



LEGACY FUND RESTORATION EVALUATION REPORT

Technical Panel Findings and Recommendations | 2020





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Technical Panel Findings and Recommendations – 2020

Report To The Minnesota Legislature

Senate Environment and Natural Resources
Finance Committee

Senate Environment and Natural Resources Policy
and Legacy Finance Committee

House Environment and Natural Resources Finance
and Policy Committee

House Legacy Finance Committee

Lessard-Sams Outdoor Heritage Council

Clean Water Council

Parks and Trails Legacy Advisory Committee

Submitted by the Department of Natural Resources
and the Board of Water and Soil Resources

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Page 17: Dock on short grass—Isanti County SWCD

Page 18: Veery—Bob Dunlap

Page 22: Bison—Megan Benage

Legislative Charge

Parks and Trails Fund: M.S. 85.53, Subd. 5

Outdoor Heritage Fund: M.S. 97A.056, Subd. 10

Clean Water Fund: M.S. 114D.50, Subd 6.

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EXECUTIVE SUMMARY

When Minnesotans passed the Clean Water, Land and Legacy Amendment in 2008, they did so with high expectations. As projects have moved forward throughout the state, so too have efforts to ensure that the projects are meeting those expectations.

This report summarizes annual work to evaluate Legacy Fund restorations. This effort is intended to support project partners in maximizing the impact of Minnesotan's investment. The Department of Natural Resources (DNR), Board of Water and Soil Resources (BWSR) (agencies), and the evaluation panel (panel), continue to work together to improve restorations throughout the state.

This report summarizes evaluations of 36 project sites done in 2020, and panel recommendations based on 187 evaluations conducted since 2012. Projects evaluated in 2020 are largely on track to meet stated goals, utilizing current science and complying with applicable laws. However, the panel did identify areas for improvement including sufficient and ongoing treatment of invasive species, having experts provide construction oversight, and utilizing established best management practices. The panel has also made recommendations for future work. The panel's recommendations are promoted by program staff through reports, presentations, and targeted trainings. Surveys of project partners are used to track trends in restoration activities and identify opportunities for the Legacy Fund Restoration Evaluation Program to support high quality work.

