



# Integrating Volunteer Nutrient Monitoring and Outreach with Extension Across States

## Background

Excess nutrients entering the Gulf of Mississippi River Basin are a major contributor to the hypoxia zone in the Gulf of Mexico. In addition to state-based nutrient reduction strategies, there is a critical need for states to share knowledge about nutrient concentrations and resulting impacts on waterways, and to engage with the public on current conditions and actions they can take to help minimize the issue and protect their health.

Volunteer water monitoring, which engages citizens in monitoring local waterways, has been used to inform communities of impaired waters, aid in the development and modification of natural resource regulations, and help obtain protected status for waterbodies. Often, volunteers collect data where there has been little or no other monitoring conducted, thus their results have the potential to provide localized, relevant information to communities.

Extension educators play a key role in helping the public understand conditions in local bodies of water and engaging individuals in water-related issues. Unfortunately, there is often a disconnect between volunteer water monitoring programs and Extension educators. Thus, volunteer monitoring data, which can be used as an aid in community outreach programs designed to help citizens help themselves, are often underutilized. Establishing connections between Extension educators and volunteer water monitoring programs across states can enhance nutrient condition knowledge and better equip communities to address the resulting impacts to waterways.

## Goals

The primary goal of this project was to increase connectivity between Extension educators and volunteer nutrient monitoring program personnel as well as spread relevant knowledge across the Upper Midwest Region. Specifically, the project team aimed to increase knowledge of:

- Existing educational outreach materials and programs related to nutrients and resulting impacts on waters
- Extension agriculture and natural resource educators, both within Extension and across volunteer water monitoring programs
- Volunteer monitoring programs and their goals and methods for monitoring nutrients and the resulting impacts on waters within other volunteer monitoring programs and Extension

## Addressing the Challenge

In April 2015, a collective group of Extension and non-Extension partners from Illinois, Iowa, Missouri, and Wisconsin held a collaborative meeting to advance the progress of the volunteer nutrient monitoring project. The group of agriculture and natural resource educators and volunteer monitoring program coordinators shared information, knowledge, and data on ongoing outreach programming, as well as volunteer monitoring program models, parameters, methods, and goals.

Following the meeting, the group administered a survey to water educators throughout partner states, collecting

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data on current nutrient-related water quality outreach activities and the needs and barriers faced by these individuals. The survey enabled the group to create an inventory of outreach materials and programs currently in use by Extension and partner organizations related to nutrients and water quality across the region. This inventory was used to conduct a needs assessment of nutrient educational activities related to water quality.

## Program Outcomes and Impacts

Results from the water educator survey showed the majority of educators used presentations, field days, workshops, and classroom lectures most commonly to deliver nutrient and water quality information.

Educators across the region also reported using brochures, fact-sheets, and slideshows often as educational deliverables.

The primary barriers for nutrient-water quality outreach were lack of time to develop and implement outreach and lack of funding.

In addition to the water educator survey, project collaborators, including Extension and non-Extension educators and volunteer monitoring program coordinators, were surveyed. Respondents noted they increased their awareness and understanding of people in other states who are working on similar topics, and where to find information and resources on similar topics a 'moderate' or 'large' extent. 80% of respondents formed new working relationships with Extension professionals across states and 70% expanded their working relationship with other non-Extension

professionals a 'moderate' or 'large' extent. Additionally, 90% of respondents increased their knowledge of volunteer nutrient monitoring programming and methods across the region a 'moderate' or 'large' extent.

"Volunteer monitoring programs are generally limited in terms of staffing and funding. This project gave me an opportunity to discuss ways to leverage existing program ideas/materials/individuals to expand our program. We don't work with extension on a regular basis in our state and I think the project also strengthened those relationships to help build outreach on water quality issues and volunteer monitoring."

"The key benefit for me was working with my cohorts from other states. Some unification or standardization of analysis, methods, and, outreach topics could ultimately allow for consistency of data and water quality education across state borders."

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The North Central Region Water Network comprises 12 Land-grant colleges and universities:

