INTRODUCTION

While an increasing proportion of the timber harvested on
the Coast of British Columbia is derived from second-growth
stands, experience to date has shown that the log values from
these stands are lower than for timber harvested from old-
growth stands. As a result, logging costs must be reduced in
order for logging operations to remain profitable.

In 1988, Forestry Canada (Pacific Forestry Centre) under
the Canada/British Columbia Forest Resource Development
Agreement (FRDA), contracted the Forest Engineering Re-
search Institute of Canada (FERIC) to carry out a study to
provide some comparative data on the use of cable-yarding
and ground skidding systems.

OBJECTIVES

The study focussed on several major objectives:

- Determining the profitability of a rubber-tired cable
  skidder operation working in Coastal second-growth
  stands.
- Measuring the effects of turn size and skidding distance
  on skidding productivity and costs.
- Undertaking marginal log analysis to determine the
  marginal log volume.
- Determining the volume and quality of residues on the
  logged blocks after skidding.

A primarily second-growth Douglas-fir and balsam stand at
Rocky Point on Southern Vancouver Island was chosen for
the study site. Two Caterpillar 518 rubber-tired cable skidders
and a Caterpillar D4H skidder were monitored on a shift-level
basis over a four-month period.

RESULTS

The two Caterpillar 518 skidders averaged 192 and 161 m³/
8-h shifts and had skidding costs of $2.48 and $2.93 respec-
tively. The Caterpillar D4H Custom skidder averaged 117 m³/
8-h shift and showed skidding costs of $4.02/m³.

Marginal turn size for Douglas-fir and balsam J-, and Y-
grade logs were determined. All X-grade Douglas-fir and all
species of Y-grade logs were skidded at a loss. All J-grade
logs were profitable to skid. Turn volume and market value
had the greatest influence on skidding profitability.

An average of 17.3 m³/ha of residue remained on the site
after harvesting.

CONCLUSIONS

This study demonstrated that ground skidding is a viable
alternate to cable yarding on some Coastal sites, but that
weather conditions in the fall can hamper production. It also
demonstrated that high skidding costs make it unprofitable to
skid low-grade logs when they are priced according to the
Vancouver log market.

To obtain a copy of Ground Skidding Second-growth Tim-
ber in Coastal British Columbia by R.E. Rogers and A.J.
MacDonald, FRDA Report No. 101, contact:

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