RECOMMENDATIONS

ONGOING RECOMMENDATIONS

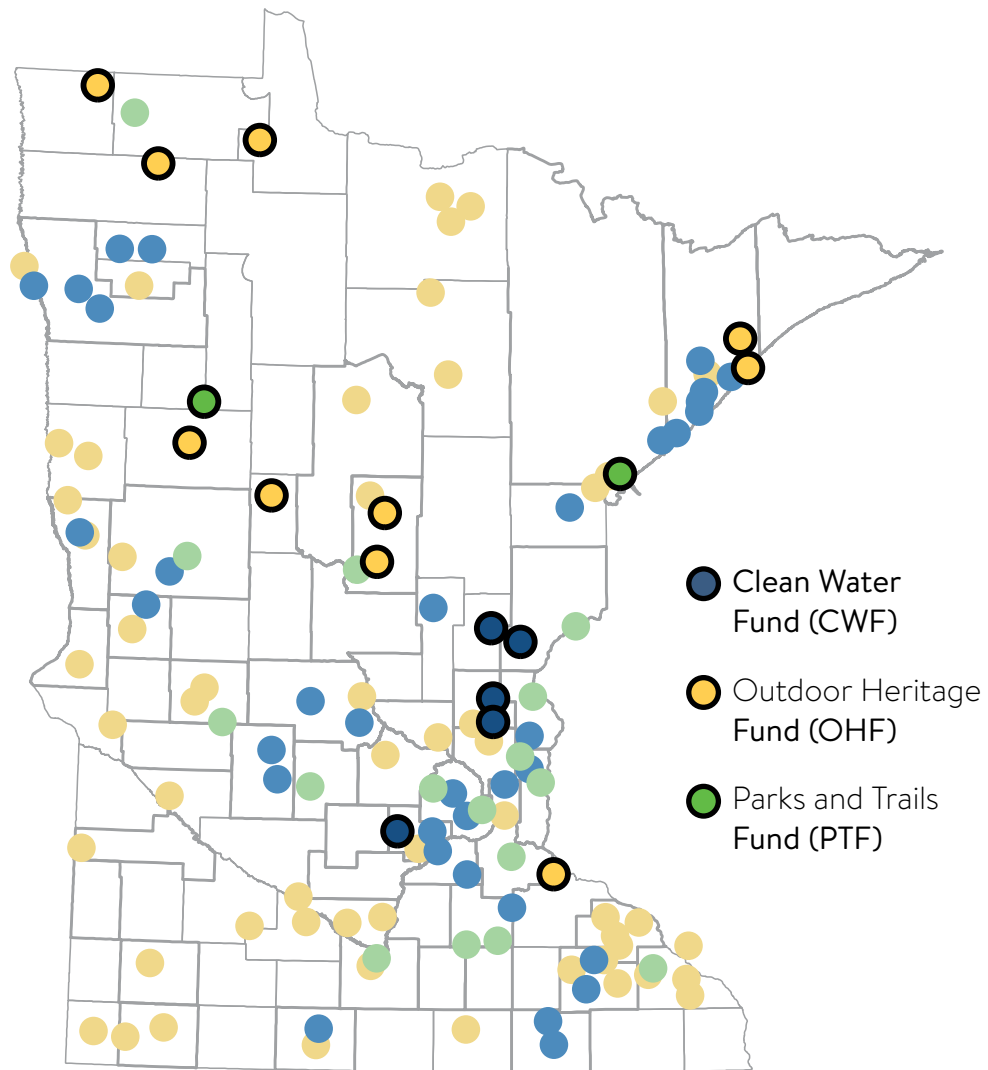
- Improved Project Teams
- Improved Documentation
- Improved Restoration Training
- Improved Planning for Stream Projects
- Improved Vegetation for Stream Projects
- Improved Design Criteria for Lakeshore Projects
- Evaluation Process Improvement



PROJECTS EVALUATED

PROJECTS EVALUATED IN 2020

Dots may represent more than one project site. Circled dots represent projects evaluated in 2020; plain dots represent projects evaluated in previous years.



2020 EVALUATIONS SUMMARY



EVALUATED PROJECTS

Projects were completed using three Legacy Funds:

- Clean Water Fund (CWF)
- Outdoor Heritage Fund (OHF)
- Parks and Trails Fund (PTF)



	CWF	OHF	PTF	All Funds
Project sites in evaluation program pool	306	4495	1115	5916
Projects sites evaluated to in 2020	13	19	4	36
Projects sites evaluated to date	66	97	24	187

STATUTE CHARGE

As statute directs, projects are evaluated relative to the law, current science and stated goals. Statute also directs the panel to determine any problems with the implementation and provide recommendations on improving future restorations. Detailed project evaluations are provided in Appendix A Program Process and Project Evaluations.

CURRENT SCIENCE

Most projects evaluated (92%) fully utilized state of the art site specific treatments and best practices within the range of current science. However the panel identified opportunities to improve the use of current science. These opportunities for improvement include:

- Planning for ongoing treatment for buckthorn
- Utilize established practices in constructed wetlands for water treatment

