



## Nutrient Reduction Case Study

### *NEW Water Silver Creek Pilot Project*

### Green Bay, Wisconsin

Working with the Wisconsin Department of Natural Resources (WDNR), NEW Water, the brand of the Green Bay Metropolitan Sewerage District, took a unique approach to address nutrient challenges on a watershed scale. NEW Water owns and operates two wastewater treatment facilities that treat and discharge 38 million gallons of water per day into the Lower Fox River, which has a total maximum daily load (TMDL) for phosphorus and total suspended solids.

In 2014, WDNR combined the National Pollutant Discharge Elimination System (NPDES) permits for these two facilities into a “bubble” permit to provide more flexibility to meet its requirements during heavy precipitation events. NEW Water worked with WDNR and others to develop a pilot project using unique approaches that result in greater environmental benefits in a cost-effective manner, including:

- **Adaptive Management**: allows the facility and landowners in the watershed to work together to improve water quality through runoff controls and nutrient management.
- **Best Management Practices (BMPs)**:
  - establishing cover crops: the Silver Creek pilot project uses innovative technology to help farmers plant cover crops between rows of corn;
  - planting grassed waterways, critical area plantings, and filter strips;
  - installing water and sediment control basins;
  - completing wetland restorations;
  - converting land from row crop operation to managed grazing;
  - implementing tillage management practices; and
  - instituting conservation and enhancing nutrient management plans.

These practices have helped NEW Water to meet its NPDES permit requirements, including requirements driven by the TMDL to manage pollutant discharges and reduce pollution loads from agricultural lands. Several sites in the pilot project area are showing signs of improvement as a result of this work, including improvements in water quality, and an increase in species richness and diversity in Silver Creek.

#### Additional Information

##### Silver Creek Pilot Project:

<http://newwater.us/projects/silver-creek-project/>

##### Land Owner Fact Sheet:

[http://newwater.us/media/179003/2017\\_SilverCreek\\_Landowner\\_FactSheet\\_FINAL.pdf](http://newwater.us/media/179003/2017_SilverCreek_Landowner_FactSheet_FINAL.pdf)

The Silver Creek Pilot project involved new partnerships with other government agencies, nonprofit organizations, local farmers and academia to address the challenges in the Lower Fox River and Green Bay watershed. NEW Water also offers hands-on educational opportunities for local high school students that include water monitoring, drone technology, and biological monitoring to determine the health of a body of water. NEW Water is working to further develop a formal adaptive management program based off the success of this pilot project.