

Minnesota Department of Natural Resources; Minnesota's Lake Superior Coastal Program

Federal Fiscal Year 2021 Pass-Through Grant Projects

The National Oceanic and Atmospheric Administration, through the Office of Coastal Management, funds the Minnesota Department of Natural Resource's Lake Superior Coastal Program (Coastal Program).

The Coastal Program strives to pass through 51% of the total federal award to local grant projects that improve coastal management. We do this with annual grants (\leq \$100,000, 15-month projects) and Short-Term Action Request (STAR) grants (\leq \$10,000; six-month projects).

Through a competitive application process, the Coastal Program selects projects for funding.

- The Governor's Council on Minnesota's Coastal Program (Coastal Council) reviews and scores applications, recommending projects that score 70 or more points for grants.
- The DNR Commissioner selects the projects, based on the availability of grant funds.
- NOAA reviews and approves the projects.

The Coastal Program selected the following projects between July 1, 2020 and June 30, 2021.

Annual Grant Projects

Coastal Erosion Hazard Map Update - Phase 3

Arrowhead Regional Development Commission; \$47,200

This project will update the coastal erosion hazard area mapping layer for the entirety of Minnesota's Lake Superior's coastline, using a methodology created in 2020 and extrapolating the analysis to the entirety of the shoreline.

Project partners include North Shore Management Board, Grand Portage Band of Lake Superior Chippewa, Lake and Cooke County SWCD's and County Land Use/GIS offices, City of Duluth, National Oceanic and Atmospheric Administration, University of Minnesota-Duluth, MN DNR, and AMI Consulting.

Rocksnot Threatens Superior's North Shore

Science Museum of Minnesota; \$96,671

Since the early 2000s, didymo blooms (aka the diatom alga *Didymosphenia geminata* or rocksnot) have become increasingly common along nearshore Lake Superior habitats during late summer and fall, mirroring this species' nuisance behavior around North America and the world. To understand the

impact didymo mats are having on Superior's nearshore ecology, fisheries, and water quality, researchers must determine (a) if an aggressive strain of didymo has replaced native *Didymosphenia geminata*, or (b) if changing environmental conditions have become favorable to the formation of didymo mats. This project, in collaboration with DNR fisheries, Grand Portage Band of Lake Superior Chippewa, and the 1854 Treaty Authority seeks to do that.

Researchers will provide public outreach and education about didymo in collaboration with the Grand Portage National Monument outreach staff, local SWCDs, and SeaGrant.

Assessment of Bacterial Hazards in North Shore Streams and Beaches

Regents of the University of Minnesota; \$81,179

This project aims to improve understanding of current and future hazards to Lake Superior North Shore coastal communities by identifying conditions contributing to unsafe *E. coli* levels and toxic cyanobacteria harmful algal blooms (cHABs) in streams and at Lake Superior beaches by integrating professional monitoring with community science participation. This project is a partnership between the University of Minnesota, Minnesota Department of Health, and the City of Duluth.

Demonstration of a Mobile Stormwater Lab

Regents of the University of Minnesota; \$86,435

This project will build a mobile stormwater testing laboratory in a trailer for onsite performance evaluation of filter materials for treatment of urban runoff. Project partners, Duluth Denfeld High School, Fond du Lac Environmental Program, and the City of Duluth, will test the functions and practicality of the mobile laboratory. It will serve as a tool for community education and outreach, and produce data to inform implementation of watershed management plans across Lake Superior coastal areas.

Mitigation of Tischer Creek Brook Trout Migration Barrier

South St. Louis Soil and Water Conservation District; \$96,797

With partners, including the City of Duluth and DNR Fisheries, this project will correct a migration barrier in a tributary to Tischer Creek in Hartley Park. Engineers, with funding support from NOAA, have designed a plan to remove a perched culvert, reroute the creek, and install an appropriately sized culvert. The restoration will allow Brook Trout to access this cold-water tributary and provide critical spawning habitat and refuge during the summer months, when water temperatures in the main stem are lethal to Brook Trout. This project also includes an accessible fishing path and platform near the culvert.

This project has the support of many agencies and local groups including the MN Pollution Control Agency, Bureau of Water and Soil Resources, 1854 Treaty Authority, Hartley Nature Center, Flyfishers Federation International, and the Izaak Walton League.

Superior Waters Education and Outreach Initiative

Hamline University - Center for Global Environmental Education; \$93,338

In collaboration with multiple state agencies and non-profit organizations, this project addresses Lake Superior water quality problems and solutions, and climate resilience issues. Hamline will install a network of eight North Shore Multimedia Gallery™ exhibit kiosks in public venues that will engage residents and visitors, including those with sensory impairments and physical disabilities. Sea Change Expeditions will make classroom presentations and online educational resources available to all K-12 schools in the North Shore communities of Duluth, Two Harbors, Silver Bay, and Grand Marais.

STAR Grant Projects

Gathering Partners 2021: A conference for friends of Minnesota's natural resources

Regents of the University of Minnesota; \$10,000

Partially fund the field trips and other educational activities of 'Gathering Partners: A conference for friends of Minnesota's natural resources' hosted by the University of Minnesota Extension May 14-16, 2021 in Two Harbors, MN. The conference usually attracts an audience of 250-300 Minnesota Master Naturalists, Aquatic Invasive Species Detectors and other natural resource volunteers.

Testing Mitigation Tools on the North Shore

South St. Louis Soil and Water Conservation District; \$10,000

Determine effectiveness of the Stream Quantification Tool at proposed stream and riparian restoration sites on North Shore streams.

LNPk Community Education and Engagement

Ecolibrium3; \$10,000

Community members influence the design of the entrance to the Lincoln Park neighborhood at workshops on Lincoln Park's ecological, sociological, and industrial conditions and history.

Guidelines for Community Land Access and Use

Crystal Bay Township; \$7,500

Develop a tool for community members and community organizations to use Township owned land for projects that enhance both nonhuman and human community resilience and meets community needs.

Restoration Plantings & Forest Hydrology – Phase 2

Regents of the University of Minnesota; \$10,000

Using phenologic and hydrologic monitoring of trees and hydrologic measurements of the Stewart River, confirm differentiation amongst species and seed sources for climate-minded restoration.

Updating the North Shore Regional Curve

South St. Louis Soil and Water Conservation District; \$10,000

Collect data from healthy streams to fill data gaps in the North Shore Regional Curve.

Assessment of Stream Restoration Practices

Regents of the University of Minnesota; \$9,801

Assess ecological function of stream restoration structures installed during full-channel realignments in the Lake Superior coastal area using measurements of nutrient uptake around installed and natural habitat units.

Lake Superior Stormwater Chalkfest

City of Duluth; \$7,241

Educate about stormwater pollution and encourage community engagement through student created chalk drawings above stormwater drains.

Cedar Grove Stormwater Management

Cook County/Grand Marais Economic Development Authority; \$10,000

Develop a long-range plan to ensure proper stormwater design to address the current and potential future challenges at the Cedar Grove Business Park.

Shoreline Erosion Monitoring Plan and Manual

Lake County Soil and Water Conservation District; \$10,000

Develop a plan and a manual for monitoring coastal erosion along Minnesota's Lake Superior Shoreline.