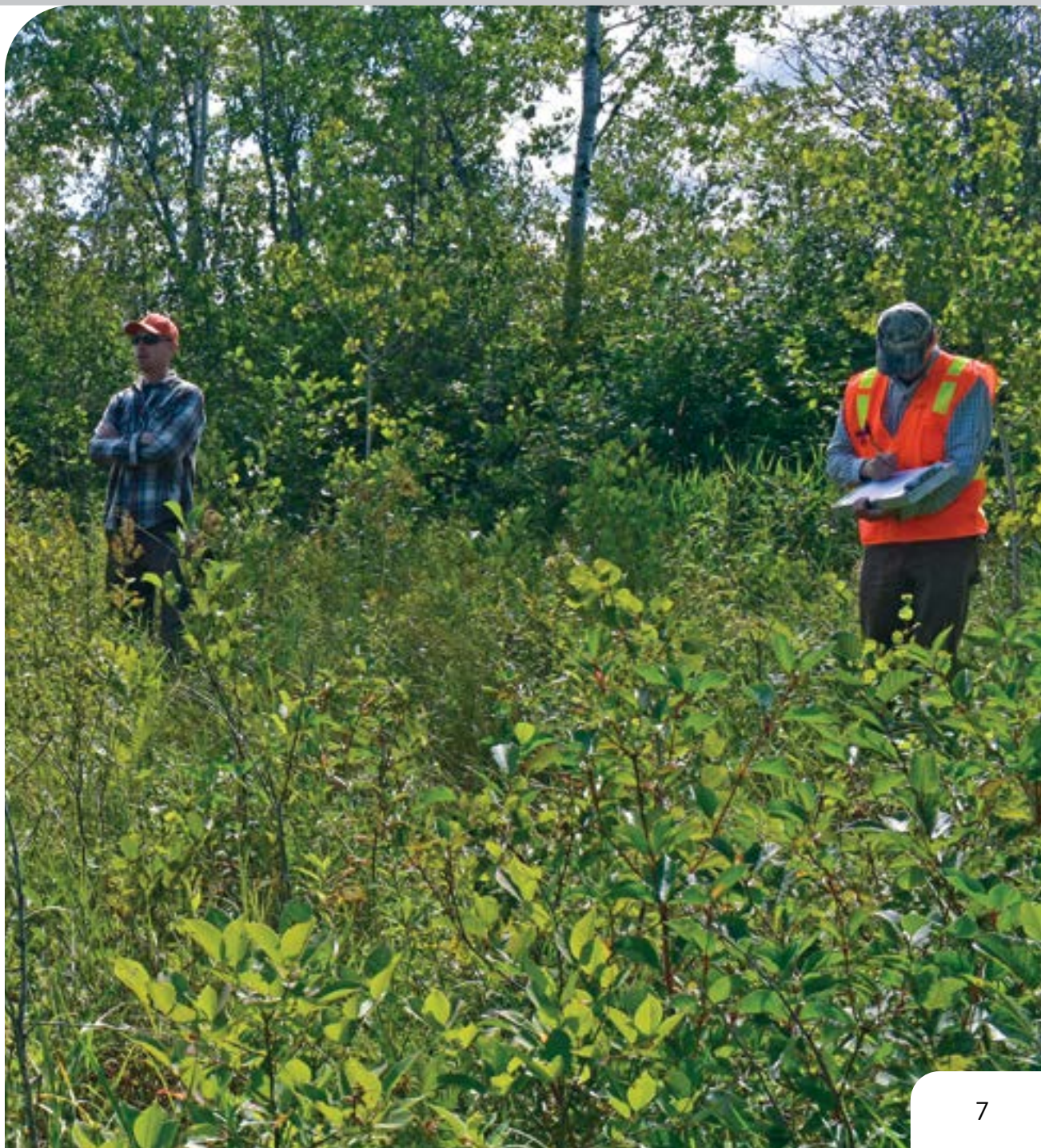
STATED GOALS

The panel determined that most projects evaluated (83%) were on track to meet or exceed their stated goals. Projects had a variety of goals including creating bird nesting habitat, restoring conifer forests, increasing native plant cover on shorelines, reducing sediment and nutrient loading, improving pollinator habitat, reestablishing open oak savannah communities, enhancing elk habitat, and improving habitat quality through invasive species management. Ongoing monitoring and maintenance may be required for these projects to continue to provide habitat and other benefits.

PROBLEMS WITH IMPLEMENTATION

Restoration projects take place in dynamic and complex landscapes. Most projects (92%) were implemented without problems. While not all problems can be predicted or prevented, the panel identified situations where problems arose that could be avoided in the future. Project managers can avoid these problems by applying the following best practices:

- Having experienced experts provide construction oversight
- Identifying staff and funding resources for future management actions
- Sufficient treatment of invasive species during site preparation



RESTORATION EVALUATION PANEL RECOMMENDATIONS

A CRITICAL COMPONENT OF RESTORATION EVALUATIONS is identifying issues and providing guidance to project managers to improve future restorations.

