

Developed and submitted by the Minnesota Forest Resources Council February 2017





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Minnesota Forest Resources Council 2015-2016 Report

to the Governor and Legislature on the Implementation of the Sustainable Forest Resources Act

Respectfully submitted by the Minnesota Forest Resources Council

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About the MFRC

MFRC Membership

The governor appoints a chair and 15 members to the Minnesota Forest Resources Council (MFRC), and the Minnesota Indian Affairs Council appoints one member. The 17-member council includes representatives from the following interests:

- Commercial logging contractors
- Conservation organizations
- County land departments
- Environmental organizations (2)
- Forest products industry
- Game species management organizations
- Labor organizations
- Minnesota Department of Natural Resources
- Minnesota Indian Affairs Council
- Nonindustrial private forest landowners (2)
- Research and higher education
- Resort and tourism industry
- Secondary wood products manufacturers
- USDA Forest Service

This report fulfills requirements of Minnesota Statute 89A.03 Subd. 6., in which:

The council must report to the governor and to the legislative committees and divisions with jurisdiction over environment and natural resource policy and finance by February 1 of each odd-numbered year. The report must describe the progress and accomplishments made by the council during the preceding two years.

The Sustainable Forest Resources Act (M.S. § 89A)

In 1995, the Sustainable Forest Resources Act (SFRA) created a policy framework for sustainable forestry to:

- Sustainably manage, use, and protect the state's forest resources to achieve the state's economic, environmental, and social goals.
- Encourage cooperation and collaboration between public and private sectors in managing the state's forest resources.
- Recognize and consider forest resource issues, concerns, and impacts at appropriate geographic scales.
- Recognize all perspectives regarding the management, use, and protection of the state's forest resources; establish processes and mechanisms that seek these perspectives; and incorporate them into planning and management.

Estimated cost to prepare this report (M.S.§ 3.197): \$2,793 (staff time and printing). This report was printed in limited quantities. The electronic version is available on the Minnesota Forest Resources Council website at http://mn.gov/frc/biennial-reports.html.

This report can be made available in other formats upon request.

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A Special Thanks

Dave Zumeta was Executive Director of the Minnesota Forest Resources Council for 13 years.

After 34 years of state service, Dave retired in 2015.

FROM THE CHAIR

A Letter from the MFRC Chair

If there were a synonym for the Minnesota Forest Resources Council during these early decades of the 21st century, it would be "change."

The MFRC honored the retirement of its long-serving (13 years) Executive Director, David Zumeta. Close on the heels of Dave's retirement was the conclusion of Chair Bob Stine's tenure. Bob guided the MFRC in its activities, discussions, and decisions from 2011 through 2015. He also represented Research and Higher Education on the MFRC from 2002 to 2007.

The word "change" also evokes aspirations: "reshape," "refine," and "redesign." The MFRC began its travels through this century with development and execution of a 2017-2020 strategic plan. The vision of that plan establishes and advances forest resource policy, engages stakeholders, and provides leadership in addressing Minnesota's current and changing forest resource management needs. It does so under the guidance of newly appointed Executive Director, Calder Hibbard. Calder served as the MFRC's Policy Analyst from 2006 until his new appointment in 2016.



Kathleen Preece, Chair, Minnesota Forest Resources Council

Policy Initiatives 2015-2016

The MFRC is charged, by statute, with the development of policy recommendations that serve to guide the governor of Minnesota, in addition to federal, state, and local governments in matters related to the health, vitality, and sustainability of the state's forested lands.

A highlight of the MFRC policy work in 2015 was the implementation of recommendations of a report on the *Competitiveness of Minnesota's Primary Forest Products Industry*—an industry critical to the state. The report identified 10 key factors seen as major impediments to competitiveness and forest-based economic opportunities.

I urge you to read the report and contribute your time and expertise to carrying forth its recommendations. The report can be found at: http://mn.gov/frc/forest-policy-reports.html.

Voluntary Site-level Forest Management Guidelines

One of the most consequential products of the MFRC is the "Voluntary Forest Management Guidelines," developed in the mid-1990s. The guidelines are a set of best practices designed to mitigate impacts to forest resources during management activities, and are widely used by forest managers, foresters, and landowners.

The MFRC routinely evaluates the monitoring of these guidelines. In 2015-16, this monitoring occurred across 10 major watersheds. Included in that site-level monitoring was a spatial analysis of forest disturbance patterns and existing geophysical datasets to evaluate their influence on water quality.

