

# Upper Fox River Basin and Wolf River Basin Volunteer Monitoring Program

## Upper Fox and Wolf Basins TMDL

### 2022 Data Summary



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# Upper Fox and Wolf River Volunteer Monitoring Program

Summary- August 2023

## Contents

Project Overview.....	3
Project Goals.....	3
Median Total Phosphorus by Site .....	4
Annual Median Total Phosphorus Concentrations by Sampling Location.....	5
Annual Median Total Suspended Solids Concentrations by Sampling Location.....	6
Annual Median Dissolved Reactive Phosphorus Concentrations by Sampling Location .....	7
Annual Median Total Nitrogen Concentration by Sampling Location .....	8

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Summary- August 2023

## *Project Overview*

The project area is located within the Upper Fox River Basin and the Wolf River Basins (UFWB) in northeast and central Wisconsin. The Wolf River Basin is 3,700 square miles and extends from the headwaters of the Wolf River in Forest County to the Wolf River confluence with Lake Butte des Morts in Winnebago County. The Upper Fox Basin is 2,200 square miles and extends from the headwaters of the Fox River in Columbia and Adams Counties to the outlet of Lake Winnebago. The Upper Fox Basin also includes the direct drainage areas to Lake Winnebago.

The Upper Fox and Wolf Volunteer Monitoring Program started in 2020 with five individuals and three groups of volunteers sampling 12 monitoring locations monthly. Eight more sites were added in 2021 and in 2022 the 20 monitoring sites were sampled by 14 volunteers. The samples are taken once a month during the growing season (May-October) and are analyzed for total suspended solids, dissolved orthophosphate, total phosphorus, and total nitrogen.

Phosphorus and sediment cause numerous impairments to waterways, including low dissolved oxygen concentrations, degraded habitat, and excessive turbidity. These impairments adversely impact fish and aquatic life, water quality, recreation, and potentially navigation.

Phosphorus is an essential nutrient for plant growth. When excess amounts are introduced to a system, harmful algal blooms can occur. Total phosphorus is a key indicator of water quality.

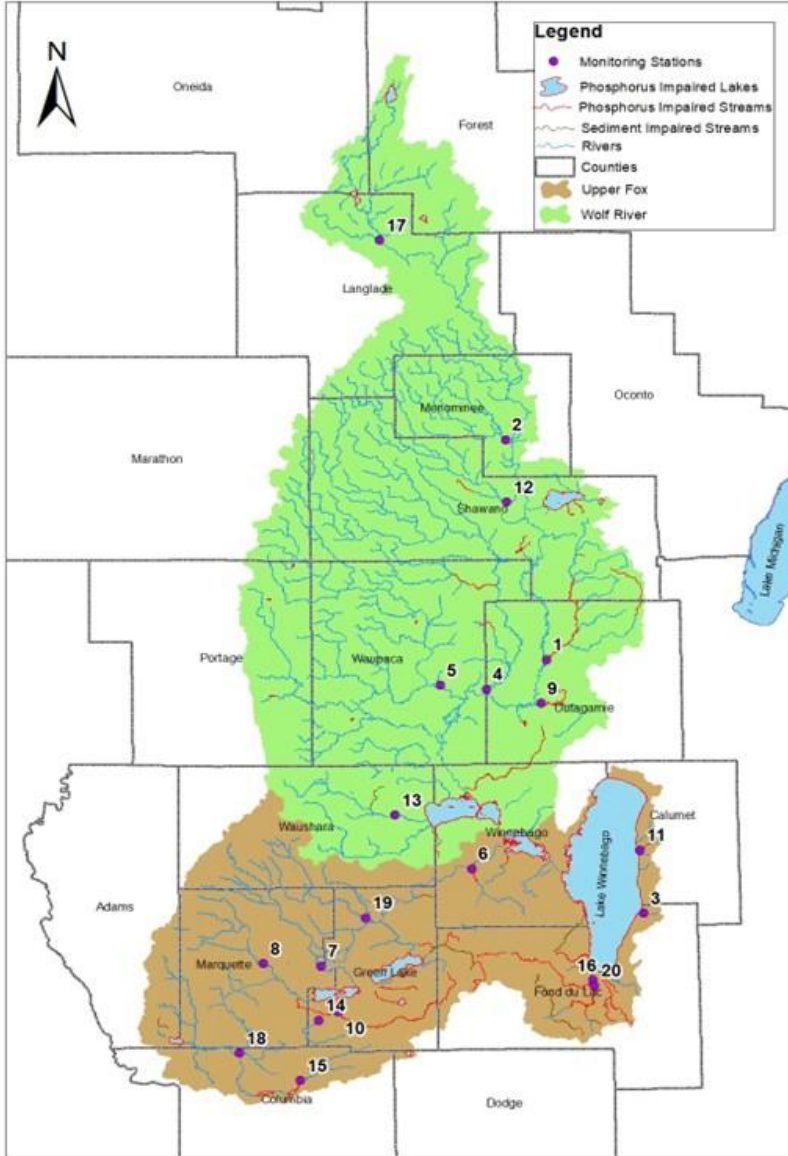
## *Project Goals*

- 1) Increase public awareness and involvement of water quality issues by engaging the public in citizen science
- 2) The collection of reliable surface water quality data to assess long-term water quality trends/success
- 3) Evaluate nutrient and sediment concentrations in the tributaries discharging to the Upper Fox River, Wolf River, and Lake Winnebago
- 4) Monitor the health of the watershed overtime
- 5) Provide a basis for evaluation of the long-term effectiveness of implementation of the Upper Fox and Wolf TMDL; are there water quality improvements in watersheds with the implementation of best management practices?
- 6) Share water quality data broadly among stakeholders to collectively assess water quality

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## Median Total Phosphorus by Site



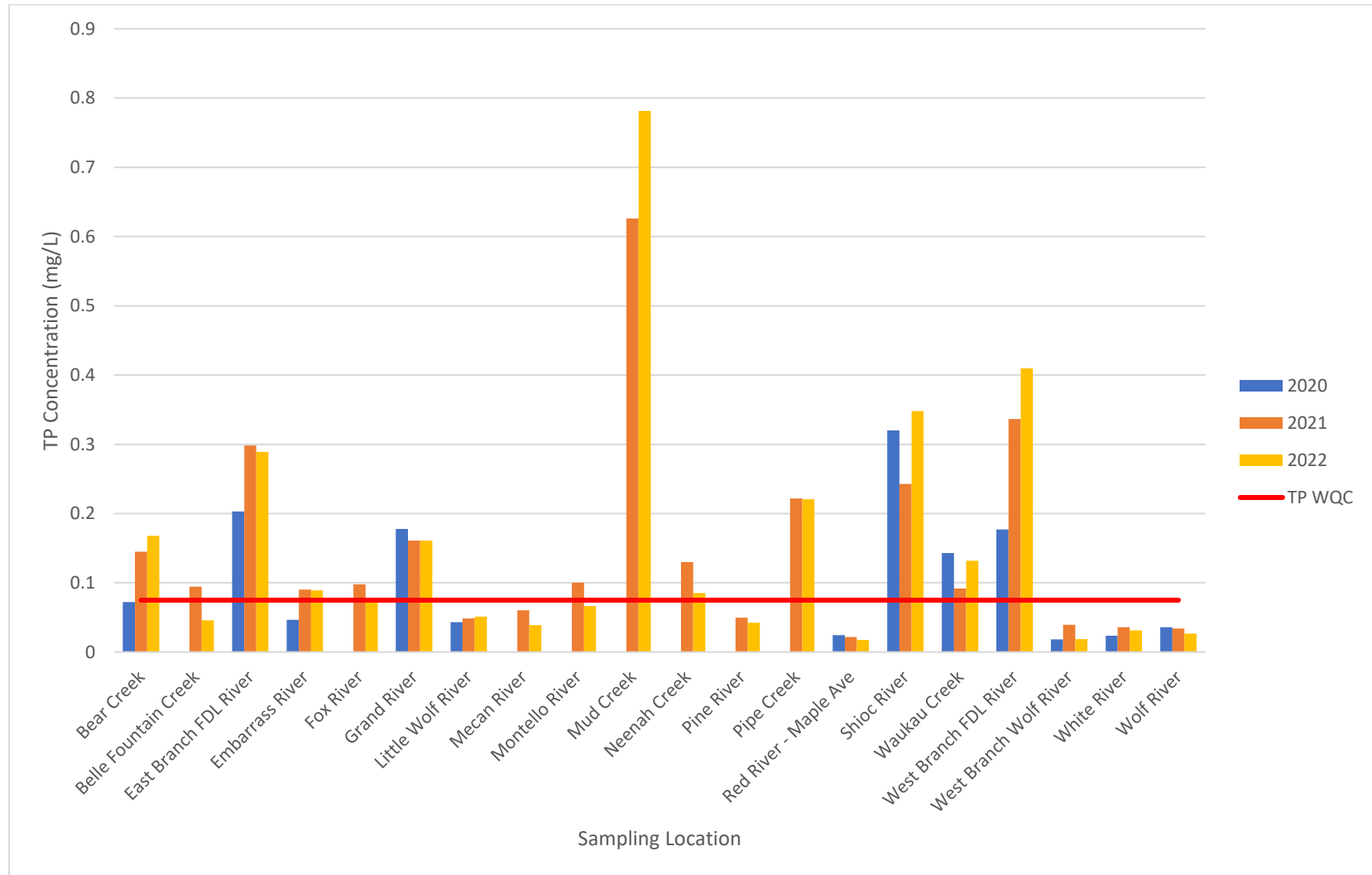
Median Total Phosphorus (2020-2022)		
Map #	Stream Name	TP (mg/L)
1	Shioc River	0.32
2	West Branch Wolf River	0.01885
3	Pipe Creek	0.22125
4	Embarrass River (HWY 54)	0.0892
5	Little Wolf River	0.0486
6	Waukau Creek	0.132
7	Mecan River	0.049575
8	Montello River	0.08335
9	Bear Creek	0.145
10	Grand River	0.161
11	Mud Creek	0.70375
12	Red River	0.0218
13	Pine River	0.045975
14	Belle Fountain Creek	0.0702
15	Fox River	0.084975
16	West Branch Fond du Lac River	0.3365
17	Wolf River	0.0339
18	Neenah Creek	0.1076
19	White River	0.0314
20	East Branch Fond du Lac River	0.289

*Red values are data from 2021-2022*

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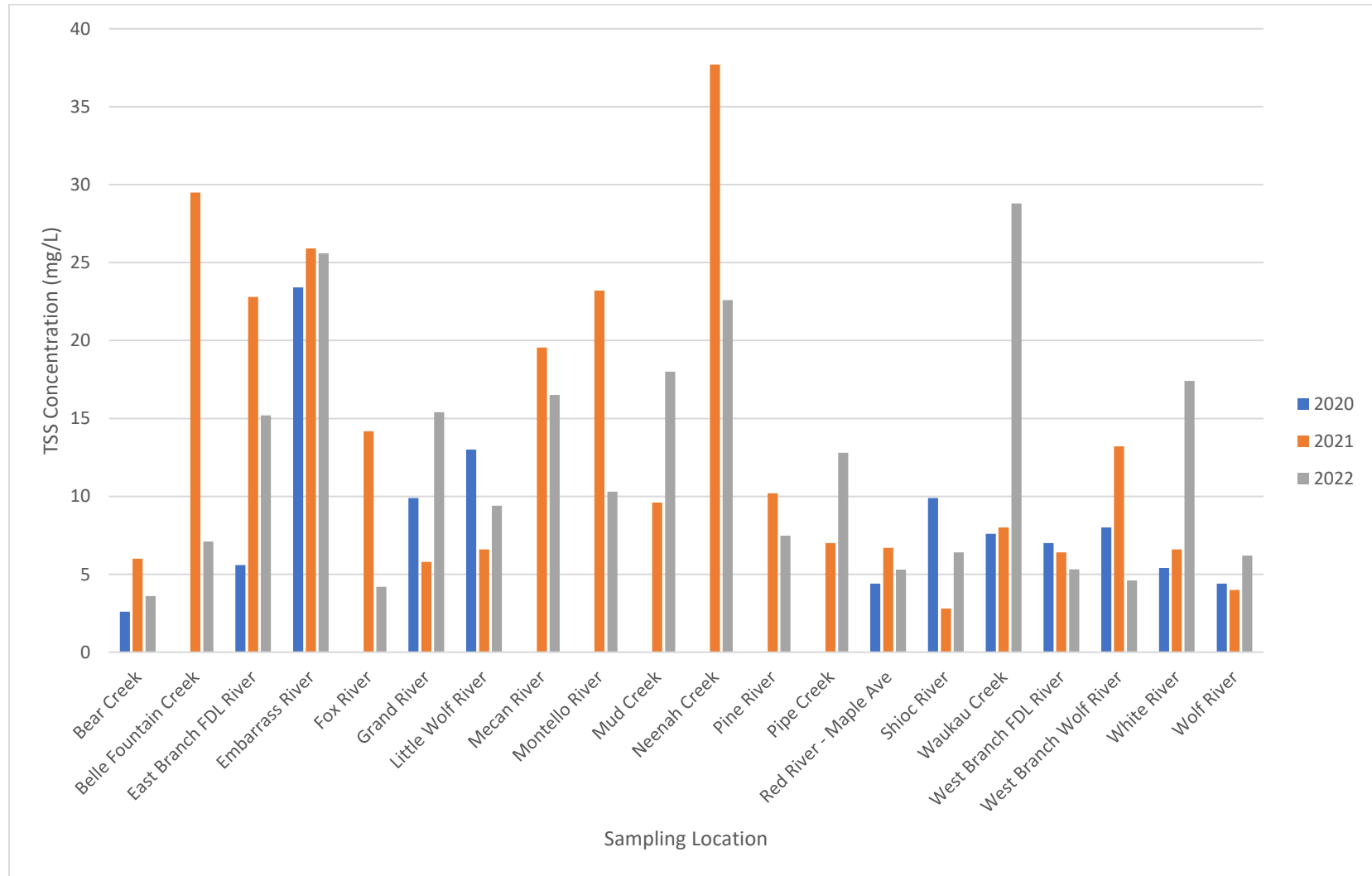
Annual Median Total Phosphorus Concentrations by Sampling Location



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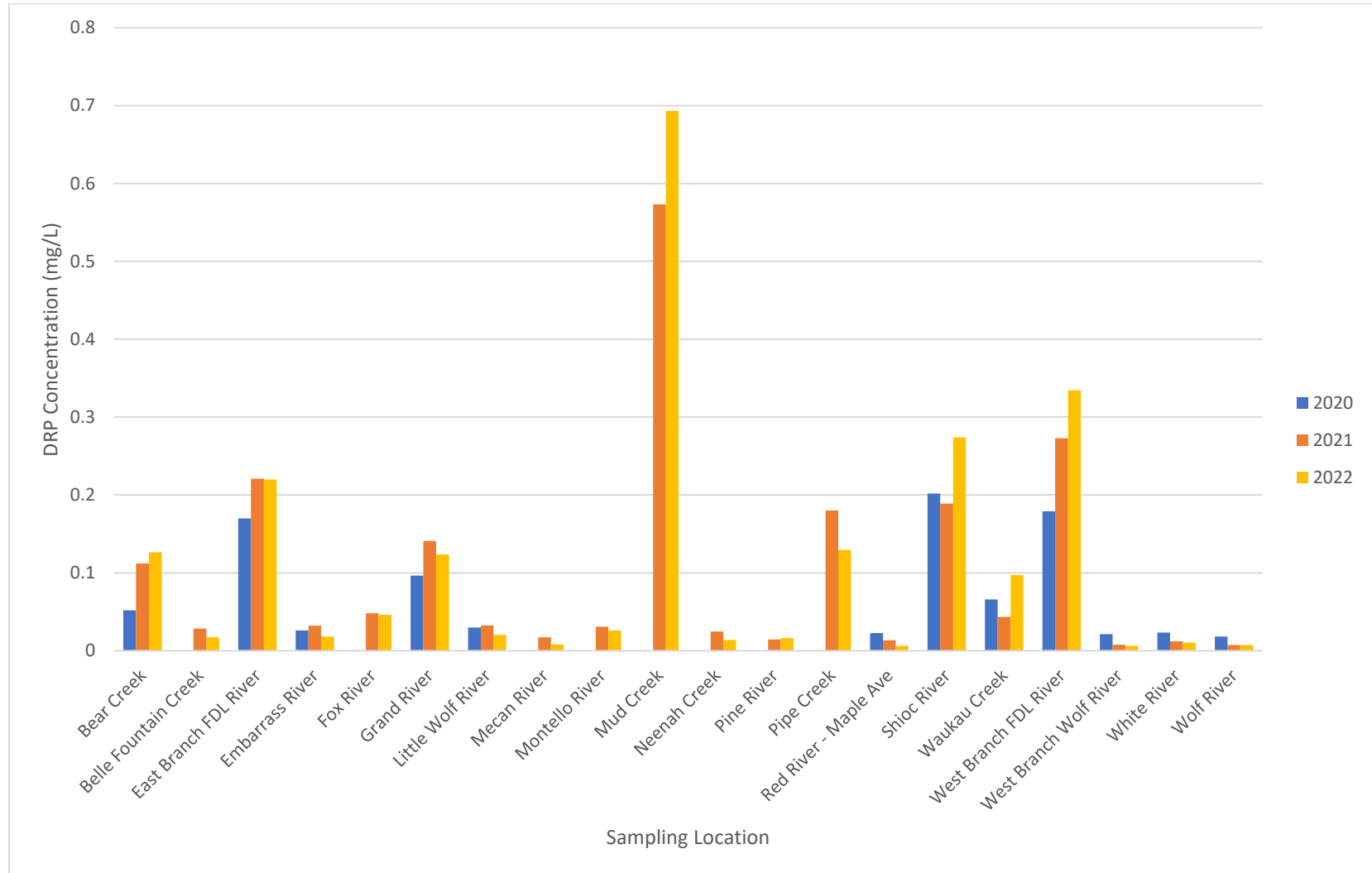
Annual Median Total Suspended Solids Concentrations by Sampling Location



# Upper Fox and Wolf River Volunteer Monitoring Program

Summary- August 2023

Annual Median Dissolved Reactive Phosphorus Concentrations by Sampling Location



# Upper Fox and Wolf River Volunteer Monitoring Program

Summary- August 2023

Annual Median Total Nitrogen Concentration by Sampling Location