Statute directs the panel to determine: *...any problems with the implementation of restorations, and if necessary, recommendations on improving restorations.*

The emphasis of reporting is also directed in statute: *...the report shall be focused on improving future restorations.*



IMPROVED PROJECT TEAMS

CONTINUED PANEL
RECOMMENDATION. FIRST
ADDRESSED IN 2015 REPORT.

More comprehensive project teams should be used to improve ecological outcomes and better meet Fund goals.

ROLES OF PROJECT PARTNERS:

- Use multidisciplinary project teams appropriate to project scale/complexity
- Engage state agency, local government units and technical experts early in the planning phase

ROLE OF FUNDING ORGANIZATIONS:

- Include project team requirements in requests for proposals
- Continue to make staff available for consultations

ROLES OF STATE AGENCIES

- Consult with project partners regarding technical specifications



RECOMMENDATIONS continued

IMPROVED DOCUMENTATION

CONTINUED PANEL RECOMMENDATION. FIRST ADDRESSED IN 2012 REPORT.

Documentation is critical for understanding, tracking and achieving successful restorations. Documenting clear outcome based goals is crucial for establishing a common understanding and tracking progress.

ROLES OF PROJECT MANAGERS

- Consistently document restoration project data in a simple and accessible format
- Ensure that details of implemented actions are recorded and coupled with the initial plan
- Designate one project partner to permanently store project data

ROLES OF FUNDING ORGANIZATIONS

- Develop checklist of key project data to be archived by project partners
- Provide targeted training and grant guidance for project managers



IMPROVED RESTORATION TRAINING

CONTINUED PANEL
RECOMMENDATION.FIRST
ADDRESSED IN 2012 REPORT.

Continued development
and implementation of
training is essential to
promote best practices and
improve restorations.

ROLES OF LEGACY FUND
RESTORATION EVALUATION
PROGRAM

- Compare needs identified
from evaluations with existing
trainings
- Identify gaps and opportunities
for
targeted trainings
- Integrate program findings and
recommendations into existing
trainings



RECOMMENDATIONS continued



IMPROVED PLANNING FOR STREAM PROJECTS

CONTINUED PANEL RECOMMENDATION. FIRST ADDRESSED IN 2018 REPORT.

Project managers should complete consistent project planning for all stream projects. This information is particularly valuable for stream and river restorations due to the complexity, cost, and risks associated. This consistent project planning process should include:

- Identifying problems (e.g. stressors or impairments)
- Articulating specific project goals
- Designing strategies to address identified problems and specific goals based on a stream assessment
- Budgeting funds adequate to achieve goals
- Documenting project partner capacity to execute and maintain the project, as well as specific roles of project partners

ROLES OF PROJECT PARTNERS:

- Engage state agencies, local government units and other technical experts early in, and throughout, the project planning phase
- Secure financial, staff and/or contract resources to complete appropriate project planning

ROLE OF STATE AGENCIES:

- Identify and promote best practices in consistent project planning detail

IMPROVED VEGETATION FOR STREAM PROJECTS

NEW PANEL RECOMMENDATION.

Well established vegetation is critical for the long-term success of stream projects. While cover crops can provide temporary stabilization, establishing native vegetation takes planning and diligent maintenance especially in dynamic stream systems that are subject to frequent flooding.

ROLES OF PROJECT PARTNERS

- Establish and apply performance standards for vegetation
- Consistently apply BWSR's Native Vegetation Establishment and Enhancement Guidelines focusing on diverse native vegetation
- Incorporate climate resiliency into vegetation planning

ROLE OF STATE AGENCIES

- Provide science-based, up-to-date guidance on the use and maintenance of native vegetation



RECOMMENDATIONS continued



IMPROVED DESIGN CRITERIA FOR LAKESHORE PROJECTS

CONTINUED PANEL RECOMMENDATION. FIRST ADDRESSED IN 2014 REPORT.

