

PTMApp

Prioritize, Target, and Measure Application

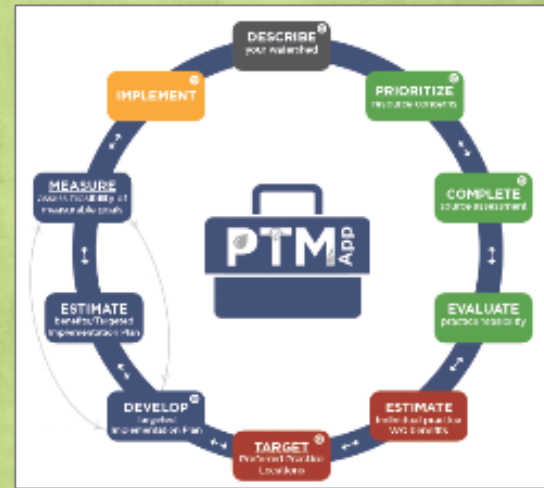
Presented by:

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Engineering*

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Engineering*

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Institute*



Why was PTMApp Developed

- MN Clean Water Accountability Act
- One Watershed, One plan

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



PROJECT TEAM



Funding

- Clean Water Fund
- Minnesota Board of Water & Soil Resources
- Red River Watershed Management Board

Project Team/Production

- International Water Institute
- Houston Engineering, Inc.

Application to North Dakota – A couple thoughts

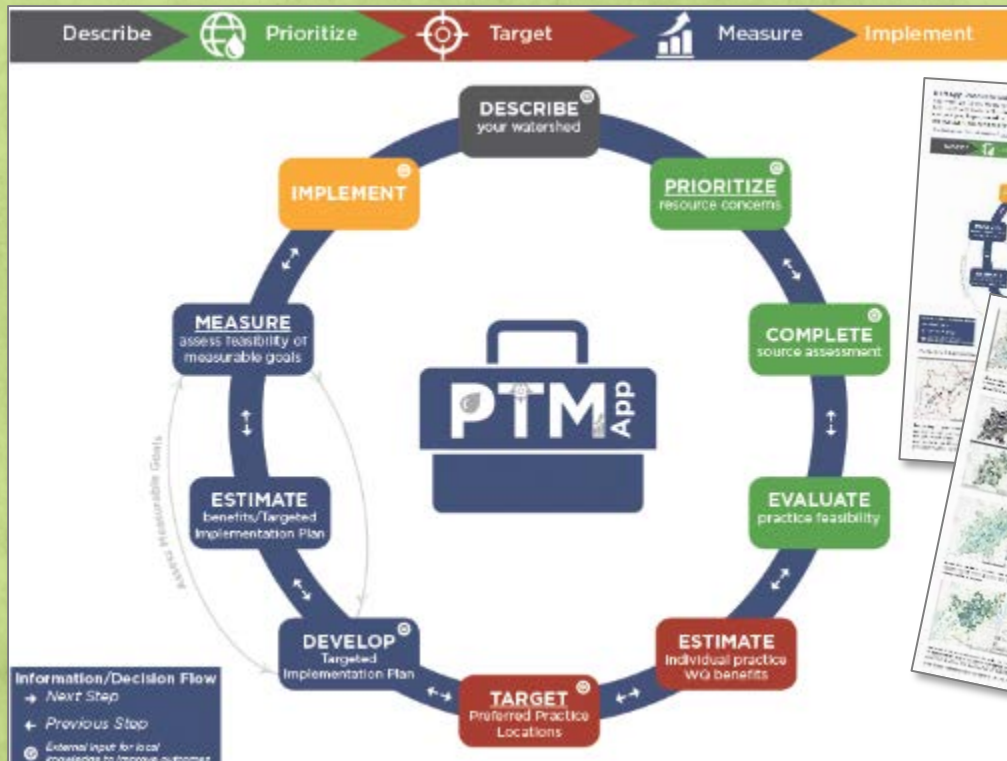
- Information to aid in Nutrient Reduction Strategies
- Core Prioritization, including:
 - Nutrient Source Identification
 - BMP suitability
 - BMP Load reductions (sediment and nutrients)
- Targeting Nutrient Reduction Wetlands



