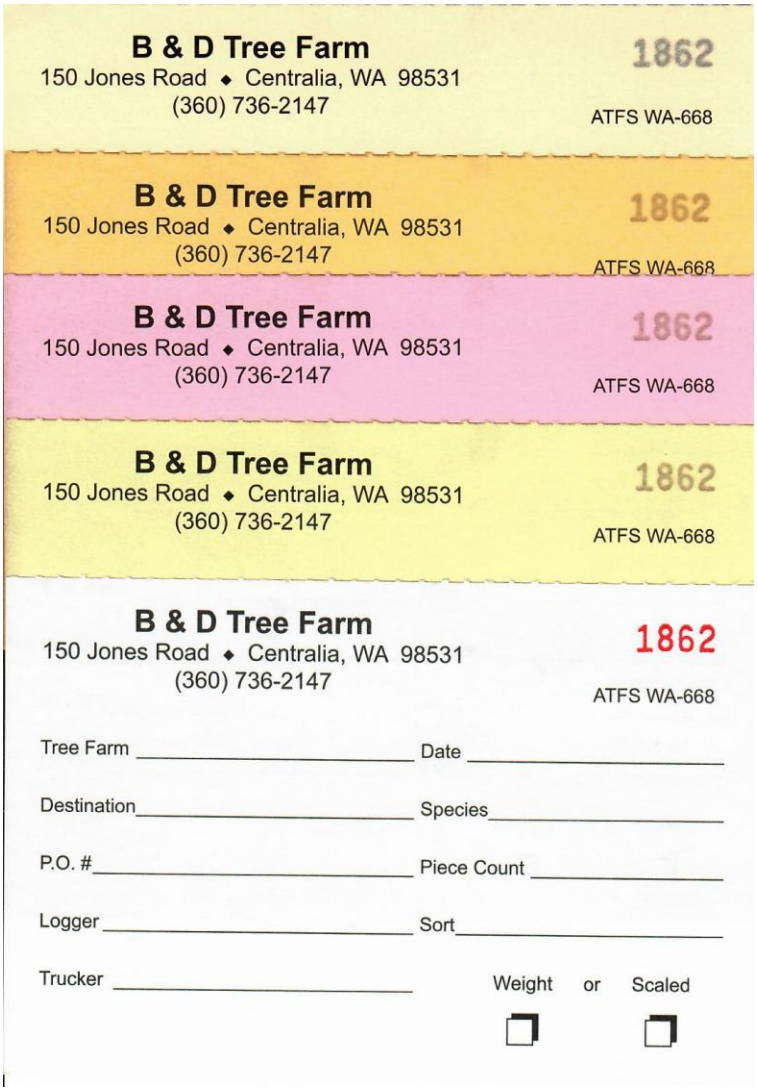
Loading

Hauling

General Harvesting Comments

Log Ticket

If you are only going to log one 40 acre tract once in your lifetime, then you will probably best be served by asking the logger if you can use his ticket books. However if you own enough forest land that you will be logging over a 10- to 20-year period or longer, then having your own ticket books would be wise. The ticket book number will be used to track the logs and has general information on it that the purchaser will want. The ticket book number will also help you track your delivered loads.



Each ticket book will generally have 25 tickets. Each is composed of 5 copies of different colors. The last one is a heavier cardboard copy that is stapled to the load of logs. The shovel operator or the truck driver will take care of this. The top white copy generally goes to the timber owner (especially if they are handling all payments), other copies will go to the logger and truck driver. If you are making all the payments, then the truck driver will bill you and either copy or send their tickets with the billing (generally a set amount per load, MBF, or ton).

Log Buyer Payments

You have the option mentioned above to have all payments come to you. However it is much easier to work out the exact payment amount for logging per MBF, and hauling per MBF for each sort of logs. These numbers will not change once you sign the logging contract. So you can tell Mill “A” that you want a split payment between you and the logger. The logger will get for example, $205/net MBF (combined logging and hauling) for every MBF they owe you payment for. Then the remainder of the amount owed will go to you. You will do the same for all the sorts. The amounts will vary by how many mills the trucks have to haul to, and perhaps different prices to log different kinds of wood. You can pay the logger and trucker every time you get a mill payment, but it will be much easier on you and the

logger to let the mill send a split check. The mills don't mind split checks but they do not like to make more than 2 payment checks per pay period. So you or the logger will have to handle the truck payments. Since the logger generally uses trucks that are accustomed to working for him, and the logger will likely negotiate the trucking rates, it make sense to let the logger make the truck payment.

Scale Reports:

This is covered elsewhere but you may have missed it. Almost all of the larger mills and export facilities will offer the scale reports that they get at the end of the day to be available for you. They may email the report to you, or, possibly tell you how to go to an online site to get them. Look at these reports closely for wrong logs that were shipped to the mill and for types of deduct. Mistakes will happen and logs will be shipped that the scalers will give deducts on (sometimes the mill wants a log with defect included – they will pay extra for the long log and make volume deducts for what they did not want.) What you will be looking for is errors you and the shovel operator did not want. Every shovel operator I have dealt with has always been interested in how they did the previous day. It is almost like they are disappointed if you did not get the report before you came out to the site. Be understanding when you tell them about the errors and they will try to do a better job the next day!

Mutual Cooperation

You will be dealing with the Department of Natural Resources (*DNR*) on many issues over the lifetime of your forestland ownership. The majority of the rules or the agency regulations are either set in law (*Forest and Fish Act*) or rules and regulations the State will enforce. The DNR employees you deal with did not make the rules they are hired to enforce. My suggestion to you is to accept it and if you disagree, then take it to a higher level and get the rules changed. That Forest Practices forester can be your best friend if you treat them with courtesy and respect. If you do something wrong and you have always tried to work with them, then you will find the DNR employees in your corner trying to help you. If you are obnoxious and abrasive, you will have no friends to help you. I have had some issues over the years, but I can also say that some of the finest people I have worked with were DNR employees, and in particular the Forest Practices foresters who will almost always be your first contact.

Independent Appraisal of Timber

- If you don't need a detailed stand cruise appraisal, then a good consultant can usually estimate your stand volumes adequately for logging purposes at much less than the cost of a formal cruise appraisal. (*You will still want to do a cruise for a lump sum timber sale.*)
- If you know your logger and are working on a MBF basis, then having your timber cruised may not be necessary.

- For some situations you will want a good estimate of your pre-logged stand volume (*timber sale, family ownership change, estate issues, and others*). In these cases you will want to have your timber cruised and appraised by a third party cruiser. To find one, check with local landowners, extension agents, DNR foresters, and timber companies. Try to find an appraiser who is cruising on a nearly full time basis. Those who work as general foresters most of the time and cruise only occasionally will not be as finely tuned to the job.
- When you own forest land, you will receive letters from people you do not know who want to purchase your timber, with or without the land. They will offer to "**perform an estimate of the current value of your timber at no cost or obligation to you**" (*taken from a letter I received*). Over the years many dishonest loggers have become rich by offering uninformed timber owners an amount of money that seemed large but in fact was far less than the true value of the timber.
- It cannot be stressed too much that you should not sell your timber to someone who approaches you, offers to determine its value, and offers to log on a percentage basis. You need a third-party independent appraisal or value estimation from several different loggers. You should never accept one logger's estimate of value if they have a vested interest in the job.

Logging Cost as a Percent, or Dollars per MBF

There are advantages and disadvantages for both, but generally the landowner will be better off under a MBF basis. Every profession has its own set of villains. For forest landowners, it's unscrupulous loggers charging on a percentage basis. 99% of the loggers that charge on a percentage basis are fair and honest, but the remaining 1% make a black eye on the industry. Situations where a percentage payment is appropriate:

- A single market for all the wood.
- A small job. It takes a lot of money to move logging equipment in and out of a job and the smaller the job the more your cost will rise.
- The logger and their costs are very well-known and trusted.

