

NMFWRI FIELD NOTE

New Mexico's Forest Products Sector: Background and Challenges to Rejuvenating a Struggling Industry

(Submitted for publication to the *Forest Products Journal*)

Andrew Egan, Director

New Mexico Forest and Watershed Restoration Institute

New Mexico Highlands University, Las Vegas, NM 87701

Email: afegan@nmhu.edu

Abstract

Although relatively small in its statewide contribution to employment and revenue, New Mexico's forest products sector contributes significantly to both local forest-dependent communities and efforts to improve the health of the state's forest and woodland ecosystems. However, questions remain about the present capacity and future directions of the forest industry in New Mexico. Mail and phone surveys were conducted by the New Mexico Forest Industry Association and New Mexico Forest and Watershed Restoration Institute, respectively, to document aspects of the forestry sector in New Mexico, including raw material procurement, primary and secondary products manufactured, tree species and volume utilized, and challenges to developing the state's wood products industry. Results suggested concern about a lack of demand for wood products manufactured in the state, unreliable sources of raw material, the high cost of insurance and fuel, and federal regulations. Recommendations include developing trend data by repeating the survey every five years; conducting future mail and phone surveys in Spanish and English; and conducting focused discussions and case studies of a sample of New Mexico logging operations and primary and secondary processing businesses in order to better understand and add depth to mail and phone survey responses. Results have implications for the development of a viable and sustainable forest products industry in New Mexico and the southwestern United States.

Introduction

The most recent statewide forest inventory showed that approximately 21 percent of New Mexico was covered by forest (O'Brien 2003). Piñon-juniper, the state's most common forest type, covered 54 percent of the total forest land, while ponderosa pine comprised some 29 percent of the total wood biomass and a quarter of the wood volume. Most of New Mexico's forestland is administered by government agencies, with the USDA Forest Service (USFS) managing almost half of the state's forest and private entities, including Indian Trust land, owning 38 percent. Except for the state's most eastern counties, New Mexico's counties are located within 100 miles of a National Forest (Figure 1). While the state's forest products industry is relatively small and most of these businesses employ fewer than ten people and comprise only about .25 percent of the state's employment, forest products enterprises are critical to the economic well-being of many local forest-dependent communities and help to enable forest restoration efforts in the state that are aimed at reducing the risk of severe wildfire while improving the health of the state's forest resources.

Established in 2007, the New Mexico Forest Industry Association (NMFIA) is a non-profit corporation that *seeks to create, strengthen, and support a business climate that ensures the needs of all stakeholders and is aligned in the development and growth of a healthy, sustainable New Mexico forest industry* (from the NMFIA Mission statement). However, despite the commitment of core individuals, agencies, and organizations, relatively little is documented about the scope of the forestry sector in New Mexico and the challenges faced by the state's timber-dependent businesses. In 1997, Keegan et al. (2001) conducted a statewide census of New Mexico's primary forest products industry. Timber-dependent businesses participating in the census processed nearly all of New Mexico's commercial timber harvest. The authors noted that the state's timber harvest had declined precipitously since the late 1980s, due mainly to decreases in stumpage availability from National Forests related to endangered species legislation, the listing of the Mexican spotted owl in 1993, and litigation directed at sales of timber from federally-managed lands.

Due to a heavy reliance on USFS stumpage – related in part to the proximity of New Mexico’s population to USFS-managed public lands (Figure 1) – challenges and barriers to timber procurement on National Forests can have devastating effects on forest-dependent communities and businesses. The decline in stumpage availability on USFS-managed lands resulted in mill closures and an overall reduction in harvesting and wood processing capacity – particularly in northern New Mexico. During the period 1986-1997, the total estimated forestry sector sales value dropped from \$170 million in 1986 to \$77.7 million in 1997. The challenge related to a downturn in the forest products sector and its effects on rural economies, forest health and reducing wildfire danger is west-wide. For example, citing the loss of sawmill capacity in the northwest US, a recent article in a Washington state newspaper quoted an advisor to the US Agriculture Secretary as saying that “We need forest management for the health of the landscape and the economic stability of rural communities” (Kramer 2011).