Efforts are underway to develop a guideline application for mobile devices that can be used in the field to improve guideline implementation and to assess water quality risks.

Landscape-level Forest Resources Management

Broad approach, collaboration, voluntary, grass-roots—all are synonyms for the MFRC's Landscape Program. Watershed-based stewardship, fish and wildlife habitat improvement projects, and increased service delivery to private woodland owners are the results of this MFRC program that geographically and politically reaches all corners of the state.



The Forest Management Guidelines are available in a quick reference field guide.

Six regional landscape committees are shaping future forests by their respective collaborative projects (over 40 multiowner projects are in various stages of development), training workshops, grant writing, and input to numerous policy and action plans.

A shining star during 2015-16 was the Camp Ripley Landscape Stewardship Initiative that coordinated alliance of partners to implement landscape stewardship approaches within a 10-mile radius of Camp Ripley in North Central Minnesota. The project covers over 700,000 acres and includes 34 minor watersheds straddling 40 miles of the Mississippi River.

Research 2015 - 2016

In 1994, a 25-member "roundtable" of individuals representing diverse interests with respect to forest resources was convened. It was charged with advising how to implement recommendations contained in the now historical *Timber Harvesting Generic Environmental Impact Statement* (GEIS). That roundtable identified "research," as a forum for providing information and understanding; it has become a central program of the MFRC.

In 2015-16, research was initiated, conducted, and/or funded with focus on issues germane to today's forestry, including the effectiveness of timber harvesting guidelines as they relate to timber harvest landings and impacts on soil productivity. A project to assess the ecological and hydrologic impacts of emerald ash borer is underway, with research expanded to assess EAB's effects on wildlife and amphibian populations. In addition, the Interagency Information Cooperative, with guidance from the MFRC, has conducted research on forest policy and forest inventory.

The regional presence of the MFRC and its cooperators has helped identify strategic direction for forest resources research in Minnesota The result? The identification of key forest issues; prioritization of research activities; and opportunities to share information among managers, researchers, and the public.

FOREST POLICY

Policy Initiatives 2015-2016

The MFRC is a forum where forest stakeholders discuss and resolve issues regarding the management of Minnesota's forests. It has helped depoliticize forestry issues in Minnesota by facilitating collaboration and fostering the use of scientific information. The MFRC advises the governor, legislature, and public agencies on sustainable forest polices.

Forest Industry Competitiveness Report Implementation Strategy

In late 2013, Minnesota DNR Commissioner Landwehr asked the MFRC to work with stakeholders to develop a report on the competitiveness of the Minnesota forest products industry. This report included 27 recommendations in six key topic areas. In collaboration with the Minnesota Forest Resources Partnership and the MFRC, stakeholders developed a preliminary implementation plan for the recommendations. Some of the recommendations have been implemented, but others have not. Recognizing its capacity and the collaborative intent of the implementation plan, the MFRC chose to address a subset of the recommendations.

These recommendations include:

- Increase outreach to family forest landowners with focus on pursuing financial incentive payments to help develop
 and implement forest management plans.
- Develop a comprehensive plan for identifying and accessing sites to increase wood availability during summer months when supply is typically constrained.
- Employ additional tools, such as the purchase of permanent conservation easements, to ensure the protection of high value forest lands and associated timber supply.
- Enhance the effectiveness of the Sustainable Forest Incentives Act (SFIA).
- Exempt wood harvest from parts of the environmental review process.
- Improve environmental review predictability, timeliness, and efficiency.



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Sustainable Forest Incentive Act (SFIA)

The SFIA provides incentive payments to private forest landowners to encourage sustainable forest management. In 2013, the Office of the Legislative Auditor's Evaluation Report on the SFIA made several recommendations to revise and improve the SFIA. At the request of several legislators, the MFRC and other partners co-convened a stakeholder group to respond to the Legislative Auditor's report and seek agreement on how best to revise the SFIA. On January 12, 2015, the stakeholder group issued a report, "Recommendations for Revisions to the SFIA." This report was used to develop specific recommendations that were introduced in bills in the legislature.

The recommendations are summarized below:

- Clarify the goals of the SFIA program, providing more specificity on the benefits for forestland owners.
- Implement a two-tiered payment system to incentive forest landowners to provide recreational public access.
- Private landowner forest management plans should be registered with the DNR.
- The DNR should be charged with periodically reviewing landowner compliance by program participants for their conformance with SFIA program requirements.
- Penalties should be clarified and increased, with stronger penalties for conversion of forestland to non-forestland.
- Repeal the 60,000 acre easement limitation for current and future landowners eligible for SFIA.
- Employ additional tools to ensure the protection of high value forest lands.

