Northeast Regional Water Study

Indiana Finance Authority

Presented to Regional Stakeholders

November 13, 2025

INTERA

IFA Water Initiatives

- State Revolving Fund Loan Program (SRF) Infrastructure Needs Surveys and other reports (1997 – now)
- Regional water planning (IC 5-1.2-11.5, 2017)
- Executive Order 25-63 (2025)
  - Water data inventory (i.e., IFA regional water studies)
  - Water data collection networks
  - Water data sharing
  - Framework for water planning
- Remainder of state
- Deadline (October 2026)

Indiana Finance Authority

List of Studies

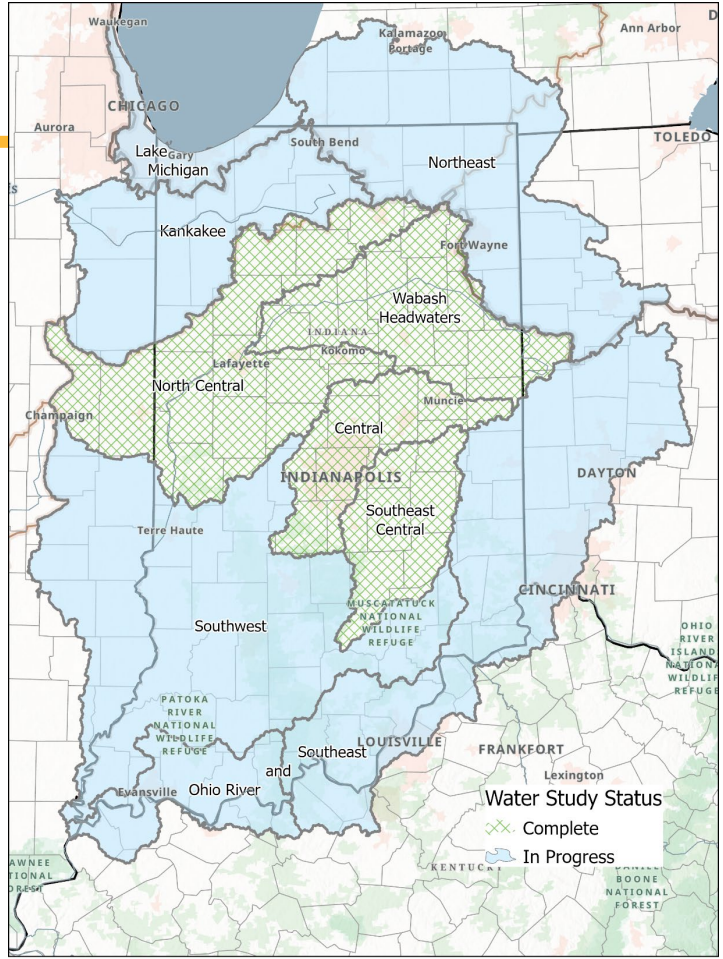
Completed (2021-2025)

- Central Indiana
- Southeast Central
- Wabash Headwaters
- Wabash North Central

In progress (2025)

- Kankakee (kick off 5/21)
- Ohio River (kick off 8/18)
- Southeast (kick off 8/18)
- Southwest (kick off 9/23)
- Northeast (kick off November 13)
- Lake Michigan (regional summary study)

https://www.in.gov/ifa/regional-water-studies/



Indiana Finance Authority

Regional Water Studies

GOAL and OBJECTIVES

- Improve understanding of water resources to support water planning
- At the regional level using hydrological boundaries:
- Current and 50-year water demand
- Current and 50-year water availability

APPROACH

- Scale = regional
- Boundaries = hydrological (i.e., watershed basins)
- Standardized process, customizable by region
- Focus on public water sector
- Outreach with stakeholders
  - Utilities, elected officials, economic development groups
- Utilize Advisory Committee

Indiana Finance Authority

Advisory Committee

- Indiana Finance Authority – Lead
- Indiana Department of Natural Resources
- Indiana Department of Environmental Management
- U.S. Geological Survey
- Indiana Farm Bureau
- Indiana University – Dr. Sally Letsinger
- Others by Region

