

PTMApp

Prioritize, Target, and Measure Application



PTMApp Presentation Outline

- International Water Institute Background
- PTMApp Evolution
- What is PTMApp?
- Example Products and Uses
- PTMApp Status
- Next Steps
- More Information



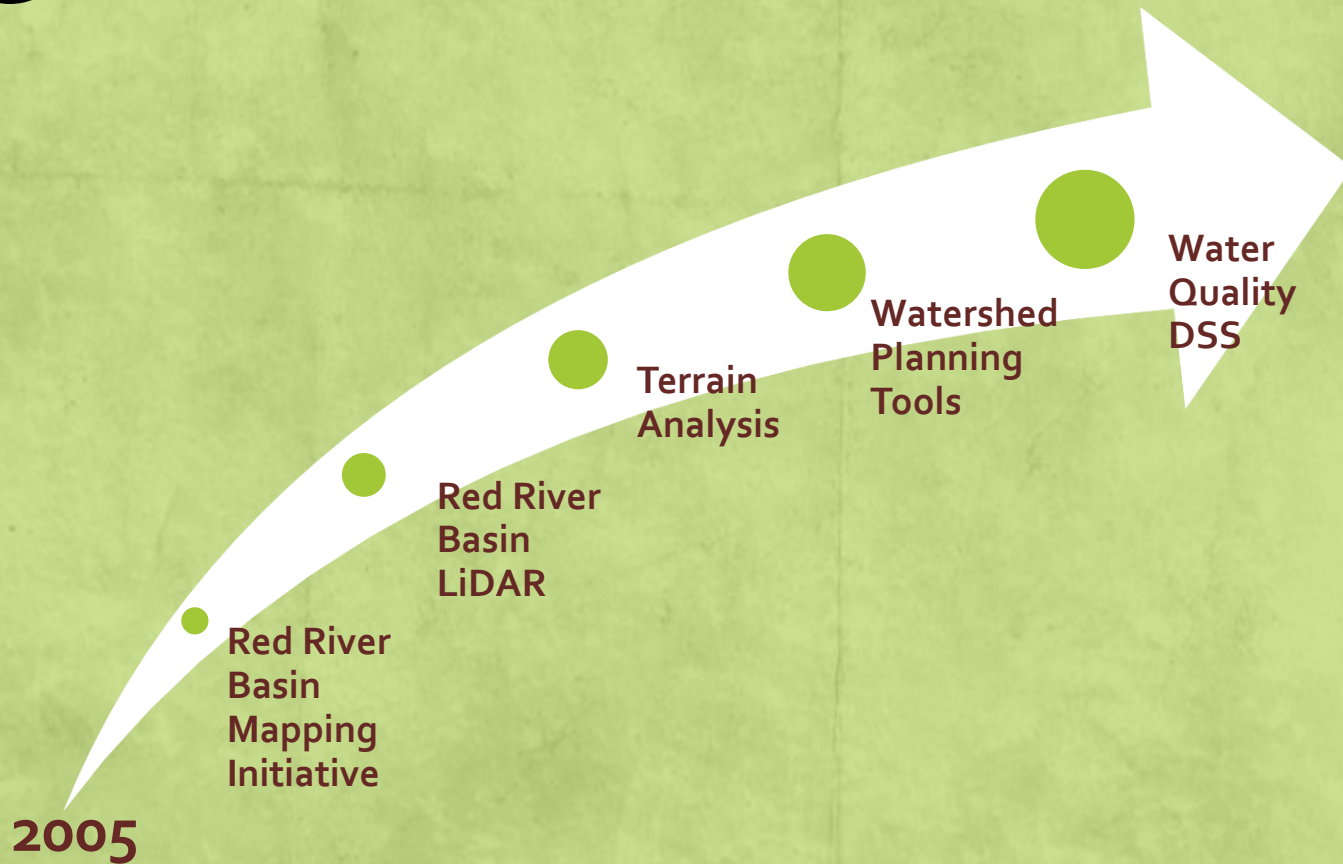
INTERNATIONAL WATER INSTITUTE BACKGROUND

Founded after 1997 Red River of the North Flood

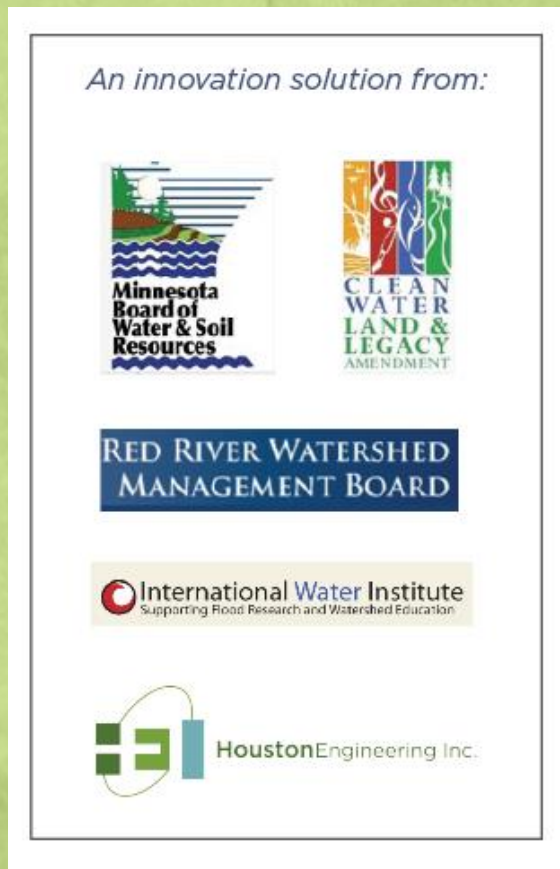
Mission:

Watershed Research
Watershed Education

PTMApp TIMELINE



PROJECT TEAM



Funding

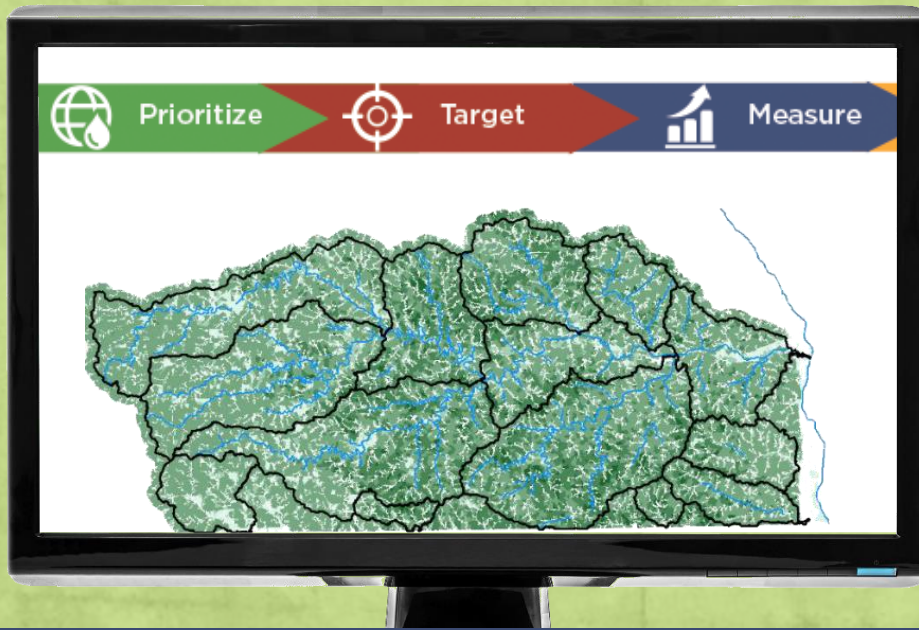
- Clean Water Fund

Project Team

- Minnesota Board of Water & Soil Resources
- Red River Watershed Management Board
- International Water Institute

Production

- International Water Institute
- Houston Engineering, Inc.



What is PTMApp?



PTMApp COMPONENTS

Create Products Using PTMApp–DESKTOP

- Free for download and use
- ArcGIS Toolbar
- Based planning data included
- Creates products
- Includes example uses

In Use



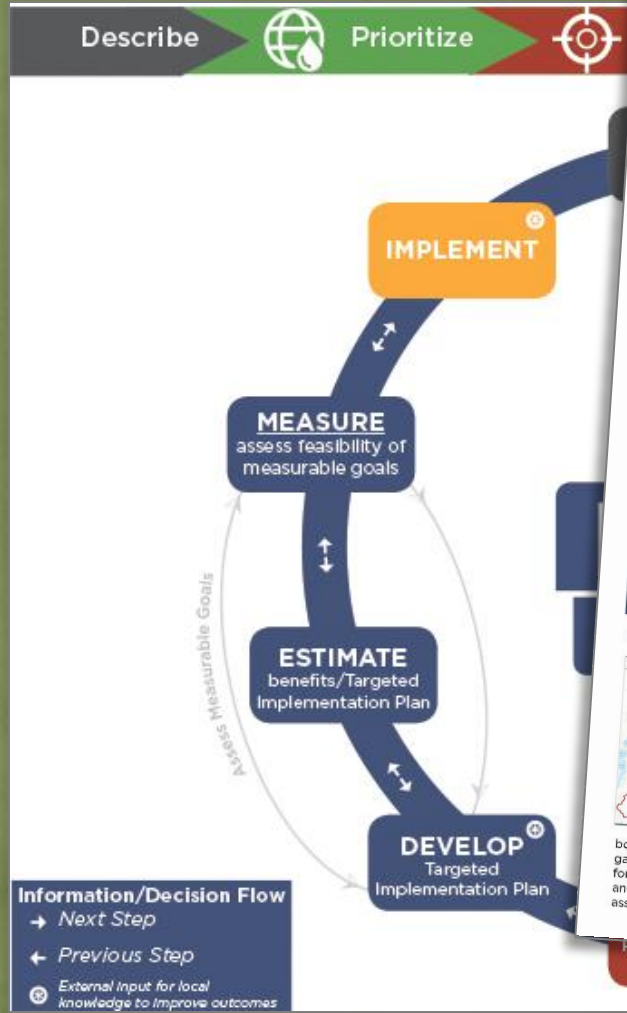
Final Testing

Internet Access of Product Using PTMApp–WEB

- Targeted Implementation Strategy
- Grant Applications
- One Watershed One Plan
- Refine WRAPs



Prioritize, Target, and Measure



PTMApp Products and Business Workflow

The Prioritize, Target, Measure Application (PTMApp) is an innovative new tool that will help users with aspects of surface water quality planning. PTMApp is a web-based application to help users with aspects of surface water quality planning. Learn more about PTMApp and how to improve every day decisions for more accurate water quality planning. Available for free download: www.rrbdin.org/

