Occupational Choice among Loggers in Maine’s Northern Forest and Southern Counties

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The Northern Forest in not about ecosystems... It is about how human societies exist within these ecosystems.

(Klyza and Trombulak, 1994)

Forest industry workers in Maine, as in much of the Northern Forest, are under increasing stresses related to uncertain forest-land ownership and land management philosophies, unpredictable wood and fiber markets, and increasing logging and wood processing costs. These conditions have the potential to affect not only forest products businesses, but also individuals, families, and communities that depend on the extraction and primary processing of forest products.

Since 1968, several studies have investigated the availability of a skilled domestic logging labor supply in Maine. The most recent analysis concluded that a domestic logging labor shortage existed in northern Maine and that the demands of industry could not be adequately supplied by Maine loggers alone (Pan Atlantic Consultants/The Irland Group 1999). Furthermore, these studies noted that the logging industry has suffered from a poor image, which has likely challenged traditional labor recruitment efforts (Bond 1977, Donovan and Swain 1986). Concerns about the persistence of an inadequate supply of domestic logging labor have generated interest in both reasons for the phenomenon and information on sociodemographic attributes of the region’s logging community.

In addition, virtually all previous studies of Maine’s logging community have focused on the loggers of northern Maine (e.g., Public Affairs Research Center 1968, Pan Atlantic Consultants/Irland 1999), leaving questions about whether the loggers of the state’s southern counties represent a distinct occupational community. In our study, aspects of Maine’s Northern Forest logging community were examined in order to develop baseline information on loggers’ occupational choice, and to detect trends, if any, by comparing our work with an earlier study of the state’s loggers. Moreover, as a way of understanding whether loggers in Maine’s Northern Forest have a sense of occupational choice that is distinct from loggers in the rest of the state, our study compares responses of loggers who work in Maine’s Northern Forest counties (i.e., Aroostook, Franklin, Hancock, Oxford, Penobscot, Piscataquis, Somerset, and Washington Counties) and the state’s southern counties (i.e., Androscoggin, Cumberland, Knox, Kennebec, Lincoln, Sagadahoc, Waldo, and York Counties). Formally stated, the research hypothesis tested was:

\[ H_0: \text{There are no differences between Maine’s Northern Forest and southern county loggers as they pertain to variables describing occupational choice.} \]

All tests were conducted at alpha = 0.05.

Background

The concept of occupational choice is among the keys to developing an understanding of the logging workforce in Maine’s forests. However, recent, systematically conducted research in this area has been lacking, despite persistent concerns about logging labor supply and the economic health of logging businesses. The Public Affairs Research Center (1968) conducted one of the earliest studies of Maine loggers. The study found that, among loggers interviewed in several remote Maine logging camps, logging was the second preference of a list of six possible occupations — bookkeeper, fisherman, logger, paper worker, truck driver, and textile worker (Public Affairs Research Center 1968). Although 20 percent of the study group indicated that they “like the work” as their primary reason for logging, “insufficient education” (31 percent) and the inability to find “any other job (nearby)” (21 percent) were cited more often. These results suggest a sense of resignation rather than an attraction to some real or perceived positive attribute(s) of logging. Non-loggers participating in the study ranked logging fifth in terms of respectability. Moreover, the study described the northern Maine logger in a way that suggests little sense of occupational identity or choice:

(The logger is) a man with minimal education (by our standards) who has no skills other than his
own strength and who sees the logger occupation as the only occupation where he can make a good living (by his standards). His attitudes imply that he would prefer his own children to have a better lot than his, that he has resigned himself to the woods as his only hope, and that he is willing to accept the conditions of the occupation without complaint as long as the money is there.

This perception was recently reinforced in a study of Quebec resident loggers who work in Maine's border counties with that province (Egan and Taggart, in review). However, Egan and Taggart found that Maine resident loggers in those counties conveyed less resignation to logging as the only job available to them and articulated a greater sense of occupational choice and identity than their Quebec resident counterparts.

Bearing some similarity to the study conducted by the Public Affairs Research Center, a more recent study asked both logger and non-logger respondents in Maine to rank the status of ten occupations — administrative assistant, construction worker, doctor, factory worker, lawyer, sales clerk, school teacher, real estate agent, and waitress. Non-loggers ranked logging seventh, while loggers ranked their profession third. The non-loggers indicated that logging was an unattractive profession due to the perception of long commuting distances, physically demanding work, and challenging and dangerous working conditions (Pan Atlantic Consultants/The Irland Group 1999). Indeed, the study suggested that, in many remote parts of Maine, raising wages alone would not attract enough new domestic workers to the logging industry to meet present labor demands.