Indiana Finance Authority

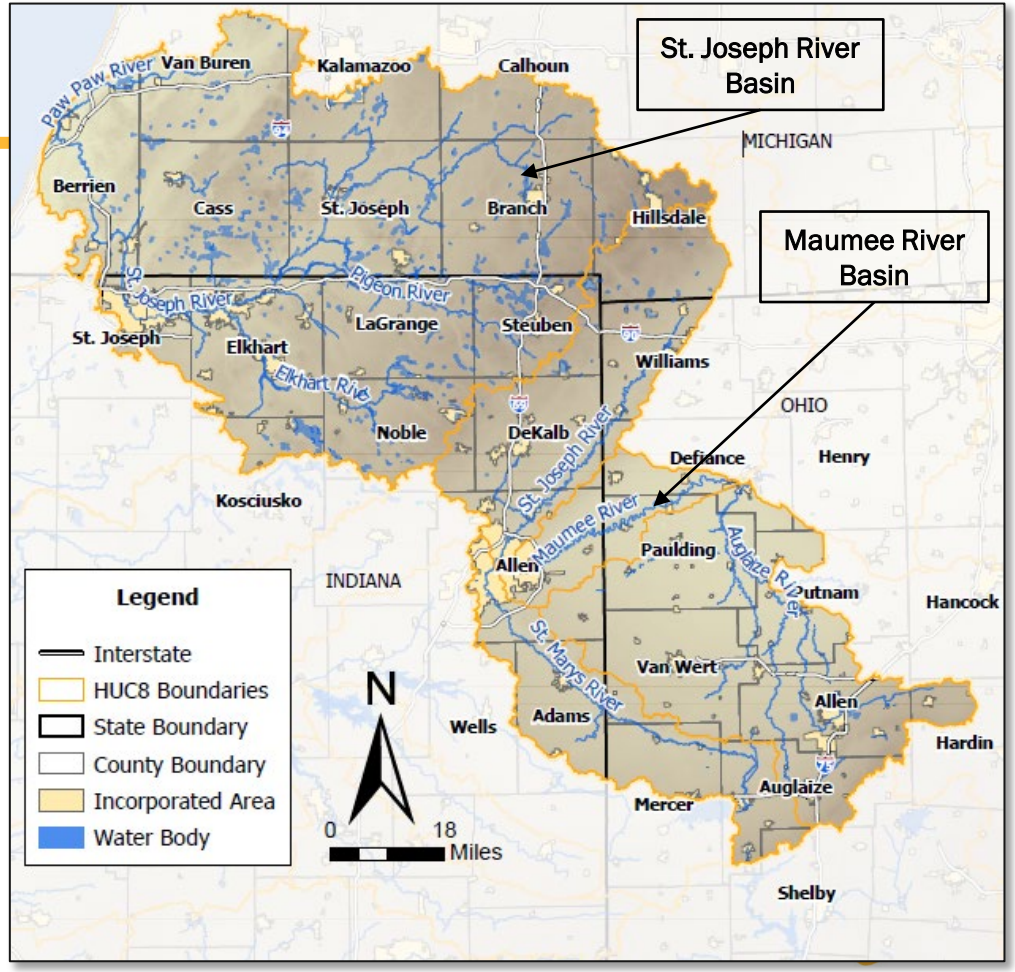
Northeast Indiana Regional Water Study

Indiana Finance Authority

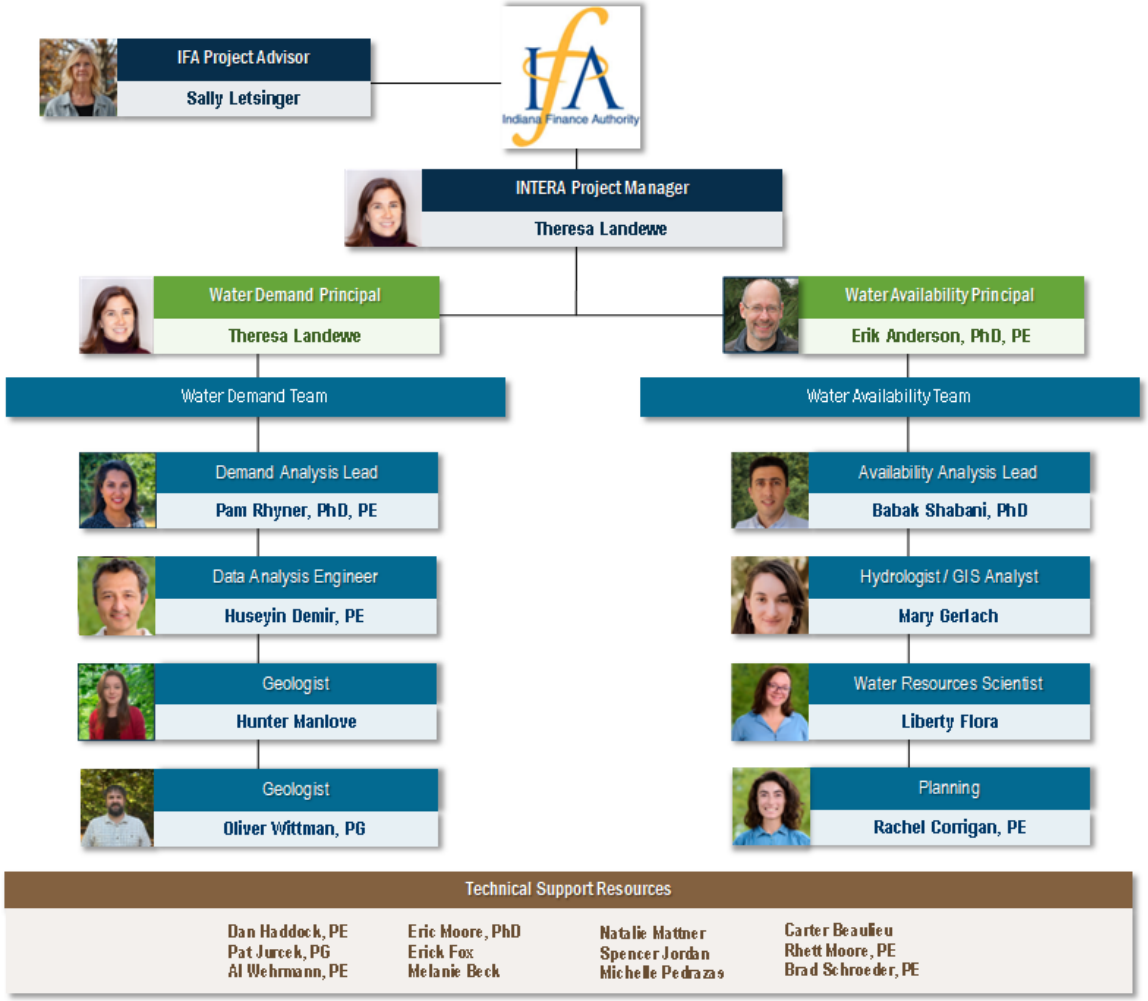
Agenda

1. Project Team Introduction
2. Regional Study Approach and Structure
3. Northeast Indiana Regional Study Specifics
4. Website and Next Steps

