

# **Assessment of Logger Education Training Programs:**

## **Opportunities in Minnesota**

A Report to the Minnesota Logger Education Program

by

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## Executive Summary

In an effort to enhance logger education programming in Minnesota, the Minnesota Logger Education Program (MLEP) funded a study to (1) assess logger education programs in the US for the purpose of identifying program models, successes, opportunities, and gaps and (2) identify expectations and requirements of certification and environmental management programs within Minnesota. Separate surveys were designed and administered to assess those needs. Each survey concluded with recommendations to MLEP to enhance its program. Those suggestions are summarized below. While a survey is a good way to obtain general ideas about a number of factors (e.g., development of a generic training manual, innovative programming, educational needs), it generally does not allow depth of understanding and immediate follow-up questions to be asked. More detail might be desirable in a number of areas from this study. MLEP should use the information contained in this report to provide a road map and menu of options to pursue in their effort to continually improve the program and its benefit to members.

1. *Form an advisory group with 6–8 logging business owner spouses who are involved with the business management side of the firm.* The purpose of the group would be to identify key educational gaps for that audience and a strategy for addressing them. Suggestions could be derived through focus groups, mailed surveys, or other methods. Some participants may feel uncomfortable sharing their business management techniques with other Minnesota businesses with whom they compete. MLEP should consider contacting logger education program coordinators in Wisconsin and Michigan to see if they would identify potential speakers. Fees for programs or chasses could be charged to cover instructor or other costs.
2. *Address training overlap between MLEP and that provided by the forest products companies and public land management agencies.* To the extent possible, transfer training from those other organizations to MLEP and develop appropriate new training material. Explore opportunities to transfer all or a portion of any cost savings to MLEP to support their increased level of programming.
3. *Continue to work closely with LogSafe staff to find ways to break-up training programs into modules that do a better job of holding participant interest.* Efforts to consolidate logger education in Minnesota, including securing management and delivery responsibility for LogSafe training should continue to be pursued by MLEP. MLEP should also explore policy changes which may reduce the number of hours a logger spends in training annually while increasing the quality of that training and improving the level of knowledge retention. Such changes would likely help reduce class size as well, providing for an enhanced adult learning experience.
4. *Become more systematic in how training needs are identified.* One approach to doing that is to conduct focus groups with loggers, foresters, and others (e.g., private landowners) where participants first identify a broad list of topics. (Separate focus groups could be conducted with each audience.) Those topics are discussed, grouped, and then condensed into key areas through further discussion. Mail surveys could also be conducted, but the response rate might be low and that method does not easily facilitate

follow up interaction with participants. MLEP should conduct this systematic assessment approximately every two years to stay in contact with needs.

5. *Take advantage of the synergy which occurs when a logging business owner and his/her spouse attend a program together and do more to reach out to spouses.* Relevant programming such as business management topics and global positioning system (GPS) which appeal to business owners and spouses could attract and increase participant interest.
6. *Pay particular attention to the list of business management courses identified by survey respondents as many are new to our state.* Those courses could be developed and targeted to business managers.
7. *Pursue use of computers for training business managers.* A potential model for that use is described in the first survey.
8. *Pursue programs similar to Virginia's timber harvest training for loggers which was offered in the mid-1990s and road location classes.* MLEP should help facilitate demonstrations of techniques and technologies which can help address forest management guideline concerns (e.g., stream and wetland crossings).
9. *Facilitate enhanced understanding between loggers, natural resource professionals, and private landowners by offering cross-training programs of mutual interest.*
10. *Obtain guideline tickler lists from forest products companies and land management agencies.* MLEP should develop its own list which contains common elements and conduct training on the use of that list.
11. *Explore opportunities to allow members to fulfill training requirements through home study courses which meet both business needs and membership requirements.*
12. *Explore options for granting credit to its members who want to attend Woodland Advisor programs.*
13. *Consider whether a field audit and coaching model for training has application in Minnesota.*
14. *Consider whether its current program evaluation system meets all of its current and anticipated future needs. If that system is not sufficient, MLEP should develop and implement appropriate evaluation instruments to meet its needs.*
15. *Take the initiative to contact the Forest Resources Association (FRA) to communicate these survey results and to explore their interest in becoming involved with establishing a discussion forum for logger education program contacts.* It would be best to get as specific as possible with FRA about their involvement. Using the results of those discussions, MLEP should contact logger education program coordinators in other states

to (1) tell them of survey results which suggest strong interest in the development of sharing forums and of FRA's interest (if any) in becoming involved, (2) identify specific individuals who would like to pursue further discussion of this opportunity, and (3) set-up a conference call for interested parties to participate and plan next steps. One important initial activity for the group might be to conduct a conference/meeting in Minnesota of logger education program coordinators from across the US to become better acquainted, to formalize relationships, and to develop sharing mechanisms.

16. *Training that addresses certification and relevant issues should be a major emphasis for MLEP.* To learn those training needs, MLEP should develop a systematic method for assessing annual training needs of certified organizations. MLEP should make use of its existing education planning committee to receive the identified needs and make decisions about what to offer in the upcoming year.
17. *Work closely with all SFI member organizations to make sure that they are supporting logger education training.*
18. *Look at the list of proposed new training requirements identified in the second survey (e.g., forest management guidelines, regulation updates, safety, threatened and endangered species, and marketing and utilization) and offer some topics as classes during its logger conferences.*
19. *Look at the list of proposed new training requirements identified in the second survey (e.g., forest management guidelines, safety, threatened and endangered species, and wood utilization) and offer some topics as classes during its logger conferences.* Given that forest management guideline training was identified as a need within two questions in the second survey, that topic may be a more pressing need. However, knowing that many participants have already heard a lot about guidelines, MLEP needs to be careful about alienating the audience to that topic.
20. *Broaden its training focus to include courses for individuals who perform services such as building roads, site preparation work, timber stand improvement, and other similar activities as many potential participants may already be members of logging crews.*
21. *Certified organizations should keep MLEP updated each year on changes or additions to their requirements so MLEP can incorporate as much as possible updated information on a timely basis.*
22. *Pursue development of a generic manual for Minnesota loggers, asking certified public land management agencies and mills to provide a copy of their documentation.* This manual should be designed as a field tool, with field guidelines plainly stated and index labels for quick reference. The format might have a removable structure (e.g., a 3-ring binder) for easy exchange of updates and the addition of specific company material. A dialogue that keeps all parties involved during the development process will ensure that common requirements are addressed and will help keep such a manual pertinent to loggers in the field.

## Introduction

Sustainable forestry is a strategy for ensuring the health and growth of our forests for future generations. Loggers are a key element of sustainable forestry as they implement many on-the-ground forest management practices. Today, loggers in almost every state receive training in areas such as forest management, safety, and business management practices. Logger training is also one of the important principles of the Sustainable Forestry Initiative (SFI<sup>®</sup>), a forest certification program.

While some logger education is provided by statewide organizations such as the Minnesota Logger Education Program (MLEP), additional programs are offered by forest products companies, public agencies, and others. The number of organizations offering training for loggers is increasing as forest products companies and public agencies are implementing programs to meet standards for forest certification. For loggers, this may result in duplicate training, the need to carry multiple handbooks with them in the woods, and decreased productivity as they spend more time training.

Two significant challenges in providing quality logger education programming within Minnesota are (1) the development of course topics and curriculum that are timely and relevant to a logging business owner and an employee's specific job responsibilities, and (2) identifying and reducing redundancy in training offered by the myriad of logger training organizations (e.g., organizations such as MLEP, LogSafe, consuming mills, public land management agencies, Sustainable Forests Education Cooperative).

This report presents findings from two surveys. The first assessed logger education programs in the US for the purpose of identifying program models, successes, opportunities, and gaps. MLEP will use this information to develop and deliver enhanced training opportunities in Minnesota. The second survey identified expectations and requirements of certification and environmental management programs within Minnesota. This information will help MLEP consolidate the logger training requirements of the various Minnesota organizations into a cohesive framework and contribute toward the continuous improvement of Minnesota's logger training standard.

# Survey of Logger Education Programs in the US

## Methods

The survey was conducted using Dillman's (2000) Total Design Method. Questions were designed after a review of the Forest Resources Association's Tenth Report on the Status of Statewide Logger Training and Education Programs in Thirty-two Forested States (2004) and with the assistance of Dave Chura, Executive Director of the Minnesota Logger Education Program (MLEP).

An expert opinion survey (Appendix 1) and cover letter (Appendix 2) were mailed in February 2005 to 63 state logger education programs and Sustainable Forestry Initiative (SFI<sup>®</sup>) Implementation committees in 34 states. Contact names and addresses were provided by Dave Chura, MLEP. The survey contained sections addressing program structure and design; funding mechanisms; cost to members; class requirements, format and size; innovative programming; training evaluation; collaboration with other logger education programs; and additional thoughts. A combination of question formats was used, including multiple choice, fill-in-the-blank, Likkert ratings, and open-ended comments. Prior to mailing, the survey was reviewed and approved by Steve Jarvis, Director of Forestry Programs, Forest Resources Association and the Institutional Review Board at the University of Minnesota.

A reminder post card (Appendix 3) was sent to everyone one week after the initial mailing. A second mailing of the survey was sent to nonrespondents with a reminder letter (Appendix 4) approximately four weeks after the initial mailing. SFI program coordinators who had not responded were contacted via e-mail by Dave Chura and urged to participate (Appendix 5). Following the second mailing, the remaining outstanding survey recipients were contacted by telephone and a personal request made for their participation. No further contact was made with nonrespondents.

Respondents were considered as those who returned a survey or corresponded with the authors regarding their participation. Useful data surveys were defined as those that contributed information past Question 1. Total respondents divided by total surveys mailed yielded the response rate. Total useful data surveys divided by total responses yielded the useful response rate. All percentages appearing in the results were calculated by the count of relevant results divided by the number of respondents to a particular question.

Survey responses were entered into Excel to assist with data analysis and reporting. Where a respondent provided a range of numbers in response to a question, the average within that range was used in the analysis. Where respondents provided a description instead of a value, counts included those responses. Responses to survey Question 2 (the type of logger education program) were cross-referenced with Questions 4 (membership requirements), 5 (funding), 6 (budget), 7 (cost), and 8 (class requirements) to determine the average and standard deviation by type of logger education program.

## Results

### **Question 1–Does your organization provide logger education programming?**

Forty-seven out of the 63 mailed surveys were returned, for a response rate of 75%. Twelve respondents (26%) did not have a logger education program, with no further answers given. Those 12 were SFI<sup>®</sup> Implementation Committee members. One additional respondent answered that they do have a state logger education program, but withheld any further information, citing unhappiness with one of the forest resource support programs. This left 34 usable responses (54% of all mailed surveys), representing 28 states.

### **Question 2–Which of the following best describes your organization’s logger education program? (n=34)**

Respondents were given a choice of the six different categories of logger education programs noted below.

**Logger Membership Program:** A voluntary program which maintains a member list (available to the public) of logging professionals. Training may or may not be required.

**Logger Registration Program:** Involves individuals listing their names on an official roster that is managed by either a private (e.g. logger association) or public (e.g. state forestry agency) organization.

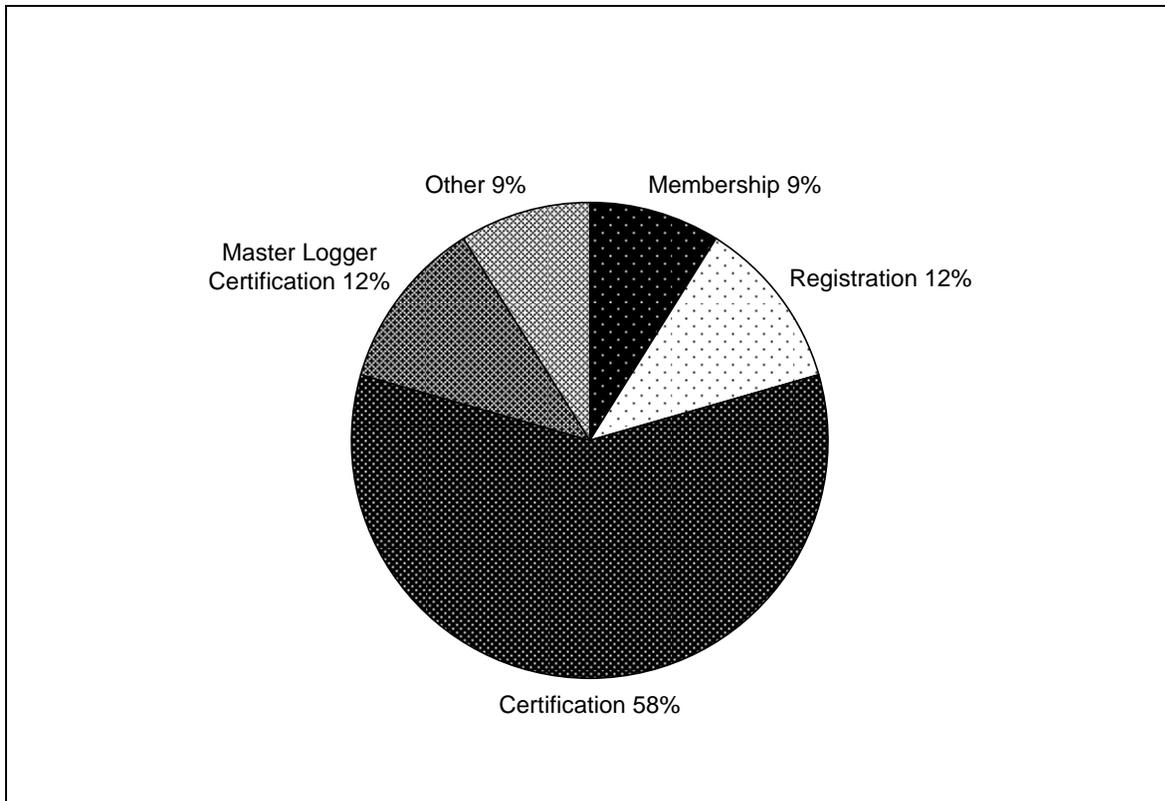
**Logger Certification Program:** A program that requires individuals to meet certain qualifications, including work experience and training programs. Certification is not exclusionary in that such programs do not restrict who may harvest timber; rather they confer a title on those who have been awarded a certified status.

**Logger Licensing Program:** A program that provides individuals an authorization from a state or local unit of government to engage in a trade or profession, including timber harvesting. Licensing is exclusionary; lack of a license means an individual cannot engage in an activity, which is the focus of the licensing program.

**Master Logger Certification** through the American Loggers Council.

**Other:** The respondent was asked to describe their logger education program.

Certification received the largest number of responses with 58% of the programs falling in this category (Figure 1). Registration and Master Logger Certification programs comprised 12% each while Membership programs were 9%. “Other” program types cited (9%) were training and accreditation. No respondents claimed to have a licensure program.



**Figure 1.** Type of logger education program (percent of responses). (n=34)

**Question 3–Which individuals from the logging business are eligible for membership in your logger education program? (n=34)**

Respondents were given a choice of offered four different categories of logger employees, as described below.

**Logging business owner:** the owner of the logging company or business.

**Logger manager:** an employee with management responsibilities usually related to office functions (e.g. bookkeeping, bill paying).

**Logger supervisor:** an employee who supervises logger workers. This individual may also operate in-woods equipment.

**Logger worker:** an employee whose duties involve mechanical support or operation of in-woods equipment.

All 34 respondents granted membership eligibility to logging business owners, reflecting the universal placement of responsibility for logging knowledge on that position (Figure 2). Almost as high an assignment was placed on supervisors who direct the work in the field (94%) and with managers and logging workers who were each noted on 88% of responses. The final category of “Other” was reported on 47% of the responses. It included industry and professional personnel, silvicultural contractors, associate members, and other involved or interested parties.



**Figure 2.** Percent of responses indicating which individuals from the logging business are eligible for membership in the statewide logger education program. (n=34)

**Question 4–To what extent do the requirements in your logger education program differ between logging business owners, managers, supervisors and workers? (n=34)**

Eighty-five percent of the respondents reported the same program requirements for all individuals from the logging business that are eligible for membership in a logger education program. Registration and Master Logger Certification membership requirements were similar in every case. Membership and “Other” types of logger education programs each had similar requirements two-thirds of the time. Differing requirements were usually due to the varied tasks of logging employees (i.e., some members only needed safety training, recertification which had specific training requirements for some members, and differences in job categories and associated responsibilities). Table 1 presents information provided by respondents who reported different requirements for members.

**Table 1.** Membership requirements for the various types of logger education programs. (n=5)

<b>Type of logger education program</b>	<b>Member type</b>	<b>Membership requirement(s)</b>
Membership	Managers/supervisors	Training is business oriented
	Chainsaw operators	Game of Logging: Initially four 8-hour classes then 8 hours/year
	Skidder, dozer, loader, trucker	Training specific to job task: 3 hours/year
Certification	Contractors/foremen	For ProLogger status: 5 core workshops; annual 6 hours continuing education
	Employees	Safety training every 2 years; no continuing education
Certification	All members	Initial 4 day certification class
	Recertification	Training specific to job tasks: 8 continuing education hours/year + first aid, CPR
Certification	Contractors/foremen (ProLogger certificate)	Four core workshops initially: Timber harvesting + transportation safety, business management, BMPs, environmental considerations; then 6 hours/year continuing education
	Crew members-sawyers, equipment operators, truck drivers, etc. (Crew certificate)	One time: Timber harvesting + transportation safety, BMPs
Other (accreditation)	Contractors/foremen	ProLogger certificate
	All others	Safety only

**Question 5–Two-part question: (A) Which of the following funding sources does your organization's logger education program use to financially support program administration and delivery? (B) Of your funding sources, what is the approximate percentage of your organization's annual logger education program budget supported by each? (n=34)**

Overall, course training fees and tuition were the funding source most frequently reported as supporting program administration and delivery (Table 2). That source was cited by 24 programs with an average budget contribution of 38%. The second highest reported funding source was the SFI Implementation Committee, reported by 20 programs, with an average budget allocation of 25%. “Other” types of financial contributions identified by respondents were designation renewals, in-kind donations, worker’s compensation commission, industry support, conference vendors and advertisement sales. Variation around the average values was relatively large.

Certification programs, on average, received 43% of their budget from training fees and 25% from SFI Implementation Committees (Table 2). Master Logger Certification programs relied most heavily on grants to fund operations.

**Table 2.** Average percentage of annual logger education program budget by type of logger education program and funding source. (n=34) (Minnesota values appear in parenthesis in **bold type**.)

Funding source and number of responses by source	Overall average percent of budget	Type of logger education program <sup>a</sup>				
		Membership	Registration	Certification	Master Logger Certification	Other
	<b>Average percent of annual budget</b>					
Grants (n=11)	9	0	5	7 <b>(3)</b>	54	6
Legislative appropriations (n=2)	4		25	0 <b>(0)</b>	17	0
SFI Implementation Committee (n=20)	25	75	8	25 <b>(1)</b>	0	33
Training fees/ tuition (n=24)	38	25	23	43 <b>(3)</b>	30	38
Logger membership application fees and/or dues (n=9)	14	0	30	15 <b>(70)</b>	0	8
Industry membership application fees and/or dues (n=7)	5	0	10	7 <b>(7)</b>	0	1
Associate membership application fees and/or dues (n=2)	1	0	0	1 <b>(7)</b>	0	0
Other financial contributions (n=7)	3	0	0	2 <b>(9)<sup>b</sup></b>	0	13

<sup>a</sup>Totals may not equal 100 due to rounding.

<sup>b</sup>Conference vendors.

**Question 6—What is your organization’s annual budget for program administration and delivery, and the annual total? (n=28)**

While 19 programs funded a blend of both program administration and delivery, two programs wholly funded administration. Seven respondents only reported their total annual budget without providing a breakdown of administration vs. delivery. The average program administration budget was approximately \$41,100 (n=21) (Table 3). Nineteen responses to program delivery averaged approximately \$67,900. The average total budget for the 28 respondents was approximately \$92,700. Membership and registration programs had the lowest average total budget, less than half the average. In all cases, the range of reported values was relatively large, with a standard deviation nearly as large as the average value reported.

Of the sixteen reporting Certification programs which broke out their administrative vs. delivery expenditures, approximately \$37,700 was budgeted for program administration and \$70,200 for program delivery (Table 3).

**Table 3.** Average annual logger education program budget (\$1,000) by funding source and type of logger education program. (n= 28) (Minnesota values appear in parenthesis in **bold** type.)

Use of funds	Overall average annual budget	Type of logger education program				
		Membership	Registration	Certification	Master Logger Certification	Other
<b>Average annual budget (\$1,000)</b>						
Administration	41.1	28	40	38 <b>(30)</b>	45	120
Delivery	67.9	58	24	70 <b>(113)</b>	100	64
Total <sup>a</sup>	92.7	83	46	95 <b>(155)</b>	110	111
Number of responses by program type		3	2	18	2	3

<sup>a</sup>Totals may not equal the sum of administration and delivery values because some respondents provided totals without breaking down how those funds were allocated.

**Question 7–Who assumes the expenses for each of the following items, and what are the associated costs for each item noted below? (n = 32)**

Some respondents noted that they charge a fee without specifying the amount charged. The amount of variation around all reported averages below was large. For the logging business owner, the overall average initial application fee reported was \$285 (n=8) and average membership fees/dues were \$204 (n=9) (Table 4). These averages, which are in addition to fees for required courses, are inflated by expenses from one Master Logger certification program. The effect of removing that respondent changes the overall average initial application fee paid by logging business owners to \$183 (n=7) and average membership fees/dues paid by logging business owners to \$193 (n=8). Average business owner fees of \$137 (n=13) for each certification class and \$67 (n=16) for each continuing education class were unaffected by the Master Logger program.

**Table 4.** Average cost in dollars paid for various items by type of logging business member and logger education program. The number of programs providing numeric responses for each category is shown in parentheses.

Type of fee	Type of member	Type of logger education program					Average
		Membership	Registration	Certification	Master Logger Certification	Other	
Initial application	Logging business owner	50 (n=1)	200 (n=1)	245 (n=4)	1000 (n=1)	50 (n=1)	285
	Logging business owner	85 (n=1)	188 (n=2)	257 (n=4)	300 (n=1)	50 (n=1)	204
Certification class fees (each class)	Logging business owner	-	200 (n=1)	141 (n=11)	-	35 (n=1)	137
	Employee	-	-	110 (n=2)	-	59 (n=2)	85
	Outside source	-	-	200 (n=1)	-	35 (n=1)	118
Continuing education fees (each class)	Logging business owner	35 (n=1)	75 (n=2)	70 (n=12)	-	35 (n=1)	67
	Employee	-	-	72 (n=2)	-	59 (n=2)	66
	Outside source	-	-	125 (n=1)	-	35 (n=1)	80
Other costs	Logging business owner	-	-	50 <sup>a</sup> (n=1)	-	25 <sup>1</sup> (n=1)	

<sup>a</sup>Renewal/reapplication fee.

Beyond the logging business owner, other individuals in the firm paid an average fee of \$85 (n=4) for each certification class and an average continuing education course fee of \$66 (n=4) (Table 4). “Other” entities outside of the firm paid an average certification fee of \$118 for each class (n=2) and \$80 for each continuing education session (n=2).

Other costs and comments reported were (1) re-application fees (Table 4), (2) costs of paying employees and work stoppage during training, and (3) business owners have the choice whether to pay employee fees.

**Question 8–For each of the following logger members, please provide information regarding annual class requirements (n=31)**

Twenty logger education programs reported requirements that were the same for all members (i.e., logging business owners, logging managers, logging supervisors, and logging workers), differing from the response to Question 4 in which 29 reported the same requirements for all members. The additional specifics of this question may have generated more detail than was initially assessed by Question 4. Overall, annual average requirements for business owners, managers, supervisors and logger workers were approximately two classes and ten hours (Table 5). The requirement cited most frequently was annual contact hours. A few states reported that they do not have annual class requirements for each member category.

**Table 5.** Average annual class requirements for members. (n=31)

Type of member	Annual class requirements		
	Number of classes	Number of contact hours	None required
Logging business owner	2.2	10	4
Logging manager	2.1	9.5	5
Logging supervisor	2.2	9.3	3
Logging worker	1.8	10.3	9

Within each type of logger education program, annual class requirements were similar for all members. Across all types of members, Membership programs required an average of 1 annual class and 18 annual contact hours (Table 6). What may appear as inconsistencies in Table 6 (i.e., on average Membership programs require 1 annual class and 18 contact hours vs. 2.4 classes and 8 contact hours for Certification programs) are caused by a lower response rate for number of classes and many respondents not providing responses for both number of classes and contact hours.

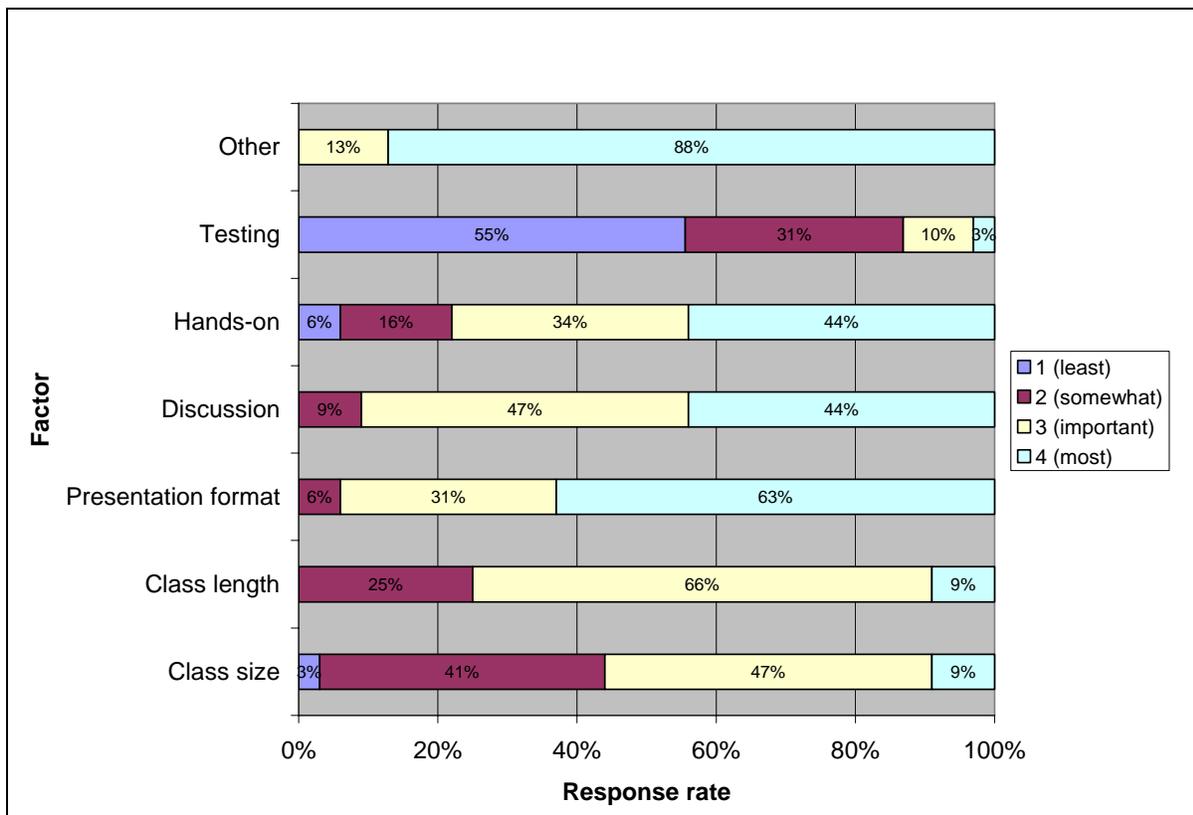
**Table 6.** Average annual number of classes and contact hours required for members by type of logger education program. (n=31) The number of responses are shown in parentheses.

Factor	Type of logger education program				
	Membership program	Registration program	Certification program	Master Logger Certification Program	Other
Number of classes	1 (1)	-- <sup>a</sup>	2.4 (6)	na	1 (1)
Number of contact hours	18 (3)	5 (2)	8 (14)	na	16.5 (3)

<sup>a</sup>No respondents reported number of class requirements for Registration programs.

**Question 9—On a scale of 1 to 4, please rate the following factors (circle 1, 2, 3 or 4) for their importance to a successful training experience. (1=not important, 4=very important) (n=32)**

The “most important” factors in building a successful training experience were presentation format (63%), discussion sections for participants (44%), and incorporating hands-on experiences (44%) (Figure 3). “Important factors” included class size (47%), class length (66%), and discussion sections for participants (47%). Testing was considered “least important” by 50% of respondents. “Other” factors added by respondents and rated “most important” were instructor knowledge, course evaluations, relevancy, cost and application of adult education principles.



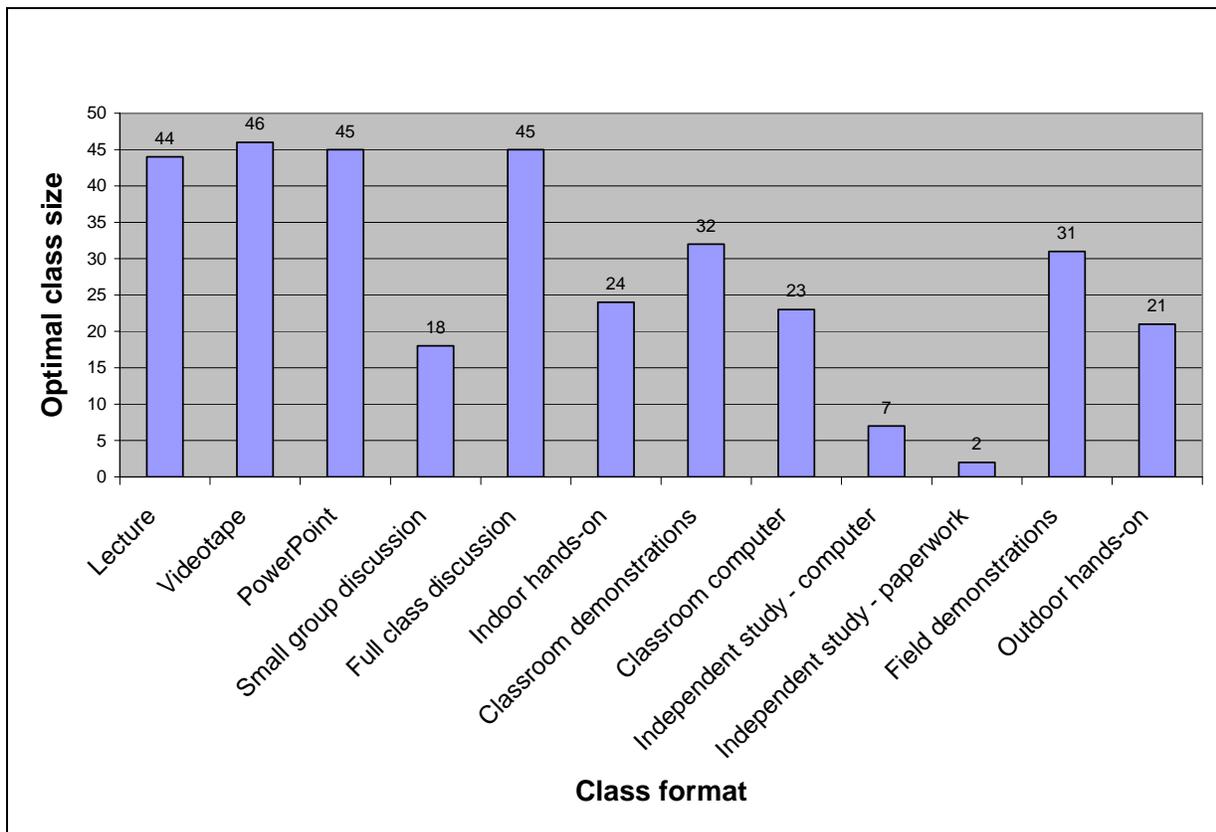
**Figure 3.** Percentage distribution of factors leading to a successful training experience (Likkert rating 1=Least important to 4=Most important). (n=32)

**Question 10—For the following question, consider only those training formats which you offered during 2003 and 2004. Please check (✓) the formats you used during 2003 and 2004 and enter the number for optimal class size of each. (n=33)**

All but four respondent programs used three or more training formats during 2003 and 2004. Lecture and PowerPoint formats were used by nearly all respondents (97% and 94%, respectively). Videotapes and large group discussions were used by all but 7 respondents (79%). Classroom computers were used by 3 programs (9%), computer-based independent study was used by 1 (3%), paper-based independent study was used by 5 (15%). “Other” comments concerning formats were: (1) the use of FRA videotapes, (2) the frequent use of multiple formats during workshops, and (3) one program which uses job-site coaching for all training.

A model of the computer-based independent study format was presented by one respondent. The program introduced this component two years ago and approximately 400 members and their employees (contractors, logging employees, county foresters) have taken part so far. The core courses offered are safety and business management for four credit hours each and BMPs and aesthetics which are each offered for two continuing education credits. The courses were developed by an independent computer contractor and are accessible through his website. Web formats include video, sound over, photo images, and reading material, with links to relevant websites. Participants log in and pay by credit card. The web contractor posts a list of participants weekly, which are retrieved by the respondent logger education program and entered into their records. At the conclusion of each class there is a verification sheet which the participant prints off, signs and faxes to the logger education program office. Short quizzes are part of the core classes. The respondent anticipates they will add more continuing education class subjects in the future.

Optimal class sizes tended to be in the range of 30–45 individuals (Figure 4). Independent study courses had optimal class sizes of five or fewer.



**Figure 4.** Class format used in logger education programs during 2003 and 2004. Numbers appearing on top of bars represent average optimal class or group size. (n=33)

**Question 11–What new and/or unique training did you offer in 2003 and 2004? For each course, indicate course name, target audience, primary objective, course format, and perception of its success. (n=25)**

Respondents indicated that they offered a total of 37 new classes in 2003 and 2004. Those classes were placed into three categories: business management (12 new reported for 32% of total new classes offered), forest management (15 for 41%), and safety (10 for 27%). Four classes were related to Global Positioning System (GPS). See Appendix 6 for a full list of class titles and associated comments.

New business management classes offered included:

- Business management for loggers
- Legal and tax issues of purchasing stumpage from private landowners
- FSC land certification
- Carbon credit exchange for logger landowners
- Basic finance using business calculators
- Ethics and images

New forest management classes included topics such as:

- Applying best management practices
- Invasive species control
- Job layout and profitable skidding
- ProLogger program
- Soils analysis
- Global Positioning System (GPS)

New safety classes included topics such as:

- Game of Logging and TOP Logger Safety
- OSHA regulations
- Hazardous materials and spills
- Log truck requirements
- Mechanical harvesting
- Chainsaw safety
- Logger rescue

**Question 12–What new and/or unique training do you plan to offer in 2005? For each course, indicate course name, target audience, primary objective, and course format. (n=19)**

There were 27 new classes planned for 2005. These classes were placed into the three categories of business management (6 new reported for 22% of planned new classes), forest management (14 for 52%), and safety (7 for 26%). See Appendix 7 for a full list of titles and associated comments.

Upcoming 2005 classes in business management included:

- Leaders, managers, followers (communication)
- Business planning
- DOT audits
- Wage/hour laws

An innovative new business management class planned for 2005 was entitled “Leaving behind being paid by the ton and cord” and was to focus on using a per hour rate model for equipment/personnel/insurance/taxes based on a 52 week work year.

Several new forest management classes continued to address the topic of GPS (3), with other new classes in the areas of forest soils, best management practices (BMPs), skidder bridges, and the Forest Practices Rules.

New or unique 2005 forest management classes included:

- MLC biodiversity measuring tool for pre-and post-harvest assessment
- Forestry, ecology and silviculture offered on-line
- Hardwood value improvement—BUCK
- Aesthetics
- GPS
- Building and distributing skidder bridges

Future safety classes included:

- DOT regulation update
- Garage safety
- Liability
- Advanced first aid/CPR
- Chainsaw safety
- Game of Logging

**Question 13—Are formal evaluations conducted to determine participants’ change in knowledge, retention of knowledge, and/or actual work-place application of specific topic areas? and Question 14—If yes, which participant outcomes are evaluated?**

Nineteen of the 32 respondents (59%) to Question 13 said that formal evaluations are conducted to determine participant’s knowledge and 41% reported that evaluations are not conducted. For those 19 respondents that did conduct evaluations, four categories of participant outcomes were offered: change in knowledge, participant retention, actual application, and other. A change in knowledge and evaluations for the actual application of training were each cited by 68% of the 19 programs. Evaluations to assess participant retention and actual application of training were reported by 37% and 68%, respectively. Fifteen percent of the respondents also conduct “Other”

types of evaluation which were reported to be expected application of training, course evaluations, and all knowledge categories evaluated annually by a random audit.

**Question 15–Do you currently have a collaborative relationship with any logger education programs located in other states? (n=34)**

Seventy-nine percent of the respondents said they currently have a collaborative relationship with one or more logger education programs in other states. Those respondents all stated that they have a relationship either with neighboring states or on a regional basis. Sixteen respondents (59%) described some type of reciprocity for recognition of training, eleven (41%) described sharing curriculum and discussing items of common interest, and four (15%) provide training in other states.

**Question 16–Do you feel there would be a benefit from increased collaboration with logger education programs in other states? and Question 17–If yes, would you be willing to participate in a sharing forum of some sort? and Question 18–If yes, what type(s) of collaboration would you like to see implemented?**

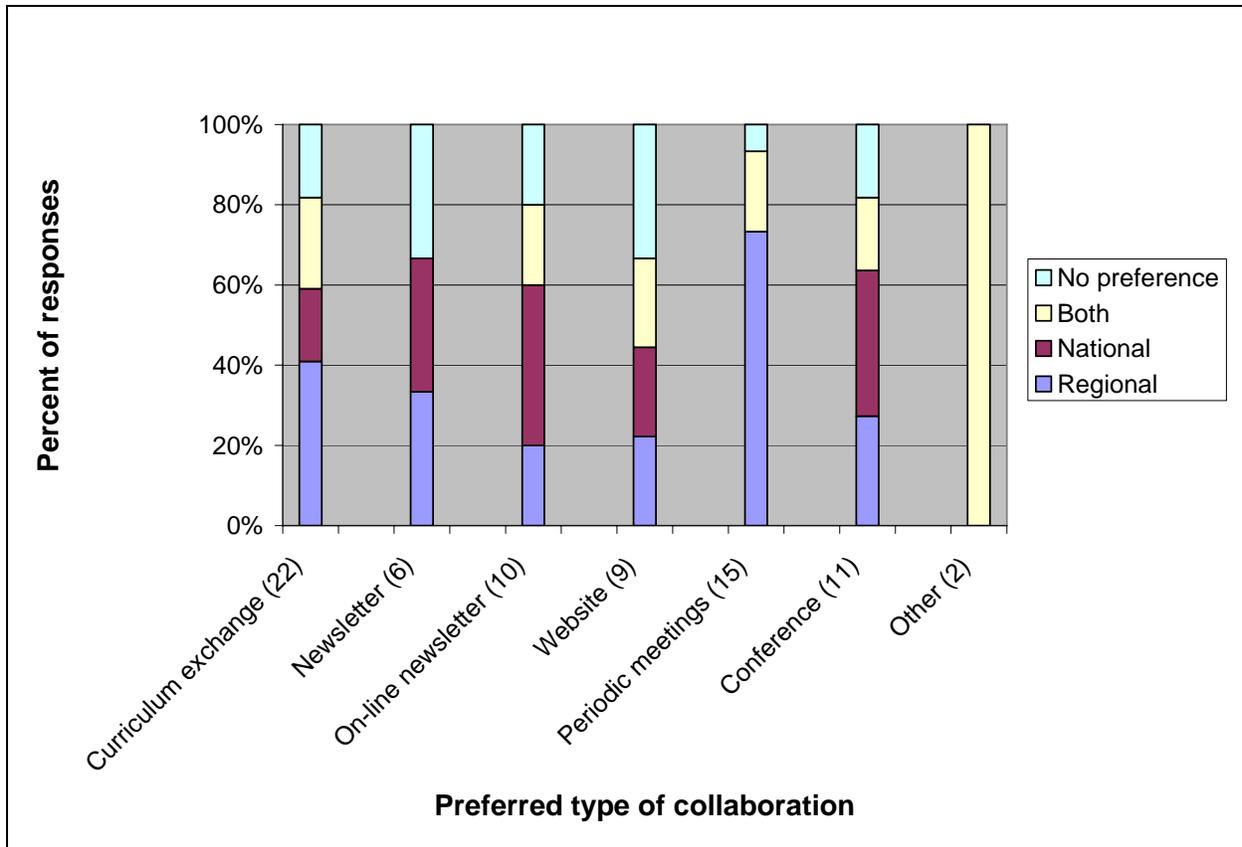
In Question 16, 29 of the 33 respondents (88%) reported there would be a benefit from increased collaboration with logger education programs in other states. Four (12%) answered no.

In Question 17, 27 of the 29 respondents who answered “YES” to Question 16 (93%) reported that they were willing to participate in a sharing forum of some sort with logger education programs in other states. One respondent reported the tremendous difference between state laws as the reason why they were not interested in a sharing forum.

In Question 18, curriculum exchange and periodic meetings were most frequently cited by 26 respondents as the preferred types of collaboration, with a preference for regional collaboration for both methods (Figure 5). The “Other” formats suggested were for funding collaboration and a more informal type of sharing forum, each preferred at both the regional and national levels.

**Question 19–Who should take the lead in initiating and facilitating any of the above collaborative efforts? (n=26)**

Fourteen different entities were recommended to take the lead in initiating and facilitating collaborative efforts (Table 7). Some respondents suggested that more than one entity should take the lead. The Forest Resources Association (FRA) was cited in 37% of responses. This is by far the largest amount, reflecting the confidence state logger education programs have in the national role of FRA. The American Loggers Council was suggested by 12% of respondents.



**Figure 5.** Collaboration preferences by type and geographic range. The number of respondents preferring each type of collaboration are noted in parentheses.

**Table 7.** Percent of respondents indicating who should take the lead in initiating and facilitating collaborative efforts between logger education programs. (41 recommendations provided by 26 respondents)

Organization/entity	Percent of responses
Forest Resources Association	37
American Loggers Council	12
American Forest and Paper Association	8
Sustainable Forestry Initiative	8
Universities	8
State forestry agencies	8
Forest industry organizations	5
American Forest and Paper Association and Forest Resources Association (both organizations)	2
National Center for Air and Stream Improvement	2
USDA Forest Service	2
Forest and Wood Products Institute	2
Regional training coordinators	2
Susan Harwood OAHA Grants	2
Consortium of retired loggers, foresters and forest ecologists	2

Some respondents used the available space to offer other thoughts and suggestions. A complete list of suggestions and associated comments is presented in Appendix 8. Most notable comments include these thoughts:

1. It would be nice to see a benefit coming from the training required by the American Forest and Paper Association.
2. There is a strong need for new material and teaching aids.
3. Any successful collaborative effort must be supported by adequate funding.