This collage displays various outputs from the PTMApp interface, including maps, data tables, and text boxes for different stages of the process:

- COMPLETE (source assessment):** Identifies the magnitude and spatial distribution of potential pollution sources across the landscape. Understand how various parts of the watershed contribute to sediment, total phosphorus, and total nitrogen loads. Use PTMApp to identify the highest areas of sediment loading and show the best downstream locations including impaired waters. Use PTMApp to identify the highest areas of sediment loading and show the best areas for practices.
- EVALUATE (practice feasibility):** The feasibility of placing best management practices (BMPs) on the landscape depends on several factors: the size of land slope, drainage area, flow regime, technical factors, and societal factors. PTMApp creates products that facilitate these conversations to facilitate opportunities to combine BMP with the source assessment data to estimate the "measurable" water quality benefits for implementing the practices.
- ESTIMATE (individual practice WG benefits):** Selecting specific practices to implement is based on their probable benefits, ranging from pollutant removal or the help estimate benefits at the location of the practice for resource. Outputs from PTMApp can show areas that provide the most bang for your buck and can help target practices in place and landowner participation.
- TARGET (preferred practice locations):** Once possible BMP locations are identified for feasibility, potential for their combined benefits data to provide implementing practices that will provide measurable water quality improvements for priority resources. There are a number of factors that might influence preferred practices, including existing water quality improvements for priority resources. There are a number of factors that might influence preferred practices, including existing water quality improvements for priority resources.
- ESTIMATE (benefits/Targeted Implementation Plan):** Combined benefits can be compared to a measurable goal. PTMApp can use the combined benefits of many practices to assess the effectiveness of the targeted implementation plan. Annual load reduction estimates can be calculated at each priority resource point within a study area and used to assess progress toward a measurable water quality goal. This information can be used directly within a Targeted Implementation Plan.
- DEVELOP (Targeted Implementation Plan):** Specific locations to place practices must also be targeted based on practical and social factors. PTMApp additional information to refine the practices that many areas in the watershed may already have numerous Best Management Practices implemented, lack willing landowners, or have benefits beyond water quality that would impact the targeted locations for practices. PTMApp can adjust scenarios to restrict targeting to certain areas.
- MEASURE (assess feasibility of measurable goals):** A measurable goal may be the load reduction of a lake or river reach or a maximum load to protect a resource. PTMApp can compare the estimated benefits of the Targeted Implementation Plan to water quality goals. Results of this analysis can show the scenarios that will provide the best possible watershed. This information helps users implement the best possible practices in the most effective locations.

The following examples were completed for your watershed. The boundary of your watershed. The gathering and summarizing GIS data for your watershed. Data from the assessed waters in the study area.

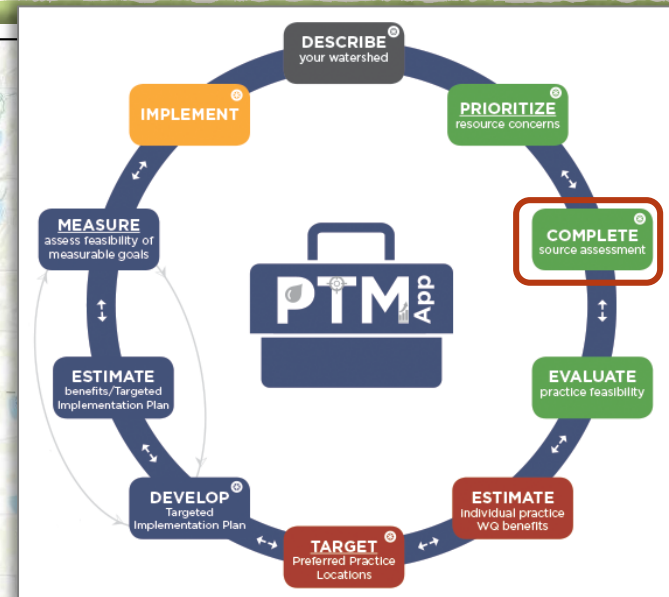
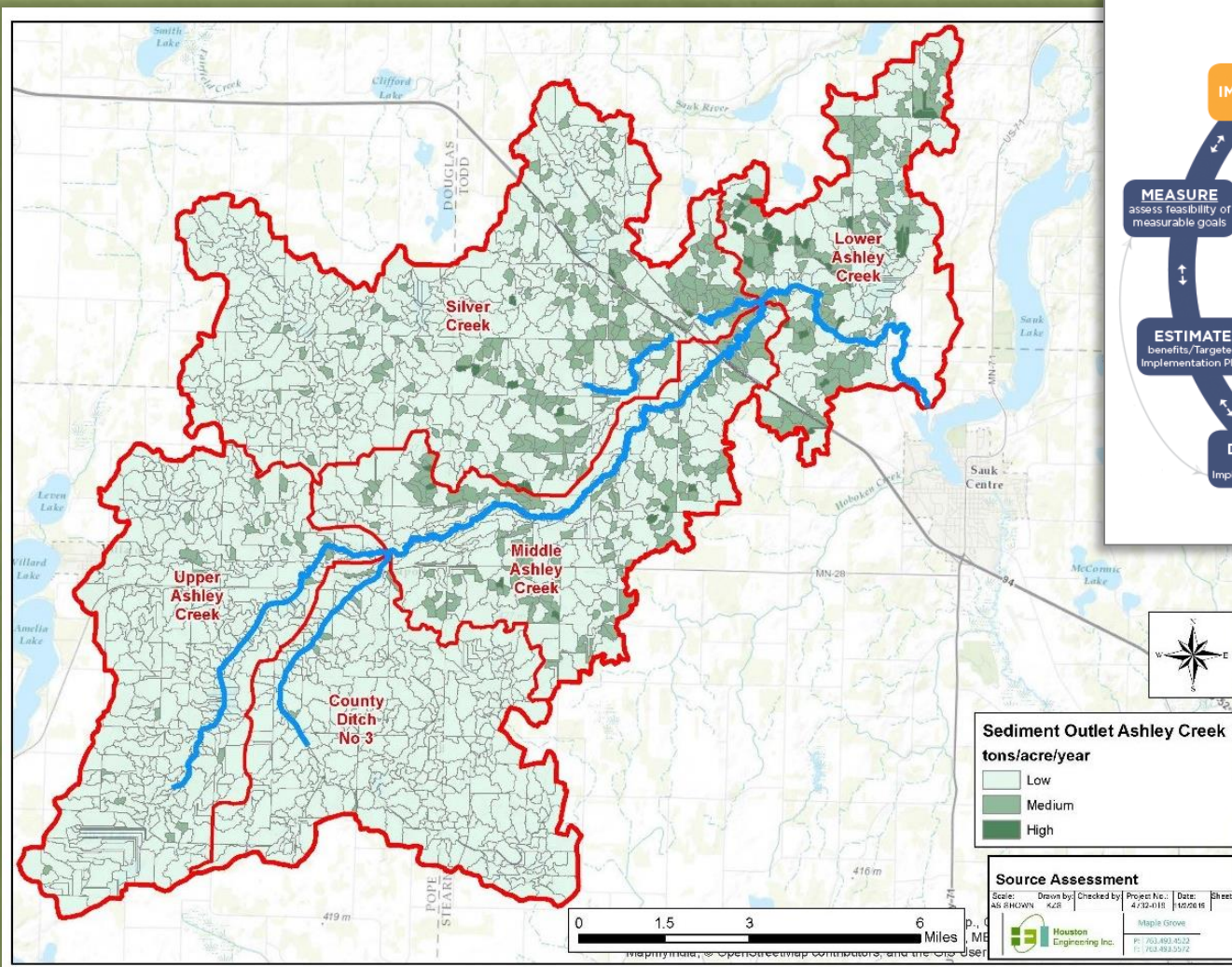


