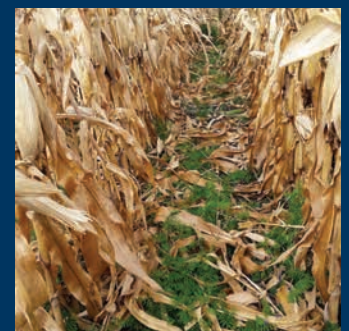


FY 18-19

# CLEAN WATER FUND

**m** DEPARTMENT OF AGRICULTURE



# MINNESOTA AGRICULTURAL WATER QUALITY CERTIFICATION PROGRAM

**\$5 million for FY 18-19**

The Minnesota Agricultural Water Quality Certification Program (MAWQCP) is a first of its kind, voluntary program that supports the implementation of conservation practices on a field by field, whole farm basis. Through its innovative and nationally recognized process of identifying and mitigating agricultural risks to water quality, the MAWQCP delivers on-farm conservation that helps protect and restore Minnesota's lakes, rivers, streams, and groundwater. The MAWQCP is a national demonstration project that is operated as a federal-state partnership between the State of Minnesota, the United States Department of Agriculture, and Minnesota's 91 soil and water conservation districts. The certification program has also partnered with industry leaders, including Land O'Lakes Inc. and GNP Company, to promote the program and enroll additional acreage.

Farmers and landowners who treat all risks to water quality on their operation are certified and are deemed to be in compliance with any new water quality laws or rules for ten years. Certification gives farmers and the public greater certainty about regulatory standards and assures the public Minnesota's farmers are doing their part to protect water quality. In two years of statewide operation, the MAWQCP is averaging more than 190 farm certifications per year, treating more than 110,000 acres, and keeping tens of millions of pounds of soil and nutrient runoff from entering Minnesota's waters annually.

## NITRATE IN GROUNDWATER

**\$4.171 million for FY 18-19**

Nitrate-nitrogen is one of the contaminants of greatest concern for groundwater in Minnesota. In some vulnerable areas of the state a significant percentage of private wells have nitrate levels which exceed the drinking water health risk limit. The Minnesota Department of Agriculture (MDA) has developed the Nitrogen Fertilizer Management Plan which outlines a process to prevent or minimize the impact of nitrogen fertilizer on groundwater.

The MDA works with local partners to monitor groundwater, implement prevention strategies, respond in areas with elevated nitrate in groundwater and provide education on nitrogen fertilizer best management practices (BMPs). Primary partners include counties, soil and water conservation districts, agri-businesses, University of Minnesota researchers, and individual farmers.

The MDA's groundwater and drinking water projects include:

- Working with local farmers in vulnerable areas to prevent or minimize groundwater contamination
- Regional efforts with the University of Minnesota Extension and local governments to promote BMPs in vulnerable areas
- Private well monitoring networks (regional assessments) and accelerated private well testing for nitrate in vulnerable townships
- Demonstration sites validating nitrogen fertilizer recommendations and water quality impacts under irrigated agriculture
- Nutrient management surveys to evaluate on-farm adoption of BMPs



## IRRIGATION WATER QUALITY PROTECTION

**\$220,000 for FY 18-19**

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.

## AgBMP LOAN PROGRAM

**\$150,000 for FY18-19**

The AgBMP Loan Program provides low interest loans to individuals for best management practices (BMPs) 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.

## AGRICULTURAL RESEARCH AND EVALUATION

**\$1.325 million for FY 18-19**

The MDA is using Clean Water Fund dollars to support agricultural research and evaluation. 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.

Funding is awarded through a competitive request for proposal (RFP) process with most passed through to external researchers. Research priorities are selected with input from an interagency research team as well as other organizations.

Since 2008, the MDA has announced nine requests for research proposals. Any organization, research entity or individual may apply for these funds. This program has sponsored 35 projects, 12 are on-going and 23 have been completed. Results from these studies are integrated into multi-agency efforts to protect and restore Minnesota waters. Most Total Maximum Daily Load (TMDL) and Watershed Restoration and Protection Strategies (WRAPS) reports reference work that was funded through this program.

## TECHNICAL ASSISTANCE AND ON-FARM DEMONSTRATIONS

**\$2.25 million for FY18-19**

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 Agricultural Research and Evaluation 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
- Nutrient Management Initiative
- Red River Basin Drainage Water Management Project
- Providing support to the Impaired Waters Process



## PESTICIDE MONITORING AND ASSESSMENT

**\$700,000 for FY18-19**

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 laboratory. It has allowed the MDA to increase the number of detectable pesticides from 44 in 2009 to 143 in 2016, increase the sensitivity of detection of certain pesticides, and increase the overall number of samples that can be analyzed each year. The increased laboratory capacity has allowed the MDA to provide cooperative pesticide monitoring and assessment with other state agencies (Minnesota Department of Health and Minnesota Pollution Control Agency) on lakes, wetlands, and public water supply systems.

## FOREVER GREEN INITIATIVE

**\$1.5 million for FY18-19**

The University of Minnesota Forever Green Initiative brings researchers together from multiple disciplines including plant breeding, agronomy, food science and economics to develop new, high-value commodity crops for conservation purposes.

Winter annuals and cover crops grow between the time when annual crops, such as corn and soybeans, are harvested in the fall and a new planting is established in the spring, protecting the otherwise bare soil from 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 administers the distribution of funds and coordinates reporting on progress, results, and outcomes. Funding directly supports the University of Minnesota Forever Green Initiative. Additional information is available at: [www.forevergreen.umn.edu](http://www.forevergreen.umn.edu).

## RESEARCH INVENTORY DATABASE

**\$100,000 for FY18-19**

The Minnesota Water Research Digital Library (MNWRL) 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 MNWRL is available online and includes over 2,675 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 outreach to Minnesota's water and research communities. Access MNWRL at: [www.mn.gov/wrl](http://www.mn.gov/wrl).

## PESTICIDE TESTING OF PRIVATE WELLS

**\$2 million for FY18-19**

Clean Water funding supports the Private Well Pesticide Sampling (PWPS) Project. The primary goal of the PWPS Project is to provide information to homeowners and the general public related to the presence of pesticides in private drinking water wells located in geologically vulnerable areas with row crop agriculture. The PWPS Project involves pesticide testing of private wells where nitrate is detected as part of the Township Testing Program. The Township Testing Program provides nitrate testing for well owners in areas most vulnerable to groundwater contamination. In general, the probability of detecting at least one pesticide in a well increases as the nitrate concentration increases.

## VEGETATIVE COVER AND SOIL HEALTH

**\$150,000 for FY18-19**

There is general agreement that increasing the adoption of vegetative cover (e.g. existing forages and cover crop systems) has the capacity to provide significant benefits to surface and groundwater quality; however, viable markets for these crops are not broadly available or they are not economically viable. The goal of this program is to increase planting of vegetative cover using a market-driven approach so they can be grown profitably by farmers. Increasing vegetative cover can be accomplished by diversifying crop rotations, adopting perennial cropping systems, and incorporating cover crops. MDA staff will evaluate potential opportunities and barriers for farmers to adopt these protective crops. The concept is to focus on familiar, traditional cash crops like alfalfa, oats, and winter wheat. The program will benefit by leveraging existing funds administered by the MDA for the development of agricultural markets.

## FOR MORE INFORMATION CONTACT

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