



Logging is the removing timber from the land to process into marketable products; Lumber, Firewood, Biomass, etc.

- Commercial logging in the San Juan Islands started when the ships started logging timbers and transporting logs and lumber south for the developments in the south sound and to fire the local lime kilns
- Most past logging has been using "Hi Grade" logging practices. These practices concentrate on removing the best and highest grade timber for the most profit.

Current Stand Conditions

Current stand conditions are stands that have been higraded several times leaving the stands without a large amount of dominant timber.

Most large timber stands are same age and tightly spaced

The tight spacing has lead to tracts to suffer from disease as well as has limited their potential growth

Logging Methods

| Logging Method | Cost | Production Rate | Ground Impact |
|--|----------|------------------------|----------------------|
| Hand Felling/Horse skidding | High | Slow | Very light |
| Hand felling/ track or rubber tire skidding, shovel logging | Moderate | Moderate | Moderate |
| Harvester felling/ track or rubber style skidding, shovel logging | High | High | Heavy |
| Rubber tired harvester/ rubber tired forwarder | High | Moderate/High | Light/moderate |



Horse Logging



Rubber Tired skidder



Mechanical Harvester



Rubber Tired Forwarder

Logging Costs in the San Jauns vs. Mainland Operations

San Juans

- Trucking costs = \$ 700/ld1 load per day
- Equipment hauling= \$130/hr/ avg \$300/move
- Fuel costs = \$ 3.85/gal
- Total logging costs = \$ 450-\$1050 per load

Mainland

- Trucking costs = \$ 350/ld2-3 loads per day
- Equipment hauling= \$100/hr
- Fuel costs = \$ 3.10/gal
- Total logging costs =\$300-650/ld

Current Timber Prices

- Douglas Fir range, depending on scale,
 \$480-570/mbf which equals \$1440-1710/load
- Hemlock/White Fir, depending on scale,
 \$400-520/mbf which equals \$1200-1560/load
- Western Red Cedar range, depending on scale, \$600-850/mbf which equals \$1500-3600/load
- Red Alder range, depending on scale, \$500-1,000/mbf which equals \$1,500-3,000/load

Timber Futures

- Just like corn timber is a crop. Prices are dependent on demand. If the house construction market improves more boards get sold, meaning more demand for timber driving the prices of timber up and visa versa.
- The lastest timber futures see prices moving very slightly in the near future.
- The predictions are no significant movement at least until 2015

How can we make more money from our timber?



Local milling



- Local milling of the timber will eliminate some to all of the trucking cost.
- A market must exist or be developed for this to be a realistic option.
- Harvest permits must be acquired before orders are received to be able to supply demand in fluctuating markets

Local Timber markets

- Precommerical timber can be sold for firewood or ground for chips of bio mass
- Premium or specialty timber can be sold to local builders and saw mills. These operations are dependent on having a permit in hand when the clients request the lumber

Types of Harvests

| Type of harvest | Costs of logging | Methods of logging | Profit margins | Advantage to harvest |
|-----------------------|------------------|---|------------------|---|
| Understory thinning | High | Hand cutting, machine skidding, low impact machinery | none | Sets up future harvest, promotes old growth, removes competition from overstocked stand |
| Overstory Thinning | Moderate | Hand cutting, machine skidding, low impact machinery, Harvesters | Moderate to high | Exposes to the understory to light and promotes their growth |

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|--|------------------|---|-----------------|---|
| Combination (thinning across the diameters) | moderate | Hand cutting, machine skidding, low impact machinery | Low to moderate | Diversifies the stand, sets up generational harvests, increases tree spacing. Increases revenue |
| Patch cuts (small Clearcuts) | Low to moderate | Hand cutting, machine skidding, low impact machinery, Harvesters | high | replant different species, remove disease from stands, increase profits |

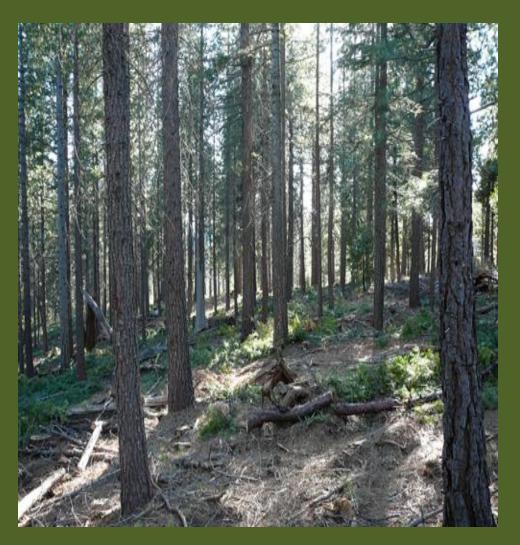
Precomercial Thinning





Commercial Thinning





How does the Landowner get paid?

- The three main ways a logging operation pay out can go are:
 - 1. The logger bids on the job and the landowner gets the mill checks paying the logger out of pocket
 - 2. The logger pays the landowner stumpage, which is an agreed upon percentage per load
 - 3. The logger collects all of the money from the mill, usually in lieu of payment for extra cleanup, road building, etc.

In Closing

- Logging here on Orcas is expensive, a lot of which deals with transport of the timber
- To lessen the cost we need to promote the use of local building materials, and development of facilities to process our timber into desirable products
- We will only improve the health of our stand by diligent maintenance of our stands.

- The old growth forests will only return in we maintain the timber stands to allow them to do so.
- Our forest ecosystem needs us to do one of two things for it to return to its "normal" operation; Help by continuous maintenance or leave and let time take its course

