

Development of a Nutrient Implementation Plan for the DuPage River and Salt Creek Watersheds





DuPage River Salt Creek Workgroup

(Agency Members white)/ Associate Members (gray)

Village of Addison • AECOM • Village of Arlington Heights • City of Aurora • Baxter & Woodman • Village of Bartlett
Village of Bensenville • Black & Veatch • Village of Bloomingdale • Village of Bolingbrook • Cardno • Village of Carol
Stream • Christopher B. Burke Engineering • Village of Clarendon Hills • Clark-Dietz • The Conservation Foundation
Deuchler Engineering • Donohue & Associates • Village of Downers Grove • Downers Grove Sanitary District • DuPage
County • City of Elmhurst • Elmhurst-Chicago Stone Company • Engineering Resource Associates • Forest Preserves of
Cook County • Forest Preserve District of DuPage County • Geosyntec Consultants • Glenbard Wastewater Authority •
Village of Glen Ellyn • Village of Glendale Heights • Village of Hanover Park • Hey & Associates • Village of Hinsdale •
Village of Hoffman Estates • Huff & Huff • Illinois Department of Transportation • Illinois State Toll Highway Authority •
Village of Itasca • K-Tech Specialty Coatings • Village of Lisle • Lisle Township Highway Dept. • Village of Lombard •
Metropolitan Water Reclamation District of Greater Chicago • Metro Strategies • Morris Engineering • The Morton
Arboretum • City of Naperville • Naperville Park District • Naperville Township Road Dist. • City of Northlake • Village of
Oakbrook • City of Oakbrook Terrace • Village of Palatine • Prairie Rivers Network • Robinson Engineering • Village of
Roselle • Salt Creek Sanitary District • Salt Creek Watershed Network • Village of Schaumburg • Sierra Club, River Prairie
Group • Strand Associates • Village of Streamwood • Trotter & Associates • V3 Companies • Village of Villa Park • City of
Warrenville • City of West Chicago • West Chicago Winfield Wastewater Authority • Village of Westchester • Village of
Western Springs • Village of Westmont • City of Wheaton • Wheaton Sanitary District • Village of Winfield • City of Wood
Dale • Village of Woodridge • York Township Highway Department.

What is the NIP (NARP)