In addition, Vail (1993) maintained that both Maine loggers and non-loggers alike hold timber harvesting in low esteem, asserting that loggers perceived among their neighbors a sense of stigma attached to their profession. This view is not unique to Maine's logging community. The stigmatization of the logging profession has also been described by Carroll (1995) and Satterfield (1996) in their studies of loggers in the Pacific Northwest. Yet the social prestige associated with an occupation is considered an important determinant of the success of attracting new workers to a profession (Pineo and Porter 1967).

Methods
A survey instrument was developed through a review of the literature on loggers' occupational choice (e.g., Public Affairs Research Center 1968), as well as a series of three logger focus groups conducted in northern New England. Particular attention was paid to the Public Affairs Research Center (1968) study, so that direct comparisons could be made between responses related to questions on occupational choice from that study and responses to our survey. In addition to questions that solicited information on sociodemographic attributes of Maine resident loggers, survey questions solicited respondents' reasons for becoming loggers. Before being mailed, a draft survey was tested among representatives of logger associations in the northern New England region and several minor changes were made that improved the survey instrument.

Mailing lists of loggers in Maine from two sources: lists of loggers who had been trained by the Certified Logging Professional (CLP) Program and a list of all loggers who had filed a mandatory harvest notification with the State of Maine in 2000 were concatenated. A French version of the survey was mailed to French-
speaking loggers. CLP certification is required of all loggers who sell wood to mills participating in the Sustainable Forestry Initiative (SFI), a forest products industry sponsored initiative designed to set standards for and monitor logging quality. Since the forests of northern Maine are dominated by industry ownership and wood consuming mills that participate in SFI, CLP certification is required of most loggers who work in the study region. We anticipated that the information from the harvest notifications would include loggers not on the CLP mailing lists.

A sequence of multiple survey mailings — a cover letter and survey, followed by a reminder postcard, and finally a second cover letter and survey — were sent to all 2,870 loggers on the combined lists. Loggers whose names appeared on more than one list were sent only one sequence of survey mailings. Bias due to non-response was mitigated through the use of multiple mailings, and was estimated by segregation and analysis of early and late survey participants' responses (Armstrong and Overton 1977) using appropriate discrete data statistical methods.

Results and Discussion

Of the 692 Maine loggers responding to the survey, 571 responded to a question asking them to cite the Maine county in which they performed most of their logging activity; 41 of these loggers were among those who responded to the survey by phone. Twenty-eight survey respondents indicated that they were no longer employed in logging in Maine. Approximately two-thirds of these respondents cited factors that restricted their ability to earn what they considered to be a decent living in logging. Their responses were not included in the analysis.

Non-response bias was estimated by using chi-square analysis to test whether survey respondents' reactions to statements related to occupational choice were dependent on whether a respondent was an early or late survey respondent. We found no significant differences between early and late survey participants relative to their responses to statements describing occupational choice, suggesting that survey respondents and nonrespondents were from the same population (Armstrong and Overton 1977).

Attributes describing socio-demographic and business-related characteristics. Compared with a previous study of northern Maine's logging community conducted in 1968 by the Public Affairs Research Center, Maine's loggers today are older, better educated, and reported more years of logging experience (Table 1). Although our survey respondents were widely distributed throughout the state, 82 percent (n = 468) were from Maine's Northern Forest counties, and the remaining 18 percent (n = 103) were from Maine's southern counties. Overall, survey respondents had an average age of 44.3 years, an average educational level of 12.4 years, and had been logging for an average of 22.1 years. Respondents from the Northern Forest counties were slightly older and slightly less educated than their southern Maine counterparts, although differences were not statistically significant. However, statistically significant differences were found between these two groups in their logging experience, with Northern Forest loggers reporting approximately 2.5 more years of logging experience than loggers from southern Maine counties (p = 0.005). Northern Forest loggers also reported significantly more generations preceding them in logging (mean = 1.7 generations) than were reported by loggers from the state's southern counties (mean = 1.1 generations) (p < 0.001).
In addition, an analysis of variance found significant differences between Northern Forest and southern Maine county loggers in both the number of weeks worked per year (p = 0.053) — Northern Forest loggers worked approximately one month more per year — and the distance traveled to work (p < 0.001) — Northern Forest loggers traveled an average of 13 miles farther to work. Although Northern Forest loggers worked more hours per week, and reported larger gross profits, personal incomes, and capital invested in logging, no statistically significant differences were found between the two populations for these attributes.