Example Products and Uses

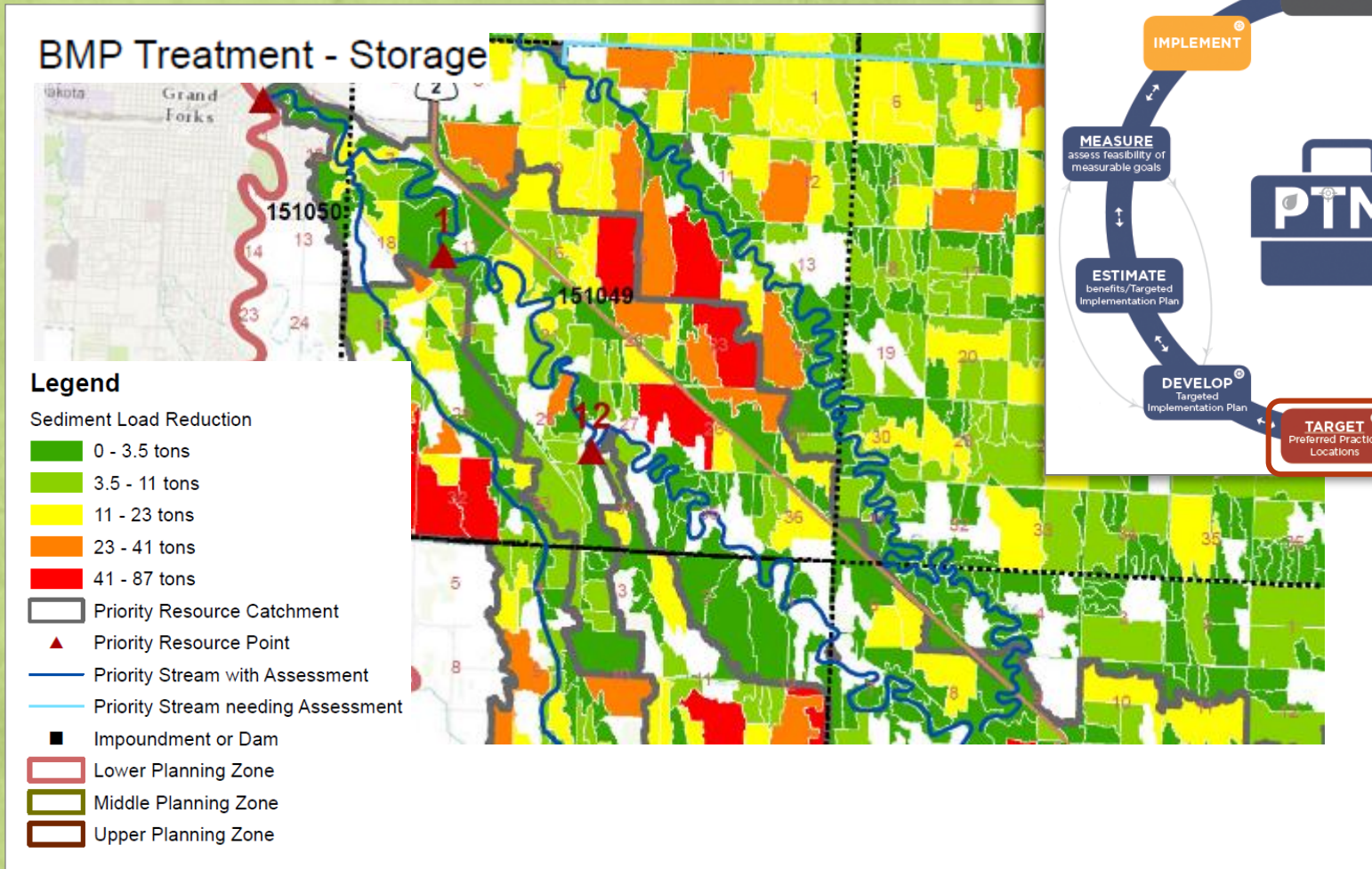
Selected PTMApp data/products