**Question 20—Please use the following space to share any additional important aspects of your logger education program which we have not addressed. (n=15)**

Most comments gave additional descriptions of program features and teaching philosophy (Appendix 9). Many comments described the cooperation existing between state agencies, universities and logger education programs. Notable comments include:

1. Most classes are taught by volunteers. These volunteers are professionals in various fields including forestry, law, accounting, safety, medical relations, etc. Some are from state and federal agencies, universities, and the private sector.
2. National guidance on continuing education is lacking. The SFI program specifies what is required for initial recognition, but each state handles continuing education differently.
3. We have given up on the traditional learning, seat time model and developed a coaching model that sends specialists into the company and works with them on a day-to-week-to-month basis, depending on the training requested by the company owner or the sole proprietor. We can then measure the impact of learning gains. This is how we change insurance rates, experience modifiers, business loans with banks—so it has a practical application for the business owner.

## **Discussion**

Certification programs comprise more than 50% of the responses. In fact, combining the “Certification program” and “Master Logger Certification program” responses, 70% of the responses fall in this general program type. As interest in logger certification increases, that percentage may further increase. Because of the relatively high percentage of responses within the “certification program” category as compared to other program types, any cross-reference discussion below will focus primarily on that program category.

Because programs vary considerably from state to state, the amount of variance around average values is considerable. For many questions, the standard deviation was nearly as large as (or larger than) the average reported value. Therefore, there is no one “right” approach to designing a logger education program. Instead, those programs have evolved based on in-state history, interested organizations, and personnel.

All logger education programs extend program eligibility to logging business owners. Most (at least 88%) also allow logger managers, supervisors, and workers to become members. It appears that most of the “other” members are nonloggers (i.e., industry and professional personnel, silvicultural contractors, associate members, and other involved or interested parties). In general, there is little difference in educational requirements among the individuals who are eligible for membership within a state.

Course training fees and tuition are important sources of revenue to support program administration and delivery, especially for certification programs. On average, certification programs had the broadest array of funding mechanisms. Maintaining that diversity may be a key to the future success of those organizations as they need to continue securing funds from a number of sources. While Master Logger Certification programs relied most heavily on grants to fund operations, the long-term viability of that funding source may be problematic. The logging business owner generally assumes the expenses for the initial application, annual membership, and attendance at certification and continuing education sessions.

While few certification programs reported charging business owners an average initial application fee or an annual membership fees/dues, more than half reported charging fees for certification classes and continuing education sessions. Approximately one day per year of classes (eight contact hours) are required for all members in a certification program.

There are a variety of factors which help create a successful training experience. All of them relate to basic principles of adult education. Participants prefer selecting their courses from a menu of smaller, relevant classes that provide discussion and hands-on experiences, as well as utilize a variety of teaching techniques during the class. It appears that states are now incorporating more of these strategies into their programming and that this is helping to cause a cultural change among participants toward increased interest and overall training effectiveness. In states where there are few loggers, incorporating these principles may be relatively easy. However, in states where there are many loggers to train, where those loggers cover wide geographic areas, and where training resources are limited, program administrators may prefer to offer some larger classroom experiences. Even then, they should look at incorporating approaches such as a variety of teaching techniques, discussion sections, and hands-on experiences as a way to enhance learning. Also, utilizing a train-the-trainer approach with local programming or satellite uplinks and downlinks across a state or region may be approaches for reducing class size.

Surprisingly, 15 respondents did not utilize small group discussions as a way to enhance training effectiveness. Within a large group, few people tend to talk and the quieter participants do not get drawn into an active role. While large group discussions definitely have a role within a classroom, trainers should not overlook the benefits of small group discussions.

While independent study has its potential downsides (e.g., how do you know if the person looked at the material), it does offer the possibility for a participant to take the course at their own pace and to review materials in private. For many adults, this is an ideal way to learn. There appear to be opportunities to increase this type of programming. Also, computer-based training, focused on business management aspects, may be a potential offering for logging business managers.

A number of new and/or unique classes were offered in 2003 and 2004 or were planned for delivery in 2005. While some of the classes identified might be “old hat” in some states (e.g., best management practices, Game of Logging, chainsaw safety), others might be more unique (e.g., basic finance for loggers, conflict management, ethics and images, invasive species identification and control, GPS, protecting forest soils, and logger rescue).

Only about 60% of respondents evaluate for change in participant knowledge, retention of knowledge, or actual work-place application of specific topic areas. While respondents noted that testing of material at the conclusion of the program is not important to a successful training experience, gaining some measures of a program's effectiveness and outcomes can be beneficial for program promotion, fund-raising or determining additional training needs.

Nearly 80% of respondents already have a collaborative relationship with one or more logger education programs in other states. Relationships across state or regional boundaries are most common. Purposes of those relationships include reciprocity for recognition of training, sharing curriculum, and to assist with training in other states. Despite that seemingly high level of ongoing collaboration, there is strong support for increasing collaboration with logger education programs in other states. Development of a sharing forum at the regional level, especially for the purposes of sharing curriculum and holding periodic meetings, are preferred. The Forest Resources Association was most frequently identified as the most logical entity to take the lead in facilitating enhanced collaborative activities.

One respondent briefly described a unique empowerment logger education program that uses a coaching model wherein specialists are sent into the company to work with it on a day to week to month basis, depending on the request of the company owner. Knowledge retention and application is assessed in the field through random audits of participants. Further understanding that model may provide a new opportunity for other states to consider.

## Recommendations

The survey results presented above, plus a broader knowledge of logger education programming in Minnesota and beyond, suggest the following recommendations to improve logger education in Minnesota. While some recommendations are specific to Minnesota and MLEP, others will require working with logger education programs in other states to develop a broad base of support to move forward. For each item, some background is provided with specific recommendations highlighted in **bold**.

### Program structure and design

Logger education programs have a primary focus on logging business owners and less so on other individuals within the business or outside of it. Programming reflects that focus with many of the reported new and innovative programs being offered in the areas of forest management and safety. In today's business climate with rising fuel and stumpage prices, increased need to provide employee benefits, and an ongoing demand for increased professionalism and accountability, there is a growing need for a logging business to enhance its business management knowledge and skills. Spouses of logging business management owners are a primary audience for that information. **MLEP should form an advisory group with 6–8 logging business owner spouses who are involved with the business management side of the firm. The purpose of the group would be to identify key educational gaps for that audience and to develop a strategy for addressing them. Suggestions could be derived through focus groups, mailed surveys, or other methods. Some participants may feel uncomfortable sharing their business management techniques with other Minnesota businesses with whom**

**they compete. MLEP should consider contacting logger education program coordinators in Wisconsin and Michigan to see if they would identify potential speakers. Fees for programs or chasses could be charged to cover instructor or other costs.**

### **Funding mechanisms**

On average, program delivery makes up more than 60% of a logger education program's budget (Question 6). That average is higher in Minnesota and may go higher as MLEP attempts to further reduce the training overlap which exists due to certification requirements of industry and public land management agencies. Through coordination of all logger education training in Minnesota, MLEP may be able to reduce or eliminate much of the overlap in programming which may be occurring. This could result in increased funding from industry and public land management agencies to support programming. **MLEP should initiate discussions to address training overlap between what it is providing and that which is being provided by the forest products companies and public land management agencies. To the extent possible, transfer training from those other organizations to MLEP and develop appropriate new training material. Explore opportunities to transfer all or a portion of any cost savings to MLEP to support their increased level of programming.**

### **Class requirements, format and size**

MLEP's training requirements are higher than average, in part because of the need for annual LogSafe training. The organization is making excellent strides toward reducing class sizes, offering opportunities for members to select the classes they prefer in order to meet membership requirements, and building discussion into classes. Support of the Minnesota's Sustainable Forestry Initiative Implementation Committee has been key to attracting new presenters. Members complain about the LogSafe program classes because they are repetitive from year to year, aren't interesting, and lack outdoor real world experiences. **MLEP should continue to work closely with LogSafe staff to find ways to break up training programs into modules that do a better job of holding participant interest. Efforts to consolidate logger education in Minnesota, including securing management and delivery responsibility for LogSafe training should continue to be pursued by MLEP. MLEP should also explore policy changes which may reduce the number of hours a logger spends in training annually while increasing the quality of that training and improving the level of knowledge retention. Such changes would likely help reduce class size as well, providing for an enhanced adult learning experience.**

### **Innovative programming**

Innovative programming requires knowing member needs as well as having an eye out for new topics. **MLEP should become more systematic in how training needs are identified. One approach to doing that is to conduct focus groups with loggers, foresters, and others (e.g., private landowners) where a broad list of topics are first identified by participants. (Separate focus groups could be conducted with each audience.) Those topics are discussed, grouped, and then condensed into key areas through further discussion. Mail surveys could also be conducted, but the response rate might be low and that method does not easily facilitate follow up interaction with participants. MLEP should conduct this systematic assessment approximately every two years to stay in contact with needs.**

Often a logging business is maintained by a husband and wife team. It has been observed that when a logging business owner and spouse attend a logger education program together, both participants bring focus and mutual support to the learning process and enjoy the opportunity for the shared training experience. **MLEP should take advantage of this synergy and do more to reach out to spouses. Relevant programming such as business management topics and GPS which appeal to business owners and spouses could attract and increase participant interest.**

While many of the listed courses were not necessarily innovative for Minnesota, **MLEP should pay particular attention to the list of business management courses identified by survey respondents as many are new to our state. Those courses could be developed and targeted to business managers.**

The lack of computer use in training is notable. Training has traditionally been delivered face-to-face in a classroom. Unfortunately, not all participants learn best using that format. Some would prefer to read materials. Some prefer to receive training on their own. Some want training delivered faster or slower to hold their interest. Some want repetition. As the internet becomes more widely available and accepted as a tool, there will be increased interest in receiving information online. Business management is one area where online courses are already available. For example, the Small Business Administration offers free online courses (<http://www.sba.gov/training/courses.html>). Online courses are available through organizations such as Minnesota Online Education ([http://www.online-education.net/minnesota\\_schools.html](http://www.online-education.net/minnesota_schools.html)). **MLEP should pursue use of computers for training business managers. A potential model for that use is described in Question 10.**

Planning requirements for loggers seem to be ever increasing, whether it is for harvest or road planning. While not reported as being innovative within the study time period, **MLEP should pursue programs similar to Virginia's timber harvest training for loggers which was offered in the mid-90s** (Shaffer, R. M. and G. S. Meade. 1997. Evaluation of timber harvest planning training for loggers in the Virginia piedmont. *Forest Products Journal* 47(7/8):69-71) **and road location classes. MLEP should help facilitate demonstrations of techniques and technologies which can help address forest management guideline concerns (e.g., stream and wetland crossings).**

Loggers interact with foresters and/or nonindustrial private/family forest landowners on a frequent basis without always understanding each other's needs and constraints. Cross-training is one approach to getting two or more audiences together to focus on a topic of mutual interest. An example is the cross-training programs which were conducted between loggers, foresters, and wildlife biologists pre-MLEP. Those programs offered each profession an opportunity to address and to learn from each other through a highly interactive indoor and outdoor program. **MLEP should offer similar cross-training programs.** Programs which involve family forest owners should include some of the key representatives from private landowner groups (e.g., Minnesota Forestry Association officers and directors, University of Minnesota Extension Service staff who focus on these audiences, the editor of BetterFORESTS magazine) as they can articulate landowner issues to loggers as well as provide information back to other landowners.

There are a number of forest management guidelines which could be applied on any site. Tickler lists have been developed by many public land management organizations and forest products companies for the purpose of reminding foresters of guidelines during timber sale set-up. Loggers could benefit from using such a tickler list when operating on family forests. **MLEP should obtain guideline tickler lists from organizations and develop its own list which contains common elements. Training should then be conducted on the use of the MLEP tickler list.**

Logger education has changed in many ways during the past several years. Today, there is greater interest and support for programs, in part, because there is a greater recognition that training is a part of doing business, increased interest in professionalism, and increased flexibility within the program which allows participants to take classes which are most beneficial to their operation. Previous concerns from program designers about home study classes (e.g., review a video, participate in a distance education class or a correspondent course) may be reduced or have disappeared. At the same time, opportunities for customizing training have increased due to the more widespread availability of computer resources (e.g., internet, storage media such as CDs and DVDs which are capable of storing more information). **MLEP should explore opportunities to allow members to fulfill training requirements through home study courses which meet both business needs and membership requirements.**

Over the years, it has been difficult to design and deliver educational programs on an annual basis which meet the needs of members in southeastern Minnesota. Members don't have many choices to meet their educational requirements when few programming options are offered. Any MLEP member may gain significant benefits by participating in one of more Woodland Advisor programs offered through the University of Minnesota Extension Service (<http://www.cnr.umn.edu/cfc/wa/>). **MLEP should explore options for granting credit to its members who want to attend Woodland Advisor programs.**

Logger education programs tend to prefer face-to-face programming with larger audiences. While that method may not be as effective as working with small groups, programs generally have many participants to train with a limited budget. One Master Logger program incorporates field audits and coaching as a method to reach loggers in smaller groups. That program requires a field site inspection as part of the membership application. Initial group exercises held for logging business owners at local field sites address issues of interest in a small group setting. The field setting is more relevant for this audience than a classroom and facilitates addressing on-the-spot questions. Following the group session, the logging business owners come to the Master Logger program with a specific request for a topic they want their individual crew coached on. That field coaching allows particular company concerns to be addressed where all involved employees are present without relying on repetitive communication and potential loss of information from the workshop attendee to the field personnel. A phone conversation with a staff person associated with that Master Logger program indicated it is a very effective way of training its members. **MLEP should consider whether a field audit and coaching model for training has application in Minnesota.**

## **Training evaluation**

Evaluations can be conducted for a range of purposes. For example, immediate end-of-program evaluations can facilitate making decisions about whether the presenter(s) should be reused again in the future, whether the facility met participant expectations, and whether the instructional materials were sufficient. Evaluations conducted several weeks or months after completion of the event can help program planners determine whether the program resulted in a change in participant knowledge, retention of knowledge, and/or other actual workplace application of knowledge

As in most states, MLEP's evaluation focus is on end-of-program factors. While helpful, those evaluations are missing the opportunity to document and tell a success story about how the organization is affecting change in knowledge, attitudes, skills, or application. This more in-depth evaluation information is needed by program funders before they will consider supporting an initiative. It can also be used to tell stories in the media about logger education programming successes. **MLEP should consider whether its current program evaluation system meets all of its current and anticipated future needs. If that system is not sufficient, MLEP should develop and implement appropriate evaluation instruments to meet its needs.**

## **Collaboration with other logger education programs**

Given the interest in the development of a sharing forum, particularly in the areas of curriculum exchanges and periodic meetings of key logger education program personnel, at the regional and national levels, **MLEP should take the initiative to contact the Forest Resources Association (FRA) to communicate these survey results and to explore their interest in becoming involved with establishing a discussion forum for logger education program contacts. It would be best to get as specific as possible with FRA about their involvement. Using the results of those discussions, MLEP should contact logger education program coordinators in other states to (1) tell them of survey results which suggest strong interest in the development of sharing forums and of FRA's interest (if any) in becoming involved, (2) identify specific individuals who would like to pursue further discussion of this opportunity, and (3) set-up a conference call for interested parties to participate and plan next steps. One important initial activity for the group might be to conduct a conference/meeting in Minnesota of logger education program coordinators from across the US to become better acquainted, to formalize relationships, and to develop sharing mechanisms.**

## **Acknowledgments**

The authors would like to express thanks Dave Chura for helping with survey design, and to the survey respondents for their contributions. They would also like to thank the Blandin Foundation and the Minnesota Logger Education Program for their financial support of this research.

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## **Appendix 1**

### **Survey Mailed to Logger Education Program Contacts**

**A SURVEY OF LOGGER EDUCATION  
PROGRAMS IN THE U.S.**



**Department of Forest Resources  
University of Minnesota**

**A SURVEY OF LOGGER EDUCATION PROGRAMS IN THE U.S.**

**SURVEY RESPONDENT INFORMATION**

Name \_\_\_\_\_

Organization \_\_\_\_\_

Title \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone \_\_\_\_\_ Email \_\_\_\_\_

Primary job responsibilities \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Organization's website address \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

**Please return this survey by March 16, 2005**

## A SURVEY OF LOGGER EDUCATION PROGRAMS IN THE U.S.

Please refer to the following definitions when these terms are used in the survey:

**Logger Membership Program:** A voluntary program which maintains a member list (available to the public) of logging professionals. Training may or may not be required.

**Logger Registration Program:** Involves individuals listing their names on an official roster that is managed by either a private (e.g. logger association) or public (e.g. state forestry agency) organization.

**Logger Certification Program:** A program that requires individuals to meet certain qualifications, including work experience and training programs. Certification is not exclusionary in that such programs don't restrict who may harvest timber, rather they confer a title on those who have been awarded a certified status.

**Logger Licensing Program:** A program that provides individuals an authorization from a state or local unit of government to engage in a trade or profession, including timber harvesting. Licensing is exclusionary; lack of a license means an individual cannot engage in an activity, which is the focus of the licensing program.

**Logging business owner:** the owner of the logging company or business.

**Logger manager:** an employee with management responsibilities usually related to office functions (e.g. bookkeeping, bill paying).

**Logger supervisor:** an employee who supervises logger workers. This individual may also operate in-woods equipment.

**Logger worker:** an employee whose duties involve mechanical support or operation of in-woods equipment.

## A SURVEY OF LOGGER EDUCATION PROGRAMS IN THE U.S.

### Program structure and design

1. Does your organization provide logger education programming?  
Check (✓) one option.
- No (please complete the Survey Respondent Information form and return your survey)
  - Yes (please continue with the survey)
2. Which of the following best describes your organization's logger education program?  
Check (✓) one option.
- Membership program
  - Registration program
  - Certification program
  - Licensure program
  - Master Logger Certification program through the American Loggers Council
  - Other (please specify) \_\_\_\_\_
3. Please mark which individuals from the logging business are eligible for membership in your logger education program. Check (✓) all options that apply.
- Logger business owner (employer)
  - Logger manager (employee)
  - Logger supervisor (employee)
  - Logger worker (employee)
  - Other (please specify) \_\_\_\_\_
4. To what extent do the requirements in your logger education program differ between logging business owners, managers, supervisors and workers?  
Check (✓) one option.
- Requirements are the same for all members. **(Skip to 5)**
  - Requirements differ between members. Please briefly describe your scenario:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Funding mechanisms

5. Two-part question:
- (a) Which of the following funding sources does your organization's logger education program use to financially support program administration and delivery?  
Check (✓) all options that apply.

(b) Of your funding sources, what is the approximate percentage of your organization's annual logger education program budget supported by each? (The total must equal 100%.)

	(a)	(b)
Grants	<input type="checkbox"/>	____%
Legislative appropriations	<input type="checkbox"/>	____%
SFI Implementation Committee	<input type="checkbox"/>	____%
Training attendance fees/tuition	<input type="checkbox"/>	____%
Logger membership application fees and/or dues	<input type="checkbox"/>	____%
Industry membership application fees and/or dues	<input type="checkbox"/>	____%
Associate membership application fees and/or dues	<input type="checkbox"/>	____%
Other financial contributors (please specify)		
_____	<input type="checkbox"/>	____%
_____	<input type="checkbox"/>	____%
_____	<input type="checkbox"/>	____%
TOTAL		100%

6. What is your organization's annual budget for program administration and delivery, and the annual total?

Program administration \$ \_\_\_\_\_  
 Program delivery \$ \_\_\_\_\_  
 Total annual budget \$ \_\_\_\_\_

**Cost to members**

7. Who assumes the expenses for each of the following items, and what are the associated costs for each item noted below? Write your responses in the appropriate columns.

Item	Business owner	Other individual in the firm	Other entity outside of the firm (please specify)	Not applicable
Initial application fee (\$)				
Annual membership fees/dues (\$)				
Fee for each certification or licensing class (\$)				
Fee for each continuing education session(s) (\$)				
Other cost (please specify) (\$)				

**Class requirements, format and size**

8. For each of the following logger members, please provide information regarding annual class requirements:

Member	Annual requirement		
	Number of classes	Number of contact hours	Not applicable
Logger business owner			
Logger manager			
Logger supervisor			
Logger worker			
Other (please specify)			

9. On a scale of 1 to 4, please rate the following factors (circle 1, 2, 3 or 4) for their importance to a successful training experience. (1 = not important, 4= very important)

Factor	Relative importance			
	Least		Most	
	1	2	3	4
Size of session/class	1	2	3	4
Length of session/class	1	2	3	4
Presentation format	1	2	3	4
Discussion sections for participants	1	2	3	4
Hands-on experience	1	2	3	4
Testing of material at conclusion	1	2	3	4
Other (please specify)	1	2	3	4
	1	2	3	4
	1	2	3	4

10. For the following question, consider only those training formats which you offered during **2003 and 2004**. Please check (✓) the formats you used and enter the number for optimal class size of each. Please add any relevant comments.

Format	Format used Please check (✓)	Optimal class or group size (number)	Comments
Lecture	<input type="checkbox"/>		
Videotape	<input type="checkbox"/>		
PowerPoint presentation	<input type="checkbox"/>		
Small group discussion	<input type="checkbox"/>		
Full-class discussion	<input type="checkbox"/>		
Indoor hands-on training	<input type="checkbox"/>		

Classroom demonstration	<input type="checkbox"/>		
Classroom computer modules	<input type="checkbox"/>		
Independent study – computer-based	<input type="checkbox"/>		
Independent study – paper-based	<input type="checkbox"/>		
Field demonstration	<input type="checkbox"/>		
Outdoor hands-on training	<input type="checkbox"/>		
Other (please specify)	<input type="checkbox"/>		

### Innovative programming

11. What new and/or unique training did you offer in **2003** and **2004**? For each course, indicate the following information. *Please attach additional sheets if you need more space.*

Course name \_\_\_\_\_  
 Target audience \_\_\_\_\_  
 Primary objective \_\_\_\_\_  
 Course format \_\_\_\_\_  
 Perception of its success \_\_\_\_\_

Course name \_\_\_\_\_  
 Target audience \_\_\_\_\_  
 Primary objective \_\_\_\_\_  
 Course format \_\_\_\_\_  
 Perception of its success \_\_\_\_\_

12. What new and/or unique training do you plan to offer in **2005**? For each course, indicate the following information. *Please attach additional sheets if you need more space.*

Course name \_\_\_\_\_  
 Target audience \_\_\_\_\_  
 Primary objective \_\_\_\_\_  
 Course format \_\_\_\_\_

Course name \_\_\_\_\_  
 Target audience \_\_\_\_\_  
 Primary objective \_\_\_\_\_  
 Course format \_\_\_\_\_

## Training evaluation

13. Are formal evaluations conducted to determine participants' change in knowledge, retention of knowledge, and/or actual work-place application of specific topic areas?

- Yes       No **(Skip to 15)**

14. If yes, which participant outcomes are evaluated? Check (✓) all options that apply.

- Change in participant knowledge  
 Participant retention of knowledge  
 Actual application of training  
 Other (please specify) \_\_\_\_\_

## Collaboration with other logger education programs

15. Do you currently have a collaborative relationship with any logger education programs located in other states?

- Yes       No

If Yes - please identify states and describe the type of relationship with each.

\_\_\_\_\_  
 \_\_\_\_\_

16. Do you feel there would be a benefit from increased collaboration with logger education programs in other states?

- Yes       No **(Skip to 20)**

17. If yes, would you be willing to participate in a sharing forum of some sort?

- Yes       No **(Skip to 20)**

18. If yes, what type(s) of collaboration would you like to see implemented? Check (✓) all options that apply.

Type of collaboration

- \_\_\_\_\_ Curriculum exchange  
 \_\_\_\_\_ Newsletter  
 \_\_\_\_\_ On-line newsletter  
 \_\_\_\_\_ Website  
 \_\_\_\_\_ Periodic meetings  
 \_\_\_\_\_ Conference

Region of focus

- Regional \_\_\_\_\_ National \_\_\_\_\_  
 Regional \_\_\_\_\_ National \_\_\_\_\_  
 Regional \_\_\_\_\_ National \_\_\_\_\_  
 Regional \_\_\_\_\_ National \_\_\_\_\_  
 Regional \_\_\_\_\_ National \_\_\_\_\_

Other (please specify)

- \_\_\_\_\_  
 \_\_\_\_\_  
 Regional \_\_\_\_\_ National \_\_\_\_\_  
 Regional \_\_\_\_\_ National \_\_\_\_\_





**THANK YOU FOR YOUR TIME**



**Please return this survey in the enclosed postage-paid envelope to:  
University of Minnesota  
Department of Forest Resources  
1530 Cleveland Avenue North  
St. Paul, MN 55108-6112  
ATTN: Brooke Haworth**

**Department of Forest Resources  
University of Minnesota**

## **Appendix 2**

### **Cover Letter Mailed to Logger Education Program Contacts**

February 22, 2005

Name  
Address 1  
Address 2  
City, State Zip

Dear (Name of Logger Education Professional):

The Minnesota Logger Education Program (MLEP) provides educational support to Minnesota's logging professionals as they meet the challenging demands of their industry. The Department of Forest Resources at the University of Minnesota is assisting MLEP to expand our understanding of logger education programs in the U.S. by conducting the enclosed survey. It builds on some of the information previously reported in the Forest Resource Association's (FRA) Tenth Report (2004) on the Status of Statewide Logger Training and Education Programs in Thirty-two Forested States.

We hope that the survey results will provide useful information to all participants and facilitate collaboration between state programs. Study results will be published as a project report to MLEP as well as an "A" series publication through FRA. We may also publish the results in a journal.

We obtained your name from the FRA report and a list of SFI<sup>®</sup> State Implementation Committees. MLEP and FRA have reviewed the enclosed survey and are supportive of the study. We are concerned about your privacy. While individual states may be identified in our summary report, participant names will not be identified. Access to individual responses will not be allowed to anyone other than us. Research records will be kept private and stored securely.

As you complete the enclosed survey, please only consider the logger education portion of your training. Please do not include any information related to training for others (e.g., foresters, wildlife biologists). Your participation in this study is voluntary and you may withdraw from the study at any time. You do not have to answer all of the questions, even though we hope that you will do so. Your signature on the Survey Respondent Form implies consent to participate in the study and for us to use your response for our stated purposes. Please return your completed survey to us by March 16, 2005 using the postage-paid return envelope. We would appreciate receiving a copy of any documents which describe your program (e.g., requirements, funding sources, costs).

Thank you for participating in this survey. If you have any questions about the survey, please contact either of us. We look forward to receiving your response.

Sincerely,

Charles R. Blinn  
Professor and Extension Specialist  
cblinn@umn.edu  
612-624-3788

Brooke K. Haworth  
Graduate Research Assistant  
hawo0011@umn.edu  
612-624-1224

## **Appendix 3**

### **Reminder Postcard Mailed to Logger Education Program Contacts**

Dear Logger Professional:

The Minnesota Logger Education Program (MLEP) is engaged in a review of programs which provide training to logging professionals of the various states. Recently you received a survey from us requesting information regarding your program. Your response is important to us. If you have returned your survey, thank you for your participation. If you have not, please take the time to do so today. We thank you for your assistance. If you have any questions, please contact us at one of the following numbers.

Charles R. Blinn, Professor and Extension Specialist  
Department of Forest Resources, University of Minnesota 612-624-3788

Brooke K. Haworth, Graduate Research Assistant  
Department of Forest Resources, University of Minnesota 612-624-1224

## **Appendix 4**

### **Follow-up E-mail Note Sent to Nonrespondent Logger Education Program Contacts**

Dear (Name of Logger Education Professional) :

The Department of Forest Resources at the University of Minnesota is conducting a survey on behalf of the Minnesota Logger Education Program (MLEP), with the support of the Forest Resource Association (FRA). Three weeks ago a survey was sent to you regarding your logger education program. As of today, we have not received your response.

We would like to expand our understanding of logger education programs in the US, provide useful information to all participants and facilitate collaboration between state programs. Study results will be published as a project report to MLEP, as well as an “A” series publication through FRA. We may also publish the results in a journal.

All responses will be kept confidential. While individual states may be identified in our summary report, participant names will not be identified. Research records will be kept private and stored securely.

If your survey has been misplaced, we attach a copy for you to download, complete and return to us. Please return your survey by April 22. If you have any questions, please contact either of us.

Your participation is greatly appreciated. Thank you for your time.

Charles R. Blinn  
Professor and Extension Specialist  
cblinn@umn.edu  
612-624-3788

Brooke Haworth  
Graduate Research Assistant  
hawo0011@umn.edu  
612-624-1224

## **Appendix 5**

### **Follow-up E-mail Note Sent to Nonrespondent SFI Committee Members**

From: Dave Chura  
Sent: Tuesday, June 21, 2005 12:00 PM  
Subject: Re: Logger Education Survey

Each of you should have received a "Survey of Logger Education Programs in the U.S." from the University of Minnesota's Department of Forest Resources. Your participation in completing this survey will aid the SFI training and other logger education efforts in Minnesota and nationwide. This information will be used by the Minnesota SFI Implementation Committee and the Minnesota Logger Education Program to improve logger training. A final report of the survey findings will also be shared with you.

As you know, the SFI standard includes indicators related to the support of and participation in research, training and educational efforts. I recognize that your time is valuable and limited and hope you will take time to participate in this survey. A quick response to this email indicating your willingness to participate in this survey would be appreciated. If you have any questions, please don't hesitate to contact me.

Sincerely,

Dave Chura  
Executive Director, Minnesota Logger Education Program  
Member, MN SFI Implementation Committee

## **Appendix 6**

### **List of New and/or Unique Training Offered in 2003 and 2004 (Responses to Question 11)**

## **Business Management**

1. Course: Business Management for Loggers  
Target: Business owners or bookkeepers  
Objective: Relay basic information on business topics  
Format: Indoor, Powerpoint, small group exercise and discussion  
Reception: Good
  
2. Course: Business Management - Online  
Target: Contractors and employees  
Objective: Legislative tasks, DOT regulations, timber contracts  
Format: On-line  
Reception: Well-received
  
3. Course: Business Management  
Target: Logging contractors and foremen  
Objective: Up-to-date information on DOT, legislation, etc.  
Format: Powerpoint and lecture, handouts  
Reception: Well-received
  
4. Course: Employment Issues for the Logging Business  
Target: FL Master Loggers  
Objective: Inform owners about employment law issues, record keeping, etc.  
Format: Lecture with discussion and forms needed for business  
Reception: Very successful for business owners, informative for employees
  
5. Course: Basic Finance for loggers  
Target: Logging business owners  
Objective: Learn how to use a financial calculator to do simple business problems  
Format: Indoor hands-on  
Reception: Very high evaluations – most participants later purchased financial calculators ( ± \$20)
  
6. Course: Conflict Management  
Target: Loggers and foresters  
Objective: Identify and understand conflict and learn tools to resolve  
Format: Classroom – 2 instructors – breakout into small groups  
Reception: Well-received
  
7. Course: Ethics and Images  
Target: Loggers  
Objective: Recognize how others see you and your company, and tools to improve image  
Format: Classroom – Powerpoint, discussion  
Reception: Enjoyable, but not well-attended

8. Course: Advance Estate Planning for Timber Landowners  
 Target: Small business owners/tree farm owners/spouses  
 Objective: Make new information available on federal and state programs and incentives  
 Format: Lecture and slideshow by CFP/CPA team  
 Reception: High participant evaluations
  
9. Course: The Management Team  
 Target: Contractors  
 Objective: Team members  
 Format: Classroom  
 Reception: Very well
  
10. Course: Legal & Tax Issues with Buying Stumpage from Private Landowners  
 Target: Loggers and other forest industry personnel  
 Objective: To cover some timber sale contract issues, land contract ownership issues, trespass and other regulatory issues (including gypsy moth and Emerald Ash Borer quarantines) and timber income tax issues pertaining to buying timber off private forestland owners.  
 Format: Lecture/discussion  
 Reception: Generally well-received and resulted in some good discussion as several loggers were willing to discuss legal problems they had over some of these types of issues.
  
11. Course: Carbon Crediting exchange for logger landowners
  
12. Course: FSC Land Certification for Logger Landowners

## Forest Management

1. Course: Best Management Practices for Protecting Water Quality  
 Target: Owners, managers, supervisors, workers  
 Objective: Road layout and culvert installation  
 Format: Lecture, Powerpoint, discussion, field exercises  
 Reception: Good
  
2. Course: Water Quality Control  
 Target: In-woods loggers  
 Objective: Stream crossings, water bars, etc.  
 Format: Powerpoint of field session with real bridge placement  
 Reception: Well-liked

3. Course: TOP Harvest Preparation  
 Target: Owners, supervisors, workers  
 Objective: Planning to prevent water quality problems and increase efficiency  
 Format: Lecture and field training  
 Reception: Excellent
  
4. Course: Cypress and Wetlands BMPs and Field Trip  
 Target: Master Loggers  
 Objective: Teach cypress sustainability in relation to harvesting methods  
 Format: Lecture with Powerpoint/discussion/visual aids plus field trip  
 Reception: Very successful
  
5. Course: Forest Management for loggers  
 Target: Master Logger graduates  
 Objective: How logging affects future forest growth  
 Format: Indoor lecture, video and outdoor demonstration  
 Reception: Provides good information and is well-perceived
  
6. Course: Logging Aesthetics  
 Target: Master Logger graduates  
 Objective: Provide information about public perception and how to improve logging aesthetics  
 Format: Lecture, video, discussion  
 Reception: Well-perceived
  
7. Course: Forest Practices Rule “Hot Topics”  
 Target: Logging operators: owners/supervisors  
 Objective: Update of current forest regulation compliance  
 Format: Classroom (4 hours) – lecture, discussion, Powerpoint  
 Reception: Good; attended by 170 operators at 4 sessions
  
8. Course: Invasive Species ID and Control  
 Target: Loggers and foresters  
 Objective: Awareness  
 Format: Lecture, demonstration and field sites  
 Reception: Good
  
9. Course: Job Layout and Profitable Skidding  
 Target: Business owner, skidder operator  
 Objective: Promote efficient actions  
 Format: Conducted on timber harvesting site  
 Reception: Excellent

10. Course: ProLogger Series – Modules 1-5  
Target: ProLogger graduates  
Objective: Obtain 15 hours of continuing education  
Format: Video/CD/DVD, 3 hour programs, 5 in all  
Reception: Overwhelming!
  
11. Course: Soils Analysis  
Target: All  
Objective: Consider soils more in harvest planning  
Format: Classroom/field  
Reception: Good
  
12. Course: Using GPS in Timber Harvesting Planning  
Target: Loggers and foresters  
Objective: Show how GPS use can benefit harvesting and planning  
Format: 4 hours in classroom; 3 hours in field  
Reception: Excellent
  
13. Course: Beginning GPS (handheld)  
Target: Loggers and foresters  
Objective: How to use GPS and what they can do  
Format: Indoor lecture with field exercises  
Reception: Excellent
  
14. Course: GPS  
Target: Contractors, supervisors, mechanical operators  
Objective: Review for logging applications  
Format: Lecture and field hands-on session  
Reception: Very useful
  
15. Course: Intro to GPS  
Target: All  
Objective: Teach use of GPS units  
Format: Indoor workshop and outdoor hands-on training  
Reception: Excellent – a lot of interaction

1. Course: Game of Logging, Levels 1-4  
Target: Saw users  
Objective: Safe, productive and controlled saw use  
Format: Hands-on  
Reception: Excellent!
2. Course: Coaching the Professional Logger  
Target: Logging managers  
Objective: Team performance and safety  
Format: Video discussion  
Reception: Used for Continuing Ed and fairly well-received
3. Course: On-line Safety with OSHA Regulations  
Target: Contractors and employees  
Objective: Required OSHA regulations  
Format: On-line  
Reception: Safety course is required every two years – well-received
4. Course: Hazardous Materials and Spills - Cleanup  
Target: Logging contractors and foremen  
Objective: Safety  
Format: Powerpoint and lecture  
Reception: Well-received
5. Course: Log Truck Requirements  
Target: Owners and drivers  
Objective: Improve accident statistics  
Format: Classroom - Powerpoint  
Reception: Fair
6. Course: Mechanical Harvesting  
Target: Mechanical operators and supervisors  
Objective: Improving safety, efficiency and maintenance  
Format: Lecture, Powerpoint, group exercises  
Reception: Very useful
7. Course: Chainsaw Safety  
Target: Supervisors, workers  
Objective: Proper use and handling of chainsaws  
Format: Lecture, demonstration  
Reception: Good

8. Course: Logger Rescue

Target: Logging business owners and foremen

Objective: Train key employees in extraction and handling injury accidents

Format: Hands-on field demonstrations and “live” practice of rescue scenarios

Reception: Article from ARK ProLogger sent to you – our highest rated workshop.

9. Course: Advanced Logger Safety

Target: Anyone in the woods

Objective: Safety

Format: Classroom

Reception: Very well

10. Course: TOP Logging Safety workshop

Target: Company owners and supervisors

Objective: Improve workplace safety

Format: Lecture, Powerpoint, in-class demo

Reception: Excellent

## **Appendix 7**

### **List of New and/or Unique Training to be Offered in 2005 (Responses to Question 12)**

## Business Management

1. Course: Leaders, Managers, Followers  
Target: Everyone  
Objective: Communication  
Format: Classroom
  
2. Course: Business  
Target: Owners, managers, supervisors  
Objective: Business planning  
Format: Lecture
  
3. Course: Business Management  
Target: Loggers  
Objective: Logging costs - breakeven  
Format: Lecture and exercises
  
4. Course: DOT Audits  
Target: Logging contractors and business managers  
Objective: Proper record-keeping, etc.  
Format: Powerpoint, lecture, handouts
  
5. Course: Wage/Hour Laws  
Target: Business owners  
Objective: Improve compliance of state and federal laws  
Format: Classroom - Powerpoint
  
6. Course: Leaving Behind Being Paid by the Ton and the Cord!  
Use a per hour rate model for equipment/personnel/insurance/taxes based on 52 week work year

## Forest Management

1. Course: Forestry, Ecology and Silviculture  
Target: On-line trainees (for CLE credit)  
Objective: Offer an at-home training option  
Format: On-line participation; minimum fee; based on same course offered at the community college
  
2. Course: Protecting Forest Soils  
Target: Loggers and foresters  
Objective: Understand logging impacts and BMPs  
Format: Lecture and field demonstration
  
3. Course: Managing Wildlife  
Target: All  
Objective: Wildlife considerations when timber harvesting  
Format: Classroom/ field
  
4. Course: BMPs  
Target: Pro Loggers  
Objective: Continuing education  
Format: On-line
  
5. Course: Aesthetics  
Target: Pro Loggers  
Objective: Continuing education  
Format: On-line
  
6. Course: Skidder Bridges  
Target: Loggers  
Objective: Build and distribute bridges  
Format: Based on NELA program – all hands-on
  
7. Course: Hardwood BUCK  
Target: Loggers, manufacturers, landowners  
Objective: Hardwood value improvement project
  
8. Course: Continued Forest Practices Rule “Hot Topics”  
Target: Logging operators, owners, supervisors  
Objective: Update of current forest regulation compliance  
Format: Pictures, case studies, ask attendees to contribute one question/problem for discussion

9. Course: New MLC Biodiversity Measuring Tool for Pre- and Post-harvest Assessment
  
10. Course: Intermediate GPS  
Target: Loggers and foresters  
Objective: Build on Beginning GPS – more field exercises with routes and tracks  
Format: Classroom and field
  
11. Course: Map & GPS Navigation for Loggers  
Target: Master logger graduates  
Objective: How to read maps, how to use GPS to mark boundaries, etc.  
Format: Lecture, video, outdoor hands-on, demonstration
  
12. Course: GPS for Loggers  
Target: Supervisors  
Objective: Use of GPS unit - practical  
Format: Hands-on; cost of course will include GPS unit

## Safety

1. Course: Logger and Landowner Liability during Timber Harvesting  
Target: Loggers and forest landowners  
Objective: Identify areas where landowners and loggers face greatest potential liability  
Format: Six hours classroom
  
2. Course: DOT regulation updates this year while developing workshops for 2006
  
3. Course: Garage Safety  
Target: All  
Objective: Worksite safety and health awareness  
Format: Indoor lecture with inspection of garage
  
4. Course: Advanced First Aid/CPR  
Target: All crew members  
Objective: Hold 5 or 6 classes (30 persons each) at our annual two-day meeting  
Format: Six hours indoor hands-on session
  
5. Course: ProLogger Mandatory Training  
Target: All persons who want to retain PL certification  
Objective: Everyone sees the same message  
Format: Video/CD/DVD
  
6. Course: Safety  
Target: Owners, managers, supervisors, workers  
Objective: OSHA and safety management  
Format: Lecture
  
7. Course: Chainsaw Felling for Loggers  
Target: Master logger graduates  
Objective: Demonstrate open face felling technique  
Format: Lecture, hands-on class; each participant will cut a tree
  
8. Course: Game of Logging "Level 5"  
Target: Saw users with Levels 1-4  
Objective: Additional techniques for overall safety and logging  
Format: Field, hands-on

## **Appendix 8**

### **Who Should Take the Lead in Initiating and Facilitating Collaborative Efforts (Responses to Question 19)**

1. If AF&PA companies place high value on logger training, the companies that support AF&PA should take active roles in logger education. They should also commission top quality programs through Forestry Extension programs for continuing education programs. Often the requirements of continuing education are not equally spread out over available resources. Stretched programs often do not provide the highest quality of education events for loggers. There should be a well-organized educational program that covers the areas of resource responsibility on forestry certification. Often state associations do get pressed for providing educational opportunities. I would like to see some benefit from the certification requirements coming from AF&PA so we know that there is value in meeting training requirements.
2. Forest Resources Association could possibly initiate a list service for communication among those providing logger education. Information can be shared quickly through such a method. We would like to see a curriculum exchange, or at the very least a platform to share fresh ideas for new workshop development.
3. The greatest need is for new material and teaching aids – videos, CD/DVDs, etc.
4. Good question! Our experience has been that a coordinated effort would need to be adequately funded. The Forest Resources Association may be an option. Funding from the FRA “THATS” foundation should be considered. Also, the Susan Harwood OSHA grants should be considered.
5. Possibly a steering committee made up of full-time university personnel or other organizations committed to logger education would be a good start. As for me, I am responsible for WAY TOO MANY other things to have time to coordinate such an undertaking at this point in time, due to continuing state budget problems.
6. There is no need for new infrastructure – American Loggers Council can disseminate and the Forest Resources Association already publishes a detailed annual report of all states’ logger training programs – contact Steve Jarvis with FRA. (You could have gotten most of this survey information from their 2003 and 2004 reports).
7. FRA does a good job regionally. Perhaps SFI would be better – or more logical – for a national conference.
8. FRA should lead the effort as they are the common thread among us.
9. Past meetings of regional logger training coordinators (by FRA) established that all are happy to share materials, but there is almost no interest in multi-state coordination. A website showing regional training opportunities and state database links would simplify information gathering. Our state training calendar shows neighboring state classes when available.
10. FRA has been doing this to a limited extent. They are the logical ones to do it.

11. My thoughts would be that a national organization (such as FRA) should take the lead, due to the broad scope of such a project.
12. Unfortunately, many academic efforts assume the glass is half empty. Many industry efforts measure impact value on seat time that the company owner spent in the training and gives no support for the trickle down within a company of new information. Many efforts do not create a partnership of equals, instead it is a top down process which loggers do not relate to at all. Loggers are politics, but what really changes? I am utilizing retired loggers and foresters and forest ecologists to take the lead.

## **Appendix 9**

### **Additional Important Aspects of a State's Logger Education Program (Responses to Question 20)**

1. We do not host or organize logger education workshops. Local groups within participating states are responsible for organizing training. We have developed a logger education curriculum that specifies the type and amount of training loggers need. When loggers have completed all aspects of the training, they are given a certificate of completion. We maintain a database that contains records of who attended what workshop and when. Once a logger has earned the certificate of completion, he/she must complete at least 12 hours of continuing education over a three year period to maintain their certificate.

Our organization was formed as a cooperative effort among state forestry agencies, forest industry associations and universities from three states in our region. Its purpose is to develop a curriculum for logger education that satisfies the needs of the three states, and track training records that are recognized across state boundaries.

2. Your cover letter requested consideration of only logger education. Our program does include foresters and land managers, therefore funding figures include that audience as well. Our program is a “one size fits all” type. There is no difference in requirements for logger-owners, logger-employees, timber buyers, foresters, to maintain “Master Timber Harvester” status.
3. Most classes are taught by volunteers. These volunteers are professionals in various fields including forestry, law, accounting, safety, medical relations, etc. Some are from state and federal agencies, universities and the private sector.
4. Please do not assign financial information to our state. Financial data should NOT be linked to each state in order to protect the proprietary nature of this information! Each state typically has only one program, so attaching financial data to a state makes such information revealing.
5. Since we do not follow-up with loggers who participate in our training to actually evaluate the quality of their work on the ground, we do not classify them as being certified, registered or any title that would suggest such.
6. National guidance on continuing education is lacking. The SFI program specifies what is required for initial recognition, but each state handles continuing education differently. Standardization of hours would help those operating in several states.
7. We provide training to loggers in three states, and also regularly have loggers from three more attending. Rather than holding an “academy” type program with the same core classes held at one time each year, our philosophy is to allow loggers to pick and choose the classes they want to attend, and we hold our classes at a variety of locations and dates. We also try to provide new topics and courses each year. We are greatly indebted to the many loggers and landowners who provide us with the field sites for our classes.
8. I think it is important for all aspects of the forest industry to work together, from landowners to loggers, foresters, mills, etc.

9. Our state's loggers tell us they are now beginning to value the educational programs rather than simply attend them because they are required by the SFI companies. This is a major positive cultural change.
10. 1<sup>st</sup> day – Forestry 101 – taught by university specialists  
2<sup>nd</sup> day – Workers comp/safety – taught by State Department of Labor and Industries  
3<sup>rd</sup> day – Forest Practices requirement – taught by instructors from Dept. of Natural Resources  
4<sup>th</sup> day – Business – how to make a profit by logging – taught by staff experts, accountants, lawyers  
5<sup>th</sup> day – Safety/first aid – 8 hours of intensive training for loggers – by loggers
11. Our program is fortunate to have an excellent cooperative relationship with the state Division of Forestry. The programs that we offer complement the existing training that the DPF is required to provide (safety, BMPs). I am a firm believer that collaboration is the way to go. It wastes both the time and money of loggers and forestry companies and staff to have separate programs/requirements that do not attempt to work together and are more concerned about who is going to get the credit.
12. We do not see our program as a logger education program. When small business owners have millions of dollars in equipment and land ownership, it seems presumptuous to call it education and training. We see it as professional development. As adult learning specialists, we have given up on the traditional learning, seat time model and developed a coaching model that sends specialists into the company and works with them on a day to week to month basis, depending on the training requested by the company owner or the sole proprietor. We can then measure impact of learning gains without just the “feel good” evaluation form. This is how we change insurance rates, experience modifiers, business loans with banks—so it has a practical application for the business owner. We do not arrange our program into classes. We average 25 companies per cohort; we have completed four cohorts—each takes 6 months to complete. We have the next three cohorts signed up, scheduled and paid for through 2006. We tell loggers you cannot defend what is not documented—and we follow our own advice. We measure knowledge retention and application in the field, through random auditing with a 45% sample yearly. We have helped develop MLC programs in seven states and Canada. We have set things up so that loggers are small business owners who happen to harvest wood. We have developed a very specific model of empowerment and work only with people who understand the need to take direction from the loggers. I have spent the last seven years working on this empowerment model with professionals who were treated as blue collar forest workers with millions of dollars in loans and plenty of talent for harvesting sustainably. Prior to this I worked seven years at the University as the director of the center for Adult Learning. I tested a large sample of loggers for cognitive skills, multi-tasking and learning style, according to multiple intelligence theory. The results lead us to our current programs. This seems to be an industry with a heavy-handed paternalistic top down management style. Loggers were mimicking this style in their companies. We needed to do something different for the future.

# A Survey of Training Requirements for Minnesota Loggers

## Methods

The survey was conducted using Dillman’s (2000) Total Design Method. Questions were designed with the assistance of Dave Chura, Minnesota Logger Education Program (MLEP); Mike Houser, Potlatch Corporation; and Mark Reed, St. Louis County Land Department. Definitions were developed with the help of Dave Chura, MLEP; Kara Huziak, Boise Paper Corporation; Robert DeRoche, StoraEnso Corporation; and Robert Behr, Blandin Paper Company.

An expert opinion survey (Appendix 1) and cover letter (Appendix 2) were mailed in May 2005 to 29 logging business, industry and public land management agencies in Minnesota and the out-of-state headquarters of two certification programs. Contact names and addresses were provided by Dave Chura of MLEP. A summary of the categories of individuals surveyed is presented in Table 1.

**Table 1.** Summary of types of organizations who were sent the survey.

<b>Organization</b>	<b>Number of surveys mailed (n=31)</b>
<b>Minnesota contacts</b>	
Wood consuming mill	
Primarily pulpwood consumer	11
Primarily nonpulpwood consumer	6
County Land Departments	9
Minnesota Department of Natural Resources	1
USDA Forest Service	1
Minnesota Forest Resources Council	1
<b>Contacts outside of Minnesota (US program headquarters)</b>	
Sustainable Forestry Initiative (SFI)	1
Forest Stewardship Council (FSC)	1

The survey recipients represented organizations from the logging industry with interests and concerns which differed widely. Their responses reflected this diversity, sometimes yielding incoherent results when all of the data was considered as a whole. Therefore, we have categorized the useful responses into three groups which reflect their main organizational focus: ten “public land management agencies,” eleven “pulpwood consuming mills” and six “other mills.” Other mills included businesses which purchase roundwood for the purposes of manufacturing products such as lumber, veneer, cabin logs, posts, and poles. For each question, data analysis was performed for both the overall response and the breakout analysis which considered the three types of organizations. Where appropriate, both results are presented below. This presented a stronger interpretation of the information we received than would have been available for either analysis alone.

The survey contained questions addressing certification, tracking of wood origin, training requirements for logging business owners, employees and contractors, and field documentation. A combination of question formats was used, including multiple choice, fill-in-the-blank and

open-ended comments. Prior to mailing, the survey was reviewed and approved by the Institutional Review Board at the University of Minnesota.

A reminder postcard (Appendix 3) was sent to everyone approximately one week after the initial mailing. A second mailing via e-mail to nonrespondents, preceded by a reminder letter from Dave Chura (Appendix 4), occurred approximately four weeks after the initial mailing. In mid-June the remaining outstanding survey recipients were contacted by telephone and a personal request made for their participation. Two respondents agreed to a telephone interview in-lieu of the written response. Final contacts were made in August by e-mail and telephone.

Respondents were considered as those who returned a survey or corresponded with us regarding their participation. Total respondents divided by total surveys mailed yielded the response rate. Useful data surveys were defined as those that contributed information. Total useful data surveys divided by total responses received yielded the useful response rate.

Survey responses were entered into Excel to assist with data analysis and reporting. To avoid having several similar “Other” responses, where two or more respondents wrote in similar responses that were not already included as options within the survey, a new response category was created. While Questions 13–15 included separate areas to enter training requirements for in-woods employees and logging subcontractors, respondents did not differentiate their response between those two groups. As a result, the analysis and reporting for those three questions only presents one set of results which is intended to address both groups. Because of some reported differences in Question 16, in-woods employee and logging subcontractor groups were not combined.

Responses to survey Question 1 (the type of certification program involvement) were cross-referenced with Question 4 (MLEP membership requirements), 6 (general training requirements), 13 (training requirements for stumpage operators), 14 (training requirements for contract operators on agency land), and 15 (training requirements for open market suppliers). Responses to several questions were also summarized by the three groups of organizations participating in the survey (i.e., public land management agencies, pulpwood consuming mills, and other mills).

## Results

Responses were received from 30 individuals, a response rate of 96.8%. Three respondents indicated that their organization had no input into logger education and so did not provide any answers. This left 27 useful data surveys for a useful response rate of 90%.

**Question 1—Select the certification/environmental management program of your affiliation.** (Overall n=27; public land management agencies n=10, pulpwood consuming mills n=11, other mills n=6)

Overall, the Sustainable Forestry Initiative (SFI) had the highest level of affiliation among respondents (Table 2) and more than half of the respondents were certified by two or more programs. Two respondents were not certified by anyone.

**Table 2.** Summary of overall and breakdown by respondent category for affiliation with certification or environmental management programs. (n=27)

Certification or environmental management program <sup>a</sup>	Overall (n=27)	Respondent category		
		Public land management agencies (n=9)	Pulpwood consuming mills (n=11)	Other mills (n=6)
SFI only	9	1	5	3
FSC only	3	3	0	0
ISO 14001 only	0	0	0	0
Other only	2	0	0	2
SFI and FSC	4	4	0	0
SFI and ISO	5	1	4	0
SFI and Other	1	0	1	0
SFI, FSC and ISO	1	0	1	0
None	2	1	0	1

<sup>a</sup>Other programs included Scientific Certification Systems (SCS - reclaimed, recovered and recycled content), “green” certification, and adherence to state best management practices (BMPs).

Twenty respondents indicated that they were SFI certified (Table 2). Nine were affiliated only with that program. Eight respondents were certified through the Forest Stewardship Council (FSC). Three of those respondents only had FSC certification. All six respondents who indicated that they were certified through the International Organization for Standardization (ISO) 14001 were dual-certified through one or more additional programs. Three respondents were certified through a total of five different “Other” programs including Scientific Certification Systems (SCS—reclaimed, recovered and recycled content), “green” certification, and adherence to state best management practices (BMPs). Four respondents reported joint certification by SFI and FSC, five by both SFI and ISO 14001, one by SFI and “Other,” and one respondent reported joint certification by SFI, FSC and ISO 14001.

The breakout analysis by respondent category showed that six out of the ten public land management agencies claimed SFI certification and seven were certified through FSC. One had SFI alone, three FSC alone, one joint SFI/ISO 14001, and four were joint SFI/FSC certified. One public land management agency replied “None at this time.” All but one public land management agency had some combination of SFI and/or FSC certification. All of the 11 pulpwood consuming mills had SFI certification—four with dual certification through SFI and ISO 14001, one with SFI/FSC/ISO 14001, one with SFI and FSC dual certification and one with SFI/“Other” (SCS) joint certification. Half of the other mills have SFI affiliation (three out of the six in this category); two stated “Other” (green certification and BMPs) and one replied “None at this time.”

**Question 2—Do you accept delivery of wood from gatewood suppliers?** (Overall n=26; public land management agencies n=9, pulpwood consuming mills n=11, other mills n=6)

For the purposes of this survey, a gatewood supplier was defined as being a “Supplier who does not have a contract with the mill.” Of the 26 respondents, 11 considered this question to be “Not applicable,” eight did not accept wood from gatewood suppliers, and seven did accept delivery from gatewood suppliers (Table 3).

**Table 3.** Summary of level of wood delivery accepted from gatewood suppliers, by respondent category.

Delivery accepted	Overall (n=26)	Respondent category		
		Public land management agencies (n=9)	Pulpwood consuming mills (n=11)	Other mills (n=6)
Yes	7	0	5	2
No	8	0	6	2
Not applicable	11	9	0	2

The nine responding public land management agencies all answered “Not applicable” (Table 3). Five pulpwood consuming mills did accept wood from gatewood suppliers and six did not. Of the other mills, two accepted gatewood deliveries, two did not, and two answered “Not applicable.”

**Question 3—Do you track the origin of delivered wood?** (Overall n=26; public land management agencies n=9, pulpwood consuming mills n=11, other mills n=6)

Overall, 15 respondents indicated that they track the origin of delivered wood, one answered “No,” and ten responded “Not applicable” (Table 4). Twelve tracked the origin by type of ownership, ten by specific location of the timber sale, and three by “other” means (i.e., permit name or number, landowner name, and familiarity with suppliers and their sites). Nine respondents tracked the origin of delivered wood by type of ownership and a second method. One respondent tracked the origin of delivered wood by three methods (type of ownership, location and permit name or number).

**Table 4.** Summary of overall and breakdown by respondent category for tracking the origin of delivered wood. (n=26)

Origin of delivered wood <sup>a</sup>	Overall (n=26)	Respondent category		
		Public land management agencies (n=9)	Pulpwood consuming mills (n=11)	Other mills (n=6)
By type of ownership only	3	0	2	1
By specific location only	3	0	0	3
By other method only	0	0	0	0
By type of ownership and specific location	6	0	6	0
By type of ownership and other method	2	0	1	1
By type of ownership, specific location, and other method	1	0	1	0
No	1	0	1	0
Not applicable	10	9	0	1

<sup>a</sup>Other means of tracking the origin of delivered wood included permit name or number, landowner name, and familiarity with suppliers and their sites.

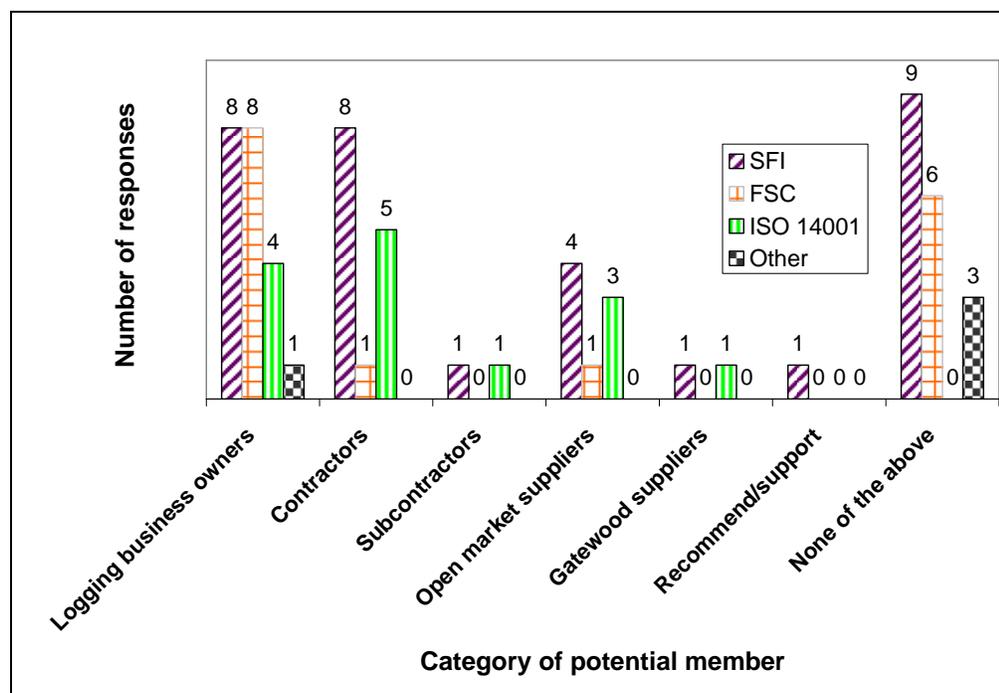
All nine public land management agencies answered “Not applicable” (Table 4). Ten pulpwood consuming mills reported that they track the origin of delivered wood and one did not. All ten of the pulpwood consuming mills track the origin of delivered wood by ownership. In addition to using that tracking method, eight pulpwood consuming mills use one or more additional methods of tracking (seven mills also tracked the origin by specific location and two also used “other” means (permit and landowner name)). Five other wood consuming mills track the origin of

delivered wood; one by ownership alone, one by ownership and “other” (“we are familiar with our suppliers and their sites”), three by location, and one answered “Not applicable.”

**Question 4–Who do you require to be a member of MLEP?** (Overall n=27; public land management agencies n=10, pulpwood consuming mills n=11, other mills n=6)

In the overall analysis, fourteen respondents did not require MLEP membership of logging business owners, contractors, open market suppliers, or gatewood suppliers. Nine required membership for logging business owners. Eight extended the membership requirement to contractors, four to open market suppliers, one to gatewood suppliers and one to other (subcontractors). Six programs reported having membership requirements for more than one category. All six respondents required membership for both logging business owners and contractors. Four of those six respondents also required open market suppliers to be members. One of the four also required gatewood suppliers to be MLEP members. One respondent required logging business owners, contractors, and subcontractors to be members of MLEP. One respondent indicated that they recommend and support MLEP membership.

A substantial number of respondents with SFI and/or FSC certification did not require MLEP membership for logging business owners, contractors, open market suppliers, or gatewood suppliers (Figure 1). In contrast, eight respondents with SFI and FSC certification and four with ISO 14001 did require logging business owners to have MLEP membership. Contractors were required to be MLEP members by eight respondents with SFI certification and five with ISO 14001. Open market suppliers were required to be MLEP members by four respondents with SFI certification and three with ISO 14001. Gatewood suppliers were required to be MLEP members by one SFI and one ISO 14001. Open market suppliers were required to be MLEP members by four SFI and three ISO 14001 certification programs.



**Figure 1.** Overall MLEP membership requirements for various categories of potential members, by type of certification program. Respondents could require membership of more than one category of potential member. (n=27)

Eight public land management agencies had no MLEP membership requirements; one required membership for logging business owners, contractors and subcontractors; and one recommended membership (Table 5). All except one public land management agency was certified by at least one certification/environmental management program. Eight pulpwood consuming mills required membership for at least one category of logging personnel. Six cited logging business owners, six contractors, four open market suppliers, and one gatewood suppliers. One pulpwood consuming mill recommended membership and two had no membership requirement. All of these pulpwood consuming mills were SFI certified, with seven holding more than one affiliation with a certification organization. One other mill required only logging business owners to be a member of MLEP, one required both logging business owners and contractors to be members, and four had no membership requirements. Five of these other mills also held some type of certification affiliation.

**Table 5.** Summary of MLEP membership requirements for various categories of potential members, by respondent category. Respondents could require membership of more than one category of potential member.

Category of potential member	Respondent category		
	Public land management agencies (n=10)	Pulpwood consuming mills (n=11)	Other mills (n=6)
Logging business owners	1	6	2
Contractors	1	6	1
Subcontractors	1	0	0
Open market suppliers	0	4	0
Gatewood suppliers	0	1	0
Recommend/support	1	1	0
None of the above	8	2	4

### Question 5–How do you track/verify logger participation in MLEP training?

(Overall n=26; public land management agencies n=9, pulpwood consuming mills n=11, other mills n=6)

Twenty-one respondents tracked MLEP participation and five do not track participation (Table 6). Both the MLEP Quarterly Report and the annual directory were used by 12 respondents as tracking methods. “Other” methods, reported by five respondents were: e-mail to the MLEP office, knowledge of suppliers, application form, and MLEP website. Three used three methods of tracking; seven used two methods.

**Table 6.** Summary of tracking approaches used to verify logger participation in MLEP training, by respondent category. Respondents could use more than one method to track participation.

Tracking conducted	Overall (n=26)	Respondent category		
		Public land management agencies (n=9)	Pulpwood consuming mills (n=11)	Other mills (n=6)
MLEP Quarterly Report	12	5	7	0
MLEP Annual Directory	12	5	6	1
Other <sup>a</sup>	5	1	3	1
None	5	1	0	4

<sup>a</sup>Other means of tracking logger participation were e-mail to the MLEP office, knowledge of suppliers, application form, and MLEP website.

**Question 6—Who do you require to attend ANY logger training?** (Overall n=27; public land management agencies n=10, pulpwood consuming mills n=11, other mills n=6)

Overall, 13 respondents said they did not require any logger training (Table 7). Nine required logging business owners to attend training, six required at least one in-woods employee to receive training, and seven required more than one of the categories to receive training. Two “other” categories were cited a total of three times: procurement staff (twice) and contract loggers.