Overall, slightly more than half of the respondents expected to remain in the logging business over the next five years, while approximately 24 percent indicated that they would not be in logging and 25 percent indicated that they were not sure. When partitioned by region of the state, 50 percent of Northern Forest respondents and 58 percent of southern county respondents said that they expected to be in the logging business in five years. However, responses to this question were not dependent on the region of the state in which a respondent worked (G² = 4.933; p = 0.085). Among those survey respondents indicating that they either intended to leave logging within the next five years or were not sure, reasons included: “no money in it,” “not profitable anymore,” “market gets worse each year,” “price of wood never goes up,” “no wood and wood prices not keeping up with costs,” “stumpage harder to find,” “lack of benefits, insurance, and money,” “getting too competitive and too mechanical,” and “northern Maine may not need hand cutters in the future.”

**Attributes describing occupational choice.** In order to better understand the factors motivating loggers to work in the logging profession, survey participants were asked to identify why they became loggers by reacting to a battery of statements on occupational choice (Table 2). Several of the statements were patterned after those from the Public Affairs Research Center’s (1968) study. Others were developed from pre-survey focus groups and the published literature.

**Table 2. Comparison between Northern Forest and southern county loggers’ reactions to statements listed as possible reasons for becoming a logger, as well as the public’s perception of logging.**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Northern Forest</th>
<th>Southern Maine</th>
</tr>
</thead>
<tbody>
<tr>
<td>I became a logger because:</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>I could not find another job nearby&lt;sup&gt;a&lt;/sup&gt;</td>
<td>20.6</td>
<td>79.4</td>
</tr>
<tr>
<td>I come from a logging family&lt;sup&gt;a&lt;/sup&gt;</td>
<td>65.0</td>
<td>35.0</td>
</tr>
<tr>
<td>It was the best paying job available&lt;sup&gt;a&lt;/sup&gt;</td>
<td>45.1</td>
<td>54.9</td>
</tr>
<tr>
<td>I don’t have the education for a different job&lt;sup&gt;a&lt;/sup&gt;</td>
<td>28.1</td>
<td>71.9</td>
</tr>
<tr>
<td>I have always done this work</td>
<td>70.4</td>
<td>29.6</td>
</tr>
<tr>
<td>I enjoy the sense of independence&lt;sup&gt;a&lt;/sup&gt;</td>
<td>93.5</td>
<td>6.5</td>
</tr>
<tr>
<td>I like the work</td>
<td>97.9</td>
<td>2.1</td>
</tr>
<tr>
<td>I enjoy using skills to accomplish a task</td>
<td>92.7</td>
<td>7.3</td>
</tr>
<tr>
<td>It’s a healthy life style</td>
<td>71.4</td>
<td>28.6</td>
</tr>
<tr>
<td>It’s challenging</td>
<td>91.8</td>
<td>8.2</td>
</tr>
<tr>
<td>It pays well</td>
<td>41.3</td>
<td>58.7</td>
</tr>
<tr>
<td>It gives me a feeling of accomplishment</td>
<td>88.4</td>
<td>11.6</td>
</tr>
<tr>
<td>I enjoy working outdoors</td>
<td>98.8</td>
<td>1.2</td>
</tr>
<tr>
<td>It is a respected profession in my community</td>
<td>61.9</td>
<td>38.1</td>
</tr>
</tbody>
</table>

Describe the general public’s perception of logging.

| The public views loggers as unskilled.                                   | 63.1            | 36.9          |
| The public respects loggers and the work they do.                       | 42.7            | 57.3          |

<sup>a</sup>Chi-square analysis found that reactions to these statements were dependent on whether a respondent worked in Maine’s Northern Forest or southern counties (alpha = 0.05).

Choice vs. resignation. Chi-square tests for independence were conducted to determine the association between where a logger was from (i.e., Maine’s Northern Forest or southern county) and a battery of statements describing occupational choice. Results suggested a greater sense of resignation to logging as an occupation among Northern Forest loggers vs. loggers who work in the state’s southern counties when describing their choice of logging as an occupation (Table 2). Survey respondents’ reactions to statements reflecting resignation to logging — I could not find another job nearby and It was the best paying job available — were dependent on whether the respondent was from Maine’s Northern Forest or southern counties. In addition, significant dependence was found for the statement, I come from a logging family, and dependence of borderline
significance was found for the statement, *I don’t have the education for a different job*. No significant association was found between region of the state and loggers’ reactions for any of the other statements related to occupational choice. Except for the statement, *I have always done this work*, all of the other statements described some positive attribute of logging (e.g., *It’s a healthy lifestyle. It gives me a sense of accomplishment*).