PRIORITIZE: Complete Source Assessment of Loads

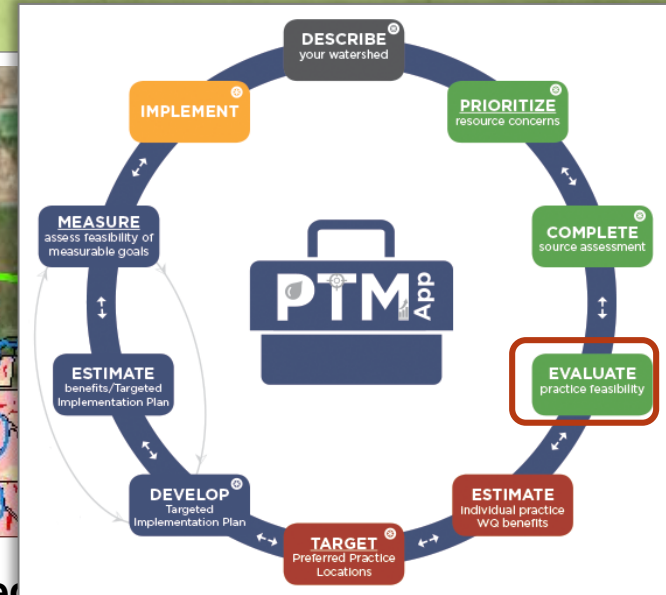
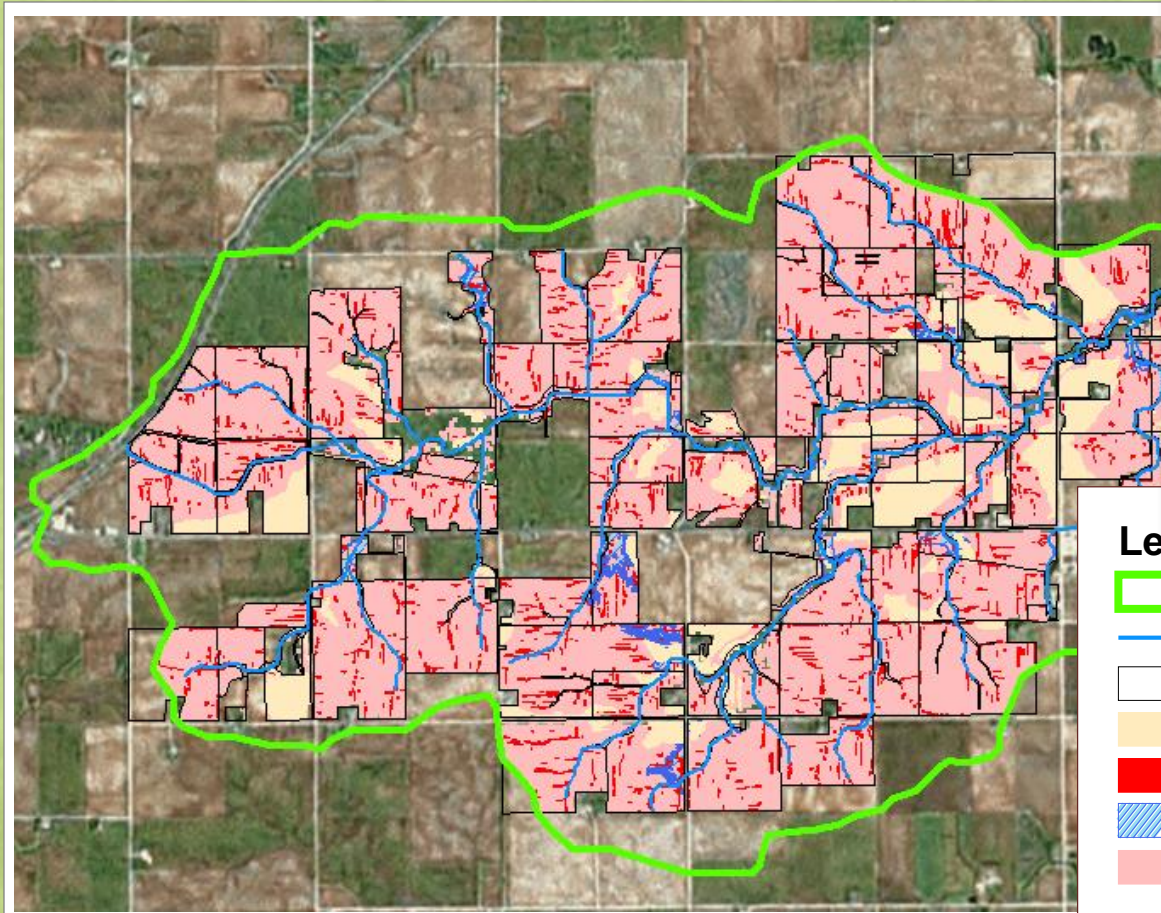