Northeast Regional Water Study



Project Team



Water Study: Objectives

Establish historical and future projections of water demand and availability

Support a 50-year regional water planning horizon

Indiana Finance Authority

Water Study Approach: Water Balance

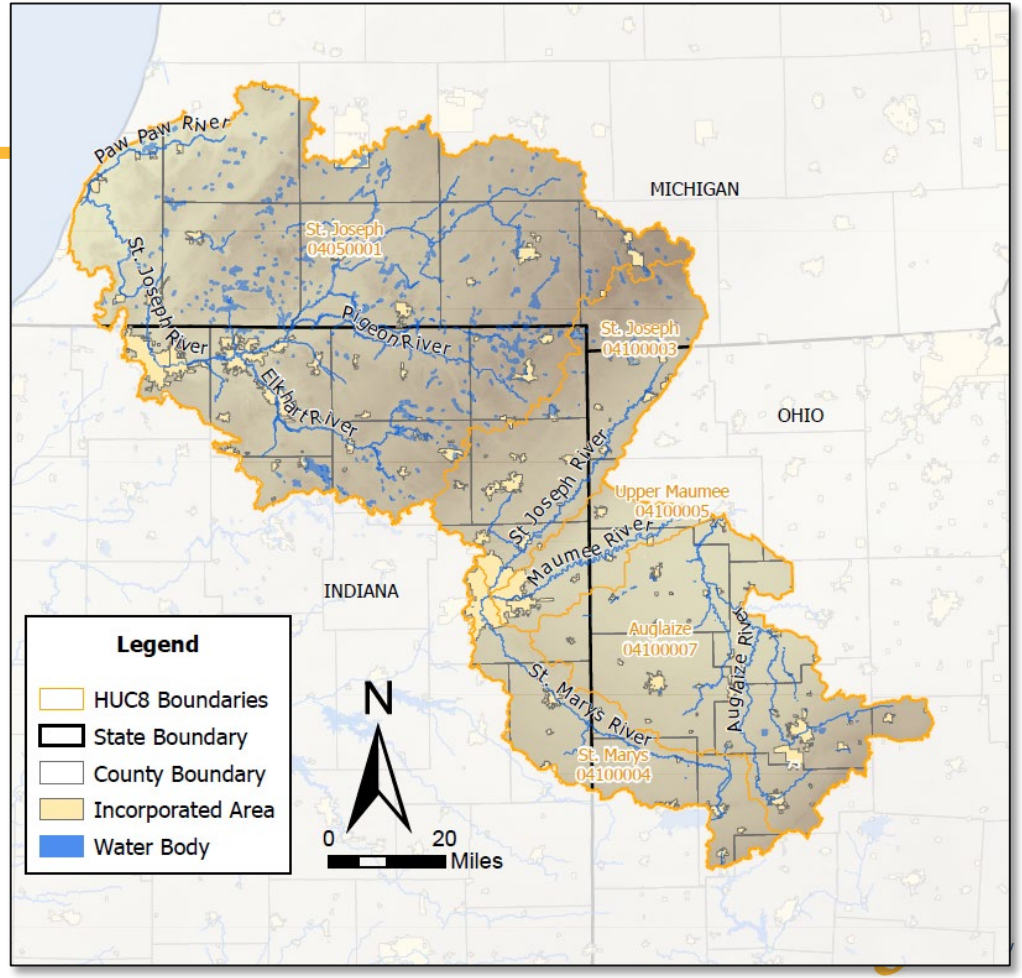
Natural water balance

Human alterations

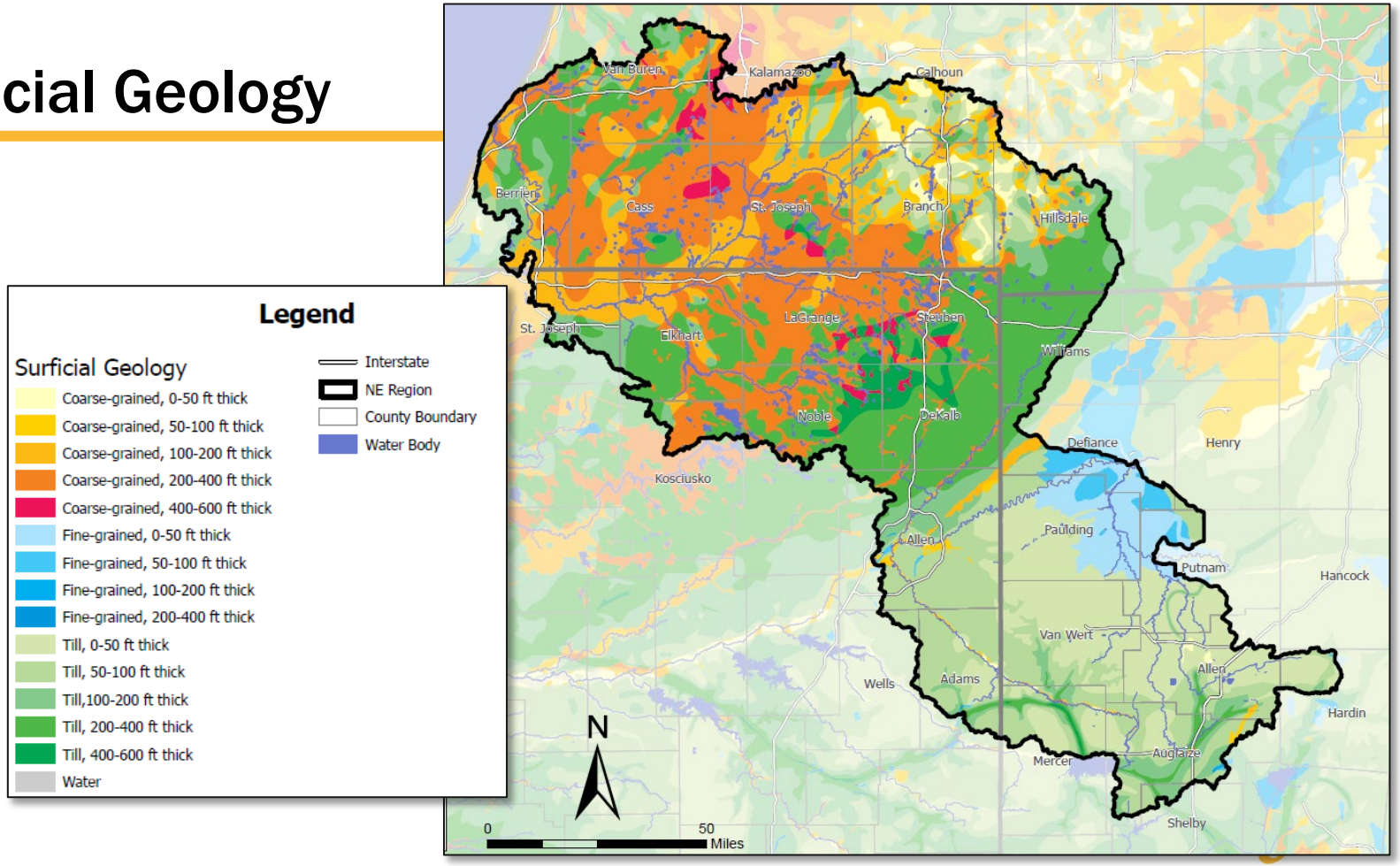
Climate change

Indiana Finance Authority

SW Hydrology

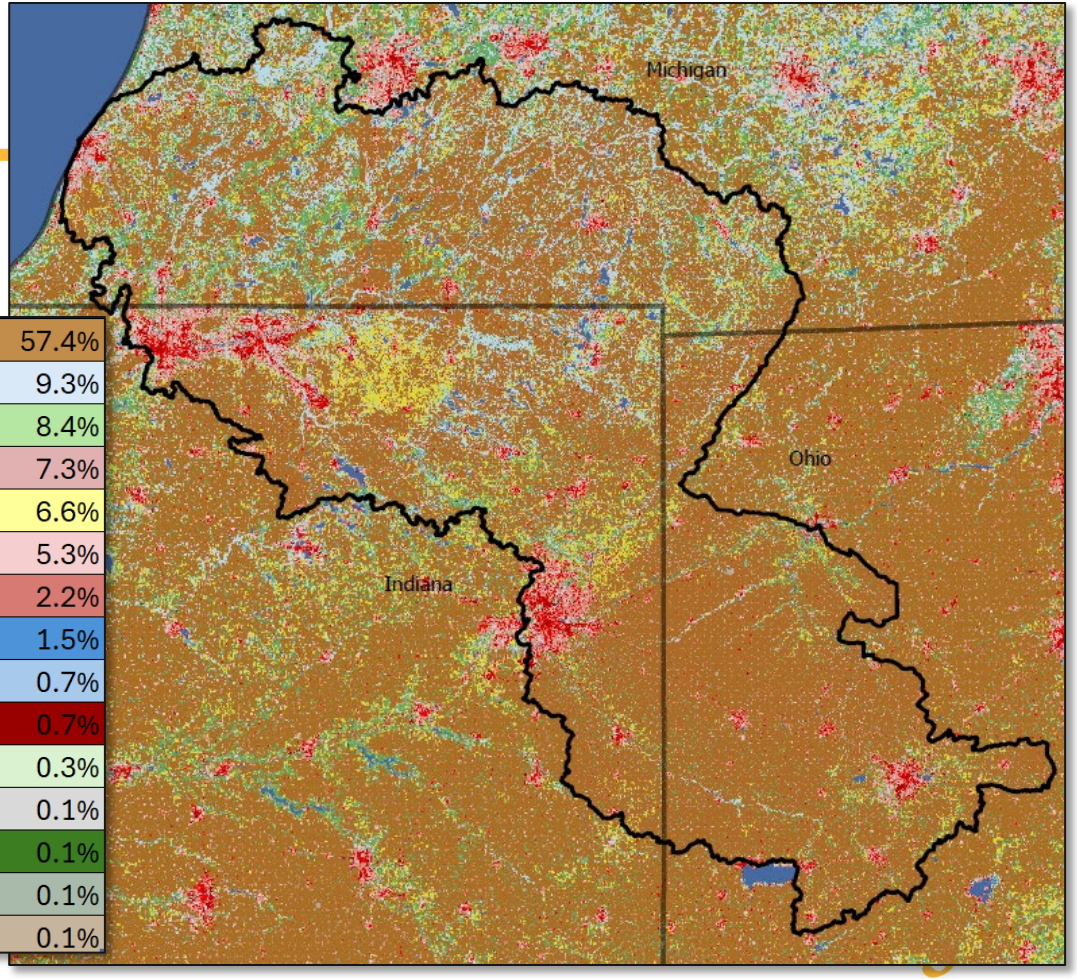


Surficial Geology



Land Use

82	Cultivated Crops	4968.7	57.4%
90	Woody Wetlands	802.0	9.3%
41	Deciduous Forest	728.6	8.4%
22	Developed, Low Intensity	630.1	7.3%
81	Pasture/Hay	567.9	6.6%
21	Developed, Open Space	458.7	5.3%
23	Developed, Medium Intensity	187.1	2.2%
11	Open Water	130.3	1.5%
95	Emergent Herbaceous Wetlands	63.8	0.7%
24	Developed, High Intensity	60.4	0.7%
43	Mixed Forest	22.2	0.3%
31	Barren Land (Rock/Sand/Clay)	9.9	0.1%
42	Evergreen Forest	9.0	0.1%
71	Grassland/Herbaceous	8.5	0.1%
52	Shrub/Scrub	6.8	0.1%



REGIONAL WATER STUDIES

Water Demand

Water Demand Future Forecasts

COMPARE

- Compare historical water use by sector and location to potential influential factors, such as:
  - Economic variables (population trends, income, inflation)
  - Climate variables (temperature, precipitation, atmospheric thirst)

RELATE

- Identify mathematical relationships between water use and economic and climate variables

MODEL

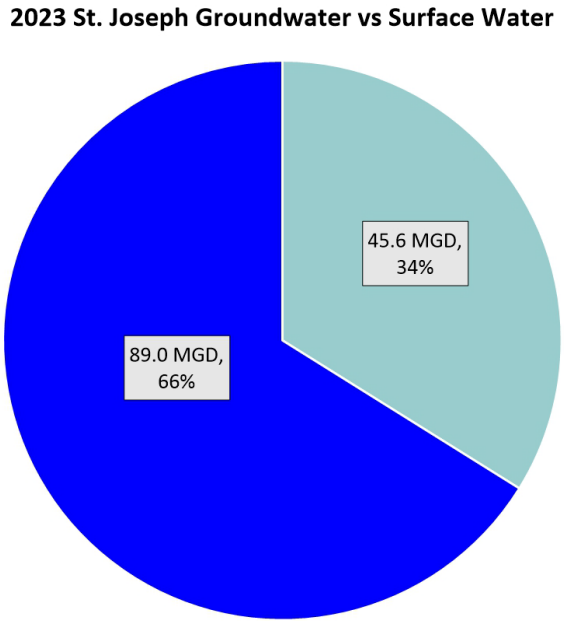
- Use the relationships to estimate potential future water use by applying projections of the economic and climate variables.

Assumptions:

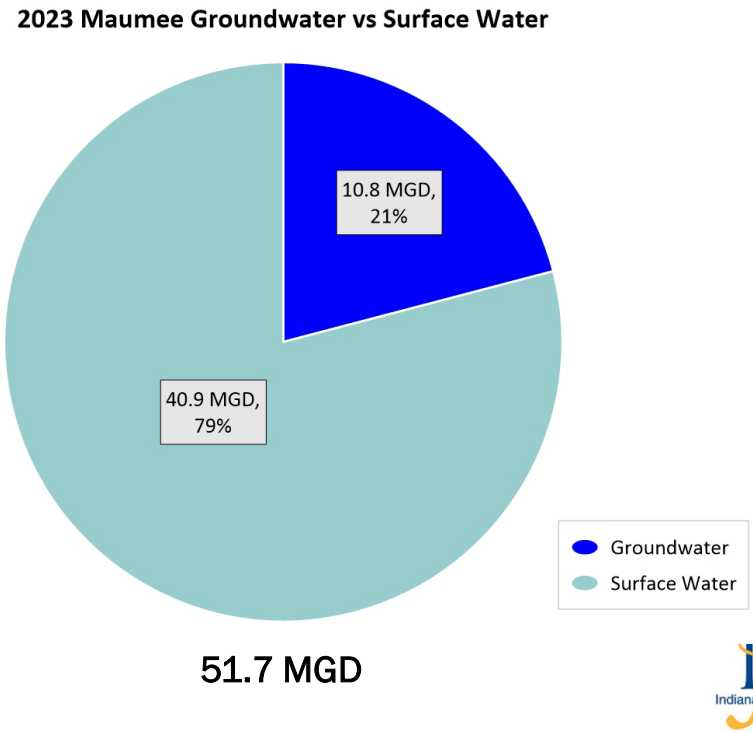
- Water sources (groundwater, surface water) used in the past by sectors or facilities will be the same in the future
- Future climate models provide an opportunity to calculate the likely hydrological response to changes in timing and magnitude of precipitation and temperature

