

## Factors that Affect Fuel Consumption in Logging Systems

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### Abstract:

Fuel consumption is an important aspect of the efficiency of timber harvesting. Since loggers are paid based on the weight of wood they produce, it is important to note how many gallons of fuel it takes to produce one ton of wood. An extensive literature review was conducted to evaluate different harvesting systems and the amount of fuel they consumed per unit of wood that they produced. Results showed that varying factors (such as terrain, type of system, and type of cut) led to a variety of differences in fuel consumption. For these reasons a project will be developed to find new information about the factors that affect fuel consumption such as terrain, harvesting system, and type of cut (thinning vs. clearcut). The study will involve surveying loggers to submit information about slope, tree size, type of cut, type of machines, gallons of fuel consumed, and weight (in total tons) of wood produced on a per tract basis. From this survey, new fuel consumption data will enable timber harvesters as well as mills to have a better grasp of modern in-woods harvesting systems and the factors that lead to variability in fuel consumption across a wide array of factors

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