TARGET: Estimate Practice / Relative Load Reduction (at any desired downstream location)



Buffers Alternative Practice

Mower County Illustration

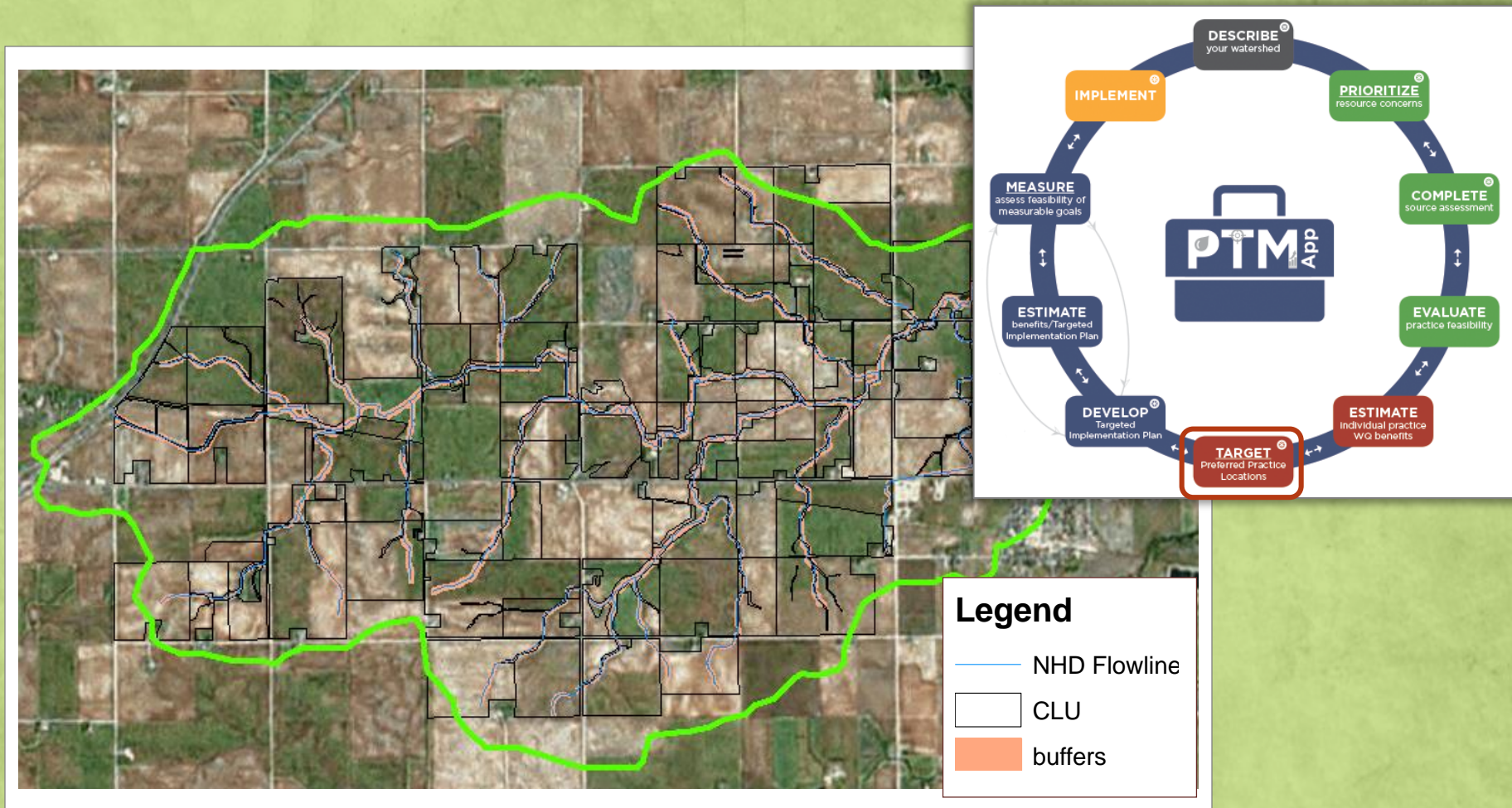


Legend

- Study Area
- NHD flowline
- CLUs
- filtration
- protection
- storage
- Source Reduction