Indiana Finance Authority

2023 IN Water Withdrawals



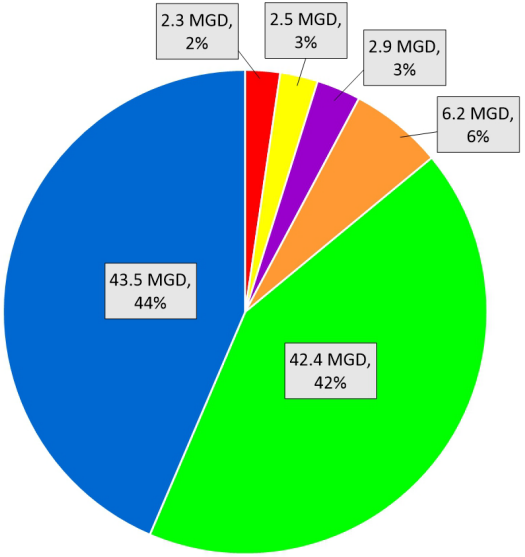
134.0 MGD



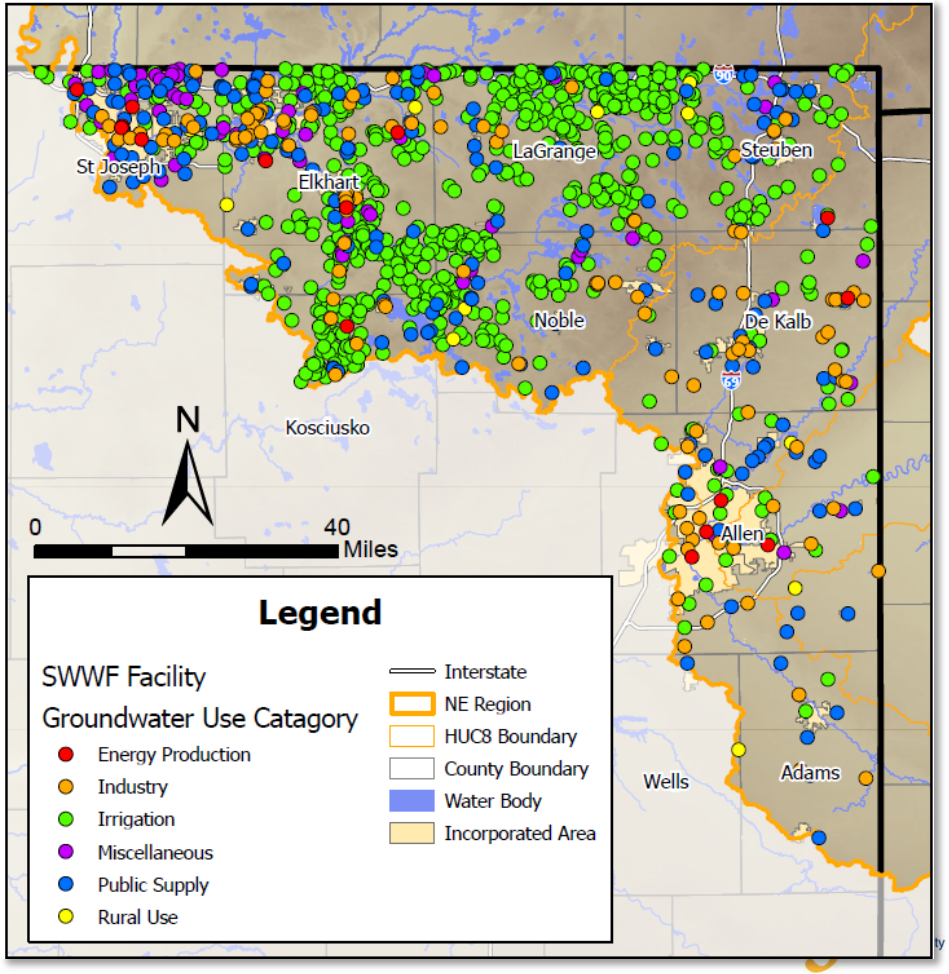
51.7 MGD

Indiana Finance Authority

Groundwater

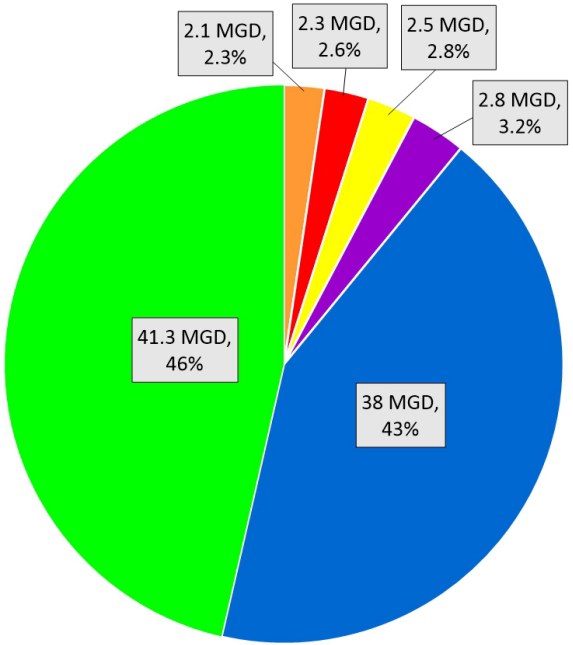


Total GW - 99.8 MGD



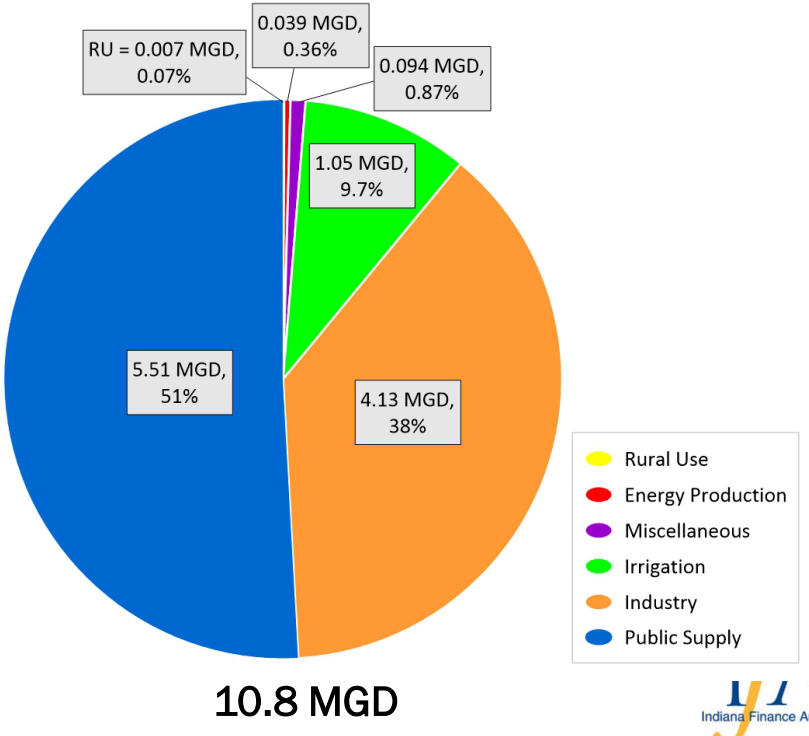
Groundwater

2023 St. Joseph Groundwater Use by Sector



89 MGD

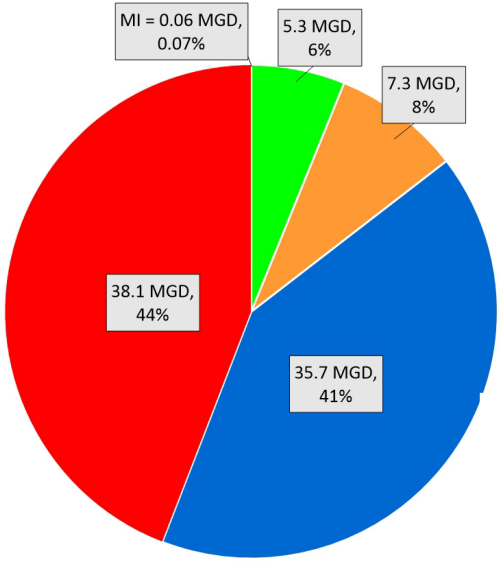
2023 Maumee Groundwater Use by Sector



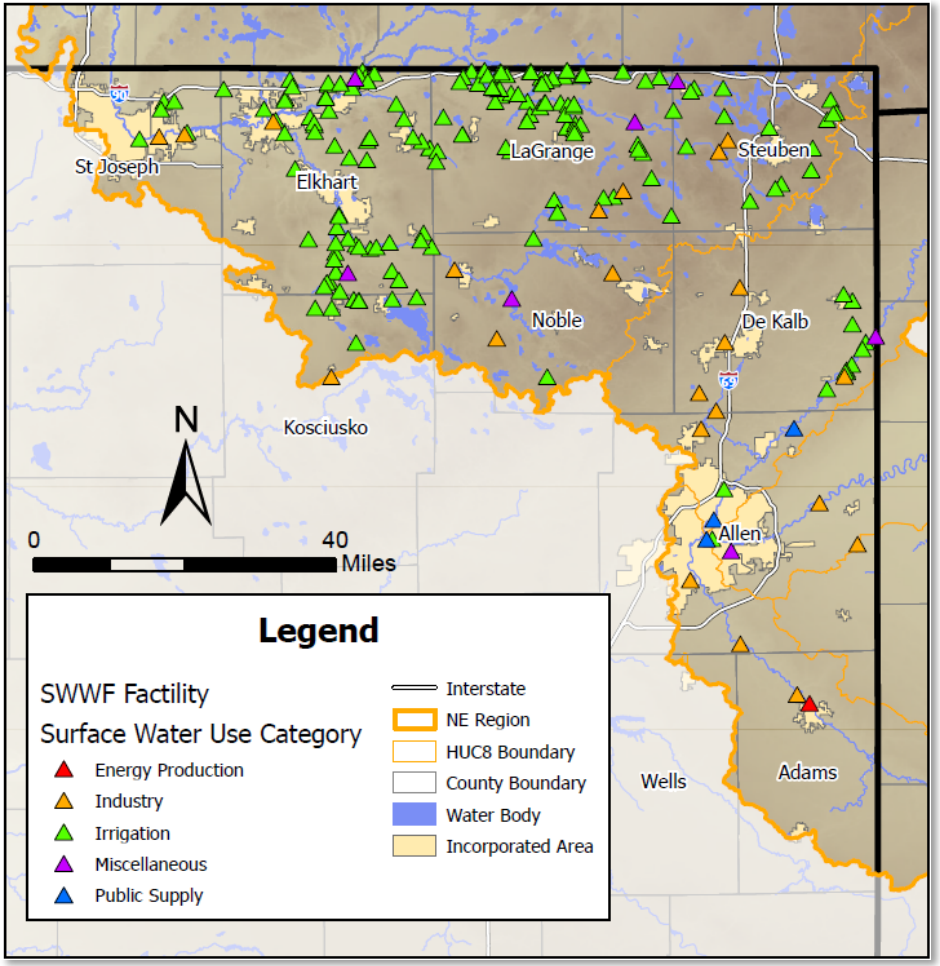
10.8 MGD

Indiana Finance Authority

Surface Water Intakes

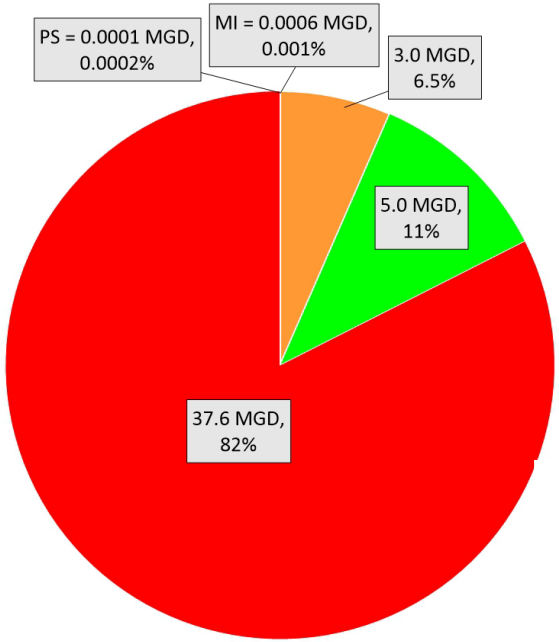


Total SW - 86.5 MGD



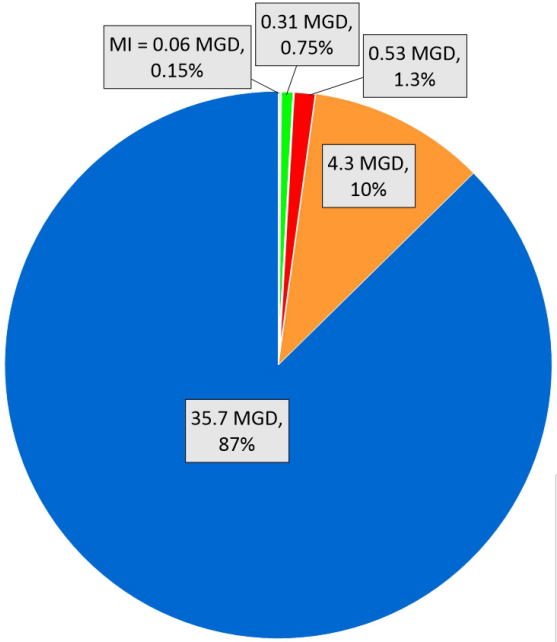
Surface Water

2023 St. Joseph Surface Water Use by Sector