**Prestige.** There appeared to be no significant differences in the ways that Maine’s Northern Forest and southern county loggers perceived the public’s view of logging and loggers. A majority of loggers in both regions of the state sensed that the general public viewed loggers as unskilled and did not respect the work that loggers do (Table 2). However, a majority of loggers in both regions agreed that logging was respected within their own communities. In addition, 72 percent of Northern Forest loggers and 60 percent of southern county loggers in Maine said that they would not encourage a son or daughter to be a logger (*G*^2^ = 5.594; *p* = 0.061). Reactions to these statements were not dependent on whether a respondent was from Maine’s Northern Forest or southern counties. The primary reasons cited for not encouraging their children to be loggers included logging’s poor wages and lack of employment benefits.

**Conclusions**

As a political entity created by the U.S. Congress, the Northern Forest does not represent a distinct ecological or economic region, and, as such, distinctions between the 28 so-called Northern Forest counties and neighboring counties in the region can be somewhat artificial. Studies that contrast phenomena and conditions in the Northern Forest counties with those in proximate northeastern counties can both help place aspects of the Northern Forest region in perspective and provide comparative information that may lead to a better understanding of the social, economic, and environmental challenges facing the region.

Moreover, concerns about the interaction of human societies and ecosystems appear to drive interest in the region. Since timber harvesting has been the dominant type of human influence in the Northern Forest (Trombulak 1994), information that helps us better understand the region’s logging community can lead to an improved understanding of a critical dimension of the region’s economic and community structure.

Our study attempted both to describe attributes of Maine’s logging profession as a whole, and to detect differences, if any, in sociodemographic and occupational choice characteristics between Maine’s Northern Forest and southern county loggers. Results of our study suggest that, although aspects of a cohesive occupational community may exist among Maine loggers across the state’s
and 99 percent of its southern county loggers said that they liked the work associated with logging. Only 20 percent of loggers participating in the 1968 Public Affairs Research Center study said that they logged because they liked the work.

However, although most loggers in our study did not appear to be resigned to logging because of a lack of other employment opportunities or inadequate education, there were significant distinctions between Maine’s Northern Forest and southern county loggers related to occupational choice. Similar to the Public Affairs Research Center (1968) study, our analysis found a greater sense of resignation to working as a logger among Northern Forest loggers than among their southern Maine counterparts: 21 percent of loggers in the Public Affairs Research Center study and 20.6 percent of Maine’s Northern Forest loggers in our study said that they engage in logging because they could not find another job nearby. Only 8.6 percent of Maine’s southern county loggers said that they logged because they could not find another job nearby. In addition, while 31 percent of the loggers in the PARC study said that they felt they had insufficient education for other work, this was echoed in our study by 28 percent of Northern Forest, but only 16 percent of southern county loggers. Interestingly, this is despite almost identical mean education levels for Maine’s Northern Forest and southern county loggers.

Implications for the future may include a continued decline in the availability of individuals who are willing to participate in a skilled domestic logging workforce, particularly in Maine’s Northern Forest. This may be exacerbated by our finding that 72 percent of Maine’s Northern Forest loggers would not encourage a son or daughter to pursue logging — in a region of the state that our data show has accounted for significant familial ties to logging vs. Maine’s southern counties. However, this may be compensated for by increasing mechanization in the state’s logging industry, as well as transitions from community dependence on timber extraction to the development of more diversified economies that include recreation and tourism (Wilson 2001).

Our study also found that loggers in Maine sensed a lack of prestige associated with their occupation among the general public, perhaps contributing to loggers’ pessimism about their profession. This likely derives from several factors, including the geographical separation of most of the state’s citizens from the logging community and its relatively isolated workplaces, as well as the historically low esteem associated with manual labor (Pineo and Porter 1964) and logging in particular (Vail 1993). The lack of social prestige associated with logging will likely impact occupational choice and challenge efforts to recruit new loggers into the workforce.

Finally, this study focused on the logging community in Maine, a state that contains eight of the 28 so-called Northern Forest counties. Future work that provides a broader understanding of loggers across the Northern Forest may be warranted as a way of better understanding their position within the region’s diverse forest ecosystems and rural communities. Such study may help us gain insight into rural community stability and forest dependency in the Northern Forest, particularly as trends indicate a decline in forest products manufacturing jobs and an increase in employment in recreation and tourism in the region.

Literature Cited


Paul Smith's, the College of the Adirondacks, is one of the most exciting and progressive institutions of higher education in America today. The 14,000-acre campus made up of lakes, forests and streams provides a unique natural laboratory for an unparalleled education in forestry, ecology and natural resource majors.

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