

# ST. JOSEPH RIVER WATERSHED – FISH MIGRATION BARRIER INVENTORY

Aaron Snell

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# PROJECT COMMITTEE:

- **Potawatomi RC&D (Grantee)**
  - City of Elkhart, IN
- Fishbeck, Thompson, Carr & Huber, Inc.
  - Friends of the St. Joseph River
- Indiana Department of Natural Resources
- Michigan Department of Natural Resources
- Southwest Michigan Planning Commission
  - Streamside Ecological Services, Inc.
  - United States Army Corps of Engineers
  - United States Fish and Wildlife Service

## FUNDING PROVIDED TO:



## FUNDING PROVIDED BY:



# PURPOSE:

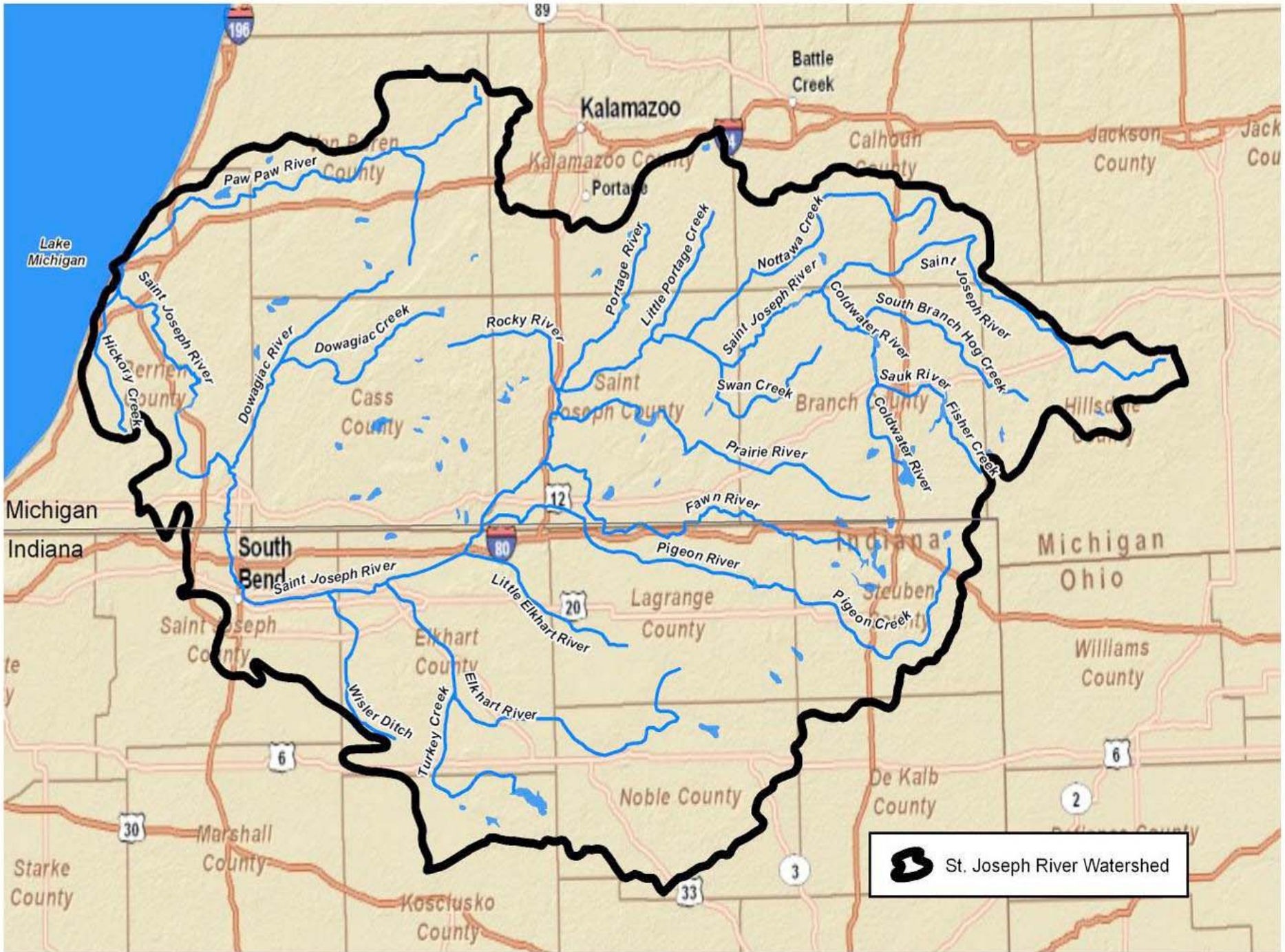
To identify migration barriers that meet conditions for removal, modification or further study.




# GENERAL OBJECTIVES:

1. Gather site-specific information
2. Prioritize the obstructions found
3. Prepare a plan of future actions





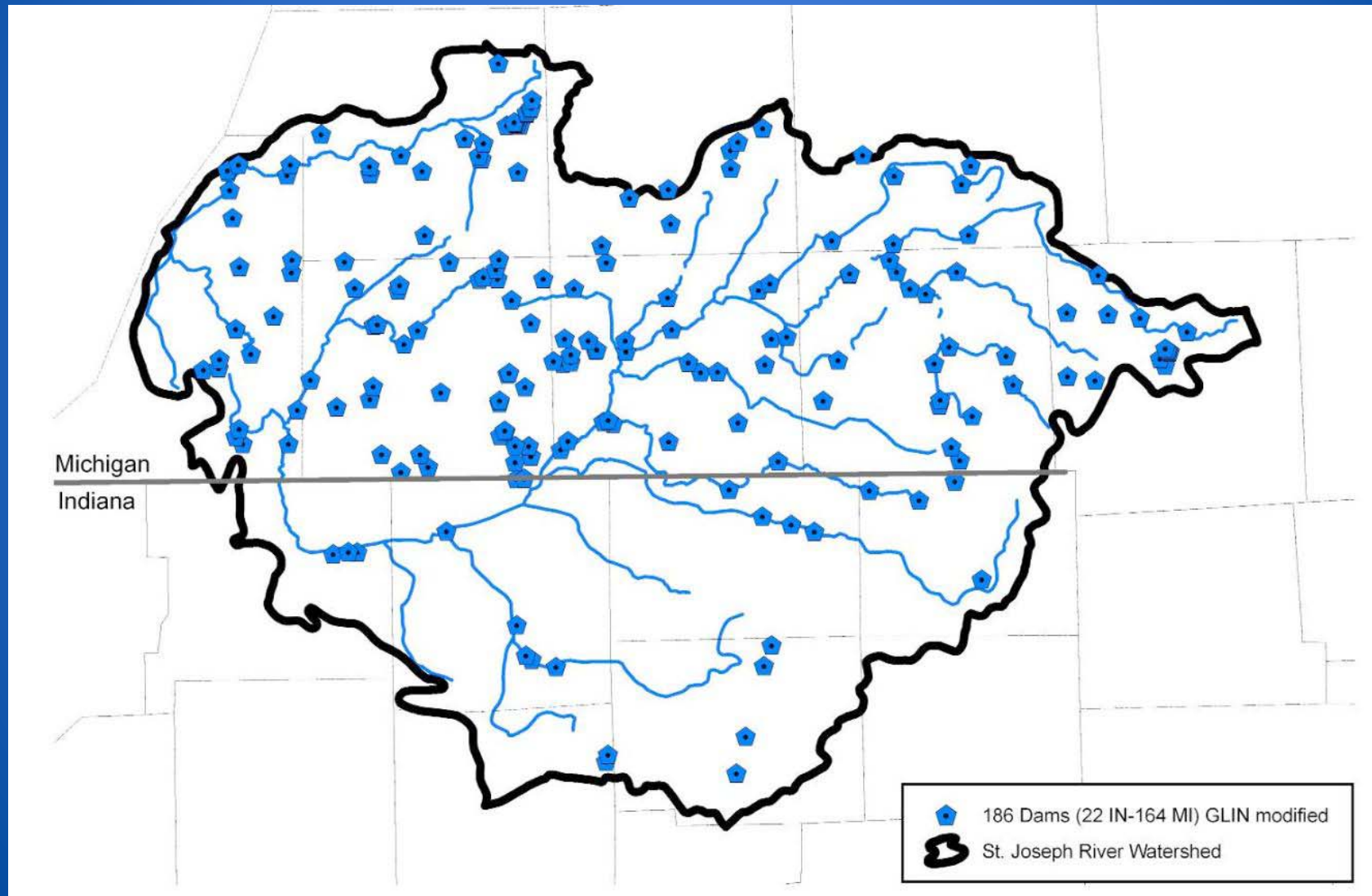
 St. Joseph River Watershed

# METHODS:

- Dams vs. Culverts/Other Barriers
- Existing Data Sheets

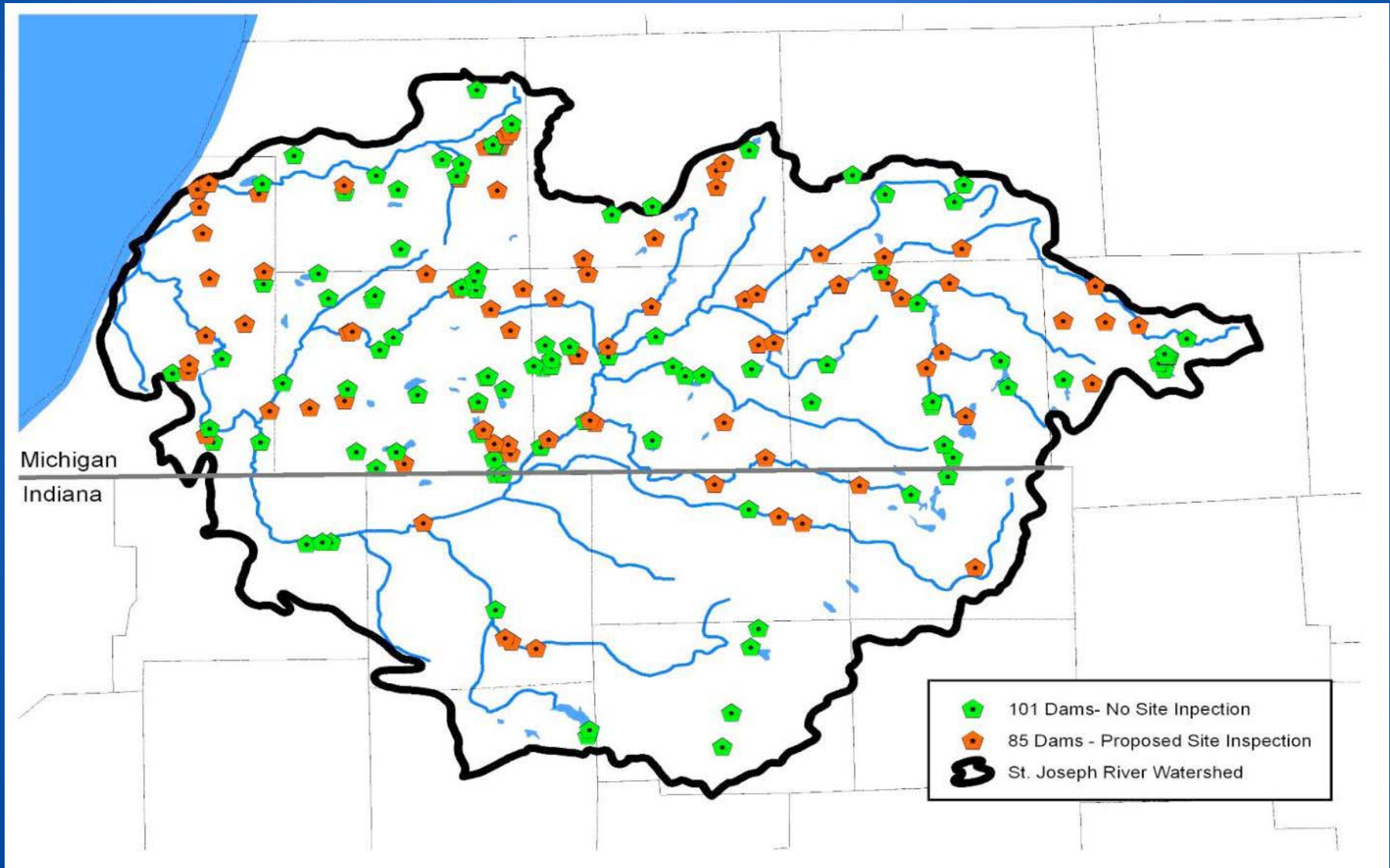


# DAMS





# DAMS



# PRIORITIZATION MATRIX

## Positive Habitat Impact Score:

- Resource Quality
- Miles Reconnected Upstream
- Federal/State Threatened and Endangered or Priority Species

Partner Priority Score: The barrier listed in any WMP, watershed assessment or other document as being a priority.