The purpose of this study was to develop baseline information and document aspects of New Mexico’s forest products sector, including raw material procurement, primary and secondary products manufactured, and tree species and volume utilized. Using mail and phone surveys, the study also aimed to clarify impediments to maintaining or expanding the state’s forestry sector.

Approach

A mail survey was developed by the NMFIA through consensus among several association members and stakeholders. Multiple mailings and follow-up phone calls to mail survey non-respondents were used to increase the survey’s response rate and to provide an opportunity to measure non-response bias. Surveys were mailed in the Fall, 2011, to all New Mexico forest products sector contacts on a list managed by the NMFIA. Several weeks later a reminder post card was mailed to all 212 contacts, reminding and encouraging them to respond to the survey.

After the completion of the mail survey, the NMFWRI volunteered to conduct a phone survey of all mail survey non-respondents. The scope of the mailed survey was reduced to accommodate a much briefer and manageable phone survey (Appendix). The phone survey was completed in March, 2012.

In order to test whether survey results could be reliably generalized to New Mexico’s forestry sector, non-response bias was analyzed using appropriate discrete data analyses, including chi-square tests. Survey data were summarized using descriptive statistics for both aggregated and partitioned (by logger vs. primary/secondary processors, for example) data sets, and tests were conducted to clarify relationships among key variables.

Results

Survey yield and response rate. Of the 212 total survey contacts, no more than 157 were reliable: 10 of the 212 were no longer in business; 12 said that they were never involved in wood products; and 33 phone numbers had been disconnected. In addition, 41 people who were contacted refused to participate in the survey. Attempts were made to contact 94 people by phone who after a third failed attempt, were deleted from the list of further phone

Surveys were completed by 65 survey participants (36 (55%) by mail and 29 (45%) by phone; response rate = 41 percent (Figure 2)). The NMFIA contact list was “cleaned” based on those who indicated that they were no longer in the forest products business or for phone contacts that were no longer in service.

Non-response bias. Chi-square tests were used to determine whether responses provided by mail survey respondents were significantly different from those of phone survey respondents. Results suggested that there was no non-response bias and that the results of the combined mail and phone surveys could be generalized to New Mexico's forest products sector. For example, whether a survey participant was responding to the mail or phone survey was independent of a company's business (Q-2) (chi-square = 3.99; $p = 0.26$); level of business activity (Q-4) (chi-square = 5.88; $p = 0.12$); and buying radius (Q-10) (chi-square = 0.43; $p = 0.98$). However, despite a relatively high response rate, given the small number of responses overall, results should be interpreted with caution.

Survey participant background. Of the 65 survey respondents, 22 (34 percent) self-identified as primary or secondary wood processors; 16 (25 percent) as loggers; three (5 percent) as wood haulers; one (2 percent) as a road builder; and 23 (35 percent) did not self-identify. Approximately one-third ($n = 17$; 35 percent) of survey respondents said that they were members of the NMFIA. Of those who identified themselves as either loggers or primary/secondary wood processors, six self-identified NMFIA members were loggers and nine were wood processors.

Business-related questions. Almost two-thirds (63 percent) of survey respondents classified their business as "commercial," approximately one-quarter (26 percent) as "commercial and personal," and the remaining 11 percent as "personal" (Table 1). Eight percent of logging businesses were "non-commercial," while all primary/secondary wood processing businesses were "commercial." Most businesses (72 percent) were full-time. Of the 17 logging businesses reporting, 53 percent were full-time; 18 percent were part-time; 18 percent were currently idle, but will be activated; and 12 percent were idle, with no plans to reactivate. None of the primary and secondary processing businesses reported being idle – of the 22 reporting, three were part-time, while the rest were full-time. Of the 34 respondents reporting sales revenue, approximately half reported a revenue of \$250,000 or less.

Table 1. Business-related questions posed in the NMFIA Capacity Survey.

Q3: What is the commercial status of your business?

- Commercial = 63 percent
- Commercial and personal = 26 percent
- All personal = 11 percent

Q25: How many employees do you currently have? For those respondents reporting employees ...

- Full time: mean = 10.3
- Part time: mean = 3.3

Q4: How active is your business through the year?

- Full time = 72 percent
- Part time = 15 percent
- Idle (plans to reactivate) = 6 percent
- Idle (no plans to reactivate) = 6 percent

Q26: What is your company's annual sales revenue?

| | Logger | Processor | Overall |
|-----------------|--------|-----------|---------|
| <\$25,000 | 6 | 2 | 8 |
| \$25K - \$50K | 2 | 0 | 2 |
| \$50K - \$100K | 1 | 1 | 2 |
| \$100K - \$250K | 3 | 1 | 4 |
| \$250K - \$500K | 1 | 5 | 6 |
| \$500K - \$1M | 0 | 3 | 3 |
| \$1M - \$2.5M | 0 | 5 | 5 |
| \$2.5M - \$5M | 0 | 3 | 3 |
| >\$5M | 1 | 0 | 1 |

Raw material acquisition. Most survey respondents acquired their raw material from sources within New Mexico (Table 2), with loggers procuring a greater percentage of their raw material from in-state sources than primary/secondary wood processors. In addition, approximately one-third of raw material derives from private forest land, followed by National Forests (26 percent). Almost half of respondents obtained raw material from a distance 50 – 300 miles and, in general, wood processors traveled further for raw material than loggers. Over half of logger respondents obtained stumpage from a distance of less than 50 miles, while over half of primary and secondary wood processors procured raw material from a distance of greater than 100 miles.

Table 2. Questions and responses related to the acquisition of raw material.

Q7: Where do you get your wood from?

- In state = 81 percent of wood procured: loggers = 88 percent; processors = 66 percent
- Out state = 19 percent

Q8: From what type of forest ownership does your wood come?

- Private = 35 percent of wood procured: loggers = 44 percent; processors = 35 percent
- USFS = 26 percent: loggers = 30 percent; processors = 22 percent
- Whole sale = 20 percent: loggers = 7 percent; processors = 20 percent
- Indian = 9 percent: loggers = 14 percent; processors = 10 percent
- State = 3 percent: loggers = 6 percent; processors = 2 percent
- Log broker = 2 percent: loggers = 0; processors = 5

(All other potential sources are zero.)

Q10: From how far away does a majority of your wood come? (n = 44)

- < 30 miles = 8 (18 percent)
- < 50 miles = 8 (18)
- 50-100 miles = 10 (22)
- 100-300 miles = 12 (27)
- >300 miles = 7 (16)

Q10 summarized by whether the respondent was a logger or wood processor:

| Distance | Loggers (n = 15) | Processors (n = 21) |
|---------------|------------------|---------------------|
| | percent | |
| < 30 miles | 27 | 10 |
| < 50 miles | 33 | 10 |
| 50-100 miles | 20 | 29 |
| 100-300 miles | 13 | 33 |
| > 300 miles | 7 | 19 |

Species and volumes used. Survey participants were asked which species and, on average, how much volume they used per year. Ponderosa pine was cited by over one-third of survey participants, followed by Douglas-fir, piñon pine, and juniper (Table 3). One-quarter of respondents used less than 10 MBF per year, while only 14 percent used one million or more board feet per year. In addition, 48 percent of respondents indicated that they

anticipated using the “normal” amount of raw material in 2010; 52 percent indicated that they would not. However, only 27 percent of logger-respondents suggested that they would use the “normal” amount of volume in 2010, while 66 percent of processors indicated that they would.

Table 3. Survey responses to questions related to wood species and volumes used by survey respondents.

Q13: Wood species used:

- Aspen = 12 respondents
- Cottonwood = 5
- Douglas-fir = 25
- Juniper = 16
- Piñon = 16
- Unknown HW = 6
- Ponderosa pine = 37
- Spruce = 13
- True fir = 9
- Lodgepole pine = 5
- Unknown SW = 5

Q14: Volume used:

- < 10 MBF = 9 respondents (25 percent)
- 10-50 MBF = 6 (17 percent)
- 100-200 MBF = 2 (6 percent)
- 200-500 MBF = 6 (17 percent)
- 500 MBF – 1 MMBF = 5 (14 percent)
- 1 – 5 MMBF = 2 (6 percent)
- 5MMBF = 3 (8 percent)
- Unknown = 3 (8 percent)

Wood products produced and marketing. The most commonly produced primary wood products reported by survey participants were firewood, followed by timbers, house logs, and latillas (Table 4). Common secondary wood products included fencing, moldings, flooring, and corbels.

