

## SHORT TERM EVALUATION OF HARVESTING SYSTEMS FOR ECOSYSTEM MANAGEMENT

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**Abstract:** Continuous time/motion studies have traditionally been the basis for productivity estimates of timber harvesting systems. The detailed data from such studies permits the researcher or analyst to develop mathematical relationships based on stand, system, and stem attributes for describing machine cycle times. The resulting equation(s) allow the analyst to estimate productivity and thereby cost, over a range of conditions, as set forth in the mathematical model. The traditional weakness in this process has been the time it takes to collect, synthesize, analyze, and implement the results of the study. For field applications, the turnaround time is such that the original problem or concern often goes unsatisfied or is dealt with by some other means well before the analysis can offer a solution.

The purpose of this study was to develop a methodology for estimating productivity that provides reasonable estimates with quick turnaround time on the analysis. The goal is to collect data in one day and to provide answers almost immediately. The ability to assess productivity of harvesting systems quickly and reliably and to then tie system performance to site impacts, can aid immeasurably in ecosystem management.

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