Opinion: Why I don't like percentage logging

Loggers, like all businesses, must calculate the cost of their equipment, labor, and other operations cost, and add a profit margin so they know what they must charge to stay in business.

Logging costs will vary by the difficulty of the terrain, the size and spacing of the timber, unit size, type of equipment used, and special requests such as road building.

Once these costs are calculated for a particular job, they should remain constant regardless of market conditions. In a poor market, the logging cost of falling, yarding, merchandizing, and hauling can reach 50% of the income. However when prices are higher, costs are likely to be closer to 20- to 35%. If you have your timber logged on a percentage basis in a good market, the logger will get a considerable bonus above what they need to stay in business. If you log on a MBF basis, every dollar increase in log prices will go into your pocket!

Selecting a Contractor

When you begin the process of selecting a logging contractor for your land, you need to ask the logger what type of equipment they have and the type of ground they can operate on. A commercial thinning contractor will have different equipment than a shovel logging operation, and they both will have different equipment than a cable operator. Ask neighbors for a recommendation of a logger to select. If you are new to tree farming, then I would very highly recommend you hire a forestry consultant to help you. A good consultant will be willing to work with you and let you do what you want on the project. Ask your selected consultant if they are a member of the Association of Consulting Foresters, and their background and a list of previous clients that you can check with. There is no formal licensing of foresters or loggers in Washington so you need to be careful. (*Ironically it takes a license to be a beautician but not for someone who handles large sums of money for you!)* Some of the untrained and uneducated make a poor name for consultants.

The Washington Contract Loggers Association offers training through their Master Logger Program, which is designed to educate loggers about sustainable forestry, safety, forest practices, business management and forest management. You should choose a logger who has the Master Logger certification.

Place to Lay the First Trees

Falling the trees in a way that is efficient for yarding and minimizes breakage is in everyone's best interest. When starting, the logger has to have a place to fall the first trees.

- The logger may need to fall some trees that will go outside the boundaries of your logging unit, just to get started. If they move to a new portion of the unit, then they will again need layout room (for instance, at a second landing).
- Another option is to fall the trees parallel to the unit edge so tree tops don't go outside the boundaries. This may be for a small portion of the unit or in some cases along the entire edge. This keeps the trees inside the unit but does increase the likelihood of breakage when more trees are felled across the logs.

Discuss these options with your logger before falling begins so you aren't surprised.

Timber Breakage

- When a feller-buncher is used to log a 35- to 40-year-old stand that was grown without thinning and with high stocking levels, then you can likely merchandize the wood with almost no breakage due to its small size. Most feller-bunchers will control the tree falling speed through 50-60% of the fall. Smaller trees felled with a heavy duty feller-buncher can be almost set on the ground with little to no breakage.
- If you have done 2 or 3 thinning operations, then you will have fewer trees per acre and of a larger diameter. These larger trees are harder to fall without some breakage. This happens when the logs hit stumps, draws, or mounds. Also when the tree is on the way down, the top is like a whip in that the top portion has farther to fall and drops behind the heavier trunk falling speed. When the tree hits the ground the tree top speed is accelerated to a greater speed and top breakage will often occur, and it rarely happens at the desired log lengths.

- If you are logging trees over 60 years old, then you may suffer log breaks more often in the main trunk of the tree.
- When hand falling, stumps and the lay of the ground are important factors.

Log Length

As a way to encourage a longer length of log, many purchasers will pay extra based on log lengths. Others will take various lengths such as export lengths of 32-40 feet but based on the purchaser getting an average of 36 feet.

- If the logger automatically cuts all 40 foot logs, there may be cases where due to defects the landowner will be penalized more than if they had cut one 36' log.
- Another aspect of this is the value of the first log. Generally speaking the first log will be worth 60 to 80% of the tree's value, both from higher wood volume and market values for that larger wood. As a result, decisions on the first log have the greatest impact on you the owner.

Sorting

As the logger processes your logs, they will pile them on both sides of your road or landing spur by sort or purchaser. Each sort will be sent to a different mill, exporter, or yard. As you look at the piles of logs around the landing, you will see a slight difference in each section of the piles. There may be stump or a vertical log separating the different sorts or the operator may just know their sorts well enough that they blend the different sorts side by side.

Depending on your stand and the marketing decisions that have been made, major sorts can include:

- Export grade logs
- Small domestic logs
- Large domestic logs
- Pulpwood
- Hardwood logs
- Cedar logs

Different sorts can even exist within one of the above categories, depending on log value and hauling cost comparisons.

3 sorts of saw logs

Short Road Spurs

Some loggers will set up their logging shovels to sort and load on top of your road system. This will probably not be a problem if it is summer and on dirt roads. Any damage done to the dirt road can easily be graded out and re-seeded with grass and will be a firm roadbed the following year. If you have rocked roads, you may want to select a few landing sites and have a short spur built and rocked with pit-run rock to keep the equipment off your road system. Consult your logger before building them to ensure the logger can use your proposed locations.

Road Building

- Look at your road building and maintenance contractor like your consultant forester. Make them your friend so they will help you in case of immediate need (*like when it starts to rain and you need more rock immediately to keep the trucks rolling*) and keep you out of troubling long term problems. Ask your neighbors and fellow tree farmers for a good contractor rather than choosing one blindly.
- Every tree farmer has their own idea of how much to put into road construction. Many of these ideas are impacted by how much land the owner has. A 40 acre tract that has one entry and very little else will not require as much as a 400 acre tract that is logged a bit each year and has 800 truckloads entering and leaving the tree farm.
    - Talk to your consultant, a logging road engineer, or a logger about corner radius before building. Different types of logging trucks will require a different corner radius. If you don't do this, you will have a lot of wide turns or inside corner road damage to the trucks or your land.
    - If the desire is to have only a harvest road and then abandon it and logging will take place in the summer, then a dirt road 10 feet wide will probably suffice if there are no sharp corners.
    - On the other hand, if there is to be logging over a longer period and include winter logging then a well rocked (*12- to 18-inches of rock in extreme cases*) road of 20 feet may be best for the main roads.
    - Pros and Cons that go with road width include:
        - Narrow roads make it very hard for equipment deliveries and log truck access, however loggers can be very ingenious when it comes to getting a log truck into a site.
        - Narrow roads also tend to shade the road more and a wet and damp road base causes wheel slippage and is not what you want when it comes to logging. If your logger has to delay the logging every morning due to wet grass the price to log may be greater than a light lift of rock.
        - One disadvantage of trees close to the road is that on a 40- to 50-year rotation the stumps can easily have 6- to 10-inch diameter roots that go under the road. If you want to remove those stumps for any reason, those roots under the road will disrupt your road compaction when they are pulled out of the ground. Also, when they rot down 30 years after planting, the road will suffer some unexpected depressions.
        - The big advantage of a narrow road is you have more of your land in production.
        - Wider roads will mean the road dries out faster and the loggers can return to the logging side faster.
        - There are no right and wrong answers. What you do is a question of personal preferences.
- If you are going to rock any of the tree farm roads, then be sure to do so a minimum of 1 year in advance of logging. This will give your road time to set up and may help reduce excessive road wear. (*see Winter Logging on next page for type of rock to use*)

- Typar: The amount of rock needed to build road can be reduced if you lay down a Typar-like product first (*Typar is a brand name; there are other similar products.*) It is a tough nylon-like sheeting that prevents the rock from sinking into the soil or mud, thus you can get by with less rock and less cost. If you are going to be building or improving your roads, ask your road building contractor about the use of such a product. He may already have it on hand. If you do need to purchase it, ask a loggers supply business, road construction business, or culvert supply store to obtain it.
    - There is more than one type of this product. Some of the newer ones are very expensive but you can get by with even less rock.