45.6 MGD

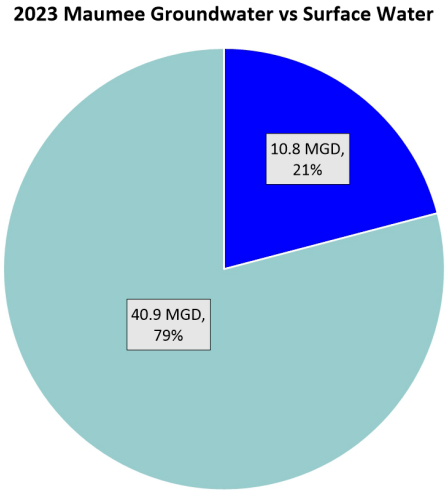
2023 Maumee Surface Water Use by Sector



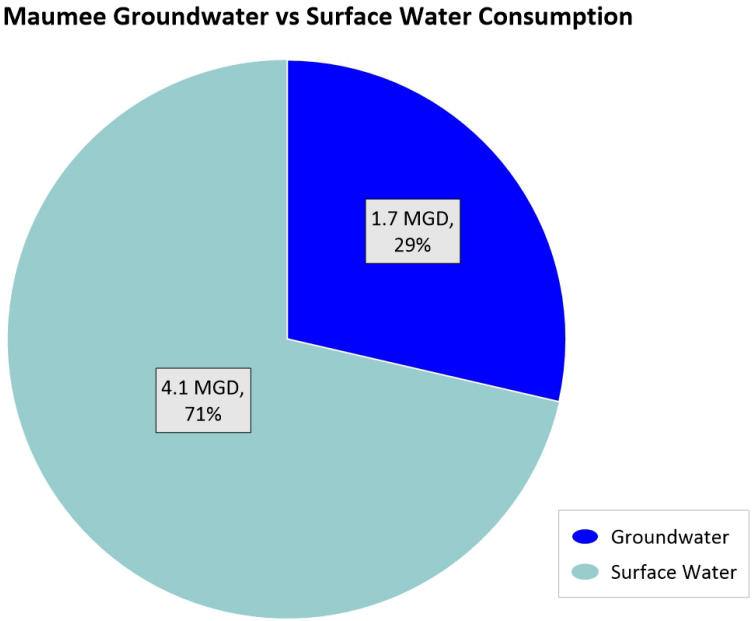
40.9 MGD

Indiana Finance Authority

Maumee GW vs SW Consumptive Use



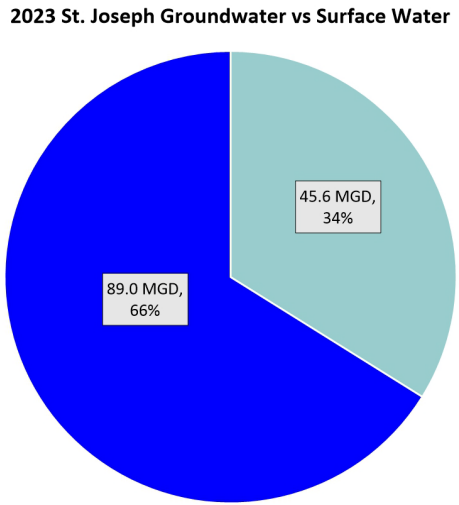
51.7 MGD



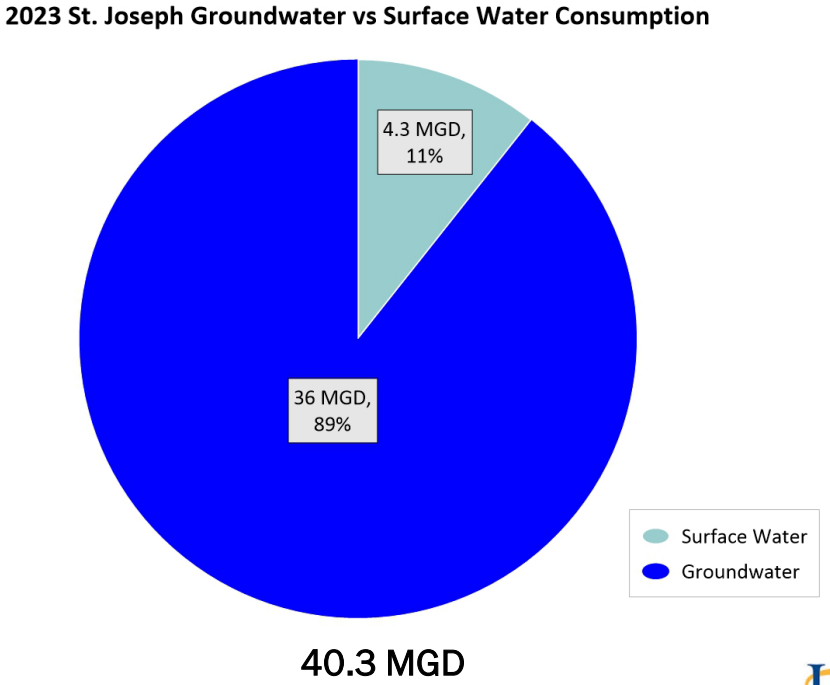
5.8 MGD

Indiana Finance Authority

St. Joseph GW vs SW Consumptive Use



134.6 MGD

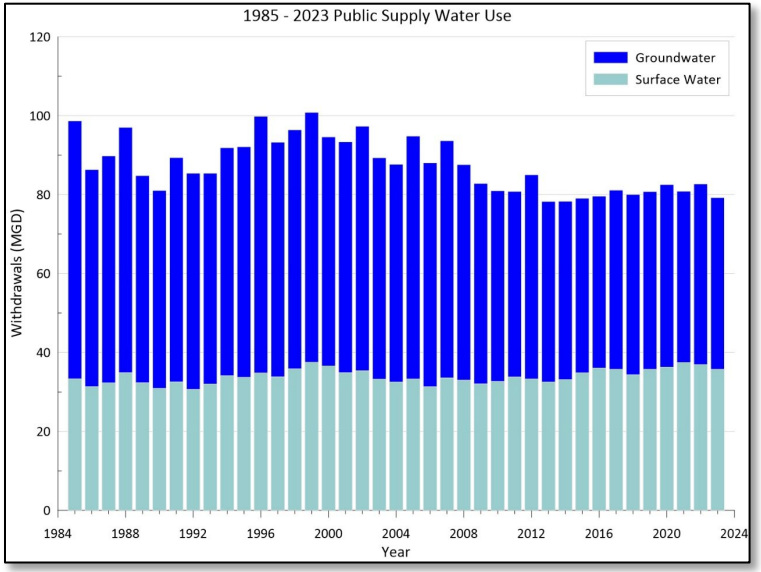


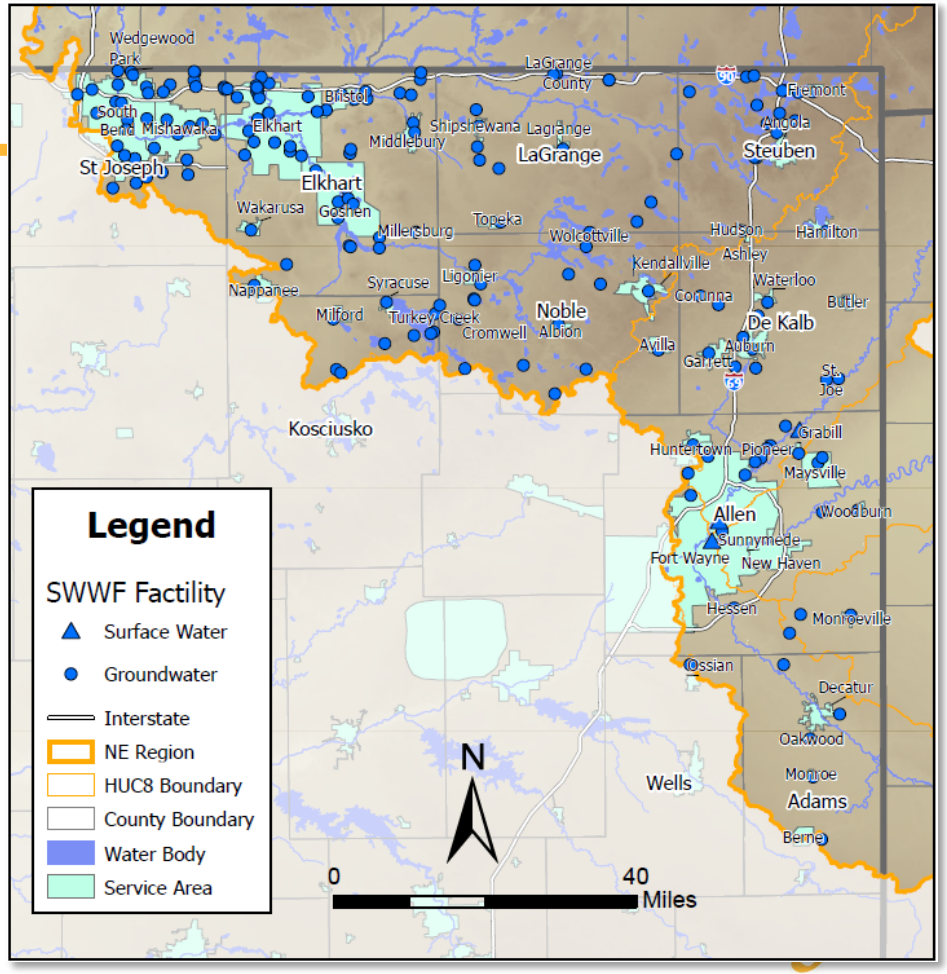
40.3 MGD

Indiana Finance Authority

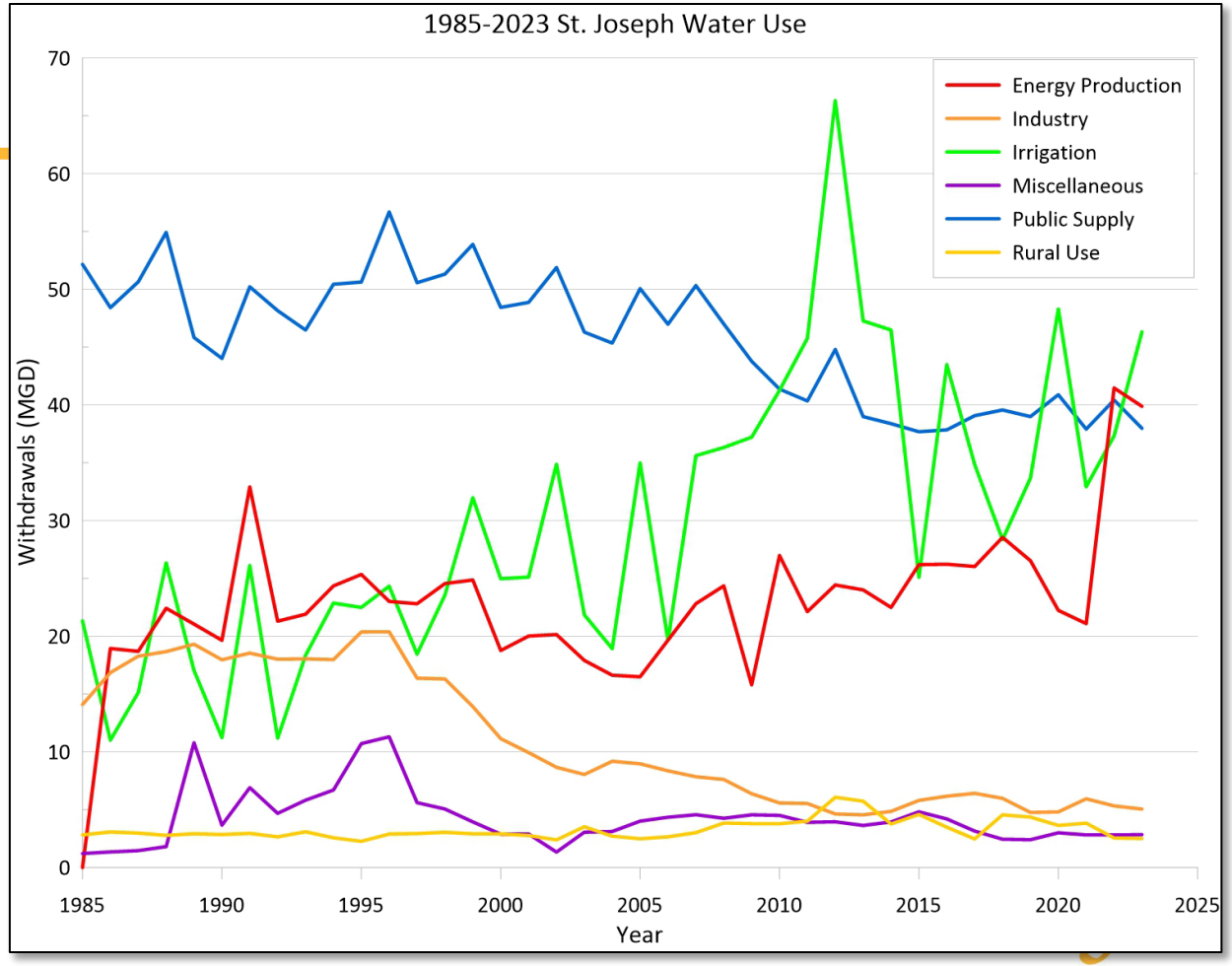
Public Water Supply

- Relatively small service areas
- High self-served residential population

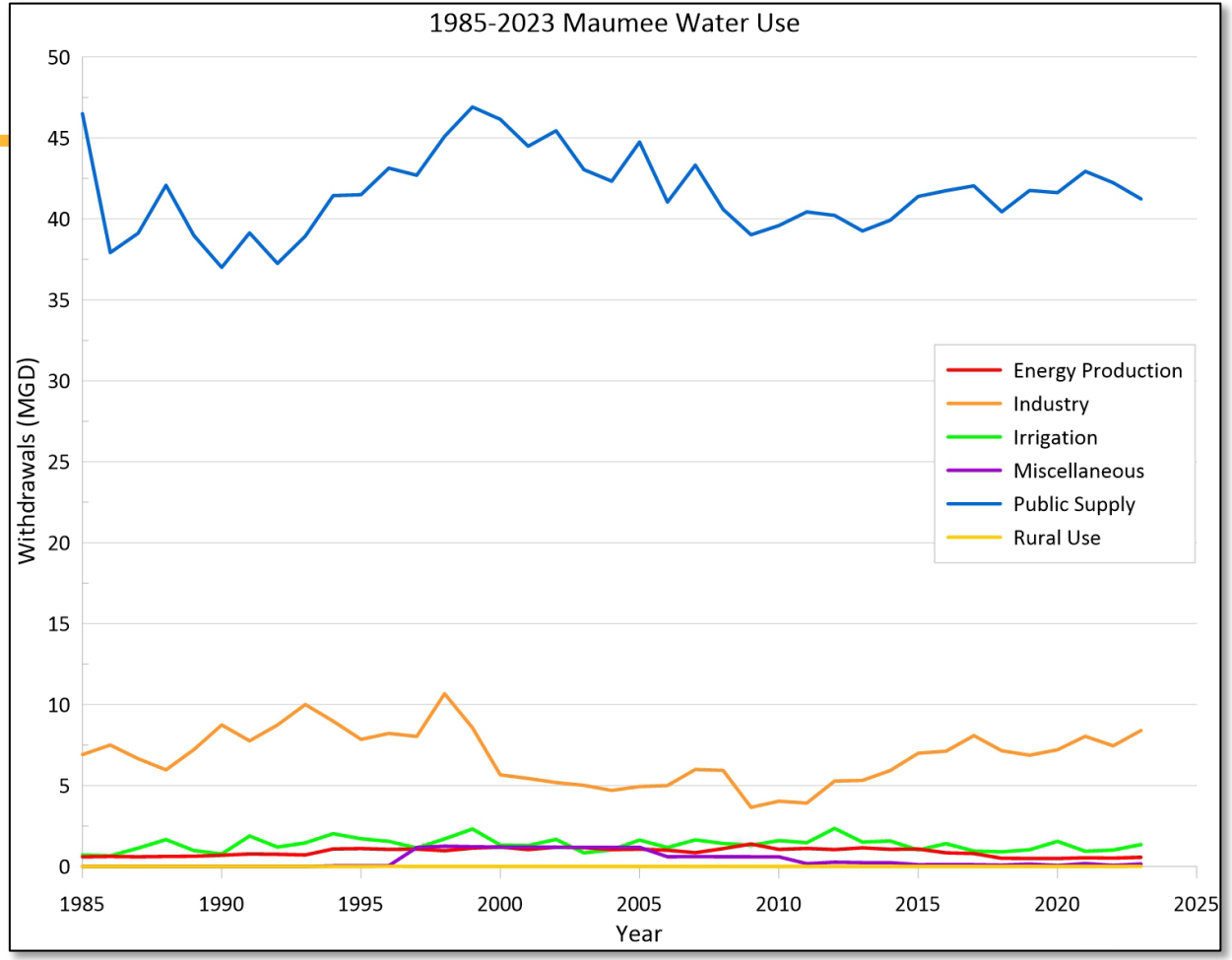




Historic Water Withdrawals - St. Joseph



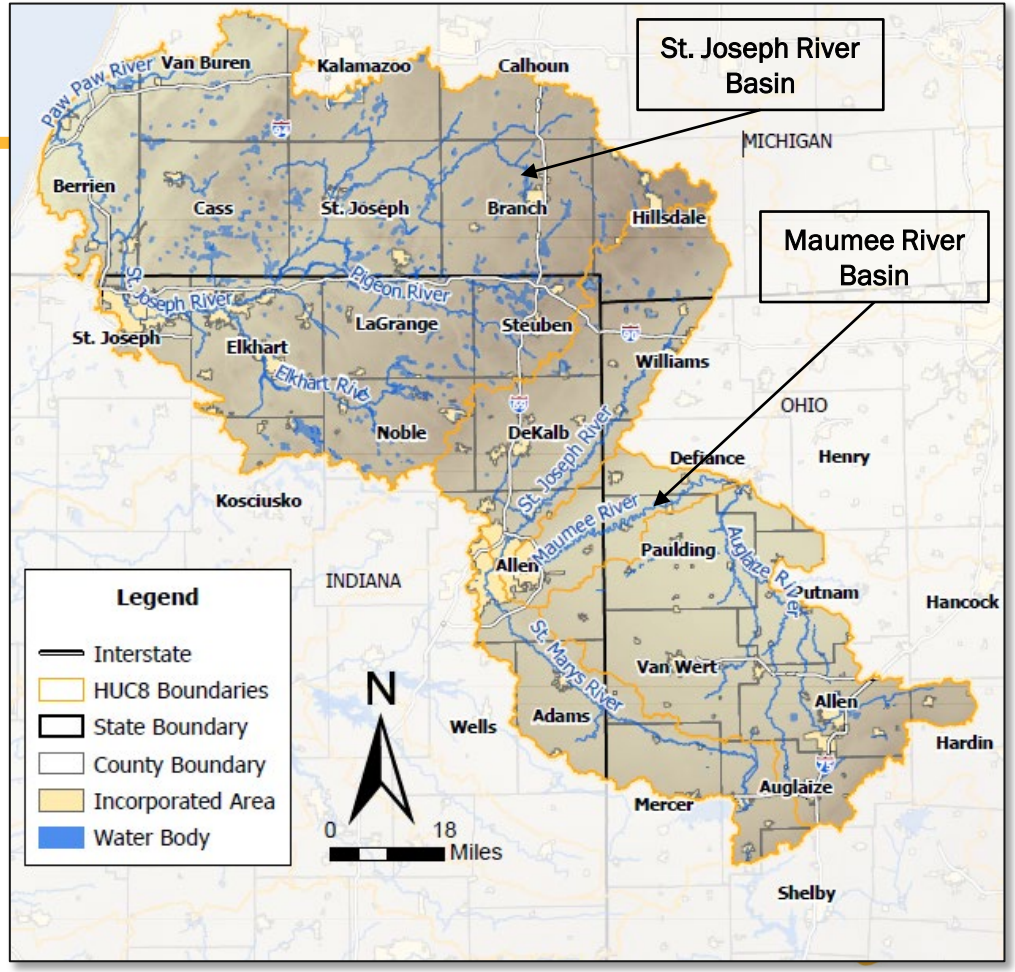
Historic Water Withdrawals - Maumee



REGIONAL WATER STUDIES

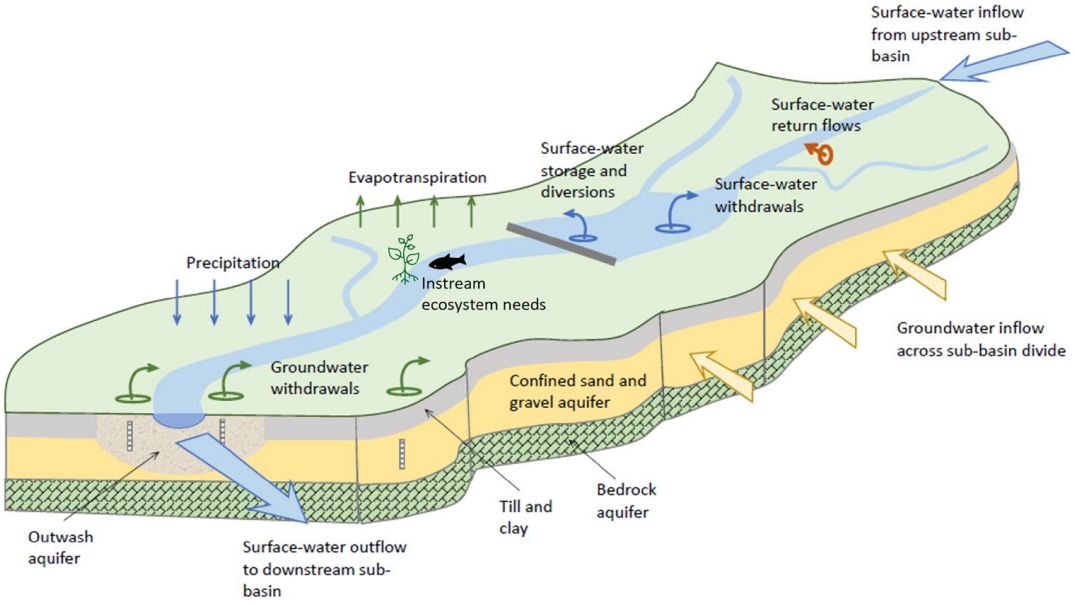
Water Availability

Northeast Regional Water Study

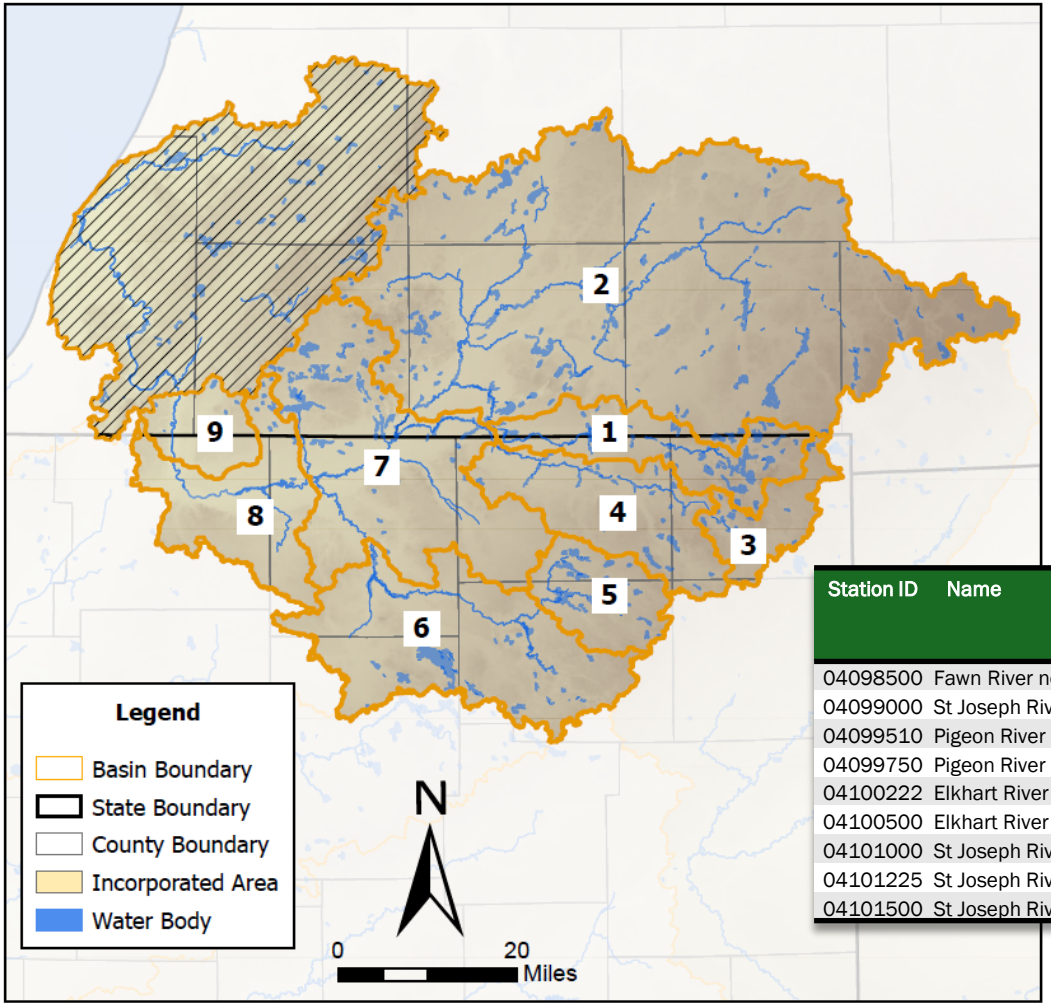


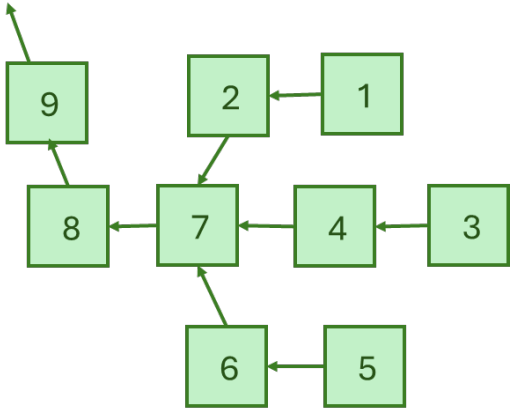
Water Availability

- Data driven assessment of historical Water Availability
- Projection into the future, incorporating climate change predictions



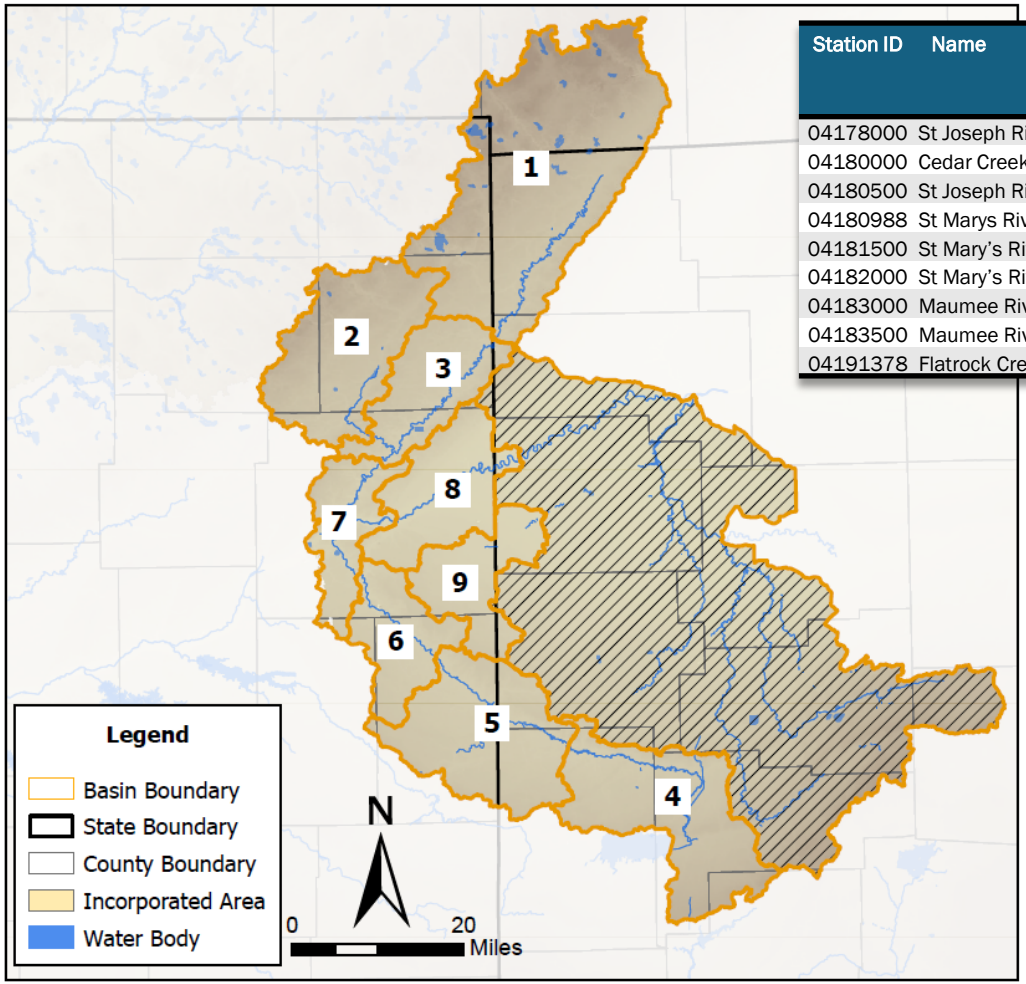
Indiana Finance Authority



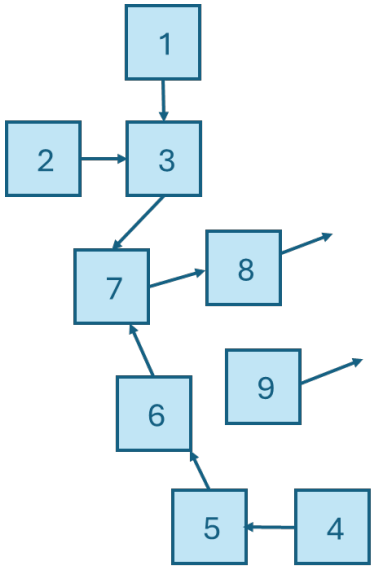


Station ID	Name	Period of Record	Watershed Area (mi^2)	Sub Basin ID	Sub Basin Area (mi^2)
04098500	Fawn River near White Pigeon, MI	1957-1975	192	1	192