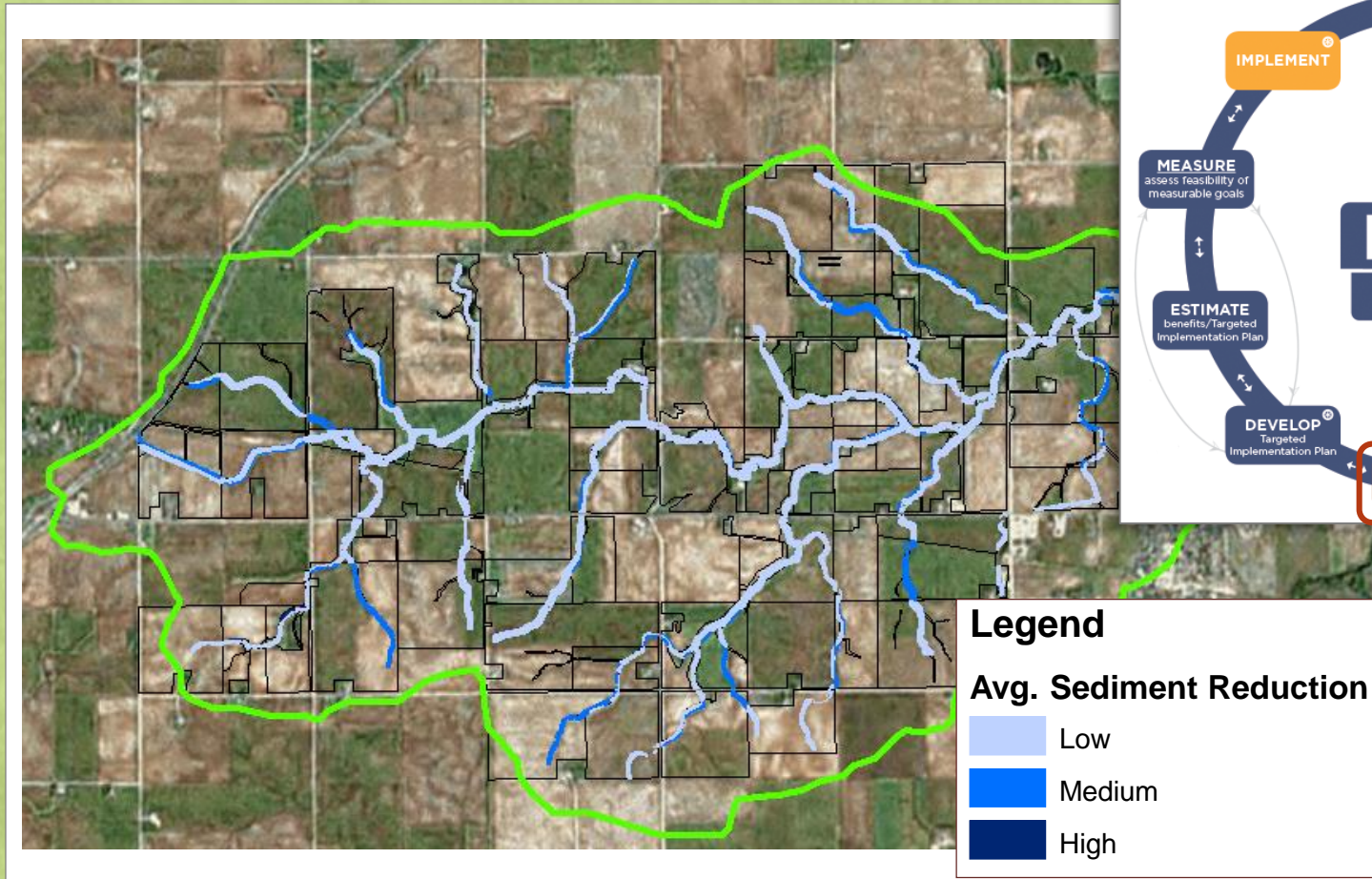
TARGET: "Buffers"

Mower County Illustration



TARGET: "Buffers"