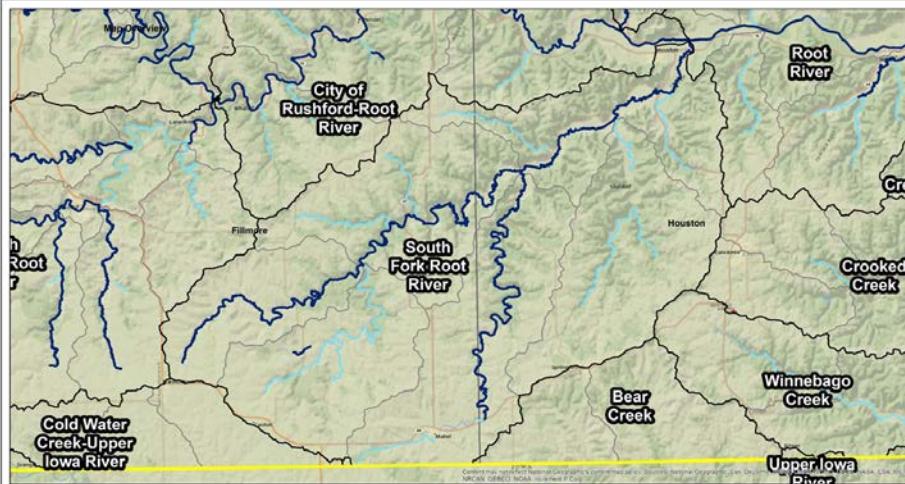
Example Products and Uses



Prioritize, Target, and Measure



DESCRIBE: Watershed Condition



Data Sources: National Hydrography Dataset, and MRD (2016)

Root River
One Watershed One Plan
Describe



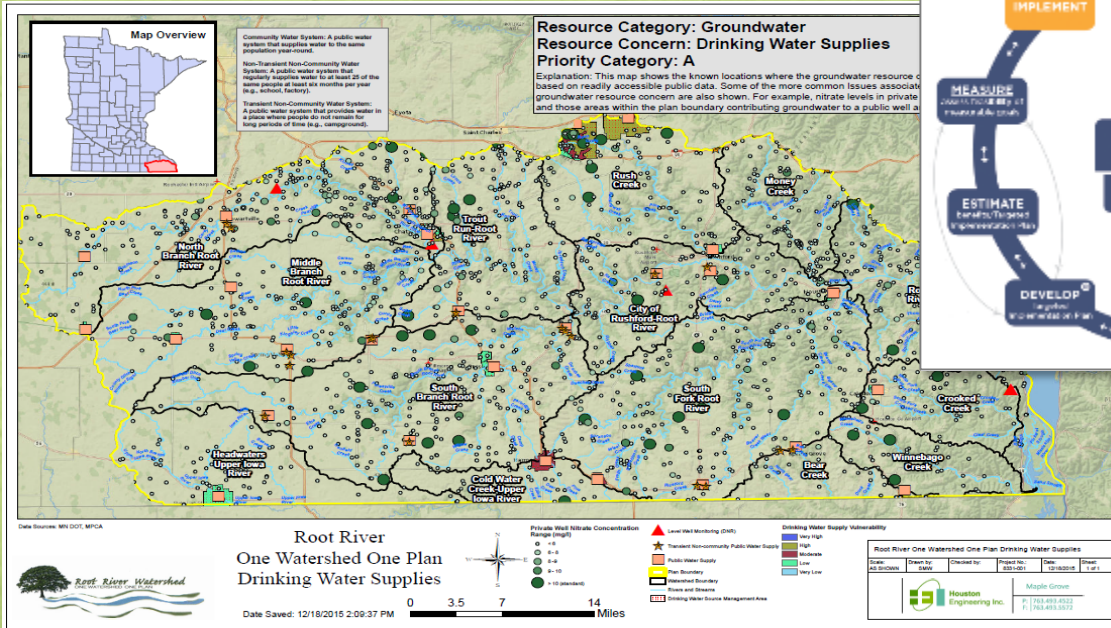
0 1.75 3.5 7 Miles

- Plan Boundary
- Watershed Boundary
- Impaired Stream
- Assessed Stream
- Subwatershed Boundary

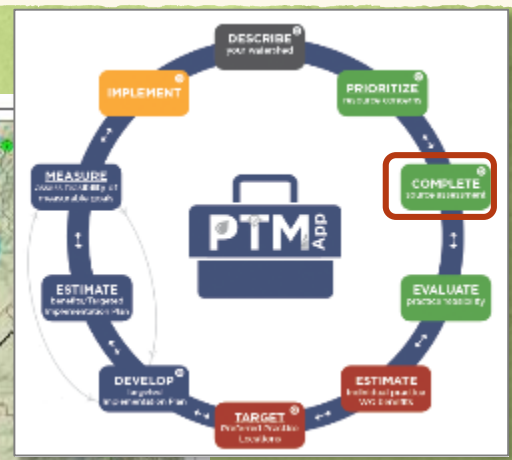
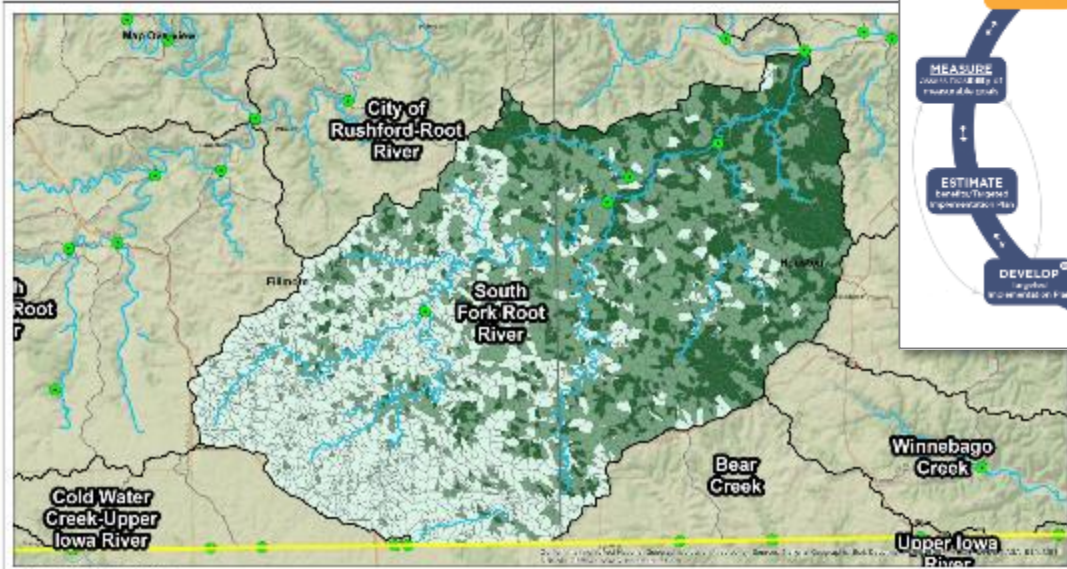
Watershed	Stream	Assessment	Priority	Plan	Year
Root River	Root River	Impaired	High	Plan	2025
South Fork Root River	South Fork Root River	Assessed	Medium	Plan	2025
Root River	Crooked Creek	Assessed	Low	Plan	2025
Root River	Bear Creek	Assessed	Low	Plan	2025
Root River	Winnebago Creek	Assessed	Low	Plan	2025
Root River	Upper Iowa River	Assessed	Low	Plan	2025
Root River	Cold Water Creek-Upper Iowa River	Assessed	Low	Plan	2025



PRIORITIZE: Your Resource Concerns



PRIORITIZE: Sources Delivering Largest Downstream Loads



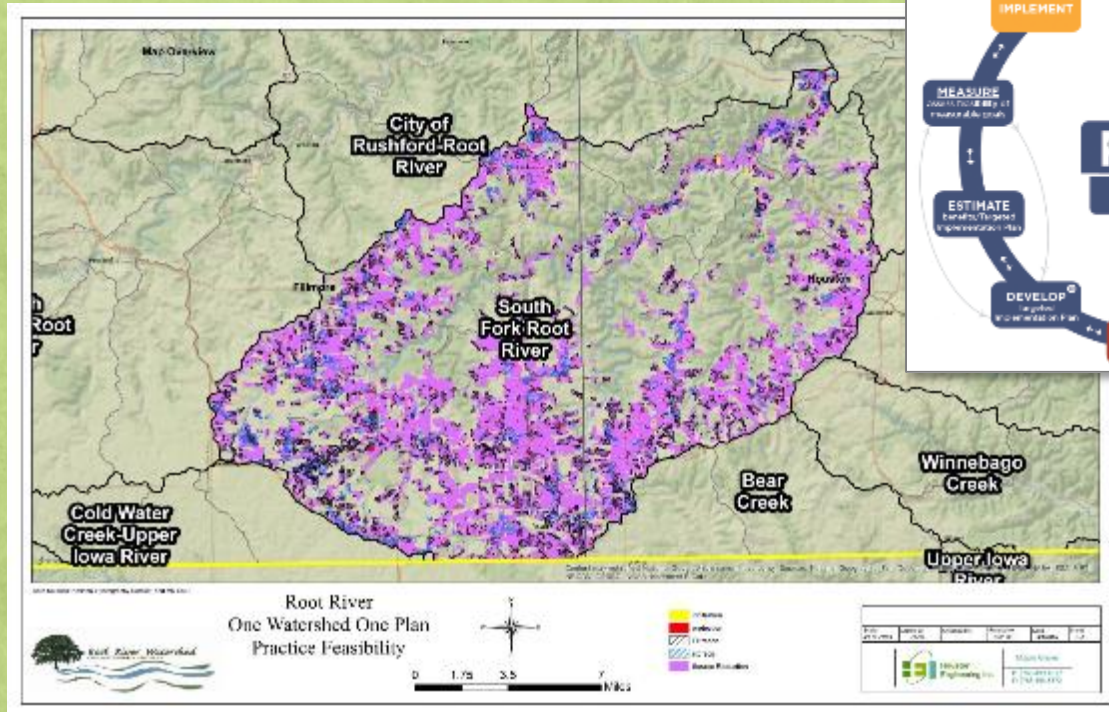
Root River
One Watershed One Plan
Source Assessment

• Point Source of Pollutants
 • Green shading of South Fork Root River Catchment
 • Low
 • Medium
 • High

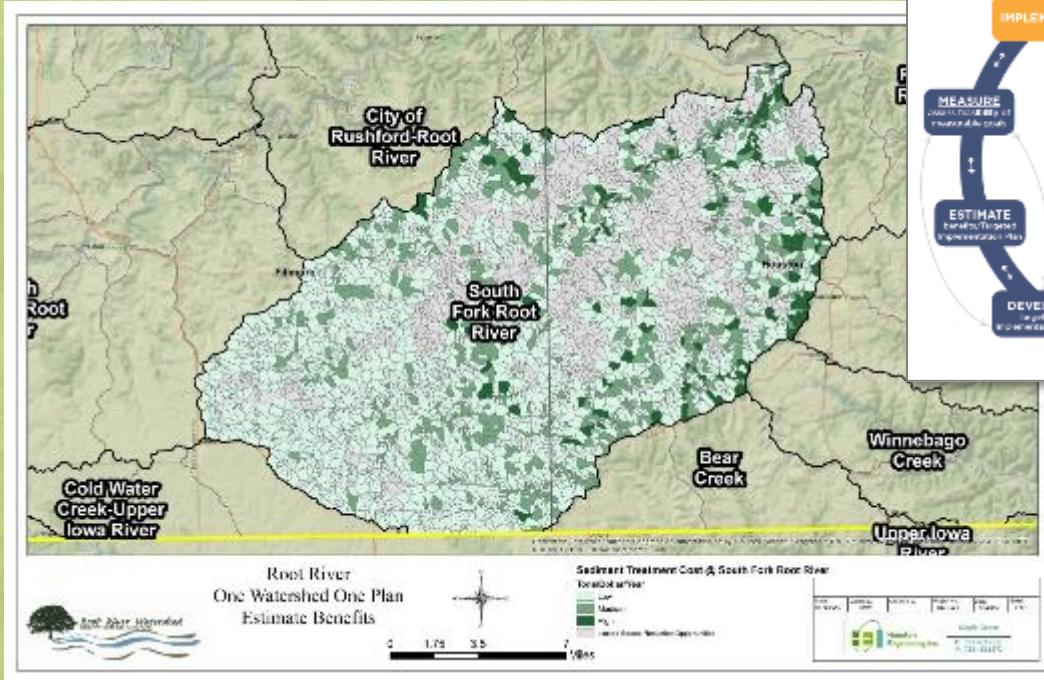
Project	Phase	Start Date	End Date	Status
Root River	Phase 1	2010	2011	Completed
Root River	Phase 2	2012	2013	In Progress
Root River	Phase 3	2014	2015	Planned

Root River Watershed
 University of Minnesota Engineering Center

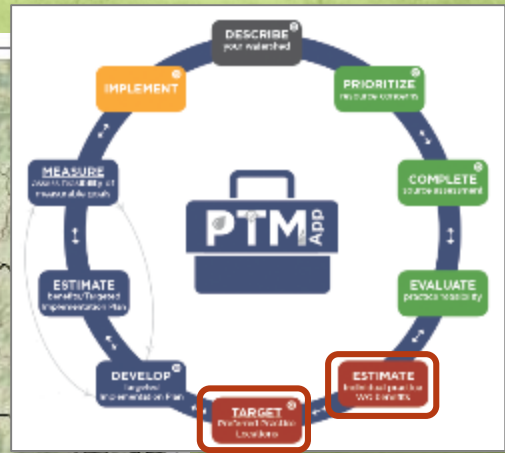
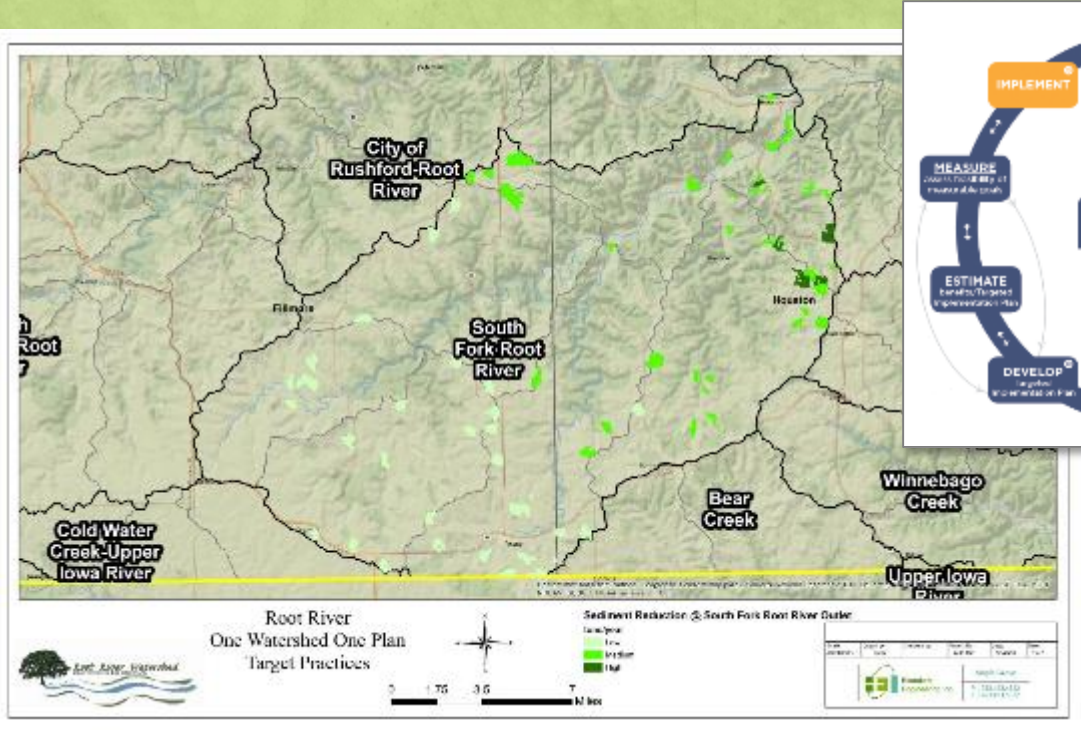
PRIORITIZE: Evaluate Practice Feasibility



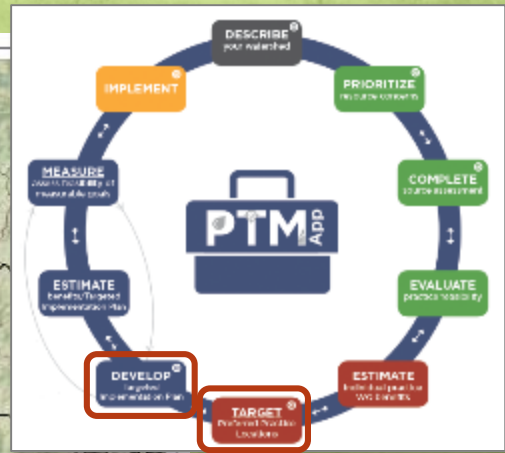
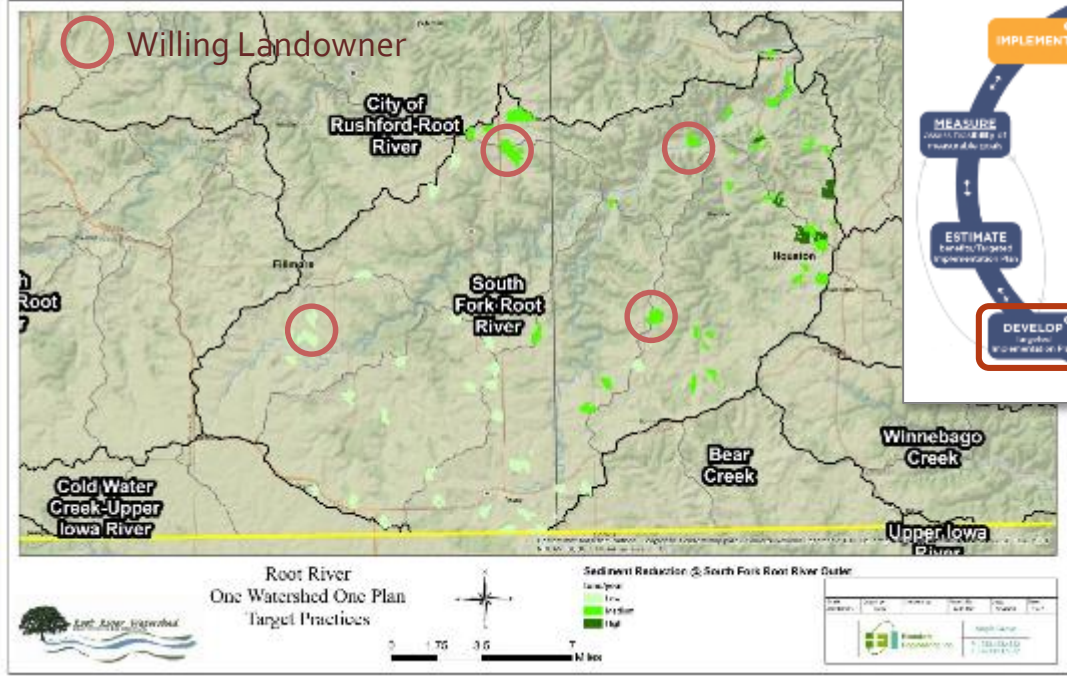
TARGET: Estimated Practice WQ Benefits