Clean Power Plan

Earlier this year, the U.S. Environmental Protection Agency requested comments regarding the use of woody material as a means to generate emissions credits or set asides under the Clean Power Plan (CPP). The MFRC submitted a letter encouraging the use of woody biomass to achieve carbon dioxide targets and reductions under the CPP. Additional benefits of using woody biomass include decreased risk of wild-fire, forest disease, and other issues.



Other Policy Initiatives

Over the past two years, the MFRC has also addressed a number of other policy topics, including forestland certification, wildlife habitat (e.g., songbirds and elk), terrestrial invasive species, the northern long-eared bat and forest management, and land use planning and taxation.

Voluntary Site-level Forest Management Guidelines

The MFRC provides science-based, voluntary forest management guidelines designed to mitigate impacts to forest resources during management activities. The guidelines help loggers, foresters, and landowners sustain and conserve forest resources and protect wildlife habitat, soils, water quality, wetlands, riparian areas, aesthetics, and cultural resources. In 2015 and 2016, the MFRC focused its efforts on assisting DNR to enhance guideline monitoring in forested watersheds across Minnesota, assessing guideline effectiveness with new research efforts, updating training programs, and conducting technical workshops available to loggers, foresters, and managers.

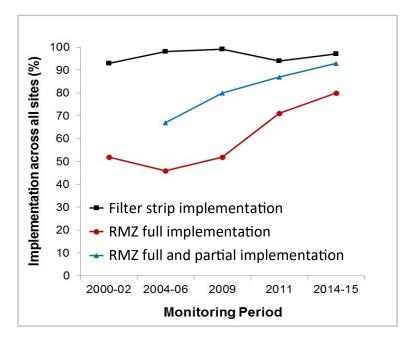
Forest Management Guidelines

The MFRC conducted the following activities to promote and evaluate implementation of forest management guidelines:

- Evaluated guideline effectiveness to provide more evidence in support of guideline use and need.
- Developed and supported a number of training and educational workshops for loggers and foresters on techniques and considerations for guideline implementation. The MFRC also provided technical and financial support to update the introductory guideline training available online.
- Initiated a new series for the MFRC quarterly newsletter that explores historical guideline implementation and related implications.
- Efforts are also underway to develop a guideline application for mobile devices that can be used in the field to improve implementation and assist in forest management activities.



Use of erosion control measures, such as these log water bars, following harvesting is a key forest management guideline used to minimize impacts to water quality.

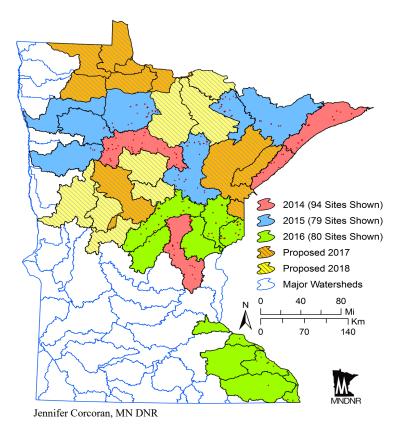


Topics, such as riparian management zone (RMZ) implementation, are explored in more detail in the "Closer Look" feature published in the quarterly MFRC newsletter. A key point made in this closer look is that RMZ implementation is higher when accounting for partial implementation.

Monitoring Guideline Implementation and Assessing Water Quality Risks

The Minnesota DNR conducts field monitoring of guideline implementation. The program was reorganized in 2014 to focus on assessing implementation and effectiveness at the watershed scale while incorporating forest disturbance metrics to assess relative risks to water quality in forested watersheds. MFRC staff worked collaboratively with the DNR on the following related activities in 2015 and 2016:

- Finalized protocols for site selection and field measurements for the 2015-2016 monitoring seasons.
- Evaluated guideline implementation at approximately 160 harvest sites across 20 major watersheds throughout the forested region of the state.
- Conducted spatial analysis of forest disturbance patterns and existing geophysical datasets to evaluate their influence on water quality.
- Analyzed data from 2014-2015 to estimate implementation levels by watershed, summarized findings across the state, and conducted in-depth analyses to determine causal factors contributing to implementation levels. A final report on the monitoring findings was published in early 2016, and the results were presented to stakeholder groups across the state.
- Conducted targeted outreach with various watershed groups and state agencies to incorporate the spatial disturbance assessment into local and regional planning efforts.