The panel recommends that project managers establish consistent minimum design criteria for lakeshore projects. These criteria will allow screening for projects that provide a base level of environmental benefit aligning with Fund goals. Design criteria should be specific to site conditions and constraints.

ROLES OF PROJECT MANAGERS

- With guidance from state agencies, establish minimum design criteria based on programmatic goals and local conditions that integrate with existing direction for shoreline restoration from total maximum daily load or local water plan
- Promote the value of established criteria
- Use improved criteria when recruiting, screening, and approving projects with landowners

TRACKING PROGRESS: PROGRAM ACTIVITIES (2012-2018)

EVALUATION PROCESS IMPROVEMENT

CONTINUED PANEL RECOMMENDATION. FIRST ADDRESSED IN 2012 REPORT.

The Restoration Evaluation Program should implement strategic processes to achieve the stated goal of improving future restorations.

ROLES OF THE LEGACY FUND RESTORATION EVALUATION PROGRAM:

- Revisit evaluated sites to inform the accuracy of initial assessments and refine assessment methods
- Produce stories highlighting decision making, challenges, and successes in project implementation
- Track environmental, social and operational factors that influence success of projects to guide future policy and practice
- Track panel recommendations through project data and project partner surveys to gauge application of recommended actions





ISANTI SOIL AND WATER CONSERVATION DISTRICT—LONG LAKE SHORELINE RESTORATION

CLEAN WATER FUND

As its name suggests, Long Lake in southern Isanti County is a long narrow lake. It is also a shallow lake. In shallow lakes sediments and nutrients can easily get suspended in the water, leading to unclear “turbid” water and algal blooms. To stop some nutrients from reaching Long Lake, Isanti Soil and Water Conservation District leveraged a Clean Water Fund grant to work with the Long Lake Improvement Association and Long Lake Improvement District.

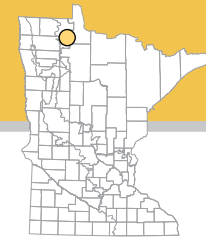
Together they helped lakeshore owners convert turf grass shoreline to native plant buffers. The native plants help absorb nutrients before rainwater runoff hits the lake and creates habitat for wildlife, including pollinators. Since the initial seven lakeshore buffer projects supported by the Clean Water Fund, project partners have added more than 30 new native buffers.



RESTORATION HIGHLIGHTS

- Diversity of native vegetation used for long-term stability and habitat benefits
- Project sites serve as a demonstration to encourage greater application of natural shorelines
- Project teams included lakeshore owners and built local capacity for future projects





AMERICA BIRD CONSERVANCY— YOUNG FOREST CONVERSIONS

OUTDOOR HERITAGE FUND



Birds like golden-winged warbler, American woodcock, ruffed grouse, rose-breasted grosbeak, very and black-billed cuckoo need a variety of habitat types to thrive. This includes early successional forests, also known as young forests, for nesting and brood rearing, and adjacent more mature forest for after the birds leave the nest. In the past, natural disturbances maintained these habitats. Today, without targeted brush cutting and burning, young forest habitats become more and more rare.

Through collaborations with County, State, Federal and Tribal partners, American Bird Conservancy (ABC) staff used science-based best management practices to create diverse and healthy forest landscapes in 12 Minnesota Counties.

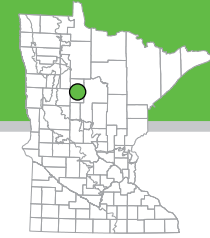
Building partnerships from the ground up, ABC staff enhanced habitats with 10 Minnesota DNR Area Wildlife Offices and Forestry Departments, six Minnesota County Land Departments, two USFWS National Wildlife Refuges, the Chippewa national forest, and the Red Lake Band of Chippewa. Working with and training a variety of local contractors, ABC staff and partners have brought back nesting habitat to forests across northern Minnesota.