The B & D Tree Farm Road system:

Our largest tract of land was 160 acres located near Chehalis, Washington. The only entrance road was 0.25 miles long and we considered it to be an all-weather road that handled over 600 logging truck loads over a 20 year harvest period. It was 20- to 25-feet wide (*ditch to ditch*). At the end of this road, we had a three way junction and meeting location for large group tours. The north road was approximately 15 feet wide and not rocked. The center road was rocked for 0.25 mile and then a dirt road for the last 0.25 mile. The southern road was rocked for 0.25 miles with a rocked road junction going 0.3 miles. This road was rocked with 8- to 10-inches of rock, thinking we could log in some rain but not a winter storm period. Unfortunately, we did not realize the clay soil had a layer of actual clay just under our road. This was a timber sale and the logger started in early spring. By the end of the third day of hauling loads they had broken though the clay and ended up having to pull trucks with a large dozer, and then delay over half of the logging for a month for the road to dry out. It was a major mistake on my part for not building the road a bit higher on the hill slope and using more and larger rock for the base layer!

Winter Logging

If you plan on logging in the winter in western Washington, you need to have a rocked road. If there is some but not enough rock on the road, then it may be necessary to purchase additional rock and have it hauled to the site. Do not use ½" or even 1" rock which is too fine of a rock grade and will just disappear with truck traffic during winter or even summer hauls. On the other hand, pit-run rock is not the best as it includes both large and small non-crushed rock. The best rock to use will be called something like 3"-6" minus crushed.

Various kinds of crushed rock are available.

- Round river rock: Unless your ground is perfectly level, you will not want to use round river rock (*In some places you may not have a choice.*) Round rock will roll against another round rock and will not pack together to make a solid surface.
- Crushed river rock: This is a better choice than round rock, but it still has round surfaces that do not pack very well and it does not make a good surface on hills.
- Hard Sedimentary: Sedimentary rock is usually too soft for road building, but in certain areas there are rock pits with sedimentary rock that when crushed will meet the rock hardness test for road construction.

- Crushed basalt: The very best road construction rock, crushed basalt has multiple fractured surfaces that with a little bonding material (*dirt, sand or smaller crushed rock*) will lock up into an excellent road surface. If you have steep hills, use this rock if possible!

Permits

On all logging operations, someone (you, your consultant or your contractor) needs to look into any required permits and obtain them, if needed. The Washington Department of Natural Resources (DNR) issues Forest Practice permits for timber harvesting and road building. Water use or location permits may be required by the Department of Ecology (*DOE*). If road building will occur in a riparian zone, the Washington Department of Fish & Wildlife (*WDF&W*) will be involved as well as DNR. Also, many counties have road weight permits, and almost all require a permit to build a road entrance on to a county road.

Timber Taxes

- For all harvesting except a timber sale, you will need to pay the Forest Excise tax to the Washington Department of Revenue at the end of each quarter. They monitor approved FPAs and will contact you about paying. If your logging occurs across two quarters, you must file two reports. Each report has a check box for "All harvesting is complete" that you can mark when you have finished harvesting and will not submit any more reports.
- You can choose to file either one of two forms for Forest Excise tax.
    - Forest Excise Tax Return: Private Land – Small Harvester, form REV 62 0064, reports actual cost and pays taxes accordingly. This form was created specifically for small forest landowners.
    - Forest Excise Tax Return: Large Harvester, Form REV 62 0065. You also have the option of using the large landowner form, which is worth looking at, because sometimes a lower tax will be due.
- You also will need to pay B&O tax to the Department of Revenue. Most small landowners are assigned an annual payment schedule. The amount is based on the amount of stumpage you received, and the first $100,000 is exempt from B&O tax.