The DNR monitors guideline implementation at the major watershed scale. Almost 20 major watersheds and 160 harvest sites were monitored in 2015-2016.



Harvest sites are visited to assess levels of guideline implementation, and features are entered into a spatially-referenced database for further analysis.

Landscape-level Forest Resource Management

The Sustainable Forest Resources Act (SFRA) laid the foundation for large-scale forest management by establishing the Landscape Program. The MFRC oversees this program to support a broad perspective and approach to sustainable forest management. The program is a voluntary, grass-roots effort that builds relationships, strengthens partnerships, and identifies collaborative forest management projects that address local and regional needs. Since 2010, the MFRC has helped partners secure \$23.65 million in federal, private, and non-general fund state grants to support their work.

Volunteer, citizen-based regional landscape committees are central to carrying out landscape management processes. The committees provide a public forum for diverse interests to cooperatively promote long-term sustainability. The Landscape Program fulfills the charge of the SFRA to "encourage cooperation and collaboration between public and private sectors in the management of the state's forest resources."

The six regional committees actively work to:

- Encourage agencies, non-government organizations, industry, and private landowners to consider and integrate a regional context when they develop their resource management plans and implementation projects.
- Coordinate and support projects by partnering organizations that promote sustainable forest management practices in the landscape regions.
- Develop and facilitate the implementation of projects that proactively address landscape plan goals. Monitor the strategies used and outcomes of these projects.



MFRC landscape regions

Landscape Coordination

With MFRC assistance, local partners are shaping future forests by coordinating their efforts. They work to sustain forested landscapes and forest benefits, recognizing the importance of both biodiversity and forest-based economies and communities. The six MFRC landscape committees have over 40 multi-owner collaborative projects in various stages of development.





On-the-ground Collaboratives

The regional committees have continued to facilitate the development and implementation of numerous "cross boundary" projects which demonstrate effective ways to implement the MFRC's landscape plans.

- Provided \$30,000 of seed funding and technical support for numerous collaborative projects across the state.
- Completed the Camp Ripley Landscape Stewardship Plan. This plan served as a critical foundation for federal and state designations of Camp Ripley as a Sentinel Landscape Project. These designations support increased funding opportunities to promote sustainable forestry projects while protecting the mission and operations of the military base.
- Continued support on fish and wildlife habitat projects including the Wild Rice and Tullibee Lakes projects. The
 Tullibee Lakes project has resulted in 30,000 acres of woodland stewardship plans and over \$200,000 in cost share
 incentives to private landowners.

Private Forest Management

The regional committees, in partnership with the DNR Private Forest Management (PFM) Program, continue to secure federal, state, and local funding for projects and enhance the effective delivery of services to private woodland owners.

- Secured a USDA Forest Service grant (\$255,000) to work with partners from each of the regional committees and the Minnesota Logger Education Program (MLEP) and loggers to increase the service delivery capacity to private landowners. Partners are working together to promote forest stewardship planning, costs share practices, and timber harvesting.
- Partnered with the TNC, St. Croix River Association, and several other partners to secure federal funding (\$195,000) for the development of a landscape stewardship for the Snake River watershed as well as continued coordination and implementation support of the Kettle River and Four Corners landscape stewardship projects.

Forest Policy and Conservation Investment Priorities

The regional committees have proactively supported the development of forest policy. They have also continued efforts to help guide public investments in sustainable forest management on a landscape scale.

- Each of the six regional committees submitted a recommendation letter to the MFRC to support its 2017–2020 Strategic Plan. Each committee identified four to eight forest resource management topics that they felt the MFRC should address over the next four years. The letters also included a series of specific actions to address these topical issues.
- The committees provided input on the five-year review of the State Forest Action Plan. This plan provides guidance for future federal funding through the USDA Forest Service and will be revised in 2017.

RESEARCH

Research 2015-2016

The MFRC conducts and supports key research to improve forest management and the sustainable use of forest resources. In 2015 and 2016, the MFRC continued to collaborate on research projects and proposals assessing guideline effectiveness and other topics related to sustainable forestry and forest health.

