



Down to the wire: Finding solutions to

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An FPInnovations, Feric Division research project has made best practices recommendations that will help companies and contractors improve the performance of their cable yarding operations.

Steep slopes and sensitive ground sometimes prevent conventional ground-based harvesting equipment from accessing tenured timber in the British Columbia Interior. In these cases, the next best alternative is cable yarding—a relatively small, but important, volume component of forest-harvesting operations. The additional expense of cable

yarding, relative to ground-based harvest methods, is a concern for most forest companies, especially during an economic downturn where reducing delivered wood costs is key. This makes identifying operational challenges and providing solutions so that cable yarding operations run efficiently even more important.

Because cable yarding is not the predominant harvest method in many areas and because practically all cable equipment is now owned and operated by contractors, many licensees would like more information about cable yarding costs and productivity. Sometimes companies lack the familiarity, experience, and records to know what is reasonable for productivity and



cable yarding challenges in the BC Interior

costs for their circumstances. Both licensees and contractors are always curious about how their operation compares to a similar operation—is their productivity higher, lower, or average, and are their costs comparable?

This FPInnovations, Feric Division research project, carried out in the Southern Interior of British Columbia, examined these two objectives:

- To determine benchmark productivity data for a range of cable yarding equipment types operating throughout the BC Interior in a wide range of conditions
- To determine good operating practices that could be used to improve performance

This project used long-term, shift-level data to determine machine productivities throughout a wide variety of site conditions to give a better indication of each machine's performance over time. Regular field visits and participant interviews allowed the researcher to assess harvesting challenges and the successes of each operation. Best practices recommendations were then developed to help companies and contractors improve their future performance.

The cable yarders that were studied in this project include an Ecologger II Tower, a Konrad Mounty 4000 Tower, a Madill 071 Tower, two Madill 120 Swing yarders, a Madill 124 Swing yarder, two Skylead C-40 Towers, a Thunderbird-Chapman Tower, a Thunderbird Swing yarder, and a Washington108 Swing yarder.

Some of the challenges facing cable yarding in the BC Interior include:

- Lower productivity compared to conventional ground-based harvesting
- Small block sizes, low-volume stands, and small piece sizes
- Logs sliding on steep slopes
- A lack of skilled workers
- Small stumps and inadequate anchors
- Inadequate landing space for processing

To date, the project has unveiled and confirmed some solutions to deal with cable yarding challenges. These include the following:

- Good layout and bunching wood is a recipe for larger payloads, higher productivity, and increased optimum yarding distances.
- If bunching is not an option, using a sufficient number of chokers will optimize payload when piece size is small.



Brian Boswell photo

Skylead tower with support equipment in the Kootenays.

- Match the machine to the block. Large machines or machines with many guylines cause slow setups and time-consuming moves when blocks are small or yarding distances are short.
- Tailtrees or mobile backspars improve deflection and increase productivity.
- Radio-controlled yarders with integrated processors reduce labour costs and the processor's grapple can also prevent logs from sliding.
- Self-loading trucks can help balance the system when yarder productivity is low.
- High stumps or log brakes in decking areas help prevent logs from sliding.
- If guyline stumps are inadequate, compare alternatives such as multi-stump anchors versus machine anchors versus deadmen (advance installation of deadmen saves time).
- Feeding the yarding row with a loader or skidder can optimize turn size.
- Locate roads to provide room for landing and processing logs.
- Installing "Proheat" or other fluid-warming systems in anchor and backspar machines can save time when moving them in cold weather and also saves fuel costs by reducing machine idling time.

This project will continue to produce results for more cable yarding systems this year. For more information, contact **Brian Boswell** at

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