Table 4. Primary and secondary wood products produced by survey participants and number of participants producing each product.

| Primary wood products | | Secondary wood products | |
|-----------------------|----|-------------------------|---|
| Firewood | 24 | Fencing | 5 |
| Timbers | 17 | Moldings | 4 |
| House logs | 11 | Flooring | 3 |
| Latillas | 11 | Corbels | 3 |
| Bark | 9 | Christmas trees | 2 |
| Rough lumber (green) | 9 | Doors | 2 |
| Vigas | 9 | Furniture | 2 |
| Bark | 9 | Trusses | 2 |
| Posts | 8 | Pallets | 1 |
| Green lumber | 7 | Shutters | 1 |
| Rough dried lumber | 7 | Cabinets | 1 |
| Railroad ties | 5 | Building poles | 1 |
| Dried lumber | 3 | | |
| Mine props | 2 | | |
| Excelsior | 2 | | |

Overall, 24 percent of respondents whole-saled the products that they produced, eight percent said that they retailed only, and the remaining 68 percent did both (Table 5). Loggers were more apt to whole-sale (40 percent) than processors, 77 percent of whom engaged in a combination of whole-saling and retailing. In addition, almost two-thirds of processors marketed out-of-state vs. less than one-third of loggers, and processors were also more likely to export. A vast majority of respondents delivers the products that it manufactures.

Table 5. Marketing approaches used by survey respondents. All results are reported as percents – overall and by whether responses represented those from loggers or wood processors.

Q 18: How does your company market its products?

| | Overall | loggers | processors |
|---------------------------|----------------|----------------|-------------------|
| | | percents | |
| Whole sale | 24 | 40 | 14 |
| Retail | 8 | 7 | 9 |
| Both wholesale and retail | 68 | 53 | 77 |

Q. 19. Does your business market its products outside its home state?

| | | | |
|-----|----|----|----|
| YES | 50 | 31 | 64 |
| NO | 50 | 69 | 36 |

Q. 20. Do you export products to other countries?

| | | | |
|--------------------|----|----|----|
| YES | 14 | 0 | 25 |
| NO, but interested | 55 | 60 | 50 |
| NO, not interested | 32 | 40 | 25 |

Q. 21. Does your company deliver its products?

| | | | |
|-----|----|----|----|
| YES | 85 | 88 | 83 |
| NO | 15 | 12 | 17 |

Barriers to New Mexico's forest industry. Survey participants were asked to rank the top three impediments to the state's forestry sector from a list of possible impediments. Participants could also offer alternatives that did not appear on the list. While it cannot be discerned from the survey whether the economic climate and relatively recent downturn in housing at the time of the survey explained some responses or whether the most often cited impediments reflected a more persistent challenge to the state's forest products industry, *Lack of demand for forest products* received the most responses (Table 6). Other important impediments included costs associated with insurance, federal regulations, lack of available raw material, and high fuel costs. In addition, lack of incentives for the public to use local forest products, environmental regulations and environmental groups, equipment costs, and a lack of a strong industry organization were often cited.

Table 6. Survey participant responses to a question about impediments to New Mexico's forest industry. Participants were asked to check and rank the top three of the possible 20 impediments and/or offer and rank additional responses that did not appear on the list.

