

SKIDDING AND YARDING OPTIONS FOR SMALLWOOD

A Thesis

Presented in Partial Fulfillment of the Requirements for the

DEGREE OF MASTER OF SCIENCE

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By

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ABSTRACT

This study compares performance, production, and costs of horse skidding methods in smallwood thinning operations in North Idaho forest.

Two types of skidding operations were observed. A conventional single piece skidding method were compared to those required in pre-bunching system, where the logs were felled, bucked and pre-bunched during the felling activities by the sawyer.

Evaluation of the system productivity through detailed time and production studies led to the development of predictive models of the work cycle elements.

A higher piece rate production is obtained by skidding in bundles than with the conventional skidding method. No gains in volume per load were observed using either method, however, greater utilization and more product recovery was observed using the pre-bunching method.

Under case study conditions of equal piece size the skidding cost is more sensitive to skidding distance in conventional skidding than skidding pre-bunched material. For total thinning costs under equal piece size conditions there was no break-even point between skidding methods. The pre-bunching skidding method had a lower cost for all distances analyzed.

The pre-bunching skidding method is recommended when a greater degree of material utilization is desired and for longer skidding distances.

Study Site

This study took place



Location of Complete Research:

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College of Natural Resources:

Department- **Forest Products**

Other Sources: