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## PROFILES OF LOGGERS AND LOGGING COMPANIES IN MAINE AND THE SOUTHERN STATES

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**ABSTRACT** - Despite much literature on logging folklore and history, documenting a statistically defensible description of modern-day loggers and their businesses remains a somewhat elusive task. Surveys were conducted of loggers in northern New England and in the mid-southern and southeastern states to gain a realistic "picture" of logging companies and of the people who work in them. Questionnaires were mailed requesting information on the size of the logging companies, their production levels, log marketing & procurement methods, background of individuals, perceived problems & public perceptions, etc. Results and comparisons are given in this presentation.

### INTRODUCTION

Given the recent changes and challenges in the forest products industry, it became desirable to develop systematically gathered, credible, and unbiased information about logging businesses in the US. This information could then be used by the logging community and trade associations to help plan policies, legislation, programs and worker training. Periodic reassessments of the logging industry could help in understanding trends in the industry over time. However, baseline information was needed to initiate the process.

In addition, a broad profile of the industry can assist various research projects in evaluating whether a smaller group of logging companies that participate in a study are representative of the industry as a whole. Adjustments can be made to the results of such studies based on key business structural factors (such as contractual relationships) and size distribution of companies. Importantly, information may also be used to identify areas for further research.

Surveys of loggers in Maine and in eight southern states were conducted. Results were used initially to provide a mechanism for validating the results of the Logging Capacity Study sponsored by the Wood Supply Research Institute (Chumblor et al.; Mayo et al. 2002; and Ulmer et al. 2002). This paper will focus on survey results that describe attributes of logging businesses related to production capacity, and offer a rationale for a multiple methods research approach.

### THE MAINE LOGGER SURVEY

A survey of loggers who work in the state of Maine was conducted in 2001. A comprehensive list of loggers was developed from three sources: (1) a list of all loggers who were mentioned on logging operation notification forms in 2000; (2) a list of loggers who were Maine residents supplied by the Certified Logging Professionals (CLP) Program; and a list of loggers from neighboring Canadian provinces who worked in Maine, supplied by the CLP Program. Computerized CLP logger lists were provided to the research team in 2001. Both English and French versions of the survey were developed. All loggers on these lists were mailed the 7-page survey (Taggart 2001; Taggart and Egan, in preparation). Multiple mailings (two survey mailings and one reminder postcard) were executed to increase the response rate and mitigate bias due to nonresponse. Follow-up phone calls and several on-site interviews were used to both clarify and add depth to some mail survey responses, as well as to increase response rates. The following results focus on responses to questions related to unused logging capacity from those loggers who are residents of the State of Maine.

*Survey results: Background information.* Approximately 700 loggers who work in Maine responded to the survey. Of these, 572 were residents of the State of Maine, and 114 were residents of the Province of Quebec. The mail survey response rate for loggers who were residents of the State of Maine was 27%. Phone surveys of 100 nonrespondents increased the response rate to 32 percent. The average age of these loggers was 44.8 years (standard deviation = 10.8 years), and the average education was 12.2 years (sd = 2.0 years). On average, respondents had logged for 22.6 years (sd = 10.8 years).

In the year 2000, Maine loggers worked an average of 48.2 hours (sd = 15.6 hours), and 38.5 weeks per year (sd = 10.7 weeks). Their average annual gross income was \$217,049, and their annual personal profit from logging was \$20,053, although reports of annual personal profits were highly variable (cv = 171%).

When asked whether they expected to be in the logging business in five years, just over half (50.9%) responded "yes," 24% responded "no," and 25% were not sure. When asked to describe their expectations for profitability in 2001, 15% expected better profits, 38% anticipated lower profits, and 47% expected profits to be about the same as they were in 2000.

*Unused Logging Capacity Survey Results.* Over three-quarters (77%) of logging business owners indicated that they experienced unused capacity. Less than one-quarter (23%) of logging business owners indicated that they did not experience unused capacity in their logging business. Eighty-four percent of loggers from southern Maine and 73% from northern Maine reported idle logging capacity.

Further analyses indicated a significant association between loggers who reported unused capacity and (a) profitability in 2000 ( $G^2$  p-value = 0.05) – 43% of those reporting unused capacity also indicated very poor to poor profitability in 2000, while 46% of these reported average and 11% reported above average profitability; and (b) the behavior of profit margins since they began logging ( $G^2$  p-value = 0.02) – 69% of those reporting unused capacity also indicated decreased profit margins, while 12% reported an increase and 18% said profits remained about the same.

*Causes of unused capacity.* The most often cited cause of unused logging capacity by Maine logging business owners was weather (n = 168 respondents), followed by road conditions (n = 113), equipment breakdowns (n = 112), and mill imposed quotas (n = 111). Other commonly reported causes included regulations (n = 56), moving equipment to other locations (n = 51), inability to find stumpage (n = 47), and mill closure(s) (n = 46).

When causes of unused logging capacity were evaluated based on both the number of respondents citing each cause and the reported percentage of unused logging capacity attributed to each cause, the following ranking (from highest to lowest) for the top six causes was: weather, mill imposed quotas, road conditions, equipment breakdown, inability to find stumpage, and inability to compete for stumpage. Causes that did not rate highly included (in order of decreasing ranking): regulations, mill closure(s), lack of labor, moving equipment, unproductive labor, poor planning on someone else's part, poor planning on the respondent's part, inefficient unloading or handling of

delivered wood (e.g., excessive truck turn around delays), and lack of trucking.

*Costs of unused capacity.* For those Maine logging business owners who experienced unused logging capacity, the average reported cost of this phenomenon was \$40,257 per year (logging contractors = \$81,727; independent loggers = \$23,669), although this figure was highly variable from one respondent to another.

Of the business-related variables investigated, the amount of capital that loggers had invested in their businesses and the proportion of wood harvested that was cut on stumpage they had bought (arcsine transformed) were positively associated with the costs of unused capacity ( $r^2 = 0.55$ ). Variables not retained in the model were proportion of trucking that was contracted (arcsine transformed), hours worked per week, and weeks worked by year. Loggers who reported unused capacity had an average capital investment in their businesses of \$382,288; those that did not report unused capacity had an average capital investment of \$181,170. In addition, loggers who reported unused capacity harvested 33% of their wood on stumpage they had purchased, versus 19% for loggers who did not report idle logging capacity.

When asked to rate a battery of items that they considered as barriers to maintaining or expanding their logging businesses, 65% of logging contractors and 73% of independent loggers rated as "unimportant" the statement "I already have too much logging capacity;" 32% of contractors and 18% of independent loggers rated this as "important;" and 2% of contractors and 9% of independent loggers rated it as "very important." However, when asked to rate the statement "there's too much capacity in my area" as a barrier to maintaining or expanding their logging business, 35% of the contractors and 45% of the independent loggers indicated that this was "unimportant;" 38% of contractors and 23% of independent loggers indicated it was "important;" and 27% of contractors and 31% of independent loggers rated it as "very important."

## THE SOUTHERN LOGGER SURVEY

*Persons questioned.* Mailing lists were obtained of 7404 logging companies in Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Louisiana and Texas. Multiple individuals working for the same company were purged down to one individual per company – the owner or boss, if it could be discerned. Questionnaires were sent to 7,115 individuals.

*Questionnaire.* Questions were asked on the status of preferred suppliers, wood dealer relationships, contract trucking, sources of timber, species hauled, and size of operation. The final question was a subjective question, asking loggers to check off the top three reasons that

prevented their crews from working at full production capacity. It should be noted that the survey is based on the most productive crew in each company, for those companies with multiple crews.

Questionnaires were mailed in late December 2001, preceded by announcement post cards and followed by reminder post cards. On February 8, 2002, questionnaires were re-mailed to those companies that did not respond. Of the 2555 respondents (36% response rate), 2217 (87%) were actually in the logging business.

*Results of the Southern Logger Survey.* The preferred supplier concept is relatively new in terms of common popularity. Fifty-three percent of the survey respondents indicated that they are a preferred supplier to a mill. This number indicates that the preferred supplier system has already become quite commonplace.

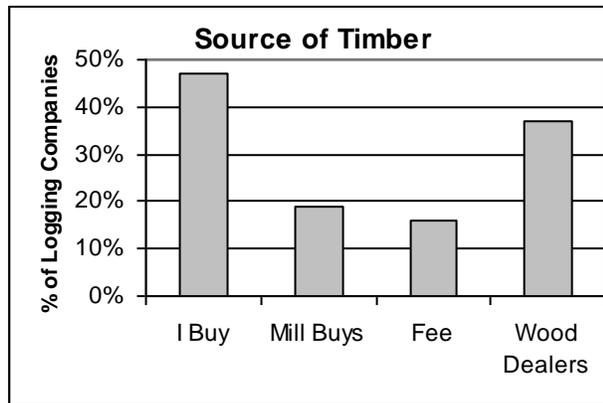


Figure 1. Source of timber for logging companies.

In contrast to the newness of the preferred supplier relationship, the dealership relationship is very traditional. Fifty-one percent (51%) of the respondents reported that they delivered mostly through a wood dealer/supplier. Thirty-one percent reported that they have a wood dealer supply some of their timber (Figure 1). As to further stumpage sources, 47% of respondents purchase a substantial amount of their own timber. By contrast, 33% reported having timber supplied by a mill (either purchased stumpage or fee-simple timber).

Just over one-half (54%) of the companies utilize only company-owned trucks. The other half use exclusively contract trucks (23%) or a mixture (22%).

A high number of log sorts is generally known to slow production somewhat, but it is also an indication of a logger's flexibility to sell to different markets, thereby positively influencing production. Most loggers reported making five or fewer sorts, with many of them reporting three or fewer sorts (Figure 2). Three percent of the respondent companies have at least one chipping crew.

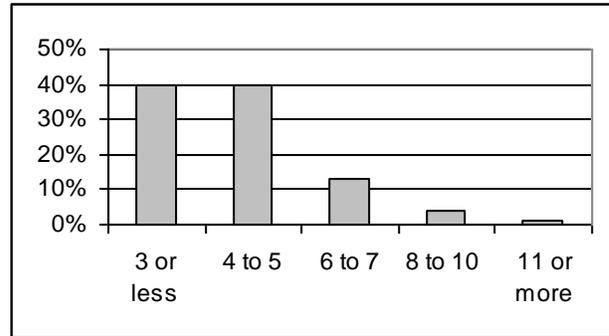


Figure 2. Number of log sorts.

As to type of harvest (clearcut, plantation thinning, and thinning), 76% of the logging companies work clearcuts to a large extent, 52% work thinnings (including diameter-limit, select cuts and house lot cuts), and 27% work plantation thinnings.

Most companies (55%) haul a substantial mixture of pine and hardwood species. Thirty six percent of the respondents haul pine (defined as more than 70% pine), while only 8% haul hardwood (also > 70%).

The logging companies averaged 1.5 crews each. Only 42 companies (2%) reported running six or more crews. The majority reported working more than 226 days per year. Forty respondents (2%) wrote in the comments section that they log part-time; all except one produce 20 or fewer loads per week.

In the design of the survey questionnaire, we failed to anticipate the large number of logging companies that produce low volumes. The median crew produces 29 loads per week, with 35% producing 20 or fewer loads per week (Figure 3). It is not known how many of them work part-time, but that number would be somewhere between 2% and 20% of the logging companies.

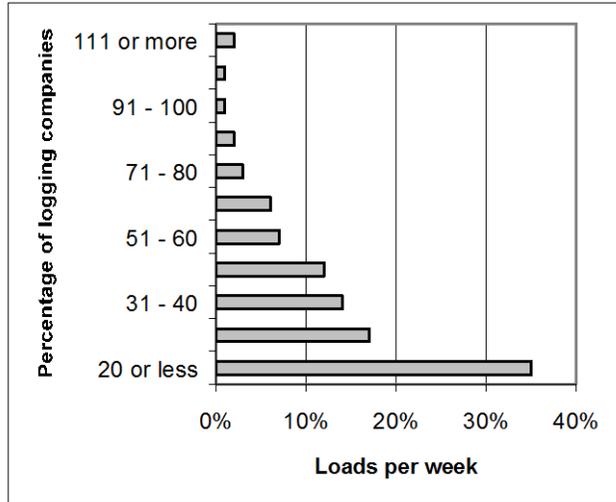


Figure 3. Size of logging companies by production.

As an item of interest, we asked the loggers in the survey to check off the top three reasons that prevent them from working at full capacity (Figure 4). Weather and Quotas were most often cited, followed by Other market factors, Mechanical problems, and Stand & tract issues.

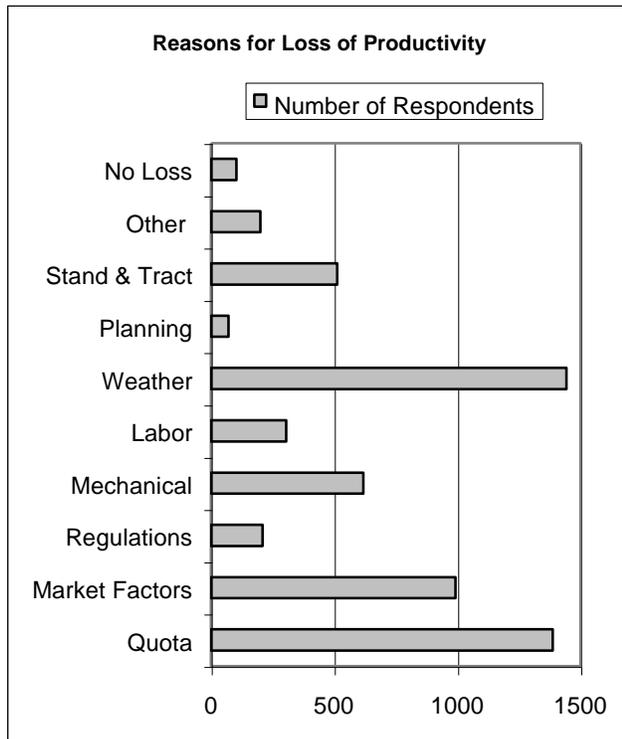


Figure 4. Survey respondents were asked to list the top three reasons that prevent their crews from working at full capacity. The category "No Loss" represents those who reported that their crew always works at full capacity.

Possibly the two most significant findings of the southern logging survey pertain to the preferred supplier status and

to the size distribution of companies. The preferred supplier concept, although relatively new to the industry, has gained large popularity, as evidenced by over half of the logging companies reporting a preferred supplier relationship with at least one mill. We expect this trend to continue in the foreseeable future. One of the most surprising findings of the survey was the preponderance of small logging companies in the industry – even smaller than we expected. Thirty-five percent of the companies' most productive crews produce 20 loads or fewer per week. This was by far the largest category.

**CONCLUSIONS**

The mail surveys of loggers in Maine and the southern US initially provided additional insight into the results of the Logging Capacity Study sponsored by the Wood Supply Research Institute, and provided a mechanism for more broadly describing the phenomenon. This multiple methods approach – combining in-depth weekly reports from a smaller sample of logging businesses with survey and interview methodologies – appeared to both add depth to and broaden the generalizability of the Logging Capacity Study. In addition, it provided baseline information, systematically gathered, that could be used to initiate a study of trends in the logging business over time.

Survey results also offered the opportunity to discover and develop researchable questions related to the logging community. For example, the Maine logger survey found significant differences between Maine resident and cross-border Quebec resident loggers who work in Maine that may be useful in understanding Canadian woods labor – an often contentious issue that is revisited periodically in that state. The southern US logger survey found an unexpected number of logging companies that produced 20 or fewer loads per week. Periodic follow-up surveys will be able to help discern whether there is a trend in logging business size (and other logging-related phenomena) over time.

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