04099000	St Joseph River at Mottville, MI	1923-2025	1866	2	1674
04099510	Pigeon River near Angola, IN	1945-2025	84	3	84
04099750	Pigeon River near Scott, IN	1968-2025	307	4	223
04100222	Elkhart River near Cosperville, IN	1971-2025	142	5	142
04100500	Elkhart River near Goshen, IN	1931-2025	594	6	452
04101000	St Joseph River at Elkhart, IN	1947-2025	3370	7	603
04101225	St Joseph River at South Bend	2019-2025	3619	8	249
04101500	St Joseph River at Niles, MI	1930-2025	3666	9	47

Indiana Finance Authority



Station ID	Name	Period of Record	Watershed Area (mi²)	Sub Basin ID	Sub Basin Area (mi²)
04178000	St Joseph River near Newville, IN	1946-2025	618	1	618
04180000	Cedar Creek near Cedarville, IN	1946-2025	270	2	270
04180500	St Joseph River near Fort Wayne, IN	1941-2025	1060	3	172
04180988	St Marys River at Rockford, OH	2005-2025	340	4	340
04181500	St Mary's River at Decatur, IN	1947-2025	623	5	283
04182000	St Mary's River near Fort Wayne, IN	1930-2025	764	6	141
04183000	Maumee River at New Haven, IN	1956-2025	1967	7	143
04183500	Maumee River at Antwerp, OH	1921-2025	2090	8	123
04191378	Flatrock Creek near Payne, OH	2015-2016	144	9	144



Indiana Finance Authority

Questions & Discussion

Indiana Finance Authority
Sarah Hudson
WaterResources@ifa.in.gov

Theresa Landewe
INTERA Inc.
TLandewe@intera.com

https://www.in.gov/ifa/regional-water-studies/

Indiana Finance Authority