Guideline Effectiveness Over Time

In 2015, MFRC staff assessed the effectiveness of the guidelines related to harvest landings and their impact on soil productivity on a subset of harvest sites that were previously monitored by the DNR over the past 15 years. The analysis concluded that the guidelines are generally needed during all harvest seasons, and that impacts which occur tend to be lessened with time. In 2016, two new effectiveness assessments related to leave trees and erosion control were initiated. The leave tree assessment is being led by researchers at the Natural Resources Research Institute (NRRI) in collaboration with MFRC staff, and will focus on evaluating the effects of leave trees on wildlife populations over time. The erosion control assessment is being conducted in collaboration with the University of Minnesota (UMN) Department of Forest Resources, and it will evaluate the factors contributing to erosion and identifying the situations when erosion control needs to be applied. Both of these projects will be completed in 2019 and are funded by the Environment and Natural Resources Trust Fund (ENRTF) and MFRC.



Trees such as these conifers are commonly retained following harvesting to provide habitat for wildlife. A new research study has been initiated to determine exactly how effective tree retention is for wildlife populations.



Use of erosion control during forest management is important to minimize impacts to water quality. A new research study is underway to determine erosion control effectiveness on skid trails and roads.

Historic Forest Disturbance Assessment

Research continues on a project to identify and assess forest disturbance patterns over the past 40 years using archived LandSat imagery. The assessment will provide estimated location, magnitude, type, and recovery of disturbed forested

areas across the State. The product will be incorporated into ongoing work as part of the DNR Guideline Monitoring Program, but will also have many applications related to forest inventory, wildlife management, and water quality planning. The work will be completed in 2018 and is funded by the ENRTF, MFRC, and DNR.



Increased removal of forest biomass, such as this slash which is typically left after harvesting, can increase economic benefits but may also impact long-term soil and forest productivity.

Ecological Impacts of Woody Biomass Harvesting

Research continues on a collaborative study involving UMN and USDA Forest Service researchers to assess the impacts of different levels of biomass removal on forest ecological functions. The research initially focused on aspen forests and has since expanded to include jack pine. It now also incorporates measurements of soil water dynamics over time. Most recently, MFRC staff have worked with the project team to assess changes in soil nutrient pools following biomass harvesting over a 20-year period at 3 installations from the Long Term Soil Productivity network. A report on the findings will be published in 2017. The research is funded by the ENRTF, MFRC, and USDA Forest Service.

Emerald Ash Borer Impacts

Research continues on a project to assess the ecological and hydrologic impacts of the emerald ash borer (EAB) in black ash wetlands and develop management recommendations for mitigation. The work is being conducted by researchers at

the UMN, MFRC, USDA Forest Service, NRRI, University of Vermont, and Virginia Tech. Work to date has focused on assessing black ash physiology and the hydrologic response and planting success of alternative tree species to simulated EAB-induced mortality. The project has since expanded to assess effects of EAB and management on wildlife and amphibian populations, as well as effects on soil and water. The work is recognized nationally, and five papers reporting on the findings have been published in peer-reviewed journals. The research was initiated in 2011 and is funded by the UMN ENRTF, MFRC, and USDA Forest Service.



Black ash wetlands are seriously threatened by the invasive emerald ash borer (EAB). MFRC staff are collaborating on research to quantify the impacts of EAB on wetlands such as this one.

STATE OF THE MFRC

MFRC 2017-2020 Strategic Planning Process







Why Now

The MFRC undertook a strategic planning process in 2016 that focused on identifying key policy issues. With recent changes in leadership, and after observing the 20th anniversary of the MFRC, the MFRC believed it an opportune time to re-examine the MFRC while being mindful of current and changing forest resource management needs. Not only did the MFRC identify key policy issues as in past years, but it also took a hard look at the MFRC's internal resources and capacity with the intent of increasing efficiency and overall effectiveness.

Planning Process

The assessment phase of the planning process started in early 2016. The MFRC first reviewed its enabling statutes and corresponding duties and responsibilities as well as the structure and function of the MFRC. Previous planning efforts

were also reviewed. To gain more information, the Executive Director interviewed most of the MFRC members and staff to understand their perspectives of priority issues and strengths and weaknesses of the MFRC. Staff solicited further input from the MFRC's regional planning committees. In addition, MFRC surveyed its key stakeholders identified by MFRC members and staff to assist in the development of priorities for MFRC's new strategic plan. The stakeholder survey was sent to 155 people, representing a broad array of forest interests, and 57 responses were received (37 percent response rate). For a full list of stakeholder groups included in the survey, please visit http://mn.gov/frc/meetings-presentations.html.