Ongoing monitoring is underway documenting that there are more birds on the landscape. Knowing that the new nesting habitat is being used by golden-winged warblers, American woodcock, and other wildlife is critical in maximizing the impact of the Legacy Funds on Minnesota's natural resources.

RESTORATION HIGHLIGHTS

- Successfully built diverse and long-lasting collaborations
- Comprehensive and ongoing documentation of project goals, methodology and outcomes
- Coordinated monitoring documenting increased nesting





MINNESOTA DNR—MIXED PINE FORESTS FOR FUTURE GENERATIONS

PARKS AND TRAILS FUND

Established in 1891, Itasca State Park is Minnesota's oldest state park. Jacob V. Brower worked tirelessly to create the park to protect the pine forests around Lake Itasca. Forest restoration projects in the park have maintained and reestablished healthy forests. Natural processes such as wind throw and fire can offer opportunities for the forest to regenerate. Resource managers also use traditional forest practices such as logging and planting to grow the next generations of forest. Between 2010 and 2014 park resource specialists planted more than 100,000 trees into burned, logged and wind damaged areas. A variety of methods

protect young trees from deer including cages, paper bud caps and controlled hunts. Ongoing efforts to manage invasive species are critical to forest health. Because park staff utilize a variety of tools in the forest management tool box, projects are on track to meet stated goals including establishing pine species in old fields, reconstructing openings after blowdowns, and managing Itasca's mixed pine forests for future generations. With thoughtful and coordinated park management, including restorations done with Legacy Funds, the splendor of Itasca has been maintained providing a healthy landscape and recreation opportunities for all Minnesotans.

RESTORATION HIGHLIGHTS

- Detailed and organized documentation of Park wide restoration activities
- Restoration activities timed to maximize outcomes and minimize costs
- Appropriate restoration training for staff and contractors
- Strategic planning including long-term management is practical for meeting proposed outcomes



IMPROVING FUTURE RESTORATIONS



Maximizing the benefits of Legacy Funded restorations requires evaluating projects to learn what's working, engaging experts to promote current science, and communicating recommendations so they can be implemented.

EVALUATING PROJECTS

In 2020, we visited 36 project sites. In addition to visiting a number of forest restorations as requested by the restoration evaluation panel, we visited projects in new counties completed by a variety of project partners. Combining these evaluations with previously completed site visits provides a broader view of the implementation of Legacy Funds, the benefits they are providing, and opportunities to maximize the benefits of the funds for Minnesotans.

**PROGRAM
ACTIVITIES
2012–2020**



187

PROJECTS
EVALUATED
(ALL HABITAT TYPES)

ENGAGING EXPERTS

To understand how the Legacy Fund Restoration Evaluation Program can help support practitioners, we conducted a survey asking what people need to do their best work. Practitioners wanted more trainings to learn from experts. One way our program meets this need is by coordinating opportunities for practitioners to engage with experts such as sessions on restorations at the 2020 Upper Midwest Invasive Species conference. Seventeen experts shared their experiences on grazing and shading, controlling cattails, successes and benefits for pollinators, and improving future restorations.



223
EXPERTS
ENGAGED

COMMUNICATING WITH STAKEHOLDERS

For panel recommendations to make a difference, they need to be communicated to people planning, funding, and implementing restorations. We increase the reach of the panel's recommendations by engaging stakeholders. For example in 2020



program staff answered questions, discussed best practices, and shared lessons learned on the Minnesota DNR Prairie Pod, a podcast that reaches hundreds of stakeholders in prairie restoration in Minnesota (<https://www.dnr.state.mn.us/prairiepod/index.html>).



MORE THAN
3500
STAKEHOLDERS
REACHED

ADDITIONAL RESOURCES

RESTORATION EVALUATION PROGRAM WEBSITE

<https://www.dnr.state.mn.us/legacy/restoration-evaluation.html>

APPENDIX A PROGRAM PROCESS AND PROJECT EVALUATIONS

<https://www.lrl.mn.gov/edocs/edocs?oclcnumber=823766285>



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