

Needs Assessment of Forestry Professional Development in Wisconsin

EXECUTIVE SUMMARY



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Purpose

Professionals who engage in continuing education are better prepared to make confident and well-informed contributions to their discipline. With a desire to inform the development of more relevant, valuable, and accessible professional development, the Wisconsin Forestry Center (WFC) designed and administered a Wisconsin forestry training needs assessment survey in March-April 2023.

Research Objectives

Identify:

- (i) current skill gaps and training preferences of forestry-related professionals in Wisconsin,
- (ii) barriers preventing training participation, and
- (iii) training outcomes that motivate training engagement.

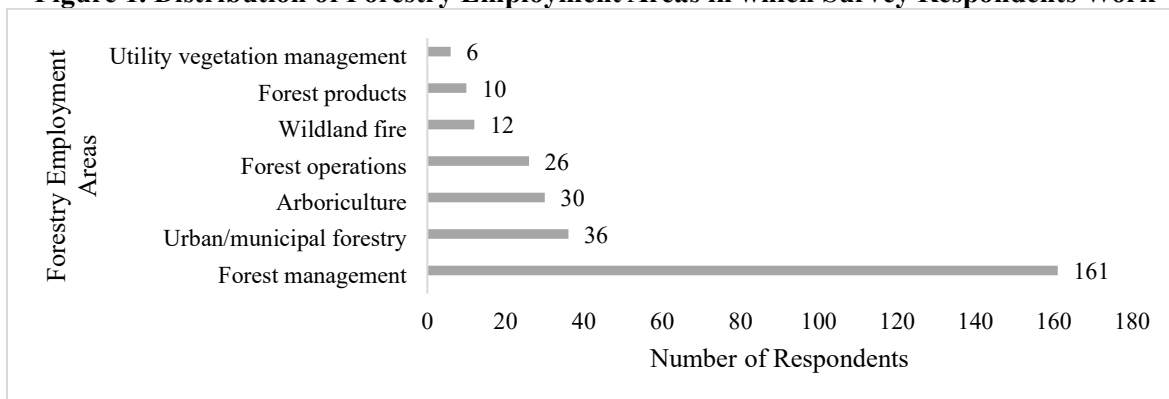
Methods

A survey composed of 39 questions designed to address the research objectives was dispersed through an online platform, Qualtrics, and as hard copies at the 2023 Great Lakes Timber Professionals Association Spring Celebration. Surveys were sent to professionals across Wisconsin in forest management, forest products, operations, utility vegetation management, urban and municipal forestry, wildland fire, and arboriculture employment areas.

Results

The survey received 364 responses. 285 responses were retained after the data cleaning process, and analysis was performed only on those responses. The median time in profession for respondents was 17 years, median age was 44 years, and 67% of respondents reported having a bachelor's degree. The largest proportion of respondents reported working in North Central Wisconsin. Figure 1 shows the distribution of respondents by employment area.

Figure 1. Distribution of Forestry Employment Areas in which Survey Respondents Work



(i) Current Skill Gaps and Training Preferences of Forestry-Related Professionals in Wisconsin

Respondents prefer training sites no greater than 150 miles from them; more in-person, field-based training; and 1-2 months' advance notice of training opportunities.

Skill gaps were determined through the relationship between respondents' perceived importance of and self-ascribed knowledge in a series of training topics. Tables 1, 2, and 3 show ranking comparisons of skill gaps and desired training topics for forest management, urban forestry, and social competencies.

Table 1. Descending Ranking Comparison of Forest Management Skill Gaps and Desired Training Topics

Skill Gap Ranking	Training Desire Ranking
Training Topic	Training Topic
GIS	Forest health
Forest health	GIS
NEPA & environmental law	Silviculture
Soil science	Timber harvesting
Traditional Ecological Knowledge	Forest management for wildlife
Climate change adaptation & carbon credits	BMPs for water quality
Silviculture	Climate change adaptation & carbon credits
BMPs for water quality	Soil science
Timber harvesting	Traditional Ecological Knowledge
Job safety	Writing management plans
Pesticide application	Procurement
Forest management for wildlife	NEPA & environmental law
Writing management plans	Job safety
Procurement	Pesticide application
Milling operations	Fire science
Fire science	Milling operations

Table 2. Descending Ranking Comparison of Urban Forestry Skill Gaps and Desired Training Topics

Skill Gap Ranking	Training Desire Ranking
Training Topic	Training Topic
Tree health	Tree health
GIS	Tree risk assessment
Tree risk assessment	Urban soils
Tree rigging	GIS
Urban soils	Writing management plans
Tree ID	Job safety
Machine operations & maintenance	Urban forestry skills
Job safety	Tree ID
Urban forestry skills (pruning, tree selection, planting)	Tree inventory
Writing management plans	Pesticide application
Tree inventory	Machine operations & maintenance
Pesticide application	Tree rigging
Tree climbing	Tree climbing
Utility vegetation management	Utility vegetation management

Table 3. Descending Ranking Comparison of Social Competency Skill Gaps and Desired Training Topics

Skill Gap Ranking	Training Desire Ranking
Training Topic	Training Topic
Conflict resolution	Leadership & decision making
Economics, finance, taxes	Conflict resolution
Partnerships, collaboration, stakeholder engagement	Economics, finance, taxes
Interpersonal communications	Business management
Business management	Personnel management
Public affairs	Mentoring
Leadership & decision making	Partnerships, collaboration, stakeholder engagement
Grant writing	Interpersonal communications
Writing & written communication	Public affairs
Personnel management	Writing & written communication
Tribal relations	Grant writing
Mentoring	Tribal relations
Diversity, equity, & inclusion	Diversity, equity, & inclusion

(ii) Barriers Preventing Training Participation

Job responsibilities, lack of awareness of training opportunities, and inconvenient training location were most preclusive to training participation. Respondents would pursue more professional development if training sites were closer to them and if more opportunities were offered during weekday work hours.

(iii) Training Outcomes That Motivate Training Engagement

Outcomes like learning new skills, performing job effectively, and personal growth most motivated respondents' training engagement. Monetary-based outcomes (e.g., ability to charge higher prices for services/goods, or salary increase) did not motivate respondents to pursue training.

Recommendations to Training Providers

- *Skill Gaps vs Desirable Topics.* The study revealed some disparity between what people want to learn about and what educational needs exist. Training providers may consider exploring how they can address workforce development needs while also appealing to the personal interests of those pursuing training.
- *Notifying Training Participants.* Lack of awareness of training opportunities was a significant barrier to participation. Training providers could strategically schedule and provide more notification about opportunities to maximize attendance. Professional organizations in Wisconsin may consider collaborating on a comprehensive resource of training opportunities, as respondents indicated they would pursue more training if there was a statewide forestry professional development calendar.
- *Gaining Employer Buy-In.* Consistent with past research findings, respondent workload has posed a significant barrier to training participation. Training providers may consider how they can better demonstrate the value and relevance of their training programs to gain employer buy-in. This might look like clearly defining learning objectives or demonstrating predictable operational or financial results.

The WFC thanks the following cooperating organizations for assisting with survey recruitment: Great Lakes Timber Professionals Association, Wisconsin Arborist Association, Lake States Lumber Association, Wisconsin Society of American Foresters, Forest Stewards Guild, Wisconsin Department of Natural Resources, and Wisconsin County Forests Association. Please contact Zoe Kaminsky at zkaminsk@uwsp.edu with questions regarding this research.
