Partnerships and Collaboration Yield Success in Watershed Adaptive Management Pilot at NEW Water

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Watershed Programs Manager
NEW Water: Green Bay Metropolitan Sewerage District

- Third largest wastewater treatment facility in Wisconsin
- Vision: Protecting our most valuable resource, water.
- 14 years continuous compliance at Green Bay facility.
- WPDES Permit, Issued July 1, 2014
  - Projected future TP and TSS limits
Silver Creek Pilot Project

- Watershed Size: 4,800 Acres
- Land Use: 48% Agriculture
- Stream Length: 15 Miles
Partnerships Have Been Critical in the Silver Creek Pilot Project
Silver Creek Pilot Project – From the Beginning

2014 – Project Kickoff
- Developed project partners
- Water quality sampling
- Soil sampling
- Stream surveys

2015 – Watershed Inventory
- Comprehensive field evaluations
- Arc GIS tablet application
- Conservation planning meetings
- Developed conservation and enhanced nutrient mgmt. plans
Silver Creek Pilot Project – 2016

- Water quality monitoring
- Field planning
- Cost share agreements
- Best Management Practices (BMPs) installation
  - Filter strips (buffers)
  - Critical area plantings
  - Grassed waterways
  - Cover Crops
  - Residue Management
  - Etc.
- Coordination, coordination, coordination….
2016 …. By The Numbers

- **Water Quality Sampling**
  - 2016 in-stream samples have shown a decrease in event TP & TSS

- **Structural Best Management Practices**
  - 5 Grassed waterways
  - 14 Critical area plantings
  - 3 Filter strips (buffers)
  - 3 WASCOBs
  - 1 Manure pit upgrade and another abandonment
  - 1 Heavy use area
  - 1 Vegetated treatment area
  - 97 acres of grazing established

- **Operational Best Management Practices**
  - 740 acres of cover crops
    - 70% of land covered by either alfalfa, cover crops, winter wheat, forage, or pasture during winter of 2016-2017
  - 352 acres contracted for residue management
Silver Creek Median Total Phosphorus

Sample Sites

SL - 172  SL - FLD grab  SL - FLD Event  SL - COU  SL - CKR  SL - FCR

Total Phosphorus (mg/L)

SL - FLD grab

SL - FLD Event

SL - COU

SL - CKR

SL - FCR
Stream Sediment and Drain Tile Sampling
Timeline of Grassee Waterway Project

Aug. 16, 2016

Aug. 31, 2016
Timeline of Grassed Waterway Project

Oct. 4, 2016

Nov. 29, 2016
Grazing Establishment and Monitoring
Cover Crops

[Images of various cover crop fields and crop plants]
Equipment Demonstrations

Low Disturbance Manure Injector

Cover Crop Interseeder
Reflecting on the Past Supports the Future

• One page
• Share lessons learned and challenges with other growers

• Ideas for other Reflections sheets
  • Manure injector
  • Use of Interseeder
  • Cover crops
  • Critical area planting
  • Improved Drainage and Buffer Installation
  • Conservation and Enhanced Nutrient Management Plans
Work in Progress in 2017

- Updated conservation plans
- Meetings with growers
- Continue installation of BMPs
- Wetland restoration
- Continue water quality monitoring
- Assess results for DNR – Preliminary Compliance Alternatives Plan – Due March 2018
Observations from the Pilot Provides Insight into Full Scale

• Every field has an opportunity for improvement.
• Grower trust is critical, but can vary.
• It takes time to establish good working relationships with landowners and growers.
• Agronomists are a critical asset in opening lines of communication with landowners and growers.
• Diverse field teams yield new perspectives for conservation opportunities.
• Simple conservation plans with maps are needed for successful implementation.
• Success of the pilot project to date is due to the participation by landowners, growers, the Oneida Tribe, and project partners.