

Research, Collaboration, and Outreach: Providing Water Quality Solutions in the Elm Creek Watershed

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Issue & Outreach

Further water quality improvement in the Minnesota River Basin will require collaborative solutions. The Elm Creek watershed in Martin County, MN provides unique opportunities for research, outreach, and demonstrations. These include:

Research and demonstration projects

- Perennial bioenergy crops,
- Nurse cropping for native perennials
- Restored wetlands
- Drainage water management
- Stream channel and floodplain rehabilitation
- Landowner adoption

Outreach efforts

- Walk-n-Talk field days

Stream channel and floodplain rehabilitation field day



Agroforestry & perennial crops field day

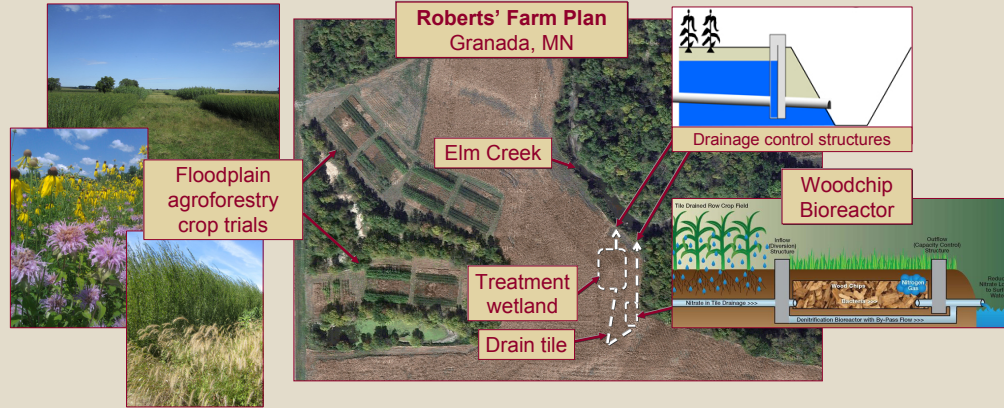


• The Elm Creek Advisory Committee was formed to facilitate discussion between stakeholders. At meetings, the latest research is shared, and landowners and agency staff provide valuable information on practical issues to help guide priorities for research and project development.

Research & Demonstration

Agroforestry / Perennial Crops

Perennial crops can provide bioenergy feedstocks and water quality benefits on sensitive riparian sites. Hybrid poplar and willow as well as native grasses and grass-forb-legume mixes are being evaluated together in alley cropping systems.



Drainage Water Management

Construction and installation are underway for a treatment wetland, two bioreactors, and Agri Drain control structures to treat tile drainage water for excess nutrients. Research will compare the effectiveness of these BMPs for nitrate reduction.

Landowner Adoption

Adoption of best management practices is key to water quality improvement. Surveys and interviews of agricultural landowners have been and are being conducted to determine farmers' willingness to grow perennial bioenergy crops and to understand interest in, and the barriers to adoption of, saturated buffers in riparian corridors.

Bioreactor installation



Stream Channel Restoration

A section of Elm Creek was restored to demonstrate cost effective methods that can be implemented to: 1) reduce channel erosion 2) enhance channel stability 3) enhance riparian vegetation and 4) reduce sediment load.



Partners



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