The assessment data was reviewed by the MFRC in July and September 2016, and the data was used by MFRC members and staff to develop its 2020 planning and policy priorities, vision, goals and strategies.



Facilitator, Mariann Johnson, working with the MFRC to identify planning priorities.



July 2016 MFRC meeting strategic planning discussion.

Planning and Policy Priorities

The key long-range planning priorities identified by all stakeholder groups are detailed below. They are not listed in any particular order.

Long-range policy priorities:

- Water quality and forests
- Health of the forest products industry
- Private forest management
- Terrestrial invasive species

Long-range engagement and internal operations priorities:

- Enhance organizational capacity to align with new organizational priorities
- Expand external communications and increase stakeholder engagement
- Improve forest resources research and utilization of data

MFRC Vision Areas

- 1. Establish and advance clear and sustainable forest resources policy solutions for Minnesota.
- 2. Maintain, enhance, and promote core activities and programs that serve as the foundation of MFRC work.
- 3. Engage and share information with stakeholders to sustain Minnesota's forest resources.
- 4. Provide leadership in the coordination and development of research to achieve optimal forest resource management.
- 5. Align MFRC's resources to effectively address Minnesota's changing forest management needs.

Plan Approval and Implementation

The MFRC reviewed a draft strategic plan in November 2016. The final 2017-2020 Strategic Plan was approved by the MFRC in January 2017. MFRC members and staff will continue to review the plan in coming months to ensure strategic goals and strategies are met.









To access the full MFRC 2017-2020 Strategic Plan, please visit the MFRC website.

PARTICIPATION OPPORTUNITIES

Participating in Sustainable Forestry

MFRC programs rely on individuals interested in forest resources in Minnesota. Their participation assures that a "broad array of perspectives regarding the management, use, and protection of the state's forest resources (M.S. § 89A.02)" guide forest resource planning and management.

MFRC Activities

There are many ways for interested individuals to become involved:

- Attend MFRC meetings. A schedule of meetings is posted on the MFRC website: http://mn.gov/frc/. In 2017, MFRC meetings are scheduled for January 18, March 15, May 24, July 19, September 20-21, and November 15.
- Participate in regional landscape committees and projects. Contact Lindberg Ekola, MFRC Landscape Program Manager, at ekola.mfrc@charter.net or 320-256-8300.
- Use the timber harvesting/forest management guidelines. Guidelines are available on our website.
- Use the Public Concerns Registration Process to notify the MFRC of specific timber harvests or other forest management practices that concern you (see below for more details).
- Attend forest resources educational programs provided by the Sustainable Forests Education Cooperative or the Minnesota Logger Education Program.

The Public Concerns Registration Process

The Public Concerns Registration Process (PCRP) allows citizens to inform landowners, foresters, and loggers of specific concerns regarding timber harvesting and forest management practices they see in Minnesota and learn more about forest management.

PCRP encourages sustainable management of Minnesota's forests through education. It is not a regulatory or dispute resolution program. Instead, landowners, loggers, and foresters become more aware of public concerns regarding forest management, and citizens learn about guidelines for sustainable forest management.

Concerns registered with the Public Concerns Registration Process are confidential. To register a concern, call 1-888-234-3702 or submit one online at http:// mn.gov/frc/public-concerns-registration.html.



MFRC 2015-2016 Publications

Looney, C.E., A.W. D'Amato, B.J. Palik, and R.A. Slesak. 2015. Overstory treatment and planting season affect survival of replacement tree species in emerald ash borer-threatened *Fraxinus nigra* forests in Minnesota, USA. Canadian Journal of Forest Research. 45:1728-1738.

Looney, C.E., A.W. D'Amato, B.J. Palik, and R.A. Slesak. 2016. Canopy treatment influences growth of replacement tree species in *Fraxinus nigra* forests threatened by emerald ash borer in Minnesota, USA. Canadian Journal of Forest Research. 10.1139/cjfr-2016-0369.

Minnesota Forest Resources Council. 2015. 2014 Annual Report to the Governor and Legislature. CP-0115. St. Paul, MN. Available at: http://mn.gov/frc/biennial-reports.html.

