



Common Southeast Alaska

Log Yarding Systems

Shovel Yarding

Advantages

- Suitable for all sizes of trees even large old growth. The basic equipment is readily available since many are in current use as loaders.
- A refit for shovel forwarding is relatively easy and inexpensive. This method has a lower environmental impact than some other yarding methods, since the number of passes on a given trail is minimal. The machine can travel over slash which reduces compaction even further.
- In wet areas, slash or logs may even be placed in front of the machine as puncheon to facilitate travel and minimize soil damage.

Limitations

- Skidding distance when using shovel yarding alone is generally limited to 600 feet. Beyond this distance the volume in the cumulative decks becomes too much to handle.

Cable Yarding Systems

Advantages

- Good for steep slopes >40%.
- System allows for long yarding distances, in excess of 2000 feet if adequate deflection and tail holds are available.
- With adequate deflection system allows for good suspension of yarded logs with full suspension possible resulting in very low ground disturbance.

Limitations

- Landing location is critical to provide for adequate deflection. Generally, the more the better. Landing locations also require suitable anchor holds. Tail holds must also be available at back of harvest unit.
- Uphill yarding is the preferred and safest method for cable systems thus road and landing locations are critical. If downhill yarding is necessary adequate space must be left in front of the yarder to allow for logs to dissipate their momentum safely.
- Lateral yarding is often limited even utilizing mechanized yarding carriage.
- System requires a larger crew and larger capital investment in equipment than shovel systems. Knowledge and experience of logging crew is also essential.



Helicopter Yarding

Advantages

- Helicopters yarding can work on steep slopes and areas inoperable by other yarding systems.
- Helicopters can work on terrain and slopes that are inaccessible by road. Requiring less roads reduces the associated development costs.
- With helicopter yarding, logs are typically lifted vertically from their resting position therefore it offers a reduction in soil disturbance and seedling damage by as compared to ground and skyline systems.

Limitations

- Helicopter is often the most expensive of all yarding systems both in terms of operation and capital investment especially for high capacity lift machines.
- Logs have to be bucked for weight to match the helicopter load capacity.
- Landings tend to be larger than other systems and require a separate service landing for fueling and machine maintenance.
- Landings should be in close proximity for economics and efficacy as well as downhill from harvest unit.
- Stands must have each turn as close to the maximum payload of the machine as possible thus the stand must contain sufficient volume and quality to be economical.
- Payload decreases with altitude.

Other Ground Based Systems

Feller-bunchers with forwarder/skidder

Advantages

- More control over falling.
- Fast—better production in falling.
- Safe (worker is protected by cab). When combined with a grapple skidder, only two workers are onsite (away from landing) and both rarely touch the logs.

Limitations

- Windfalls, boulders, “rough ground” and residual old growth stumps make operating more difficult, if not impossible.
- Limited to young growth due to the large size of trees in old growth stands.
- Excessive slopes can limit access.

