



Forest Management Guideline (FMG) Survey Results: An Overview

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During the summer of 2020 and spring of 2021, the Minnesota Forest Resources Council's (MFRC) Site Level Committee conducted a survey of stakeholders regarding their experience with and perceptions of Minnesota's voluntary site-level forest management guidelines (FMGs). This comprehensive survey aimed to identify and assess any potential opportunities for guideline revision, as well as gain insight into guideline training and usage across stakeholder groups. The main findings of this survey are summarized below. The Site Level Committee will utilize these findings, alongside information from the Dept. of Natural Resources' Guideline Monitoring Program and a thorough scientific review, to determine whether revision of the FMGs is warranted at this time.

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Demographics

Total survey responses: 339

Employer: Of the survey respondents, 35% work for the Minnesota DNR (with most representing the Divisions of Forestry and Fish and Wildlife), 16% work in a forest-industry affiliated position, 8% identified as self-employed, and 5% work for an environment or conservation organization. All other organizations had less than 5% representation in the survey respondents, respectively, and a total of 16% of respondents identified with the category of “other.”

Employment type: 42% of respondents classified their employment type as “forester,” and 13% identified as logger affiliated. Nine percent (9%) reported employment as a fisheries or wildlife biologist, another 9% as natural resources specialists, and 9% supervisory. A further 9% of respondents classified their employment type as “other,” and all other reported job classes each represented less than 5% of respondents, respectively.

Work location: 42% of respondents reported their primary work location is in the North Central region of Minnesota, 25% from the Northeast region, 18% from the Northern region, 5% from the East Central, and approximately 4% each from the Twin Cities Metro, Southeast, and West Central regions.

Forestland Ownership: 67% of respondents reported owning forestland in Minnesota, with an equal amount of those respondents indicating that their forest property contained their primary residence, and 71% indicating that their property is less than 100 acres in size.

FMG Experience

- 92% of respondents have participated in FMG development, have attended FMG implementation training, and/or use the FMGs in operational planning or forest management activities. Other experiences with FMGs include education, promotion, and supervision.
- About 57% of respondents reported more than 10 years of experience working with the FMGs.

Training

- Approximately 88% of respondents reported attending some form of FMG implementation training, with about 18% reporting having attended a MLEP training.
- Most respondents found the guideline training(s) they attended to be effective (98% of those who reported attending one or more trainings on FMG implementation).
- The most frequently cited opportunity for improvement of FMG implementation training is increasing the number of on-site and hands-on field training sessions relative to classroom instruction. In the context of online trainings, several suggestions were made to enhance the use of imagery depicting conforming and non-conforming guidelines to better illustrate FMG implementation.

FMG Effectiveness

Guidelines related to the management and spread of invasive species were reported to be the least effective, with 37% of respondents reporting the FMGS have less than sufficient effectiveness at mitigating impacts to forest resources during management. Guidelines related to seasonal ponds and endangered, threatened, and special concern (ETS) species were also reported to have relatively low effectiveness (28% less than sufficient for both FMGs).

The most effective guidelines were reported to be those related to site-level infrastructure, general pre-harvest planning, and biomass/slash harvest (88%, 88%, and 84% sufficient or better effectiveness, respectively).

General Pre-harvest Planning

- 88% reported sufficient or better effectiveness of the FMGs related to this topic
- 65% of respondents reported these FMGs do not need to be modified, 11% reported that they should be modified
- 4% of respondents indicated that FMGs related to this topic are not being implemented well or are being implemented too narrowly in the forest.
- Survey respondent suggestions: simplification, maintain flexibility, stakeholder involvement, accessibility, and organization.

Filter Strips

- 79% reported sufficient or better effectiveness of the FMGs related to this topic
- 61% of respondents reported these FMGs do not need to be modified, 23% reported that they should be modified
- 7% of respondents indicated that FMGs related to this topic are not being implemented well or are being implemented too narrowly in the forest.
- Survey respondent suggestions: clarify difference between guidelines related to filter strips and those for RMZs, review and reassess harvest guidelines within filter strips, widen filter strip requirements, clarify how soil impacts quality of filter strip, educate on watersheds, include photos of the do's and don'ts.

Riparian Management Zones (RMZs)

- 76% reported sufficient or better effectiveness of the FMGs related to this topic
- 50% of respondents reported these FMGs do not need to be modified, 28% reported that they should be modified

- 10% of respondents indicated that FMGs related to this topic are not being implemented well or are being implemented too narrowly in the forest.
- Survey respondent suggestions: clarify and simplify the types of surface water around which RMZs guidelines are applied (e.g., open-water vs. closed-water wetlands, temporary vs. permanent streams, etc.), review impacts of 2012 revision which allowed RMZ areas to be counted towards total reserve land (are site-level sustainability goals still being met?), reduce clauses, education on what riparian zones are, enhance formatting, shift from one-size-fits-all to a more flexible approach

Visual Quality

- 81% reported sufficient or better effectiveness of the FMGs related to this topic
- 53% of respondents reported these FMGs do not need to be modified, 19% reported that they should be modified
- 6% of respondents indicated that FMGs related to this topic are not being implemented well or are being implemented too narrowly in the forest.
- Survey respondent suggestions: update the sensitivity classifications based on current use and development, create more user-friendly tools for accessing visual sensitivity ratings, clarify and simplify guidelines for the various sensitivity ratings, opportunities for education regarding proper forest management, inclusion of slash piles and removal in guidelines, update baseline and GIS data. Many respondents commented that they find the visual quality standards unnecessary because they feel that it hides what they are doing from the public, which is something that should be considered when revising guidelines.

Cultural Resources

- 86% reported sufficient or better effectiveness of the FMGs related to this topic
- 67% of respondents reported these FMGs do not need to be modified, 14% reported that they should be modified
- 3% of respondents indicated that FMGs related to this topic are not being implemented well or are being implemented too narrowly in the forest.
- Survey respondent suggestions: enhance education and improve access to information concerning locating and identifying cultural resources, simplify and clarify existing guidelines, provide field training to aid the identification of CRs, consider expanding CRs to include ecosystem resources.

Spill Kits

- 79% reported sufficient or better effectiveness of the FMGs related to this topic

- 62% of respondents reported these FMGs do not need to be modified, 13% reported that they should be modified
- 6% of respondents indicated that FMGs related to this topic are not being implemented well or are being implemented too narrowly in the forest.
- Survey respondent suggestions: prescribe a minimum spill kit for enhanced compliance and to help meet certification standards, describe what an adequate spill kit includes, increasing access to spill kits by requiring them in more on-site machinery, and more training.

Seasonal Ponds

- 72% reported sufficient or better effectiveness of the FMGs related to this topic
- 52% of respondents reported these FMGs do not need to be modified, 26% reported that they should be modified
- 11% of respondents indicated that FMGs related to this topic are not being implemented well or are being implemented too narrowly in the forest.
- Survey respondent suggestions: clarify the description of seasonal ponds, improve education on identification of seasonal wetlands during different seasons (e.g., difficult to identify during the winter when snow covered), emphasize the ecological importance of these features, implement training on how to identify seasonal ponds, include new science and research.

Leave Trees

- 74% reported sufficient or better effectiveness of the FMGs related to this topic
- 53% of respondents reported these FMGs do not need to be modified, 30% reported that they should be modified
- 10% of respondents indicated that FMGs related to this topic are not being implemented well or are being implemented too narrowly in the forest.
- Survey respondent suggestions: clarify 5% language in guidelines as a *minimum* retention rate, encourage reserve patches over individual leave trees to address windthrow, provide additional guidance on maintaining reserves that are representative of the stand and healthy. This section should emphasize the ecological benefits of leaving live trees at sites, as many survey respondents voiced that they find this FMG unnecessary in the recommendations section.

Invasive Species

- 63% reported sufficient or better effectiveness of the FMGs related to this topic
- 48% of respondents reported these FMGs do not need to be modified, 19% reported that they should be modified

- 10% of respondents indicated that FMGs related to this topic are not being implemented well or are being implemented too narrowly in the forest.
- Survey respondent suggestions: enhance education regarding the identification of invasive species, emphasize the importance of cleaning equipment between sites (mirror DNR’s “Clean, Play, Go” messaging for recreational vehicles), provide more resources for identifying potential invasives prior to management and for reporting invasives encountered during management activities, format invasive species section better (information difficult to find)

Endangered, Threatened, and Special Concern (ETS) Species

- 72% reported sufficient or better effectiveness of the FMGs related to this topic
- 56% of respondents reported these FMGs do not need to be modified, 21% reported that they should be modified
- 6% of respondents indicated that FMGs related to this topic are not being implemented well or are being implemented too narrowly in the forest.
- Survey respondent suggestions: update to reflect current ETS classifications and issues of concern, enhance education on ETS species identification and how to avoid impacts on ETS species, highlight species that are vulnerable to forest management, create a user-friendly database to check if wildlife is ETS

Site-Level Infrastructure

- 88% reported sufficient or better effectiveness of the FMGs related to this topic
- 73% of respondents reported these FMGs do not need to be modified, 10% reported that they should be modified
- 5% of respondents indicated that FMGs related to this topic are not being implemented well or are being implemented too narrowly in the forest.
- Survey respondent suggestions: limit landing and/or road size, increase emphasis on safety, improve education on culvert placement and proper erosion control to meet MN Wetland Conservation Act requirements and forestry exemption criteria, address the design and usage of seasonal roads (e.g., ice roads, winter-use roads) to ensure they are used as intended

Rutting/Compaction

- 81% reported sufficient or better effectiveness of the FMGs related to this topic
- 63% of respondents reported these FMGs do not need to be modified, 18% reported that they should be modified

- 7% of respondents indicated that FMGs related to this topic are not being implemented well or are being implemented too narrowly in the forest.
- Survey respondent suggestions: improve/clarify the definitions of rutting and compaction (including setting measurable levels), improve enforcement of guidelines, emphasize avoidance of saturated soils and provide tools/information for identifying prime opportunities for management activities (e.g., soil maps, frost depth information), adapt guidelines to warming winters and the impacts of climate change

Erosion Control

- 81% reported sufficient or better effectiveness of the FMGs related to this topic
- 70% of respondents reported these FMGs do not need to be modified, 12% reported that they should be modified
- 5% of respondents indicated that FMGs related to this topic are not being implemented well or are being implemented too narrowly in the forest.
- Survey respondent suggestions: specify how to control road erosion, improve education on the implementation of these guidelines, emphasize how erosion varies across the state based on multiple factors, stronger emphasis on how to use available on-site materials such as slash

Biomass Harvest/Slash Management

- 84% reported sufficient or better effectiveness of the FMGs related to this topic
- 62% of respondents reported these FMGs do not need to be modified, 16% reported that they should be modified
- 4% of respondents indicated that FMGs related to this topic are not being implemented well or are being implemented too narrowly in the forest.
- Survey respondent suggestions: unnecessary in the absence of a market for biomass, native plant community classification should influence slash retention rates, emphasize slash retention for wildlife as appropriate, use subsidies to draw biomass market to Minnesota, include considerations for fire-dependent sites, include handling of chipping residue, bring in more science to support guidelines

FMG Flexibility & Cost-Effectiveness

84% of respondents reported that the FMGs are sufficiently flexible and easy to understand.

- Comments on how guidelines could be improved to increase implementation tended to focus on the need for improved training and education on guideline implementation, as well as better organizing the report to aid foresters in the field looking for a quick reference. Suggestions include adding a

check-off list to be signed-off on prior to making a sale, requiring a physical copy of the FMG book with every spill kit, and only using the condensed 2014 version. Many respondents said that a trade-off with the guidelines being flexible is that they are often too vague, therefore not supplying sufficient guidance. However, many respondents said certain sections, such as RMZs and filter strips, are too specific and need to be more flexible.

88% of respondents reported that the FMGs are sufficiently cost-effective to implement.

- Comments concerning cost-prohibitive guidelines tended to focus on how to better assess costs associated with non-compliance with the guidelines (e.g., costs associated with damage to ecosystems, loss of wildlife habitat, etc.), as well as recognition that the cost of implementing the guidelines is largely on the logger/operator. Suggestions for alleviating the economic burden from loggers includes tax incentives for following guidelines and a heavier emphasis on the planning phase to create a more efficient plan. Slash management is identified as a high-cost guideline.

Additional FMG Topics

The most commonly cited opportunities for additional FMGs included the following:

- Guidelines related to climate change and adaptive forest management (8 respondents, 22% of responses)
- Guidelines that include responsible ecosystem management and support the increase of forest biodiversity (5 respondents, 14% of responses)
- Guidelines that focus on protecting watersheds from riparian soil erosion and runoff (5 respondents, 14% of responses)
- Guidelines that focus on cost effectiveness and the economics of forest management (5 respondents, 14% of responses)
- Guidelines that tell foresters how to reduce soil erosion, rutting, and compaction (4 respondents, 11% of responses)
- Guidelines that promote long-term sustainability of forests (4 respondents, 11% of responses)
- Guidelines for how managers can most effectively close trails to unwanted ATV/recreational use in order to prevent erosion and the spread of invasives (3 respondents, 8% of responses)
- Guidelines that accommodate and advocate for wildlife preservation during timber harvesting (2 respondents, 5% of responses)
- Guidelines that responsibly encourage biomass harvesting and provide explicit details on how to do so (1 respondent, 3% of responses)
- Guidelines that educate foresters on carbon markets and carbon sequestration, to incentivize climate solutions (1 respondent, 3% of responses)

Additional feedback on the guidelines included adding consistent page numbers throughout the report, rather than beginning again in each section. In addition, it was suggested that the MFRC finds a way to make the guidelines more available to the public, in an attempt to educate on the world of timber harvesting.

FMG Publication

- The majority of respondents favored a physical quick-reference guide (26%), publication in an electronic (PDF) version (25%) and/or a smart phone-enabled application (21%).
- 35% of respondents indicated that an electronic-only publication (PDF, web- or phone app) would be sufficient to meet their needs for accessing the FMGs. However, 26% reported that electronic-only publication would not be sufficient.
- Respondents noted that oftentimes it is difficult to get cell service when on sites, so it would be valuable to have the option of a physical copy on hand.