Minnesota Forest Resources Council. 2015. Camp Ripley Area Landscape Stewardship Plan. Document #LP0215. Minnesota Forest Resources Council, St. Paul, MN. Available at: http://mn.gov/frc/north-central-committee.html.*

Minnesota Forest Resources Council. 2016. Minnesota Forest Resources Council 2017-2020 Strategic Plan. Minnesota Forest Resources Council, St. Paul, MN. Available at: http://mn.gov/frc/biennial-reports.html.

Minnesota Forest Resources Council. 2016. North Central Landscape Resource Atlas. Document #LT-1215. Minnesota Forest Resources Council, St. Paul, MN. Available at: http://mn.gov/frc/docs/NC Resource Atlas May2016.pdf.

Minnesota Forest Resources Council. 2016. North Central Landscape Demographic Data Report. Document #LT0816a. Minnesota Forest Resources Council, St. Paul, MN. Available at: http://mn.gov/frc/north-central-committee.html.

Minnesota Forest Resources Council. 2016. North Central Landscape Conditions and Trends Report. Document #LT0816b. Minnesota Forest Resources Council, St. Paul, MN. Available at: http://mn.gov/frc/north-central-committee.html.

Minnesota Forest Resources Council. 2016. North Central Landscape Forest Policy Inventory. Document #LP0816 Minnesota Forest Resources Council, St. Paul, MN. Available at: http://mn.gov/frc/north-central-committee.html.

Rossman, R., J. Corcoran, and R.A. Slesak. 2016. Timber harvesting and forest management guidelines on public and private forest land in various watersheds in Minnesota: 2014 and 2015 monitoring implementation results. Minnesota Department of Natural Resources, St. Paul MN. Available at: http://mn.gov/frc/docs/Site-level_monitoring_2014-2015_Monitoring_Report_Final.pdf.

Slesak, R.A., and T. Kaebisch. 2016. Using LiDAR to assess impacts of forest harvest landings on vegetation height and the potential for recovery over time. Canadian J. Forest Research. 46(6): 869-875.

Telander, A.C., R.A. Slesak, A.W. D'Amato, B.J. Palik K.N. Brooks, and C.F. Lenhart. 2015. Sap flow of black ash in wetland forests of northern Minnesota, U.S.A.: hydrologic implications of tree mortality due to emerald ash borer. Agricultural and Forest Meteorology. 206: 4-11.

^{*}Developed with assistance from the DNR Private Forest Management (PFM) Program.

Thank You

MFRC programs are voluntary. Thank you to all the organizations and individuals who continue to help, support, and participate in the programs of the Sustainable Forest Resources Act and the Minnesota Forest Resources Council.

Associated Contract Loggers; Audubon Minnesota; Blandin Foundation; Citizens of Minnesota who participate in SFRA and MFRC programs; Dovetail Partners Inc.; Freshwater Society; Friends of the Boundary Waters Wilderness; Great River Greening; Institute for Agriculture and Trade Policy — Community Forestry Resource Center; Interagency Information Cooperative; Izaak Walton League- Minnesota Division; Minnesota Association of County Land Commissioners; Minnesota Board of Water and Soil Resources; Minnesota Center for Environmental Advocacy; Minnesota Deer Hunters Association; Minnesota Department of Natural Resources; Minnesota Forest Industries; Minnesota Forest Resources Partnership; Minnesota Forestry Association; Minnesota Indian Affairs Council; Minnesota Land Trust; Minnesota Logger Education Program; Minnesota Pollution Control Agency; Minnesota Power; Minnesota Resort and Campground

Association; Minnesota Ruffed Grouse Society; Minnesota Timber Producers Association; National Council for Air and Stream Improvement; North Shore Forest Collaborative; Northern Institute of Applied Climate Science; Sierra Club — North Star Chapter; The Conservation Fund; The Nature Conservancy; The Trust for Public Land; University of Minnesota Twin Cities - Cloquet Forestry Center, Department of Forest Resources, Extension, Institute on the Environment, Sustainable Forests Education Cooperative; University of Minnesota Duluth — Natural Resources Research Institute; USDA Forest Service — Chippewa National Forest, Superior National Forest, Northern Research Station and State and Private Forestry; USDA Natural Resources Conservation Service; USDI Fish and Wildlife Service; University of Minnesota Extension and Institute on the Environment; and Wood Fiber Employees Joint Legislative Council.



2016 tour of the Spruce and Peatland Responses Under Climatic and Environmental Change (SPRUCE) Project at the Marcell Experimental Forest led by Dr. Stephen Sebestyen, USDA Forest Service Research Hydrologist (pictured fifth from the left).