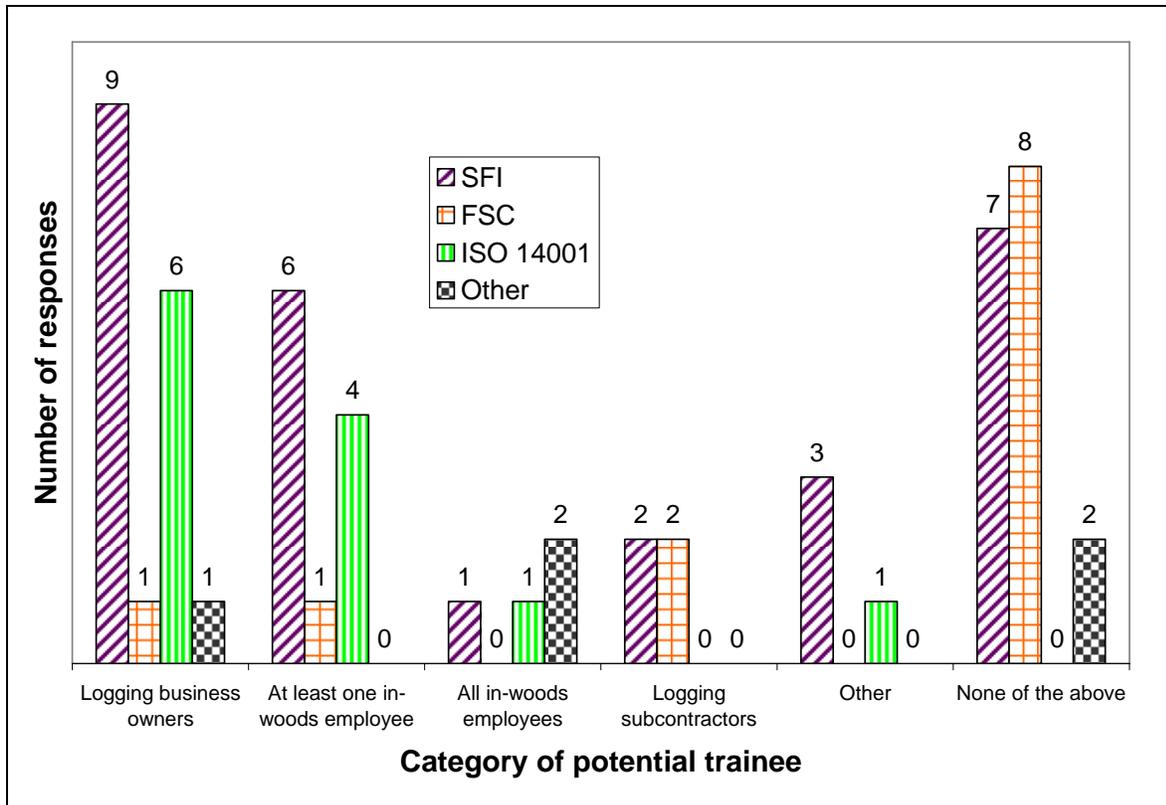
**Table 7.** Summary of training requirements for various categories of potential trainees, by respondent category. Respondents could require training of more than one category of potential trainee.

Category of potential trainee	Overall (n=27)	Respondent category		
		Public land management agencies (n=10)	Pulpwood consuming mills (n=11)	Other mills (n = 6)
Logging business owners	9	1	8	0
At least one in-woods employee	6	1	4	1
All in-woods employees	3	0	1	2
Logging subcontractors	2	0	2	0
Other <sup>a</sup>	3	0	2	1
None of the above	13	9	2	2

<sup>a</sup>Procurement staff (twice) and contract loggers.

A substantial number of respondents with SFI (seven) and FSC (eight) certification did not require any logger training (Figure 2). However, nine respondents with SFI certification required training of logging business owners, as did six respondents certified under ISO 14001. Six SFI and four ISO 14001 respondents required at least one in-woods employee to receive training. Few FSC programs required any logger training.

Nine of ten public land management agencies did not require any logger training, with one holding the requirement for logging business owners and at least one in-woods employee to be trained (Table 7). Nine out of ten public land management agencies also belonged to at least one of SFI and FSC. All except two pulpwood consuming mills held training requirements: eight for logging business owners, four for at least one in-woods employee, one for all in-woods employees, two each for logging subcontractors and other (contract loggers and procurement staff). Six of these pulpwood consuming mills held requirements for two or more personnel. All pulpwood consuming mills belonged to SFI, with six belonging to more than one certification program. Four of the six other mills had training requirements for at least one in-woods employee (one), all in-woods employees (two), and other (procurement staff). Five other mills belonged to a certification program.



**Figure 2.** Overall frequency of potential trainee categories that are required to attend logger education training, by type of certification program. Respondents could require training of more than one category of potential trainee. (n=27)

**Question 7–Do you require logging business owners to attend training in addition to what is provided by MLEP?** (Overall n=27; public land management agencies n=10, pulpwood consuming mills n=11, other mills n=6)

Seven respondents answered that they require logging business owners to attend additional training beyond what is provided by MLEP (Table 8). The additional training included ISO 14001 (i.e., ISO 14001—General, environmental awareness, loggers-roads-harvests, silviculture contractors, contractor refresher course) and requirements specific to each respondent (e.g., We conduct a pre-work meeting with all contract holders and review our requirements, we require occasional company-specific training, LogSafe training). Twenty reported they do not require additional training. One respondent who answered “no” offered this explanation: “We require performance measures to meet site-specific forest management prescriptions which are too numerous to describe.”

Nine out of ten public land management agencies respondents did not require additional training for logging business owners, while one did (Table 8). Five pulpwood consuming mills did require more training, six did not. One other mill required more training, five did not.

**Table 8.** Summary of requirements for additional training beyond what is provided by MLEP, by respondent category.

Additional training required	Overall (n=27)	Respondent category		
		Public land management agencies (n=10)	Pulpwood consuming mills (n=11)	Other mills (n=6)
Yes	7	1	5	1
No	20	9	6	5

**Question 8—Do you offer your own logger training programs, and if so—who do you require to attend?** (Overall n=27; public land management agencies n=10, pulpwood consuming mills n=11, other mills n=6)

Twenty-one respondents did not offer their own logger training programs (Table 9). The remaining six require attendance of logging business owners (three), all in-woods employees (three) and at least one in-woods employee (one). Two respondents required both logging business owners and all in-woods employees to attend. One respondent stated that no one is required to attend, but owners and permanent employees were invited.

**Table 9.** Summary of training programs offered by respondents for various categories of potential trainees, by respondent category. Respondents could offer training for more than one trainee category.

Category of potential trainee	Overall (n=27)	Respondent category		
		Public land management agencies (n=10)	Pulpwood consuming mills (n=11)	Other mills (n=6)
Logging business owners	3	0	3	0
At least one in-woods employee	1	0	0	1
All in-woods employees	3	0	2	1
Logging subcontractors	0	0	0	0
Not required	0	0	0	0
Other <sup>1</sup>	1	0	1	0
Not offered	21	10	7	4

<sup>1</sup> Owners and permanent employees are invited, but not required, to attend.

No public land management agencies reported offering their own logger training program (Table 9). Seven pulpwood consuming mills did not offer their own training; four did with required attendance for business owners and all in-woods employees by two respondents, only owners by one, and one respondent that invites but does not require logging business owners and permanent employees to attend. For the other mills, four companies did not offer their own logger training programs and two did with one requiring at least one in-woods employee and another requiring all in-woods employees to attend.

**Question 9—What are your training requirements for contract logging business owners who purchase stumpage from you?** (Overall n=27; public land management agencies n=10, pulpwood consuming mills n=11, other mills n=6)

Sixteen respondents answered “Not applicable” and six answered “None” (Table 10). Five respondents did have training requirements. All five respondents either required or highly recommended MLEP membership. Each also required one of the following: BMP training, SFI

program attendance, LogSafe or FISTA (Forest Industry Safety Training Alliance) training for Wisconsin contractors. Miscellaneous comments included: (1) must complete MLEP training within one year and (2) review all of our EMS (Environmental Management System) training.

**Table 10.** Summary of training requirements for contract logging business owners who purchase stumpage from the respondent, by respondent category.

Training requirement	Overall (n=27)	Respondent category		
		Public land management agencies (n=10)	Pulpwood consuming mills (n=11)	Other mills (n=6)
Yes	5	1	3	1
Not applicable	16	4	8	4
None	6	5	0	1

Four of the public land management agencies responded “Not applicable” and five had no requirements for logging business owners (Table 10). One public land management agency did have requirements and gave this information: “for owners and foremen: logger education from a recognized program, and for field employees: BMP training.” Eight pulpwood consuming mills answered “Not applicable,” however, three did have the following requirements: review all EMS training; encourage MLEP training and knowledge of BMPs; must have MLEP training or complete within one year. The other mills category had four “Not applicable,” one with no requirements, and one requested that the owners attend MLEP training and SFI programs.

**Question 10–What are your training requirements for contract logging business owners who harvest on your organization’s lands?** (Overall n=27; public land management agencies n=10, pulpwood consuming mills n=11, other mills n=6)

Overall, 13 respondents indicated “Not applicable” and five answered “None” (Table 11). Nine respondents did have training requirements. MLEP was either requested or required by four respondents. At least one respondent requested or required training in BMPs, company ISO 14001 requirements, FISTA for Wisconsin contractors, log quality and log specifications, or SFI attendance.

**Table 11.** Summary of training requirements for logging business owners who harvest timber on the respondent’s lands, by respondent category.

Training requirement	Overall (n=27)	Respondent category		
		Public land management agencies (n=10)	Pulpwood consuming mills (n=11)	Other mills (n=6)
Yes	9	1	4	4
Not applicable	13	5	7	1
None	5	4	0	1

Five public land management agencies responded “Not applicable,” four “None,” and one gave this information (Table 11): “for owners and foremen: logger education from a recognized program, and for field employees: BMP training.”

Seven of the pulpwood consuming mills answered “Not applicable,” with four more stating the following requirements (Table 11):

- The owners are required to have MLEP plus company ISO14001 training; 95% of wood purchases comes from loggers with MLEP or comparable certification,
- We strongly encourage MLEP training, knowledge of BMPs, FISTA for Wisconsin contractors, sale map, sale requirements and silvicultural prescriptions, and
- MLEP training (2 responses).

One other mill answered “Not applicable,” one “None,” and four supplied the following requirements (Table 11):

- We train on log quality, specifications, etc.,
- MLEP membership and LogSafe,
- We request they attend MLEP training and SFI programs, and
- Harvesting guidelines, residual tree requirement, regeneration considerations.

**Question 11–What are your training requirements for open market and gatewood logging business owners who deliver wood to your mill?** (Overall n=27; public land management agencies n=10, pulpwood consuming mills n=11, other mills n=6)

For the purposes of this survey, an open market supplier was defined as being a “Supplier who has a contract to harvest and deliver wood to the mill from sales that are not owned by the mill.” Twelve respondents indicated “Not applicable” and three reported “None” (Table 12). However, 12 respondents indicated training requirements for this group of owners with MLEP membership required by 11 respondents. Additional training cited were BMPs, FISTA for Wisconsin contractors, sustainable forest practices, SFI, and LogSafe.

**Table 12.** Summary of training requirements for open market and gatewood logging business owners who deliver wood to a consuming mill, by respondent category.

Training requirement	Overall (n=27)	Respondent category		
		Public land management agencies (n=10)	Pulpwood consuming mills (n=11)	Other mills (n=6)
Yes	12	0	11	1
Not applicable	12	9	0	3
None	3	1	0	2

Nine public land management agencies responded “Not applicable” responses and one “None” (Table 12). All 11 pulpwood consuming mills held requirements for open market and gatewood business owners, giving the same comments as in the previous question. Three other mills answered “Not applicable,” two “None,” with one company requesting that owners attend MLEP training and SFI programs.

**Question 12–What new training requirements for logging business owners do you foresee in the future?** (Overall n=25; public land management agencies n=10, pulpwood consuming mills n=9, other mills n=6)

Nine respondents answered “Not applicable,” seven answered “None,” and nine did foresee new training requirements (Table 13). New training requirements are identified in Table 14.

**Table 13.** Summary of new training requirements for logging business owners in the future, by respondent category.

Training requirement	Overall (n=25)	Respondent category		
		Public land management agencies (n=10)	Pulpwood consuming mills (n=9)	Other mills (n=6)
Yes	9	4	2	3
Not applicable	9	3	5	1
None	7	3	2	2

**Table 14.** Summary of new training requirements and associated comments identified for logging business owners, by respondent category.

Type	Specific requirement or comment	Respondent category		
		Public land management agency	Pulpwood consuming mill	Other mill
New training requirement	Safety, fueling management, harvest limitations, etc. relative to certification programs	X		
	Owners, purchasers, subcontractors: MLEP; workers: BMPs	X		
	Forest and environmental management certification	X		
	Safety for wood yards + trucking; more BMP + guideline training; better wood utilization training		X	
	How to meet product specifications for various markets			X
	New regulations restricting seasonal logging activity; more endangered species training			X
	Site prep and regeneration considerations: one full day (½ classroom, ½ field)			X
Comments	In the next 3 to 5 years we need to develop an effective method for communicating legal requirements, threatened and endangered species and emergency response that owners can retain and implement	X		
	Conduct drills in fire, accidents, spills and follow up with evaluations for effectiveness; then conduct additional drills in areas which need improvement		X	

Three public land management agencies responded “Not applicable,” three “None,” and four indicated future training requirements (Table 14). Five pulpwood consuming mills answered “Not applicable,” two “None,” and two identified future requirements. One other mill answered “Not applicable,” two “None,” and three offered their future requirements.

**Question 13–What are your training requirements for in-wood employees and subcontractors of contract business owners who purchase stumpage from you?** (Overall n=26; public land management agencies n=10, pulpwood consuming mills n=11, other mills n=5)

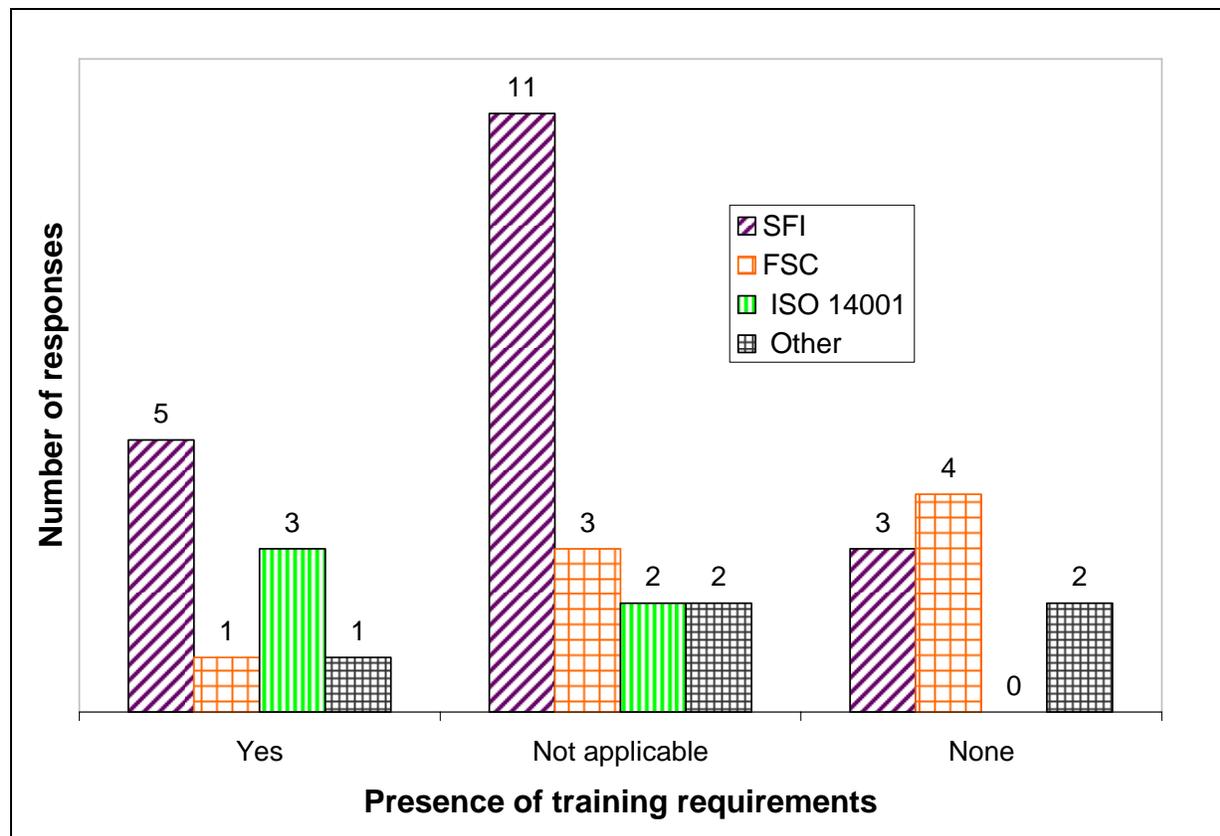
Seven respondents identified training requirements for in-wood employees and subcontractors of contract business owners who purchase stumpage from the respondent (Table 15). Twelve answered “Not applicable” and seven answered “None.” The seven respondents who identified training requirements also belonged to at least one certification program.

**Table 15.** Summary of presence of training requirements for in-woods employees and subcontractors of contract business owners who purchase stumpage from the respondent, by respondent category.

Training requirements identified	Overall (n=26)	Respondent category		
		Public land management agencies (n=10)	Pulpwood consuming mills (n=11)	Other mills (n=5)
Yes	7	3	4	0
Not applicable	12	2	7	3
None	7	5	0	2

Three public land management agencies identified training requirements, two indicated “Not applicable,” and five reported “None” (Table 15). Four pulpwood consuming mills reported requirements and seven indicated “Not applicable.” No other mills had training requirements for this audience, three answered “Not applicable,” and two answered “None.”

SFI and ISO 14001 certified respondents were most likely and FSC and Other certification program respondents least likely to have training requirements for in-woods employees and subcontractors of contract business owners who purchase stumpage from the respondent (Figure 3).



**Figure 3.** Overall presence of training requirements for in-woods employees and subcontractors of contract business owners who purchase stumpage from the respondent, by type of certification program. Respondents could belong to more than one type of certification program. (n=26)

The following comments were provided by respondents who require training for in-woods employees and subcontractors of contract business owners who purchase stumpage from the respondent. Comments are cross-referenced to the respondent’s type of certification program.

Public land management agencies:

- We require specific performance measures to meet forest management prescriptions on a site-specific basis (FSC),
- BMP training for all field employees; recognized logger education training for all foremen (FSI, ISO 14001), and
- Guideline training and other training that is relevant to our needs (Other).

Pulpwood consuming mills:

- At least one in-woods employee/subcontractor must have all MLEP certification in the event the contract holder is not on-site (SFI, ISO 14001),
- We encourage MLEP training, knowledge of BMPs, FISTA for WI contractors, sale maps, sale requirements and silvicultural prescriptions (SFI),
- At least one in-woods employee per crew must be trained to SFI SIC standards (SFI, ISO 14001), and
- We encourage MLEP training (SFI).

While no other mills had training requirements, one provided the following comment:

- Training is hard to come by, because very little is offered at this end of the state. Location is important, and classes are just not offered close enough. We would need them to be at a location less than a four-hour (one-way) drive (Not certified).

**Question 14–What are your training requirements for in-woods employees and subcontractors of contract business owners who harvest on your company’s lands?** (Overall n=26; public land management agencies n=10, pulpwood consuming mills n=11, other mills n=5)

Fourteen respondents answered “Not applicable,” five answered “None,” and seven did have training requirements for in-woods employees and subcontractors of contract business owners who harvest on the respondent’s lands (Table 16).

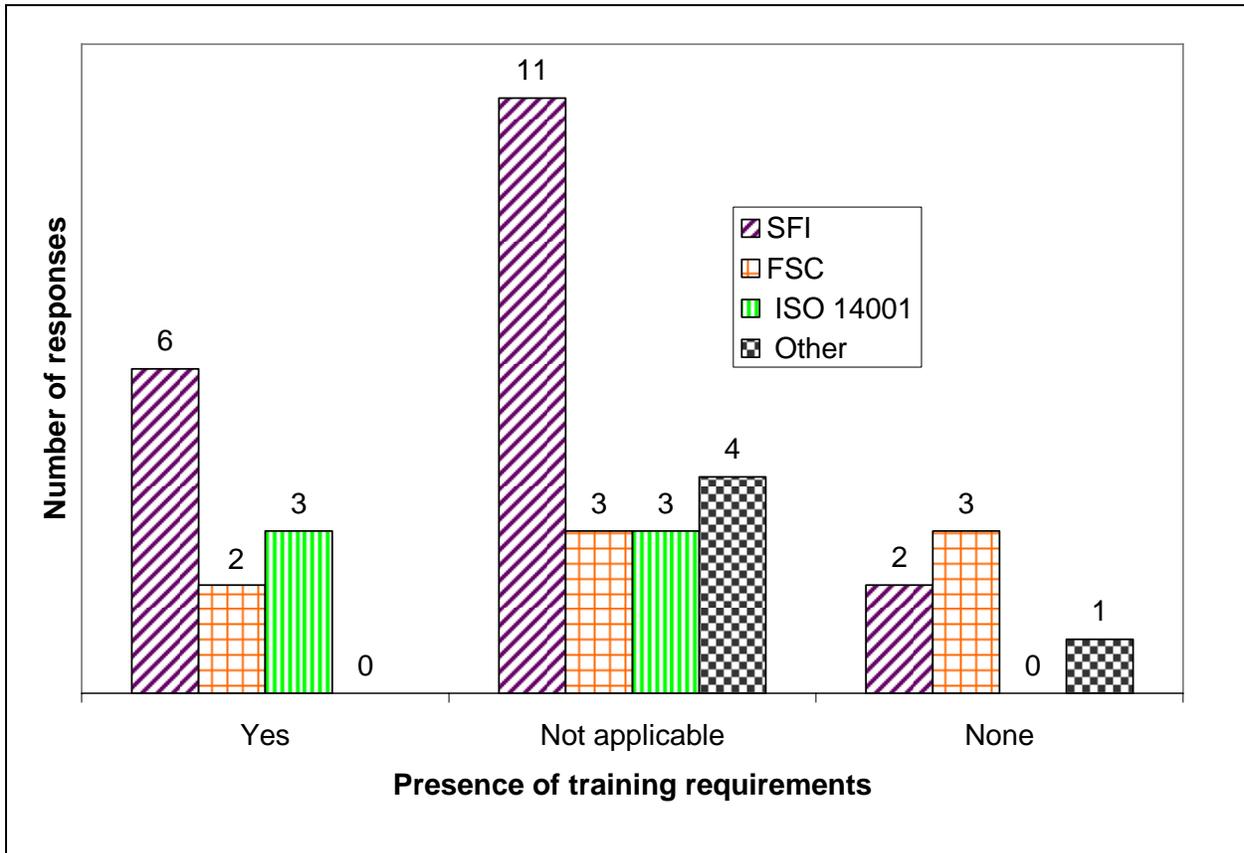
**Table 16.** Summary of presence of training requirements for in-woods employees and subcontractors of contract business owners who harvest timber on the respondent’s lands, by respondent category.

