



Edge-of-Field Monitoring

An Overview



Farming provides food to our growing population and is essential to rural economies. Understanding how our farming practices impact soils, water, crops, and environment is also essential.

Nutrients like nitrogen and phosphorus, are essential elements in healthy soil for productive crops. Nutrients may be lost through erosion causing degraded soil health and productivity and off-site water quality issues. The way we manage our agricultural lands, tillage, fertilization, and water quality management impacts the health of our lands and how nutrients are cycled and lost from them.

Implementation of conservation practices or a system of practices along with evaluating and monitoring their effectiveness is key to modifying farming practices that achieve better results. Natural Resources Conservation Service (NRCS) offers Edge of Field Monitoring to achieve this goal.

How it Works

Get Stared

Contact your local USDA-NRCS field office and the Water Quality Monitoring Team at SM.NRCS.WQMT@usda.gov to prepare or update your conservation plan to include Edge-of-Field activities. You are required to work with a qualified individual, such as a university or environmental consultant, to install the equipment (for continuous monitoring) and collect and analyze the data. Qualifications for a qualified individual are listed in CEMA 201.

Plan Development

- ♦ After developing a preliminary plan, your USDA field office will help you submit an application for cost-share assistance.

- ♦ As you work with NRCS on your conservation plan and application, you and the monitoring partner, in coordination with the NRCS Water Quality Monitoring Team, will also draft a monitoring plan and Quality Assurance Project Plan (QAPP).

Funding and Approval

- ♦ Once your application for cost-share assistance is funded, the QAPP and monitoring plan will be submitted to the NRCS Water Quality Monitoring Team for final approval.
- ♦ Once approved, installation and monitoring can begin.



Tile/subsurface drain monitoring site in a potato crop.

Why Participate?

NRCS believes this collaboration with producers will demonstrate the value and effectiveness of system-wide voluntary conservation practices and their positive effects on water quality and the surrounding community.

The project will provide much needed data that shows the quantifiable effects of conservation practices and help farmers adapt their management to increase productivity, reduce costs and protect water quality.

What is Edge-of-Field Monitoring?

Edge-of-Field Monitoring is implemented as a pair of NRCS Conservation Evaluation and Monitoring Activities (CEMAs) that are available for use in approved watersheds to evaluate the effectiveness of a practice, system of practices, or other management techniques in reducing soil and nutrient run-off to surface waters. These CEMAs are conducted at the edge of a farm field to acquire insight about existing land management practices through the collection of runoff water quality data.

Monitoring activities include:

- Edge-of-Field Water Quality Monitoring - Data Collection and Evaluation (201), and
- Edge-of-Field Water Quality Monitoring - System Installation (202).

Edge-of-Field monitoring is used to evaluate the performance of conservation practices and systems, such as nutrient management, tile drains, buffers, and irrigation water management. It will provide NRCS information to validate and calibrate models for nutrient and sediment transport and help the producer make the best conservation investments possible.





Data Confidentiality

Section 1619 of the Food, Conservation, and Energy Act of 2008, 7 U.S.C. § 8791 (Information Gathering) prohibits disclosure of information provided to NRCS or an NRCS cooperator by an agricultural producer or owner of agricultural land concerning the agricultural operation, farming or conservation practices, or the land itself, in order to participate in an NRCS program such as EQIP. NRCS will not share monitoring data unless it is aggregated to a level protective of personally identifiable information.

In some cases, NRCS may share data with a cooperator if a data sharing agreement is in place and it specifies that the cooperator is bound by Section 1619 requirements.

A cooperator under an agreement will not share your data. NRCS has no authority over monitoring partners so establishing an agreement between you and your monitoring partner can ensure that your monitoring information is identified and properly protected.

Edge-of-Field Support

To ensure projects are well planned, scientifically sound and meet the needs of the producer, NRCS has trained staff available at the local and state office levels to assist. There is also a national team of water quality experts, the NRCS Water Quality Monitoring Team, available to assist you through the life of the project.

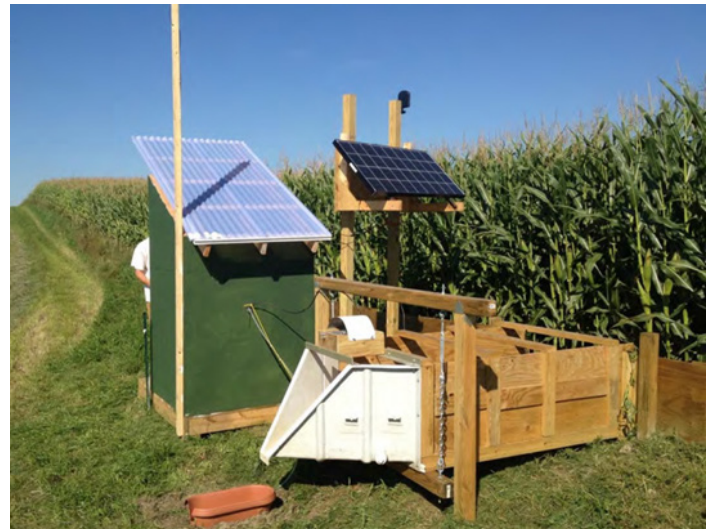
Funding for Edge-of-Field Monitoring is available in eligible watersheds through the Environmental Quality Incentives Program (EQIP).

More Information

For more information on available technical assistance and conservation programs, contact your local NRCS office.

More information on Edge-of-Field Monitoring is available from the Water Quality Monitoring Team at:

SM.NRCS.WQMT@usda.gov or follow the QR Code to the [NRCS Water Page](#).



H (surface) flume and water sample storage box in a corn crop.