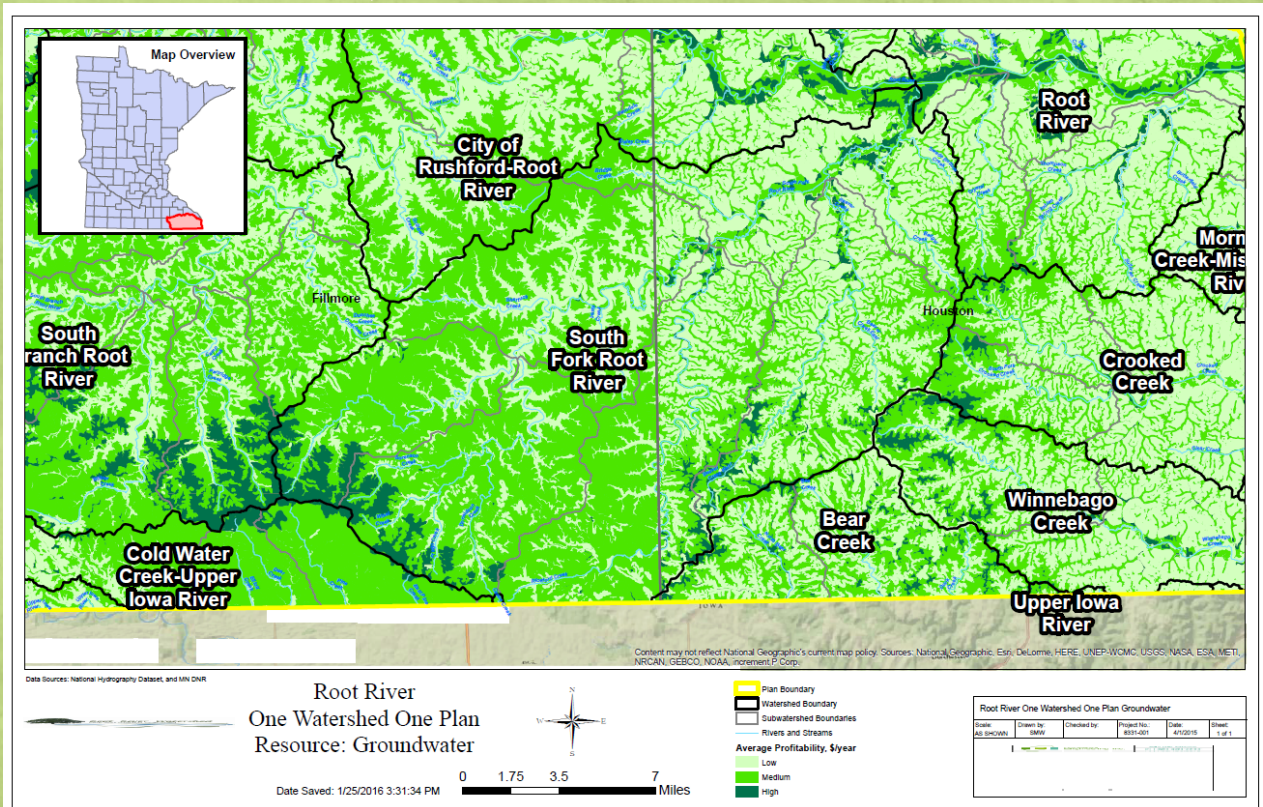
TARGET: Best Practice Locations (WQ Benefit Only)



TARGET: Best Practice Locations (WQ, Profitability, Willing Participation)



Target: Consider Profitability (not in PTMApp)