Q27: Impediment to forest industry in New Mexico (impediments with more than ten responses are in bold):

- **Lack of demand for forest products = 21 respondents**
- **Lack timber/fiber supply = 13**
- **Federal regulation = 15**
- State regulation = 8
- Local regulation = 2
- **Lack of a strong industry organization = 11**
- **Lack of incentives for the public to use local forest products = 12**
- **High equipment costs = 11**
- **High insurance costs = 15**
- Labor costs = 6
- Labor supply = 7
- **High fuel costs = 12**
- Foreign imports = 5
- International trade regulations = 5
- **Environmental regulations = 11**
- **Environmental groups = 11**
- Lack of local mechanics = 3

Recommendations

Based on the results of this study and its knowledge of New Mexico's forestry sector, the following recommendations are made:

- ❖ *Develop trend data by repeating the survey every five years.* Similar to efforts in the northeastern US (e.g., Egan and Taggart 2004; Egan 2009; Egan and Morin 2010), changes in New Mexico's forestry sector over time should be documented. In addition, the NMFIA should consider:
 - Conducting future mail and phone surveys and focused discussions in Spanish and English, similar to bilingual efforts aimed at understanding the forestry sector elsewhere in the country (e.g., Egan and Taggart 2004).
 - Conducting pre- and post-survey focused discussions with representatives of the state's forestry sector to both better prepare for future surveys and understand and more reliably interpret survey results. This could be accomplished, for example, at annual NMFIA meetings similar to that conducted during the 2011 Collaborative Forest Restoration Program annual workshop.
 - Conducting case studies of a sample of New Mexico logging operations and primary and secondary processing facilities to better understand forest products industry capacity (Green et al. 2004).
- ❖ *Be particularly attentive to responses to survey Question 27 – Impediments to forest industry in New Mexico (Table 6).* While most of the survey focused on describing the state's current forestry sector – for example, type of businesses, species used, land ownership type from which raw material is obtained, procurement radii – responses to Question 27 provide an opportunity to better understand the challenges faced by the forest products industry in New Mexico. Responses to this question may represent potential areas in which to strengthen the forestry sector and/or prioritize the industry's efforts to affect positive changes in the sector's business environment.
- ❖ *Utilize results of the survey for outreach to the forestry sector, the public and public officials.* Results of this survey may be particularly useful in determining ways in which the NMFIA may conduct outreach, especially is it relates to that directed at public agencies and elected officials who may be in positions to help influence changes in the forestry sector's business environment.
- ❖ *Learn from this survey to develop follow-up surveys.* Several lessons can be derived from experiences gathered by the conduct of this survey. For example, while conducting the phone survey the NMFWRRI learned that several potential logger-respondents were confused by questions on the mail survey that led them to believe that the survey was meant for business owners in primary and secondary wood processing. Separate logger and wood processor surveys will help to alleviate this confusion in the future and provide results that are better targeted to loggers vs. wood processors. It should be remembered that this survey was not widely tested before being conducted. For some survey questions, then, the execution of this survey in 2010-11 represented a test of the questions posed, providing a good opportunity for improving the survey in the future.

Literature cited

- Egan, A. and D. Taggart. 2004. Who will log? Occupational choice and prestige in northern New England. *Journal of Forestry*. 102(1):20-25.
- Egan, A. and D. Taggart. 2004. Who will log in Maine's north woods? A cross-cultural study of occupational choice and prestige. *Northern Journal of Applied Forestry*. 21(4):200-208.
- Egan, A. 2009. Characteristics of New York's logging businesses and logging business owners. *Northern Journal of Applied Forestry*, 26(3):106-110.
- Egan, A. 2009. Characteristics of New York's logging businesses and logging business owners. *Northern Journal of Applied Forestry*, 26(3):106-110.
- Egan, A. and L. Morin. 2010. Challenges to sawmill businesses in New England and New York State: A survey of wood procurement managers. *Journal of Forestry*. 108(8):408-412.
- Greene, D., J. Mayo, N. de Hoop, and A. Egan. 2004. Causes and costs of unused logging production capacity in the southern states and Maine. *Forest Products Journal*. 54(5):29-37.
- Keegan, C., A. Chase, T. Morgan, S. Bodmer, D. Van Hooser, and M. Mortimer. 2001. New Mexico's forest products industry: A descriptive analysis 1997. The Bureau of Business and Economic Research, School of Business Administration, University of Montana, Missoula. 24 p.
- Kramer, B. 2011. Lack of sawmills an issue for forests. The Spokesman-Review. March 25, 2011.
- O'Brien, R. 2003. New Mexico's Forests, 2000. USDA Forest Service Res. Bulletin RMRS-RB-3. 120 p.