Training requirements identified	Overall (n=26)	Respondent category		
		Public land management agencies (n=10)	Pulpwood consuming mills (n=11)	Other mills (n=5)
Yes	7	2	4	1
Not applicable	14	4	7	3
None	5	4	0	1

Two public land management agencies noted having requirements for in-woods employees and subcontractors of contract business owners who harvest timber on the respondent’s lands, four indicated “Not applicable,” and four responded “None” (Table 16). Four pulpwood consuming

mills identified having training requirements and seven answered “Not applicable.” One other mill had requirements, three answered “Not applicable,” and one answered “None.”

SFI and ISO 14001 certified respondents were most likely and FSC and Other certification program respondents least likely to have training requirements for in-woods employees and subcontractors of contract business owners who harvest on the respondent’s company lands (Figure 4).



**Figure 4.** Overall presence of training requirements for in-woods employees and subcontractors of contract business owners who harvest timber on the respondent’s lands, by type of certification program. Respondents could belong to more than one type of certification program. (n=26)

The following comments were provided by respondents who require training for in-woods employees and subcontractors of contract business owners who harvest timber on the respondent’s lands. Comments are cross-referenced to the respondent’s type of certification program.

Public land management agencies:

- We require specific performance measures to meet forest management prescriptions on a site-specific basis (FSC), and
- Recognized LE training for foremen; BMPs for all field employees (SFI, ISO 14001).

Pulpwood consuming mills (one respondent did not provide any comments):

- No subcontractors used; in-woods employees must have ISO 14001 training (i.e., general, environmental awareness, loggers/roads/harvests, silviculture contractors, contractor refresher course) (SFI, ISO 14001),
- MLEP training (SFI), and
- We encourage MLEP training, knowledge of BMPs, FISTA for WI contractors, sale maps, sale requirements and silvicultural prescriptions (SFI).

Other mills:

- Harvesting guidelines, residual tree requirement, regeneration considerations. (SFI)

**Question 15–What are your training requirements for in-woods employees and subcontractors of open market and gatewood logging business owners who deliver wood to your mill?** (Overall n=25; public land management agencies n=10, pulpwood consuming mills n=10, other mills n=5)

Overall, 14 respondents answered “Not applicable,” four said they had no training requirements, and seven respondents required training for in-woods employees and subcontractors of open market and gatewood logging business owners who deliver wood to the respondent’s mill (Table 17).

**Table 17.** Summary of presence of training requirements for in-woods employees and subcontractors of open market and gatewood logging business owners who deliver wood to the respondent’s mill, by respondent category.

Training requirements identified	Overall (n=25)	Respondent category		
		Public land management agencies (n=10)	Pulpwood consuming mills (n=10)	Other mills (n=5)
Yes	7	0	7	0
Not applicable	14	9	2	3
None	4	1	1	2

No public land management agency indicated training requirements for this audience, nine reported “Not applicable,” and one responded “None” (Table 17). Seven pulpwood consuming mills identified training requirements, two answered “Not applicable,” and one responded “None.” No other mills had requirements, three answered “Not applicable,” and two indicated “None.”

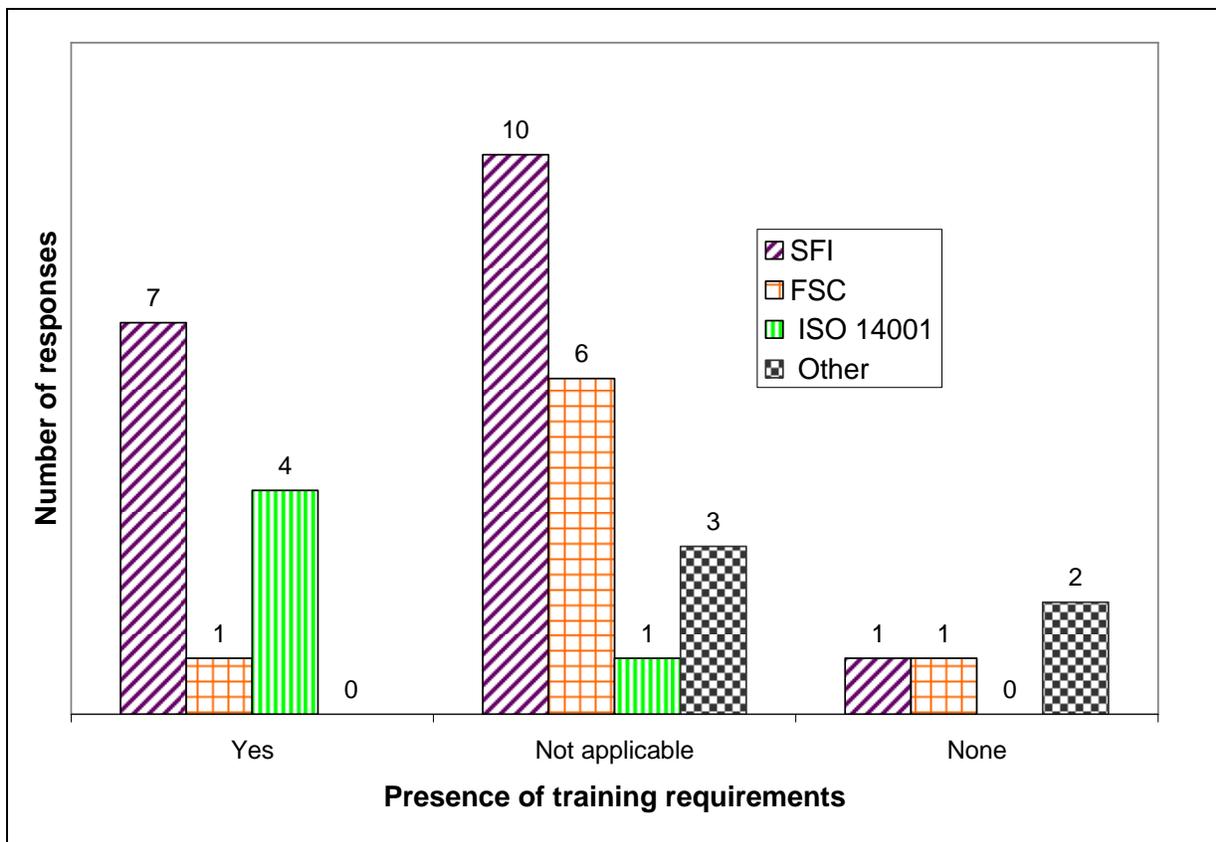
SFI and ISO 14001 certified respondents were most likely and FSC and Other certification program respondents least likely to have training requirements for in-woods employees and subcontractors of open market and gatewood logging business owners who deliver wood to the respondent’s mill (Figure 5).

The following comments were provided by pulpwood consuming mill respondents who require training for in-woods employees and subcontractors of contract business owners who harvest timber on the respondent’s lands.

- No subcontractors used; we encourage logging owners to send all employees to MLEP training (SFI, ISO),

- No gatewood accepted; open market vendors are required to show proof of current eligibility as shown in MLEP directory (SFI, ISO),
- MLEP training (SFI),
- We encourage MLEP training, knowledge of BMPs, FISTA for WI contractors, sale map, sale requirements and silvicultural prescriptions (SFI),
- At least one person per crew must have SFI SIC sanctioned training (SFI, ISO),
- No subcontractors used; at least one person trained in MLEP must be present on the job (SFI, FSC, ISO), and
- We encourage all personnel to attend MLEP training (SFI).

Additionally, one public land management agency (FSC certified) who responded “None” indicated that “We require performance measures to meet forest management prescriptions on a site-specific basis.”



**Figure 5.** Overall presence of training requirements for in-woods employees and subcontractors of open market and gatewood logging business owners who deliver wood to the respondent’s mill, by type of certification program. Respondents could belong to more than one type of certification program. (n=25)

**Question 16–What new training requirements for in-woods employees and subcontractors of logging business owners do you foresee in the future?** (Overall n=19; public land management agencies n=8, pulpwood consuming mills n=7, other mills n=4)

Nine respondents saw no new training for in-woods employees of logging business owners in the future, two felt this question was “Not applicable,” and eight respondents noted future

requirements (Table 18). For subcontractors of logging business owners, eleven respondents again saw no new training, two felt this question was “Not applicable,” and six respondents noted future requirements.

**Table 18.** Summary of presence of new training requirements for in-woods employees and subcontractors of logging business owners in the future, by respondent category.

New training requirements identified	Overall (n=19)	Respondent category		
		Public land management agencies (n=8)	Pulpwood consuming mills (n=7)	Other mills (n=4)
<b>In-woods employees</b>				
Yes	8	2	4	2
Not applicable	2	1	1	0
None	9	5	2	2
<b>Subcontractors</b>				
Yes	6	2	2	2
Not applicable	2	1	1	0
None	11	5	4	2

For both in-woods employees and subcontractors, five public land management agencies did not foresee any new training requirements and two did identify new training requirements (Table 18). The new training requirements identified by those two respondents are noted below. In addition, one respondent replied “Until we address the requirements of forest certification we can not know what we need.”

- For both groups, training on threatened and endangered species, native cultural sites and recognition of the 1854 treaty authority.
- For in-woods employees, BMPs and basic guidelines. For subcontractors, MLEP.

For pulpwood consuming mills, four respondents identified new training requirements for in-woods employees and two respondents identified new requirements for subcontractors (Table 18). Those new requirements are noted below.

- For in-woods employees, continued training on new BMP for environmental risks and new legal requirements.
- For in-woods employees, BMP training—a one- to two-week program.
- For both groups, training will be whatever is recommended by SFI and the SIC.
- For in-woods employees, wood utilization training. For subcontractors, BMP and guideline training.

For other mills, two respondents identified new training requirements for in-woods employees and subcontractors (Table 18). The new training requirements identified by those two respondents are noted below.

- Site preparation and regeneration considerations: one full day (½-day classroom, ½-day field).
- LogSafe, first aid, truck driving and GPS.

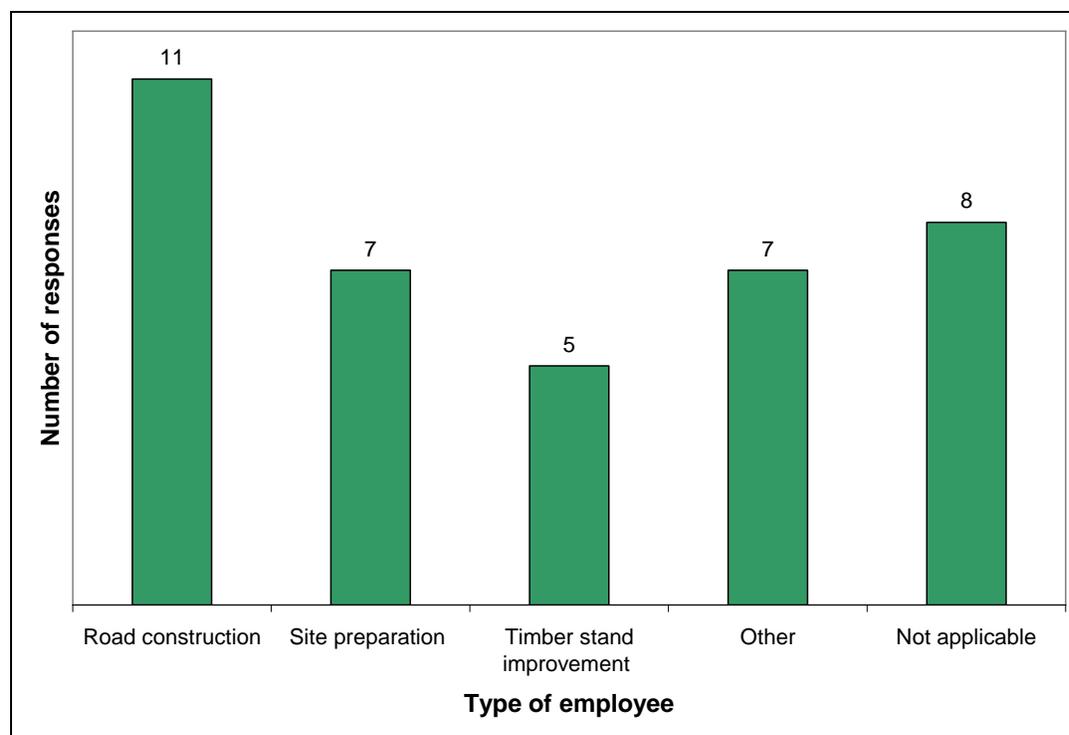
A summary of the recommended new training requirements for in-woods employees and subcontractors of logging business owners is presented in Table 19.

**Table 19.** Summary of new future training requirements for in-woods employees and subcontractors of logging business owners.

Target audience		
In-woods employees	Subcontractors	Both in-woods employees and subcontractors
BMPs and basic guidelines	MLEP training	Threatened/endangered species
New BMP for environmental risks	BMP and guideline training	Native cultural sites
New legal requirements	MLEP training	Recognition of 1854 treaty authority
Wood utilization		Meet SFI recommendations
Site preparation and regeneration considerations		Site preparation and regeneration considerations
		LogSafe
		First aid
		Truck driving
		GPS

**Question 17–Do you have operational policies and/or training requirements for other in-woods employees who have not been previously mentioned?** (Overall n=21; public land management agencies n=8, pulpwood consuming mills n=9, other mills n=4)

Eight cited “Not applicable” and 13 cited other in-woods employees for whom they require training (Table 20). Five respondents cited all four categories of employees (i.e., road construction, site preparation, timber stand improvement, and other) and two cited two categories. Road contractors were cited by 11, site preparation by seven, timber stand improvement by five, and other by seven (Figure 6).



**Figure 6.** Overall presence of operational policies and/or training requirements for other in-woods employees, by type of employee. Respondents could have operational policies and/or training requirements for more than one type of other in-woods employees. (n=21)

**Table 20.** Summary of presence of operational policies and/or training requirements for other in-woods employees, by respondent category.

Other training requirements identified	Overall (n=21)	Respondent category		
		Public land management agencies (n=8)	Pulpwood consuming mills (n=9)	Other mills (n=4)
Yes	13	6	6	1
Not applicable	8	2	3	3

Four public land management agencies reported having operational policies and/or training requirements for all four listed options of in-woods workers and two indicated requiring one option each (road contractors and site preparation contractors each received one response) (Table 20). One pulpwood consuming mill had requirements for all four categories, one for road and site preparation contractors, one for road and “other;” two had road contractors alone, and one had “other” alone. One other mill cited road contractors. Respondents provided some specific following information regarding their additional operational policies and/or training requirements (Table 21).

**Table 21.** Summary of additional operational policies and/or training requirements and associated comments for other in-woods employees.

Type	Specific requirement or comment	Type of employee			
		Road contractors	Site preparation contractors	Timber stand improvement contractors	Other
Training requirements	ISO 14001 pertinent to company operations	X	X	X	X
	MN guidelines and BMPs	X			
	Laws, regulations, and silviculture				X <sup>a</sup>
	SFI certification policies				X
	SFI SIC sanctioned training for at least 1 person per crew	X			
Comments	Pesticide operators must have a current Minnesota commercial applicators license		X		
	Any contractor performing a service on company operations including woodyards	X			
	Policies are under development	X	X	X	X
	All must provide proof of insurance	X	X	X	X
	We require performance measures to meet forest management prescriptions on a site-specific basis	X	X	X	X
	All contractors have work instructions which are attached to the contract	X	X	X	X

<sup>a</sup>Procurement foresters.

**Question 18–Do you require the presence of specific written material on the worksite during logging operations?** (Overall n=26; public land management agencies n=9, pulpwood consuming mills n=11, other mills n=6)

Nine respondents replied that they do require the presence of specific written material on the worksite during logging operations and 17 replied “No” (Table 22). Seven public land management agencies replied “Yes” and two indicated “No.” Five pulpwood consuming mills answered “Yes” and six answered “No.” Two other mills answered “Yes” and four “No.”

**Table 22.** Summary of requirements for presence of specific written material on the worksite during logging operations, by respondent category.

Requirement for specific written material	Overall (n=26)	Respondent category		
		Public land management agencies (n=9)	Pulpwood consuming mills (n=11)	Other mills (n=6)
Yes	9	2	5	2
No	17	7	6	4

**Question 19–Do you support the development and use of a generic manual for Minnesota loggers which addresses the various logging procedures, standards and guidelines?** (Overall n=23; public land management agencies n=9, pulpwood consuming mills n=9, other mills n=5)

Twenty-two respondents did support the development and use of a generic manual for Minnesota loggers (Table 23). While this question only received one “No” response, a number of respondents did provide advice or express reservations with that effort.

**Table 23.** Summary of support for the development and use of a generic manual for Minnesota loggers which addresses the various logging procedures, standards and guidelines, by respondent category.

Support development and use of generic manual	Overall (n=23)	Respondent category		
		Public land management agencies (n=9)	Pulpwood consuming mills (n=9)	Other mills (n=5)
Yes	22	9	9	4
No	1	0	0	1

Nine public land management agencies and pulpwood consuming mills answered “Yes” and none responded “No” (Table 23). Four other mills answered “Yes,” and one answered “No.”

Comments to this question were supplied by nineteen respondents. A synopsis of these comments is presented below. A complete listing of their comments is presented in Appendix 5.

Why yes: Standardize and simplify

- It is important to standardize the messages to the logging community and resource managers.
- A generic manual would help with future certification of county and DNR land.
- A manual would simplify the wide variety of information presented.
- A standard text would lessen confusion among forest workers.
- This would eliminate the excuse of “I didn’t know” and “No one told me.”

Advice: Must be credible, brief, and simple

- First we need to determine if standards and guidelines COULD be standardized.

- A generic manual must be credible to industry, conservation groups and regulatory organizations.
- Certain areas lend themselves to a generic approach better than others: safety, storage of fuel and lubricants; spill cleanup.
- To be useful in the field, keep it brief and simple—hit the high points.
- Update the Forest Practices Guidebook—it has been well received.

Why No: Individuality and Duplication

- Each company has its own silviculture and utilization standards.
- It would appear that the site-level guidelines already serve this role.
- Frequent logger education covers these subjects.
- Most written material ends up on the truck floor.

**Question 20—Please use the following space to share any other important aspects of your operational policies and training requirements for logging business owners, their in-woods employees, and logging subcontractors which we have not addressed.** (Overall n=13; public land management agencies n=6, pulpwood consuming mills n=3, other mills n=4)

Additional comments were provided by thirteen respondents. See Appendix 6 for a complete transcription of those comments. General subjects addressed by those comments, number of comments (Table 24) and notable content are presented below.

**Table 24.** Summary of general topics of additional comments received, by respondent category. Respondents could provide multiple comments that were categorized into more than one category. (n=13)

Category of additional comment	Respondent category		
	Public land management agencies (n=6)	Pulpwood consuming mills (n=3)	Other mills (n=4)
Safety	0	0	1
Suggestions for training	1	0	1
Descriptions of training provided	1	1	0
Certification	3	1	1
Company policy	3	2	3

Safety

- Our best safety technique is a cell phone and the local helicopter.

Suggestions for training

- Location of training sessions is important.
- We need to develop a mechanism to compensate businesses for time/wages lost when employees are pulled out of the field for training.

Descriptions of training provided

- New employees of contractors who are harvesting on our permits or fee lands are required to receive our ISO training within 6 months of their start date.

- We have held GPS training sessions for any logger who wanted to attend.

### Certification

- We will be requiring more training in the next year as we become certified.
- We may require MLEP participation once we have attained SFI certification.
- Given that (a) forest certification will drive the need for logger training and (b) most public lands and NIPF lands are not currently certified—then until we address these requirements in forest certification, we cannot have a good scope of need.

### Company policy

- We strongly encourage and promote the benefits of MLEP, BMPs, and FISTA to all contractors.
- We are committed to continuous improvement and working safely, for ourselves, the loggers and the industry.
- As we review expectations and requirements for safety, harvest compliance, etc., we recognize the need for mandatory logger/contractor training requirements.
- We find good loggers and build a strong relationship with them. Choosing good contractors and treating them well is our strategy to maintain standards in the woods.

## **Summary**

Most respondents are certified by one or more certification systems. Overall, SFI is the most common certification system. Slightly more than half of the public land management agencies and pulpwood consuming mills are also certified by FSC, ISO 1401, or some Other certification system. About half of the responding mills accepted wood from gatewood suppliers. Most mills track the origin of delivered wood by type of ownership and/or specific location of the timber sale. Most of the pulpwood consuming mills use two methods of tracking the origin of their delivered wood.

SFI and FSC more frequently require logging business owners and contractors to become an MLEP member than other certification or environmental management systems. However, many respondents with SFI and/or FSC certification did not require MLEP membership for logging business owners, contractors, open market suppliers, or gatewood suppliers. Public land management agencies generally did not require membership in MLEP.

Respondents who do require MLEP membership generally require the logging business owner and/or contractors to be members. Respondents generally track MLEP membership using the membership directory and/or the MLEP Quarterly Report.

While mills generally do require loggers to attend training, public land management agencies generally do not require that training. Many of those public entities were certified under SFI or FSC. Logger training is most frequently required by SFI programs and least often by FSC programs. Where logger training is required, the logging business owner is generally the individual who is required to obtain that training. If additional training is required of logging business owners, it is generally required by pulpwood consuming mills and is ISO 14001 or requirements specific to each company.

Most respondents do not offer their own logger training program or have training requirements for contract logging business owners who purchase stumpage from the respondent. When respondents offer their own logger training program, they are always targeted to logging business owners and sometimes to in-woods employees.

Interestingly, two respondents (one pulpwood consuming mill and one other mill) who reported that they do not require logging business owners to attend training in addition to what is provided by MLEP (Question 7) reported that they do offer their own logger training programs (Question 8). Perhaps, the additional training programs offered are breakfasts or dinners where the mill provides updates to participants who are not required to attend. Also, three respondents (one public land management agency and two pulpwood consuming mills) who reported that they do require logging business owners to attend training in addition to what is provided by MLEP (Question 7) reported that they do not offer their own logger training programs. Perhaps, those respondents were thinking of LogSafe training which is not provided by MLEP.

Generally, respondents do not have their own training requirements for contract logging business owners who harvest on their lands. This is especially true for public land management agencies. All pulpwood consuming mills have training requirements for open market and gatewood logging business owners who deliver wood to their mill. Where training is required or recommended, MLEP training (or FISTA for Wisconsin contractors) is the minimum standard.

New training areas identified for logging business owners were largely an extension of existing offerings, including forest management guidelines, regulation updates, safety, threatened and endangered species, and marketing and utilization (Question 12). There was no consistency in those responses (no topic received multiple votes). Public land management agencies were more likely to identify new training needs for this audience than mills.

Most respondents did not identify (1) training requirements for in-woods employees and subcontractors of logging business owners who purchase stumpage from the respondent or harvest timber on the respondent's lands, (2) training requirements for in-woods employees and subcontractors of open market and gatewood logging business owners who deliver wood to the respondent's mill, or (3) new training requirements for in-woods employees of subcontractors of logging business owners in the future. Pulpwood consuming mills, particularly SFI and ISO 14001 certified respondents, were more likely to identify training requirements for these audiences. The training required or encouraged was generally what is provided through MLEP, including forest management guidelines. Interest was expressed in training related to wood utilization, environmental risks and new legal requirements

Nearly half of the respondents have additional training requirements for road construction, site preparation, timber stand improvement, and "other" in-woods employees. Additional training needs were most frequently identified by public land management agencies and pulpwood consuming mills. Road contractors were most frequently identified as the audience being targeted.

Pulpwood consuming mills are most likely to require the presence of specific written material on the worksite during logging operations. For the individual who delivers wood to multiple markets, this may require carrying two or more sets of materials. It is possible that there is some duplication within those materials. There was strong support for the development and use of a generic manual for Minnesota loggers which addresses the various logging procedures, standards and guidelines. It was recommended that a generic manual needs to be credible to all parties, be brief, and hit the high points.

General, open-ended comments suggested that there will be additional training requirements for loggers in the future as a part of continuous improvement of operations. Certification on public lands will help drive those requirements.

## Recommendations

The survey results presented above, plus a broader knowledge of logger education programming in Minnesota, suggest the following recommendations to improve logger education in Minnesota. For each item, some background is provided with specific recommendations highlighted in **bold**.

Most survey respondents have an affiliation with one or more certification organizations (Question 1). SFI and ISO 14001 respondents, in particular, generally require logger training of the logging business owner (Question 6). Not surprisingly, a number of respondents commented upon certification issues (Question 20). **Training that addresses certification and relevant issues should be a major emphasis for MLEP. To learn those training needs, MLEP should develop a systematic method for assessing annual training needs of certified organizations. MLEP should make use of its existing education planning committee to receive the identified needs and make decisions about what to offer in the upcoming year.** Working closely with certified organizations could enhance MLEP's ability to secure additional funding from them to help defray some of the costs of providing logger education.

While most pulpwood consuming mills require MLEP membership for logging business personnel, many public land management agencies and other mills have no requirement for MLEP membership (Question 4). Five SFI certified public land management agencies reported they either do not have training requirements for logging business owners who purchase stumpage from agency lands or that the question was not applicable to them (Question 9). SFI Objective 10 is "To improve the practice of sustainable forest management by resource professionals, logging professionals, and contractors through appropriate training and education programs" (American Forest & Paper Association 2004). SFI Performance Measure 10.1 says "*Program Participants* shall require appropriate training of personnel and contractors so that they are competent to fulfill their responsibilities through the SFI Standard." At the minimum, all SFI organizations should be requiring MLEP membership (or membership in a similar logger education program) for logging business owners. **MLEP should work closely with all SFI member organizations to make sure that they are supporting logger education training.**

There is continuing interest in a broad suite of classes being offered for logging business owners, some of which are identified as new training requirements for that audience. **MLEP should**

**look at the list of proposed new training requirements identified in Question 12 (e.g., forest management guidelines, regulation updates, safety, threatened and endangered species, and marketing and utilization) and offer some topics as classes during its logger conferences.**

New training requirements were identified for in-woods employees and logging contractors (Question 16). As noted above for Question 12, **MLEP should look at the list of proposed new training requirements identified in Question 16 (e.g., forest management guidelines, safety, threatened and endangered species, and wood utilization) and offer some topics as classes during its logger conferences. Given that forest management guideline training was identified as a need within Questions 12 and 16, that topic may be a more pressing need. However, knowing that many participants have already heard a lot about guidelines, MLEP needs to be careful about alienating the audience to that topic.** Given the release of a new guidebook, the program could focus on key changes. Or, it might include information about auditing results and key areas where improvements are still needed. Or, it might include discussion sections with participants where problems are first identified (e.g., written anonymously on cards, identified through small group discussions, listed through a classroom brainstorming session) and the audience helps identify solutions.

While MLEP tends to focus on logging business owners, several of its members do more than harvest timber. Some build roads, site preparation work, timber stand improvement, or other activities as a way to expand their business opportunities. Many respondents noted having operational policies and/or training requirements for the individuals that perform these other services (Question 17). **MLEP should broaden its training focus to include courses for individuals who perform these services as many potential participants may already be members of logging crews.** For example, MLEP could design road location courses which contain water management components. Those courses could include planning tools such as maps (e.g., soils, protected waters, topography) or slope gauges. Development and use of contracts could be a part of any of these courses.

It is the opinion of a number of respondents that MLEP should be the clearinghouse for all logger education on environmental management issues required by mills and land management agencies. Many specific requirements originating with SFI, FSC or ISO 14001 certification are common between respondents and could be incorporated into MLEP training. There will always remain some training on issues of particular importance to each company that will have to be done in-house. Some companies have a pre-work meeting or contract review with loggers, presenting an ideal time to give out this information without requiring additional training sessions. **Certified organizations should keep MLEP updated each year on changes or additions to their requirements so MLEP can incorporate as much as possible updated information on a timely basis.**

There is strong support for the development and use of a generic manual for Minnesota loggers (Question 19). Comments suggest general support for this effort, some advice to consider, and why all supporters may not be strong advocates even though they did indicate their support. **MLEP should pursue development of a generic manual for Minnesota loggers, asking certified public land management agencies and mills to provide a copy of their**

**documentation. This manual should be designed as a field tool, with field guidelines plainly stated and index labels for quick reference. The format might have a removable structure (e.g., a 3-ring binder) for easy exchange of updates and the addition of specific company material. A dialogue that keeps all parties involved during the development process will ensure that common requirements are addressed and will help keep such a manual pertinent to loggers in the field.**

## **Acknowledgments**

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## **Appendix 1**

### **Survey Mailed to Certification and Environmental Management Contacts in Minnesota**

**Survey of Training Requirements for Minnesota Loggers:  
Certification and Environmental Management**



**Department of Forest Resources  
University of Minnesota**

**Survey of Training Requirements for Minnesota Loggers:  
Certification and Environmental Management**

**SURVEY RESPONDENT INFORMATION**

Name:

Title:

Organization:

Organization's website address:

Address:

Telephone:

Email:

Primary job responsibilities:

Please return this Survey Respondent Information form and survey  
By May 30, 2005 to:

Brooke Haworth  
Graduate Research Assistant  
Department of Forest Resources  
University of Minnesota  
Hawo0011@umn.edu  
612-624-1224

**Survey of Training Requirements for Minnesota Loggers:  
Certification and Environmental Management**

**Please refer to the following definitions when these terms are used in the survey:**

**Logging business owner:** The owner of the logging company or business.

**Contractors:** Supplier who has a contract to harvest and deliver wood to the mill from sales owned by the mill. Examples of such sales would be fee land sales and government or private sales owned by the mill.

**Open market suppliers:** Supplier who has a contract to harvest and deliver wood to the mill from sales that are not owned by the mill. Examples of such sales include government or private sales owned by the supplier and sales owned by another supplier for whom they are doing the harvesting.

**Gatewood suppliers:** Supplier who does not have a contract with the mill.

**Subcontractors:** Someone who contracts with a supplier to provide a logging service.

## Survey of Training Requirements for Minnesota Loggers: Certification and Environmental Management

### Background

1. Select the certification/environmental management programs with which your organization is involved. Check (x) the appropriate options.
- Sustainable Forestry Initiative (SFI)
  - Forest Stewardship Council (FSC)
  - International Organization for Standardization 14001 (ISO)
  - Other Please specify:
2. Do you accept delivery of wood from gatewood suppliers? Check (x) the appropriate option.
- Yes
  - No
  - Not applicable
3. Do you track the origin of delivered wood? Check (x) the appropriate options.
- Yes, by type of ownership (federal, state, county, private)
  - Yes, by specific location (legal description)
  - Yes, by other method Please specify:
  - No, we do not track origin.
  - Not applicable

## General requirements

4. Who do you require to be a member of the Minnesota Logger Education Program (MLEP)? Check (x) the appropriate options.
- Logging business owners
  - Contractors
  - Open market suppliers
  - Gatewood suppliers
  - None of the above
5. How do you track/verify logger participation in MLEP training? Check (x) the appropriate option.
- MLEP Quarterly Report
  - MLEP annual directory
  - Other Please specify:
6. Who do you require to attend **any** logger training programs? Check (x) the appropriate options.
- Logging business owners
  - At least one in-woods employee
  - All in-woods employees
  - Logging subcontractors
  - Other Please specify:
- None of the above

7. Do you require logging business owners to attend training in addition to what is provided by MLEP? Check (x) the appropriate option.

( ) Yes Please briefly describe that additional training:

( ) No, we have no requirement other than MLEP training for logging business owners.

8. Do you offer **your own** logger training programs? If so, who do you require to attend those programs? Check (x) the appropriate options.

( ) Yes, we offer a logger training program. We require attendance of the following personnel:

- ( ) Logging business owners
- ( ) At least one in-woods employee
- ( ) All in-woods employees
- ( ) Logging subcontractors
- ( ) Other Please specify:

( ) We do not require anyone to attend our logger training programs.

( ) No, we do not offer our own logger training program.

## Training requirements for logging business owners

9. What are your training requirements for **contract** logging business owners who purchase stumpage from you (e.g., topics, program length)? Please respond NA if this question is not pertinent to your organization.
10. What are your training requirements for **contract** logging business owners who harvest on your organization's lands (e.g., topics, program length)? Please respond NA if this question is not pertinent to your organization.
11. What are your training requirements for **open market and gatewood** logging business owners who deliver wood to your mill (e.g., topics, program length)? Please respond NA if this question is not pertinent to your organization.
12. What new training requirements for logging business owners do you foresee in the future (e.g., topics, program length)?

## Training requirements for in-woods employees and logging subcontractors

13. What are your training requirements for in-woods employees and subcontractors of contract logging business owners who purchase stumpage from you (e.g., topics, program length)? Please respond NA if this question is not pertinent to your organization.

In-woods employees

Logging subcontractors

14. What are your training requirements for in-woods employees and subcontractors of contract logging business owners who harvest on your organization's lands (e.g., topics, program length)? Please respond NA if this question is not pertinent to your organization.

In-woods employees

Logging subcontractors

15. What are your training requirements for in-woods employees and subcontractors of **open market and gatewood** logging business owners who deliver wood to your mill (e.g., topics, program length)? Please respond NA if this question is not pertinent to your organization.

In-woods employees

Logging subcontractors

16. What **new training requirements** for in-woods employees and subcontractors of logging business owners do you foresee in the future (e.g., topics, program length)?

In-woods employees

Logging subcontractors

## Requirements for other in-woods workers

17 In addition to logging business owners, in-woods logging employees, and logging subcontractors, do you have operational policies and/or training requirements for other in-woods workers? Check (x) the appropriate types of other in-woods workers for which you have requirements.

- Road contractors
- Site preparation contractors
- Timber stand improvement contractors
- Other Please specify:

Please give a short description of policies/training requirements:

## Field documentation

18 Do you require the presence of specific written material (i.e., guidelines or manuals) on the work site during the logging operation?

- Yes We would appreciate receiving a copy of any documents you require logging business owners, in-woods employees, or logging subcontractors to keep with them on-site.
- No, we do not require the presence of any on-site guidelines or manuals.

19 Do you support the development and use of a generic manual for Minnesota loggers which addresses factors such as the forest management guidelines, silviculture and utilization standards, safety, storage of fuel and lubricants, and spill cleanup? Check (x) the appropriate option and indicate the rationale for your response.

Yes Please explain:

No Please explain:

## **Additional thoughts**

- 20 Please use the following space to share any other important aspects of your operational policies and training requirements for logging business owners, their in-woods employees, and logging subcontractors which we have not addressed.

**We would appreciate receiving in a separate envelope a copy of any training manuals or required on-site documents, mailed to:**

**Brooke Haworth  
UMN-Dept. of Forest Resources  
1530 Cleveland Avenue North  
St. Paul, MN 55108-6112**

**THANK YOU FOR YOUR TIME**



**Please return this survey by May 30, 2005 to:**

Brooke Haworth  
Graduate Research Assistant  
Department of Forest Resources  
University of Minnesota  
Hawo0011@umn.edu  
612-624-1224

## **Appendix 2**

### **Cover Letter Mailed to Certification and Environmental Management Contacts in Minnesota**

May 6, 2005

Name  
Address 1  
Address 2  
City, State Zip

Dear (Participant's Name):

The Department of Forest Resources at the University of Minnesota is collaborating with the Minnesota Logger Education Program (MLEP) to gather information about the expectations and requirements of industry, public agencies and certification programs regarding logger education in Minnesota. This information will be used to ensure MLEP training meets those requirements. It may also aid in development of a generic manual that addresses factors such as the forest management guidelines, silviculture and utilization standards, safety, storage of fuel and lubricants, and spill cleanup.

We request your participation in identifying those expectations and requirements. Your input on the enclosed questionnaire is important, as your organization holds a leadership role with certification and environmental management programs in Minnesota. A final report of our results will be published within a project report to MLEP. We may also publish the results in a journal. An executive summary of our findings will be made available to you.

Your signature on the enclosed Survey Respondent Information Form implies consent to participate in the study and for us to use your response for our stated purposes. You do not have to answer all of the questions, even though we hope that you will. Your participation in this study is voluntary and you may withdraw from the study at any time. Please be assured that your personal responses will remain anonymous. After completing the Survey Respondent Information form and survey, please return them by May 30, 2005 using the enclosed self-addressed, stamped envelope. We would appreciate receiving a copy of any training manuals you have developed or documents that you require loggers to keep with them at field sites.

Thank you for participating in this survey. If you have any questions, please contact either of us. We look forward to receiving your response.

Sincerely,

Charles R. Blinn  
Professor and Extension Specialist  
612-624-3788  
cblinn@umn.edu

Brooke K. Haworth  
Graduate Research Assistant  
612-624-1224  
hawo0011@umn.edu

Enc.

## **Appendix 3**

### **Reminder Postcard Mailed to Certification and Environmental Management Contacts in Minnesota**

May 13, 2005

Dear Professional Participant:

The Minnesota Logger Education Program (MLEP) is engaged in a review of industry and agency requirements for logger training. Recently you received a survey mailing from us requesting information regarding your company's requirements. Your response is important to us. If you have returned your survey, thank you for your participation. If you have not, please do so today.

We thank you for your assistance. Please contact us at one of the following numbers if you have any questions:

Charles R. Blinn, Professor and Extension Specialist

Department of Forest Resources, University of Minnesota 612-624-3788

Brooke K. Haworth, Graduate Research Assistant

Department of Forest Resources, University of Minnesota 612-624-1224

## **Appendix 4**

### **Follow-up E-mail Note Sent to Nonrespondent Certification and Environmental Management Contacts in Minnesota**

From: Dave Chura  
Sent: Friday, June 17, 2005 8:19 AM  
Subject: Logger Training Survey

Recently, you received a survey from the Department of Forest Resources at the University of Minnesota regarding your organization's logger education requirements. Your participation in the survey would be greatly appreciated.

The Department of Forest Resources at the University of Minnesota is collaborating with the Minnesota Logger Education Program (MLEP) to gather information from within the state regarding logger training requirements held by industry, public agency and forest certification programs. MLEP will use this information to ensure that their training meets your requirements as closely as possible. MLEP is interested in eliminating duplicate training, and in the consolidation of the various logger-training requirements.

Your organization's information is important to the completion of this project. All responses and records will be kept confidential and stored securely. Study results will be published within a project report to MLEP and possibly in a journal. If your survey was misplaced, please let me know and I will have another one forwarded to you.

If you have any questions, don't hesitate to contact me. Your participation is greatly appreciated. Thank you for your time.

Sincerely,

Dave Chura  
Executive Director, Minnesota Logger Education Program

## **Appendix 5**

### **Comments about the Development and Use of a Generic Manual for Minnesota Loggers which Addresses the Various Logging Procedures, Standards and Guidelines (Responses to Question 19)**

1. A generic manual would standardize the resource management messages for MN's logging community and resource managers. The manual needs to be credible as viewed by industry, conservation groups and regulatory organization. Lots of work, but would be worthwhile if done right.
2. Yes, but some caveats. We are for it for simplification, but in reality each company has its own silviculture and utilization standards. There are areas though that lend themselves to a generic approach, safety, storage of fuel and lubricants, and spill cleanup for example.
3. Forest Practices Guide Book may need to be updated.
4. It would be great if every logger had such a manual – mills could distribute/discuss with all contractors. More info on the ground is good.
5. Frequent logger education covers these subjects. Most written material ends up on the truck floor. A piece like this might be referred to from time to time.
6. I think that a brief, to the point document that hit the high points would be more useful in the field, than a lengthy detailed book.
7. Some might use it.
8. It would appear that the site-level guidelines serve this role.
9. Yes – get ALL operations in legal compliance.
10. Yes, if kept simple and short
11. Yes - the current Guideline manual has been well received.
12. With most counties and the DNR being certified in the near future, it would be good to determine if standards and guidelines could be standardized for less confusion among forest workers.
13. Yes, it would take care of the “no one told me” or “I didn't know” factor.
14. In principle, yes; however, there is much variation among companies as to business and silvicultural practices and a generic manual may be difficult to develop.
15. Such a manual would be used by preservationists to stop logging.
16. “Green book” with BASIC points could be a good reference source in the woods. Helps keep everyone on the same page and using the same language.
17. It's a good idea to get everyone on the same page.
18. Yes, as long as everyone can agree on contents and it satisfies auditors

19. A generic manual would provide onsite reference material relating to pertinent operational guidelines insuring land managers that contractors can quickly address necessary elements.
20. We have lots of paper from various meetings – it would be good to have it all put together in a manual.

## **Appendix 6**

### **Open-ended Comments Indicating Any Other Important Aspects of a Respondent's Operational Policies and Training Requirements for Logging Business Owners, Their In-woods Employees, and Logging Subcontractors (Responses to Question 20)**

1. Location of training is important – it needs to be available to loggers in all parts of the state.
2. Our best safety technique is a cell phone and the local helicopter.
3. The purpose of MLEP is to keep political regulations out of the lumber business – we need to show that we can police ourselves.
4. New employees of contractors who are harvesting on our permits or fee land are required to receive our ISO training within 6 months of their start date.
5. We find good loggers and build a strong relationship with them. Choosing good contractors and treating them well is our strategy to maintain standards in the woods.
6. As we review expectations and requirements for safety, harvest compliance, etc., we are perceiving the need for logger/contractor requirements being mandatory to operate.
7. We have been SFI 3<sup>rd</sup> party certified since August 2004; we are committed to continuous improvement and working safely, for ourselves, the loggers and the industry.
8. We strongly encourage and promote the benefits of MLEP, BMPs and FISTA to all contractors – open market or otherwise.
9. We will be requiring more training in the next year as we become certified.
10. Any logging operator who purchases timber from our department receives a timber sale appraisal with all regulations on it. They are not required to have it in the woods, but it helps them to do so. One standard regulation on all appraisals states “Permittee responsible for following Minnesota Site-level Forest Management Guidelines.”
11. We have held GPS training sessions for any logger who wanted to attend.
12. We do not have any formal training requirements nor do we provide any right now. Future needs would be at the discretion of the Land Commissioner and the county board.
13. We do not require MLEP training but suggest it to all crews. Only those crews that are certified are used on our timber sales, though we do not require it.
14. Although we do not require specific training, we encourage contractors who harvest on County lands to participate in MLEP training. Perhaps we may require participation once we have attained SFI certification.

15. Currently we only require the owner/foreman on site to communicate our requirements to field personnel. It is difficult to pull these employees out of the field for training since most do not get paid for this time. Some mechanism needs to be developed that allow this to happen.
16. Given that forest certification will drive the need for logger training and most public lands and NIPF lands are not currently certified, I believe this survey would be more relevant in two years. Until we address these requirements in forest certification, I do not have a good scope of need.
17. Insurance requirements and explanations of insurance are important aspects of our business.
18. We used to be involved with SFI when a local industry was leading that association, but they stopped and it isn't done anymore. We need industry lead on that.