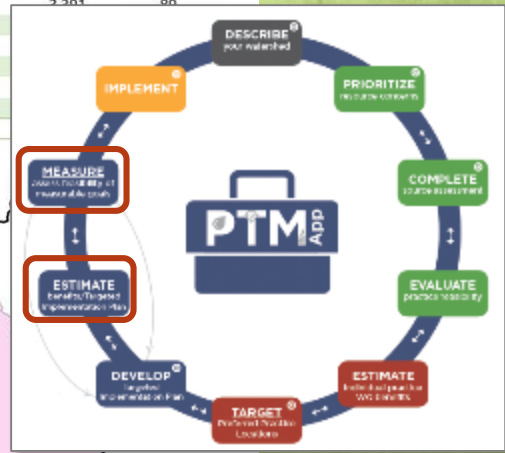
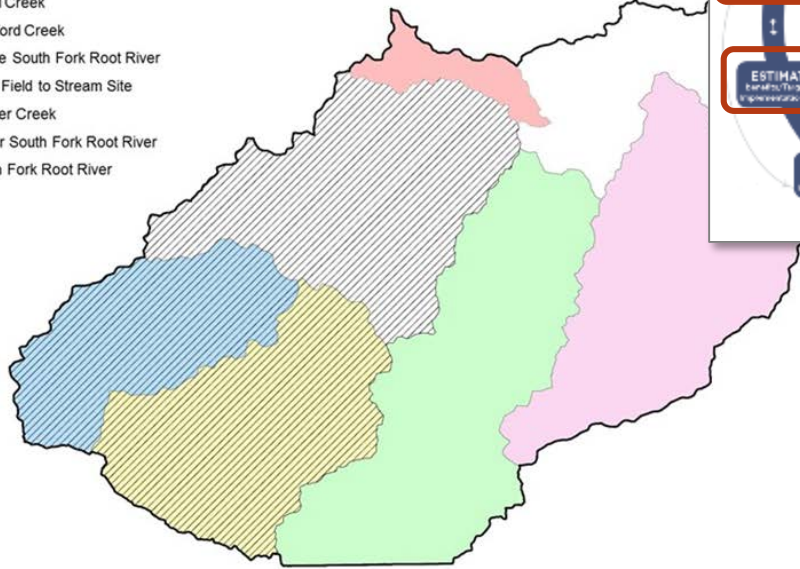


MEASURE: Benefits of Targeted Implementation Plan

Resource Concern	Sediment Load, tons/year			TP Load, lbs/year			TN Load, lbs/year		
	Original	Remaining	Reduction	Original	Remaining	Reduction	Original	Remaining	Reduction
Wisef Creek	44,327	42,244	2,083	205	189	16	3,479	2,301	1,178
Riceford Creek	37,720	36,241	1,479	232	225	6	3,508	3,201	307
Middle South Fork Root River	43,117	41,361	1,757	231	229	2	3,532	3,201	331
MDA Field to Stream Site	11,674	10,076	1,598	99	98	2	1,517	1,201	316
Beaver Creek	38,973	36,108	2,865	171	167	3	2,937	2,601	336
Upper South Fork Root River	28,928	27,328	1,600	227	224	3	3,768	3,401	367
South For Root River	69,602	63,162	6,440	293	264	29	4,504	3,801	703

Resource Concern Watersheds

- Wisef Creek
- Riceford Creek
- Middle South Fork Root River
- MDA Field to Stream Site
- Beaver Creek
- Upper South Fork Root River
- South Fork Root River



Some Final Thoughts

No tool is perfect. Define the problem, use the right tool.

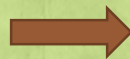
PTMApp is for Water Quality Planning

Limitations

- PTMApp – Desktop Processing Times
- Spatial resolution of Land Use / Land Cover Data
- Needs more validation in range of landscapes
- Ignores existing practices unless “entered”
- Species of TN and TP
- Lacks near channel sediment
- No hydrological routing



“Essentially, all models are wrong, but some are useful.”
- George E.P. Box





More Information
ptmapp.rrbdin.org