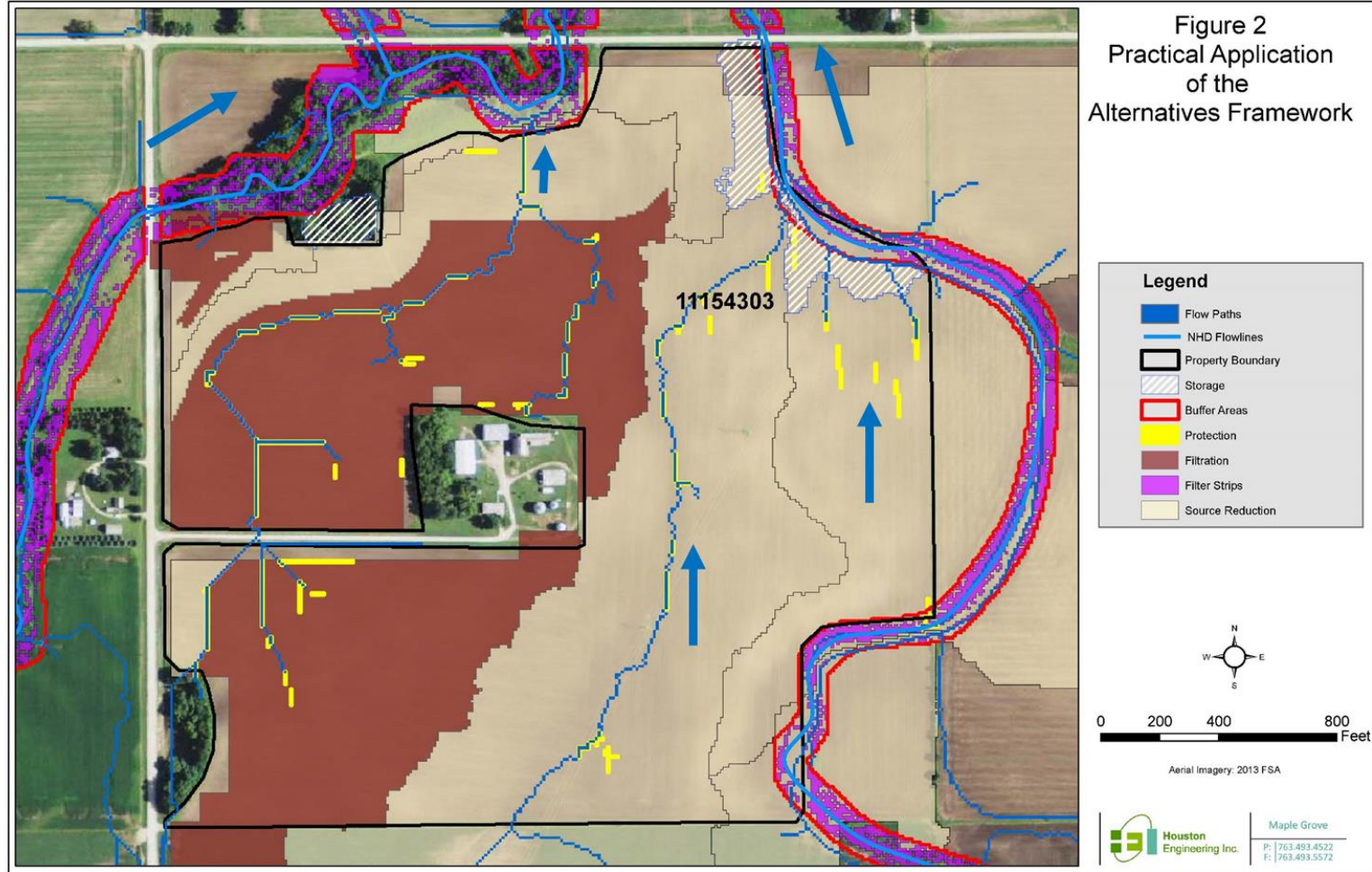
Mower County Illustration



Courtesy: MN Soybean Growers Association

TARGET: "Buffers"

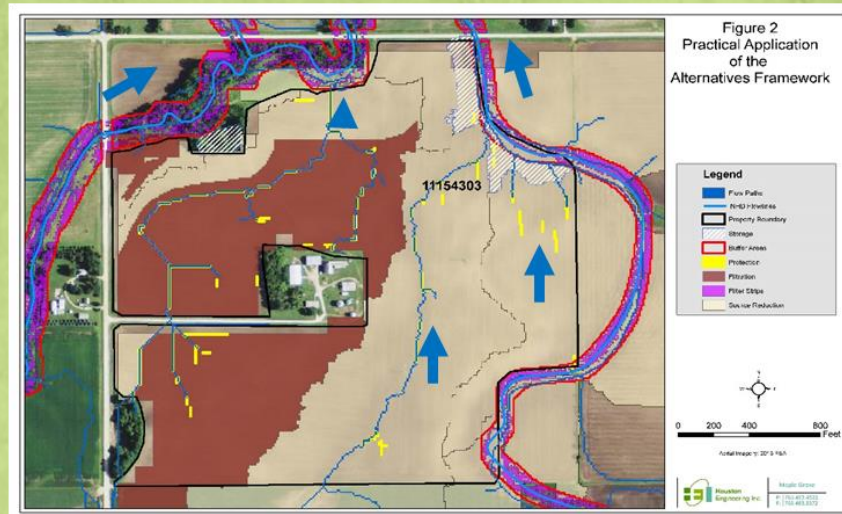
Mower County Illustration



TARGET: "Buffers"

Mower County Illustration

Check All That Apply	Assessment Method
✓	PTMApp
	NRCS Conservation Plan ACPF toolbar
	Agren Inc. Tools
	Technical Assistance
	Other (write in description)



Land Parcel: 11154303

Water Quality Protection Practice Menu

Practice Type	Count	Sediment Reduction*, tons/year				Total Nitrogen Reduction*, lbs./year				Agricultural Profitability†, \$/year
		Sum	Mean	Max	Min	Sum	Mean	Max	Min	Mean
Storage	3	3.3	1.1	1.7	0.1	11.1	3.7	8.0	0.6	Low
Filtration	4	2.1	0.5	1.5	0.1	74.2	18.6	33.7	5.7	High
Protection	58	0.3	0.0	0.1	0.0	8.6	0.1	0.8	0.1	High
Source Reduction	7	119.7	17.1	41.0	0.0	274.7	39.2	81.7	0.2	Medium
<i>Vegetative Buffer</i>	71	5.4	0.1	2.0	0.0	103.2	1.5	26.4	0.0	Medium

* Applicable when considering the treatment of overland flow.

* Applicable when considering the treatment of subsurface or tile flow.

† Suggest considering the profitability of the land affected by buffer requirements in addition to the water quality metrics.

PTMApp STATUS



- PTMApp Desktop Testing –
Complete

PTMApp applied in two 1W1P Pilot Watersheds



- PTMApp Web Programming –
Nearly Complete

Beta Version: January 2016

PTMApp NEXT STEPS

- **BWSR Adoption (\$335,000/yr)**
 - Business Plan Implementation
 - Training
 - Education & Outreach
 - 1w1p use
 - Development
- **Data Needs (\$2.8 million)**
 - Hydro conditioned Lidar
 - Time of travel grids
- **Enhancements identified – gaps (\$600,000)**
 - Near channel sediment sources
 - Altered hydrology



*“Availability of good information lies at the heart of effective and equitable decision-making”
(Allen and Kilvington 1999)*



Charles Fritz

Email: charles@iwinst.org

Phone: 701.388.0861

WWW.RRBDIN.ORG