Changes in the Forestry Community

As one ages in life they tend to judge normality on their life experiences. But as we approach old age we realize that life is constantly changing and there is no normality to compare it to. Logging and the forestry work on your ownership is no different. What was the normal for me will not be the same for a new 40-year old landowner. All I can tell you is that life never seems to reach a normal stage; it just keeps changing.

Some of the changes in the forestry and logging communities over the last 100 years include:

Logging

- In the early 1900's a Lidgerwood logging tower had a crew of around 18 men. In my era (1970s) the high-lead logging crew was about 7 men, not including the trucking.

Today the cut-to-length thinning equipment requires only 2 men, not including the trucking, and the logging sides are about the same.

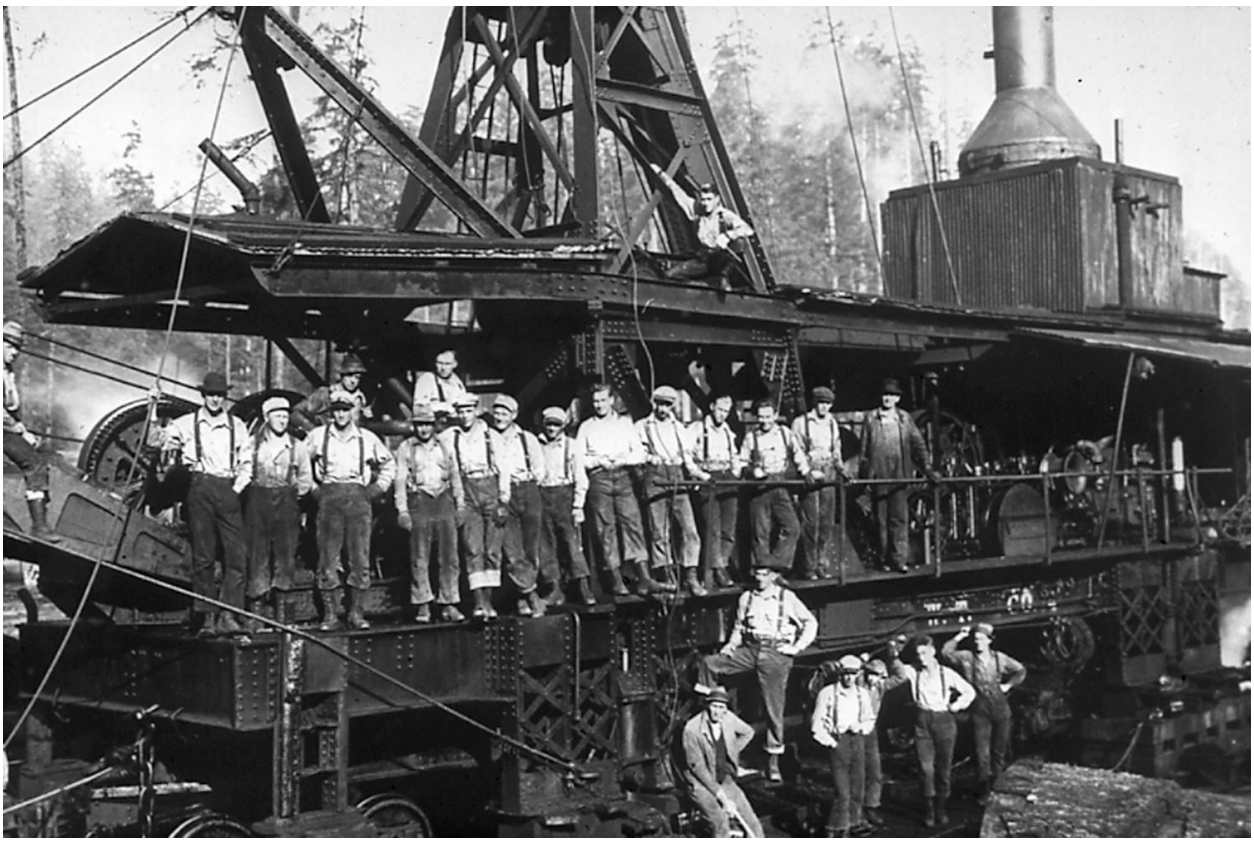
- The prime driving influence for this drop in manpower has not been the desire of companies to cut costs as much as companies reacting to a diminishing work force. It is next to impossible to find 18 year old high school graduates who want to enter the logging community. It's ironic because woods work has gotten much safer (*because of the use of individual machines to do much of the work).* It takes years to become a skilled operator of a thinning processor, but few are interested. Another aspect of the logging profession is the trucking, and in recent years it has been next to impossible to find men or women who want to drive logging trucks. The trucking profession in general has this same problem. They say that most of today's long-haul truckers are nearing retirement age and there are few people waiting to take over their jobs.
- A bit of a change in industry logging the past few years has been that many timber companies are back logging the steeper ground that they logged in the 1970's. However, there is a bit of a shortage of towers as most were sold offshore or scraped due to old age in the 80's and 90's. The other issue is the lack of old-growth stumps for tail-holds. The solution has been to purchase D-8 and larger dozers and dig a hole in the ground for the heavy dozer to back into, effectively becoming an old-growth stump substitute. A few years ago, the seller of a D-8 may have had to pay the hauling fee to get rid of it. It now can be hard to find a larger dozer because there is a demand for them.

