

Clean Water Fund FY16-17



Background Photo by Ken Larson of Chisago County, Minnesota



Minnesota Agricultural Water Quality Certification Program

\$2.5 million for FY 16

The Minnesota Agricultural Water Quality Certification Program (MAWQCP) is designed to accelerate voluntary adoption of on-farm conservation practices that protect Minnesota's water resources. Farmers who implement and maintain approved farm management practices will be certified and in turn assured that their operation meets the state's water quality goals for a period of ten years. Certification gives farmers and the public greater certainty about regulatory standards.

The MAWQCP is a state-federal partnership that includes: The Minnesota Department of Agriculture (MDA), Minnesota Pollution Control Agency, Minnesota Board of Water and Soil Resources, Minnesota Department of Natural Resources, U.S. Department of Agriculture's Natural Resources Conservation Service (USDA-NRCS), and the U.S. Environmental Protection Agency.

After an initial pilot phase, MAWQCP-certification is now being made available to farmers statewide. Farmers seek certification by applying at their local soil and water conservation district and completing a whole farm water quality risk assessment.

Nitrate in Groundwater

\$5.171 million for FY 16-17

Nitrate-nitrogen (nitrate) is one of the pollutants of greatest concern for groundwater in Minnesota. This funding is used for activities that help identify the severity and magnitude of nitrate contamination and evaluate and implement practices at the local level to reduce nitrate in groundwater.

The MDA works with local partners to monitor groundwater in agricultural areas and works directly with local farmers and agri-business to improve water quality where groundwater is adversely impacted. Primary partners include cities, counties, and soil and water conservation districts. The MDA also works with University of Minnesota researchers to develop, promote and provide education on Nitrogen Fertilizer Best Management Practices (BMPs).

The MDA's groundwater and drinking water protection projects include:

- Responding to areas with elevated nitrate in groundwater
- Private well monitoring networks (regional assessments) and accelerated private well testing for nitrate and pesticides in sensitive townships
- Demonstration sites validating nitrogen recommendations (timing, rate, source) and water quality impacts under irrigated agriculture
- Irrigation and nitrogen management workshops
- Nutrient management surveys to evaluate on-farm adoption of BMPs
- Regional efforts with the University of Minnesota Extension and local governments to promote BMPs in sensitive areas





Irrigation Water Quality Protection

\$220,000 for FY 16-17

Nitrate losses from irrigation of nitrogen demanding crops (such as corn, potatoes and edible beans) is a potential source of nitrate in groundwater, especially in areas with sandy soils. This funding provides an irrigation water quality specialist position through a contract with the University of Minnesota Extension. The water quality specialist develops guidance and provides education on irrigation and nitrogen BMPs for Minnesota Irrigators. Many farmers, particularly those newly implementing irrigation, will benefit from increased education, training and direct support.

Ag Non-Point Source Research and Evaluation

\$1.575 million for FY 16-17

The goals of the program are to evaluate the effectiveness of agricultural conservation practices, identify underlying processes that affect water quality and develop technologies to target critical areas of the landscape. Funded projects provide current and accurate scientific data on the environmental impacts of agricultural practices and help to develop or revise conservation practices that reduce environmental impacts while maintaining farm profitability.

This program will help answer questions such as:

- *Where are pollutants coming from and what is the magnitude of each source?*
- *How will we improve water quality? Which practices work best? What are the costs and benefits?*
- *Where in the landscape should conservation practices be placed?*
- *What tools can local resource managers use to focus limited funds?*

Since 2008, the MDA has announced six requests for research proposals. Any organization, research entity or individual may apply for these funds. This program has sponsored 31 projects, 14 are on-going, and 17 have been completed. Projects selected in 2014 focus on cover crops, specifically overcoming challenges related to establishment and maximizing environmental benefits. Results from these studies are integrated into multi-agency efforts to protect and restore Minnesota waters. Most TMDL and WRAPS reports reference work that was funded through this program.