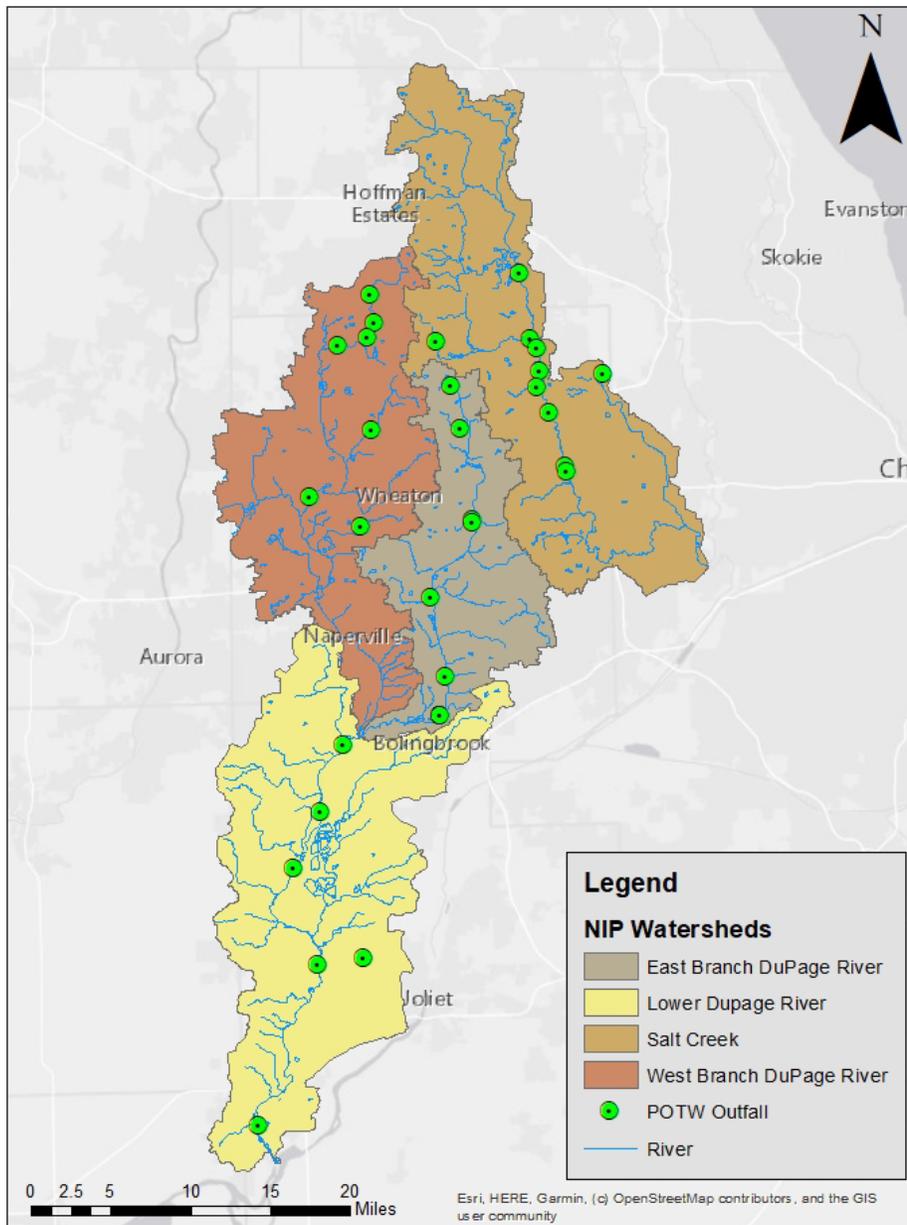
Its a State wide Permit Requirement whose main objective is to identify phosphorus (TP) reductions from point/ nonpoint sources and other measures necessary to ensure that dissolved oxygen (DO) and “offensive condition impairments” (excessive aquatic algae and plant growth) standards are met throughout the watershed.

NARP Essential Elements (IEPA)

- Developed and submitted by December 31, 2023
- Supported by data and sound scientific rationale
- Must cooperate with and work with other stakeholders in the watershed
- **Adopt Target Levels** (State does not have a standard for TP)
 - Recommendations by the Nutrient Science Advisory Committee (NSAC)– Dec 2018
 - Develop its own watershed-specific target levels
- Schedule for implementation
- Provisions for water quality trading

NARP Essential Elements (IEPA)

- Watershed group or participating members
- Impairments or Risk of Eutrophication factors identified
- Phosphorus input sources identified, along with land use and acreage
 - Majors
 - Minors
 - MS4s
 - Industrial Stormwater Permittees
 - Non-point sources
- Effluent/stream monitoring
- Modeling used and findings

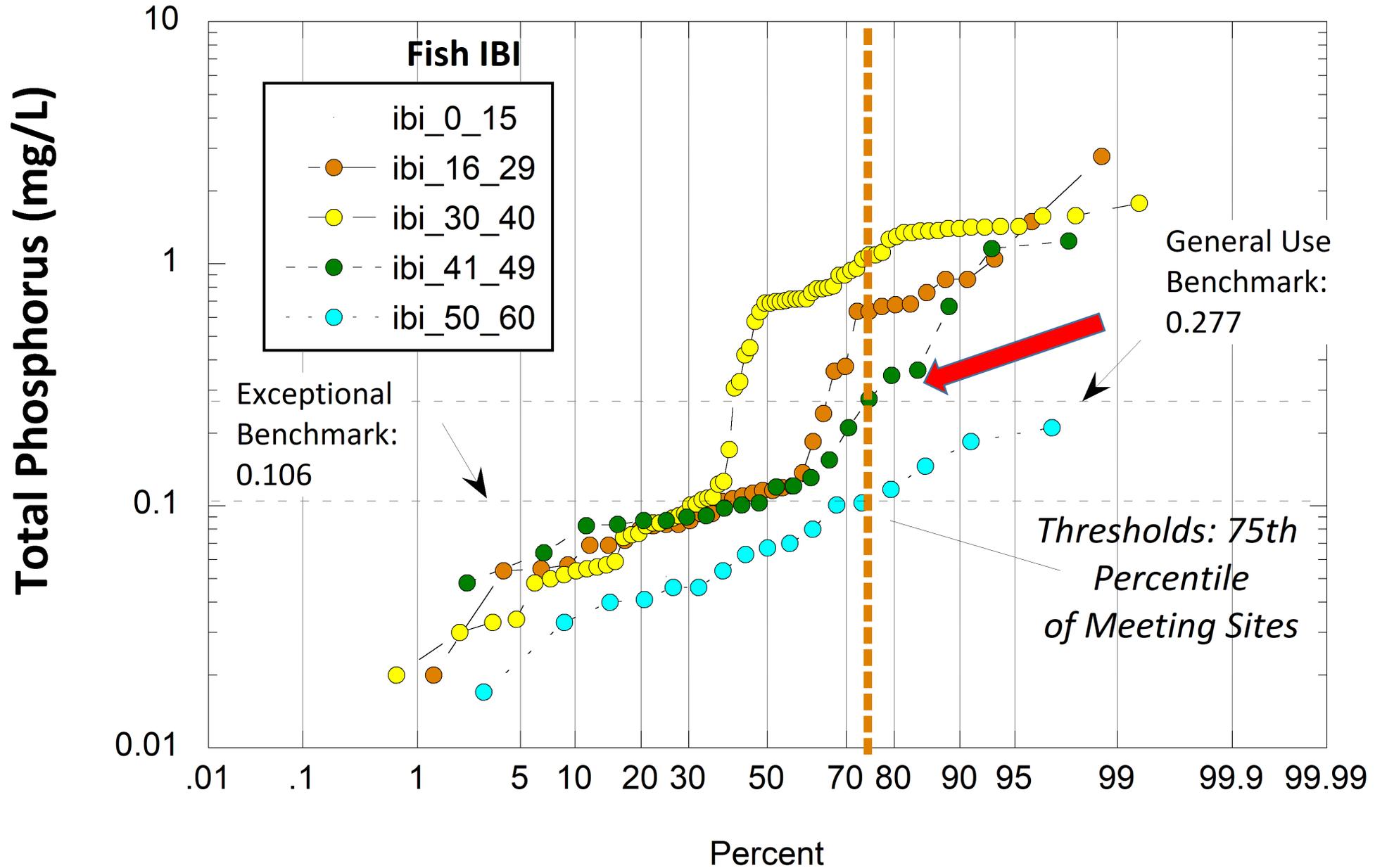


Program Area At A Glance

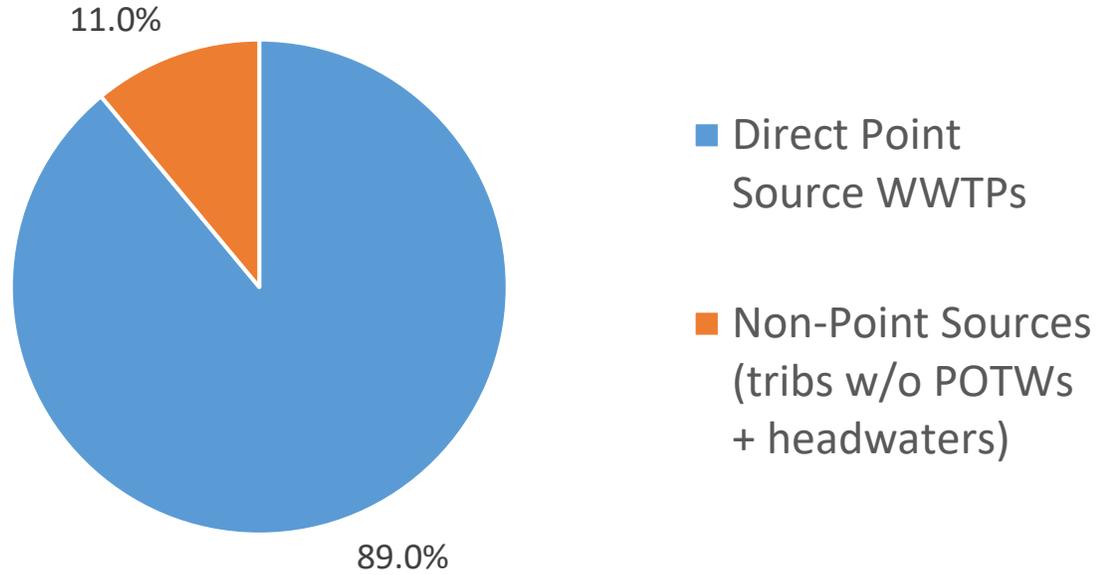
- approximately 530 square miles
- Three Counties
- Approximately 104 communities, townships, and agencies
- 128 miles of main stem river
- 181 MGD of waste water effluent (DAF)
- Urban to suburban with 48.7% being classified as residential

Calculating watershed target

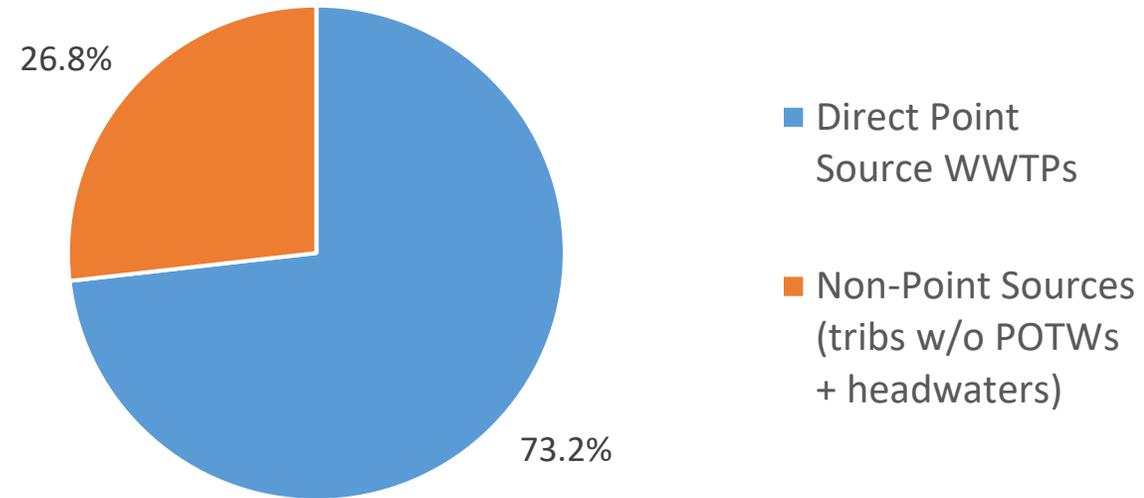
Wadeable and Headwater Streams



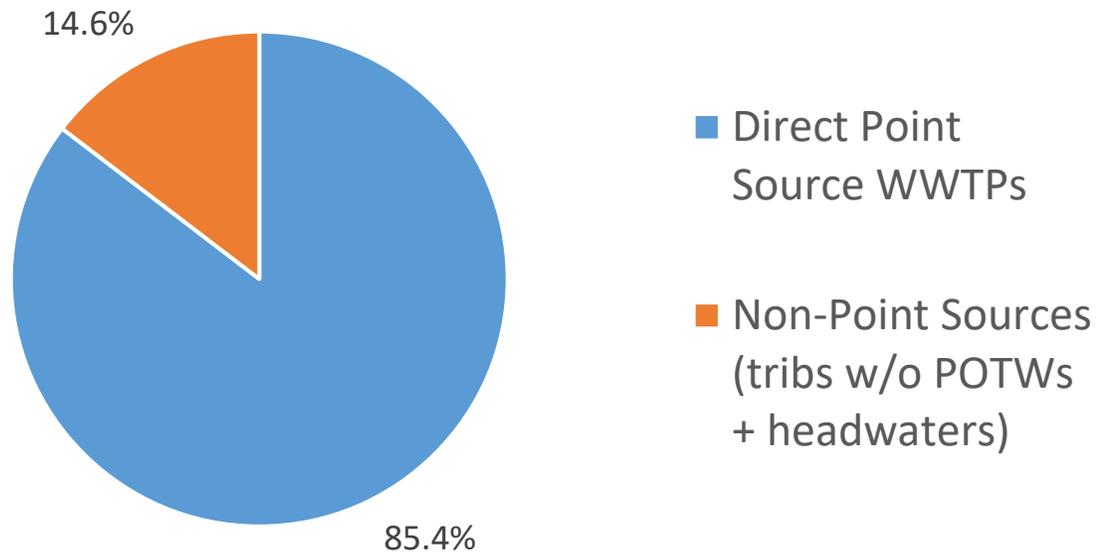
East Branch DuPage River TP Contributions



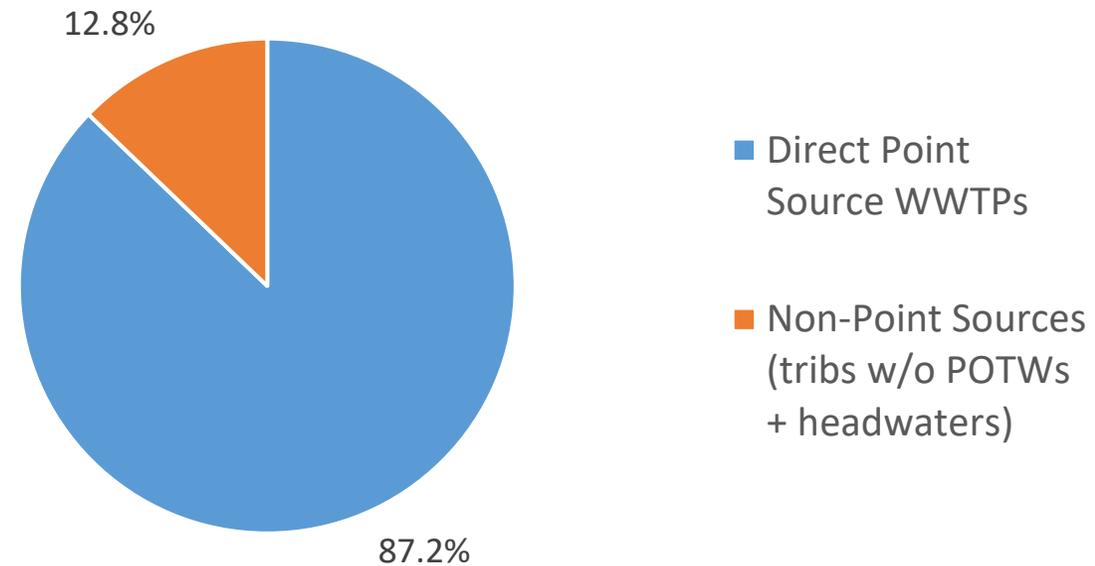
West Branch DuPage River TP Contributions



Salt Creek TP Contributions



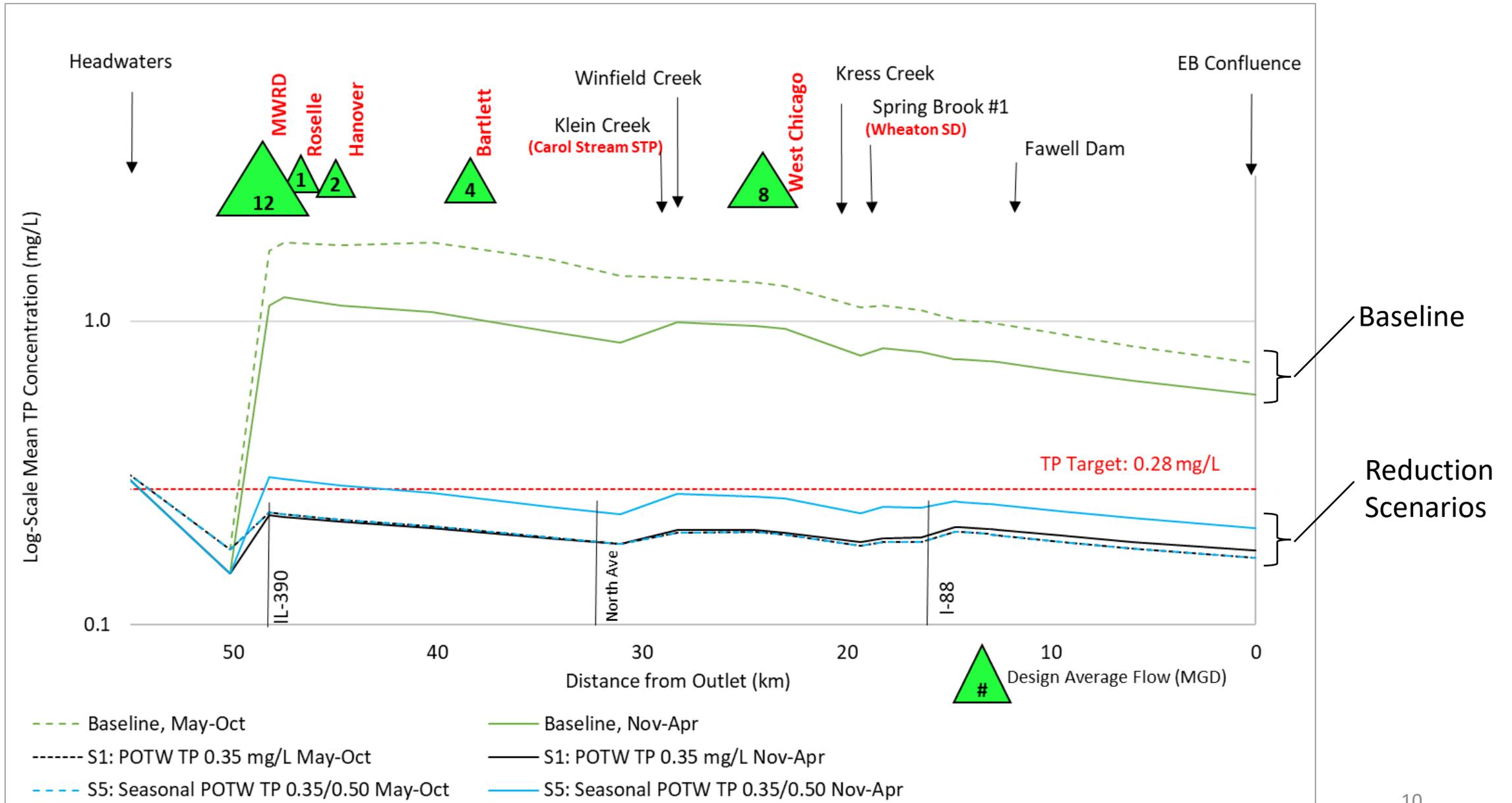
Lower DuPage River TP Contributions



Mean TP concentrations 2006-2021, NIP Area



West Branch DuPage River: Waste Water TP Scenarios



Non-Point Source Feasibility Analysis

- Requirement of the NIP
- High-Resolution canopy cover dataset used to develop effective canopy cover for watershed, agencies, and land types.
- Questionnaire sent to agencies with transportation networks regarding street sweeping and leaf litter collection processes.
- Minnesota Pollution Control Tool (MPCA) Street Sweeping Tool used questionnaire data to calculate phosphorus removal rates.

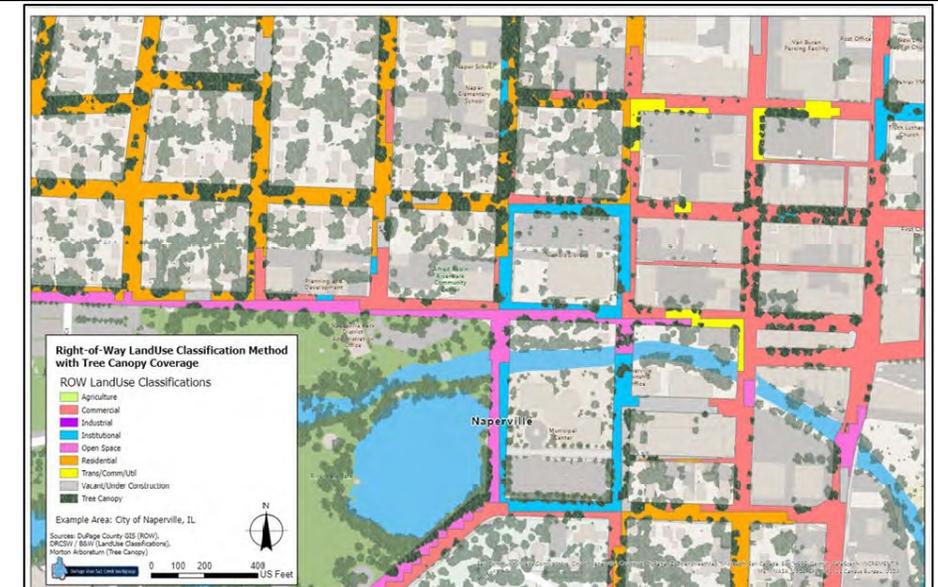
	25 th Percentile Rate	50 th Percentile Rate
Estimated Lbs. of Phosphorus removed	6,870/year	12,021/year

Street Sweeping Credit Calculator **m** MINNESOTA POLLUTION CONTROL AGENCY

Enter your data in YELLOW spaces based on the type of data you have available. Output units match input units (e.g. per year or per event). Track individual Calculator runs on the "Tracking" tab. If any required data inputs are missing, an error message will occur or output cells will appear blank.

Project or Watershed Area:

Input Data		
Option 1: Dry Mass Data	Option 2: Wet Mass Data	Option 3: Curb Miles Swept Data
Required Inputs: Street Sweeping Load Dry Mass (lbs) <input type="text"/> Season of Data Collection <input type="text"/> Not Applicable Optional Input from Laboratory Analyses: Organic Matter Content (%) <input type="text"/> <i>Note: if you have organic matter data, season does not matter.</i>	Required Inputs: Street Sweeping Load Wet Mass (lbs) <input type="text"/> Season of Data Collection <input type="text"/> Not Applicable Optional Inputs from Laboratory Analyses: Dry Basis Moisture Content (%) <input type="text"/> Organic Matter Content (%) <input type="text"/> <i>Note: if user has organic matter data, season does not matter.</i>	Required Inputs: Curb Miles Swept (miles) <input type="text"/> <i>Note: if 1 mile of roadway is swept on both curb lines, input 2 curb miles</i>
Phosphorus Concentration or Removal Rate		
P Concentration (mg P/ kg dry mass) <input type="text"/> Missing input data	Street Sweeping Load Dry Mass (lbs) <input type="text"/> P Concentration (mg P/ kg dry mass) <input type="text"/> Missing input data	Area of Road Swept (acres) <input type="text"/> P Removal Rate (lbs / ac / pass) <input type="text"/> 0.00017
Phosphorus Load Reduction		
Total Phosphorus Removed (lbs) <input type="text"/> Missing input data	Total Phosphorus Removed (lbs) <input type="text"/> Missing input data	Total Phosphorus Removed (lbs) <input type="text"/>



Non-Point Source Feasibility Analysis

Recommendations for Optimization

- Use weather forecasting and collect leaf litter prior to rain events
- Increase street sweeping after leaf collection
- Increase street sweeping frequency in the leaf collection months
- Increase street sweeping in the Spring
- Prioritize leaf collection and sweeping by Effective Canopy Cover
- Explore ways to discourage blowing of landscape waste (grass clippings) into roadways
- Continue public outreach campaign on leaf litter (DCSM)



Recommendations

The Goal of the NIP can strictly be met in all places most years (approximately >75% of the time) if:

- WWTPs move to a permit limit of 0.35 mg/l TP (already accepted as a proposal by agencies)
- Street sweeping and public education of leaf litter management is maintained
- Continued implementation of habitat improvement projects to push up biological numbers and deal with “structural” DO issues.

Next Steps

- Have draft document reviewed by effected agencies
- Submit final document including suggested permit language (WWTPs)
- Enter negotiations with IEPA and Environmental Partners
- Local agencies take proposal produced by negotiations to their Boards for proposals

..... Q & A

Q &A