Forestry

- For the past 45 years, much of the forestry contract labor has been Hispanic. We were happy because they were fine workers and we were able to help many of them transition into other more stable year-round jobs. However they too have diminished because they found those full time jobs, and the immigration issues are restricting the ability of others to get permits to come north.

What this means to you

- You may find it difficult to find a good contractor to log or plant your trees! A lot of the logging companies that a few years ago had 3 or 4 logging sides now only have one and maybe two, and the same can be said of the forestry labor crews. It is so hard to find the crews that some of the work is not getting done.
- My suggestion is to make your logger and your forestry labor crew your best friends and pay them enough that they want to come back to work for you! It's only going to get tougher – wishing you luck!



Logging crew ready to be interviewed for work on your tree farm

Resource Information

Association of Consulting Foresters (*ACF*)

Web site: https://www.acf-foresters.org/
Consulting foresters who belong to ACF are independent professionals who manage forests and market forest products for private woodland owners. They cannot buy timber and must always work in the landowner's best interest, ensuring you receive expert advice and options while securing the best price for your trees.

Washington Contract Loggers Association (*WCLA*)

Web site: http://loggers.com Phone: 360-352-5037
WCLA has a Master Logger Program that requires loggers to continuously attend classes in subjects such as safety, sustainable forestry, business management, and forest management. Look at the Master Logger list to find possible logging contractors. Many other professionals such as road building contractors, surveyors, log buyers, and large forestry corporations also belong to WCLA.

Washington Farm Forestry Association (*WFFA*)

Web site: https://www.wafarmforestry.com Phone: 360-388-7074
WFFA is an organization whose goal is to educate forest landowners through educational programs, field trips, and publications. The staff and volunteer members also represent small forest landowners in the legislative and regulatory arenas. A new forest landowner will probably learn more from this organization than from any other single site.

Washington State University Extension Forestry

Web site: https://www.forestry.wsu.edu/
Numerous printed and online resources are available from their web site
A directory of consultant foresters is available at their web site.

Educational programs specifically for small forest landowners are offered at various times and locations around the state.

- *Ties to the Land* provides guidelines for passing your land on to your heirs.
- *Forest Stewardship Coached Planning* is a general introduction to forestry and helps you develop a management plan.
- *Forest Owner Field Days* are summer outdoor educational events.