Technical Assistance and On-Farm Demonstrations

\$2.25 million for FY 16-17

The MDA's technical assistance helps to ensure accurate scientific information is available and used to address water quality concerns in agricultural areas of Minnesota. This funding is used to evaluate conservation practices, share information about research and new technologies, and enhance outreach and education to the agricultural community and local government partners.

Technical assistance also fills an important need for field demonstration and validation of practices. The MDA uses on-farm, edge-of-field monitoring to assess sediment and nutrient loss at the field-scale and to evaluate the effectiveness of conservation practices. New and existing conservation practices are evaluated at these sites including practices that have been developed or studied within the MDA's Clean Water Research Program. The MDA works with many partners including universities, crop consultants, soil and water conservation districts, farmers and other state agencies.

Technical assistance activities include:

- Discovery Farms Minnesota
- Root River Field to Stream Partnership
- On-Farm Nutrient Management Initiative
- Red River Basin Drainage Water Management Project
- Providing support to the Impaired Waters Process



AgBMP Loan Program

\$150,000 for FY 16-17

The AgBMP Loan Program provides low interest loans to individuals for management practices that restore or protect water quality. The goal of the AgBMP Loan Program is to implement recognized management practices with proven environmental benefits.

Loans are used to fund practices that prevent, reduce, or eliminate a nonpoint source water pollution problem in rural Minnesota, whether on a farm, a residence or business, an unsewered community or a lakeside cabin. Funded projects typically include manure management, feedlot improvements, septic system upgrades, purchase of conservation tillage equipment, erosion control structures, and the repair or relocation of some wells.

Pesticide Monitoring and Assessment

\$700,000 for FY 16-17

The MDA has continuously monitored the state's water resources for more than 20 years. The purpose of the MDA's monitoring activities is to determine the presence and concentration of pesticides in Minnesota's ground and surface water. The MDA's water quality data is used to evaluate the need for and effectiveness of protective actions for ground and surface water.

Clean Water funding has increased the capability of the MDA's pesticide laboratory. It has allowed the MDA to increase the number of detectable pesticides from 44 in 2009 to 133 in 2014, increase the sensitivity of detection of certain pesticides, and increase the overall number of samples that can be analyzed on an annual basis. The increased laboratory capacity has allowed the MDA to provide cooperative pesticide monitoring and assessment with other state agencies (MDH and MPCA) on lakes, wetlands, and public water supply systems.

Forever Green Initiative

\$1 million for FY 16

Funding was provided to the MDA for grants to the University of Minnesota Forever Green Initiative. This effort brings researchers together from multiple departments including plant breeding, agronomy, food science and economics. Their goal is to develop new high value commodity crops for conservation purposes.

Many of these new crops could fit into a corn and soybean rotation by providing ground cover after harvest and before next spring's emergence. Winter annuals and cover crops grow between the time when annual crops are harvested in the fall and a new planting is established in the spring. This is the time that fields are bare, and potential for precipitation and runoff are high, therefore cropland is most vulnerable to erosion and nutrient loss. Adding annual or perennial cover can help protect soil and water, and mitigate climate change. New, economically viable crops could make Minnesota's cropland more productive, efficient and sustainable, while maintaining the profitability of farmers.

The MDA will administer the distribution of funds and coordinate reporting on progress, results and outcomes. Funding will directly support the University of Minnesota Forever Green Initiative. Information on the Forever Green Initiative is available at the University of Minnesota website: www.cinram.umn.edu/forevergreen/index.html.

Research Inventory Database

\$100,000 for FY 16-17

The Minnesota Water Research Digital Library is a user-friendly, searchable inventory of water research relevant to Minnesota. It includes both peer reviewed articles as well as white papers and reports. The Library provides one-stop access to all types of water research.

The MDA has completed the development of the Minnesota Water Research Digital Library (MNWRL). It is now available online and includes over 1,200 diverse research articles and scientific reports. Clean Water funds will be used to enhance and manage the database in partnership with other agencies. The MDA will provide support and training for partner organizations and conduct intensive outreach to Minnesota's water and research communities.



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