## Cost Score:

- Structure Size
- Structure Age
- Pond Size

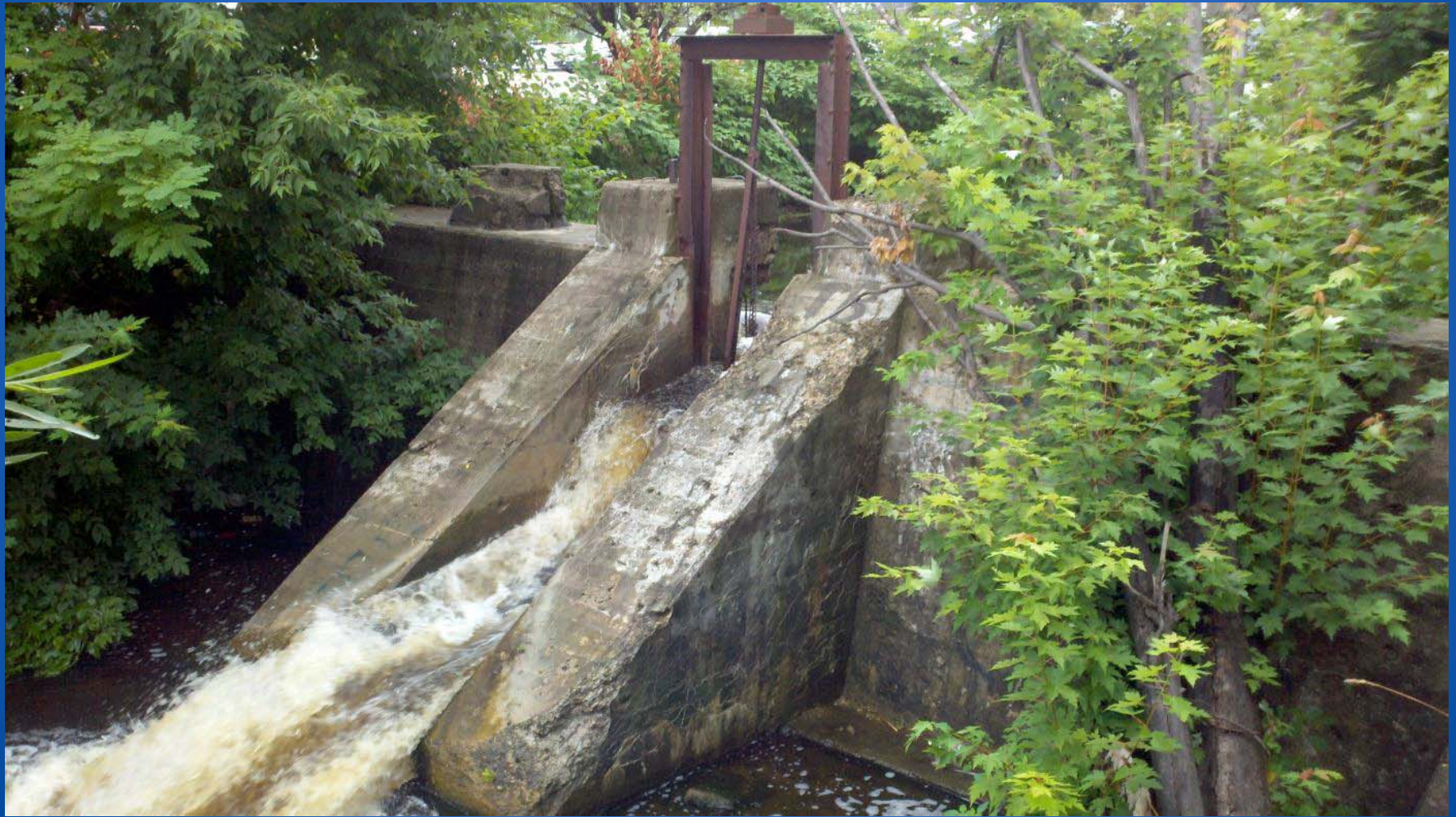
## Social Score:

- Dam purpose
- Pond Size

# PRIORITIZATION MATRIX

	Positive Habitat Impact Score	Partner Priority	Cost Score	Social	
Name	SUBTOTAL	SUBTOTAL	SUBTOTAL	SUBTOTAL	TOTAL
Andres Dam	12	6	15	10	43
McCoy Creek Dam	8	6	17	11	42
Parkville Dam	13		18	11	42
Star Mill Dam	9	6	14.2	12	41.2
Benton Dam	11	3	16	9	39
Pucker Street Dam	18	6	7	8	39
Elkhart River Dam	14	6	10.2	8	38.2
Leonidus Roller Mill Dam	10		16	9	35
Watervliet Dam	17	6	5	7	35

# DAMS – FIELD INSPECTION



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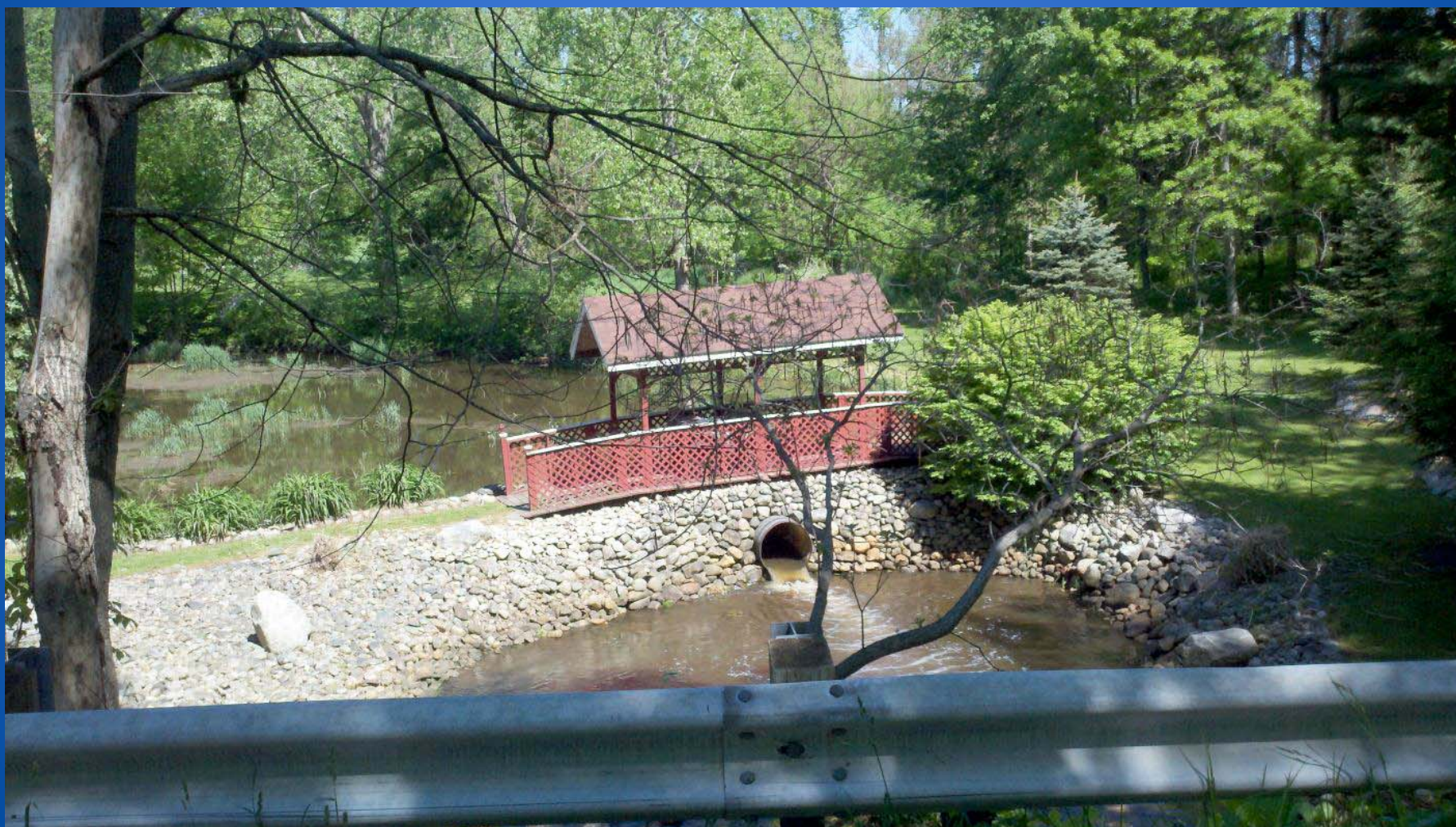




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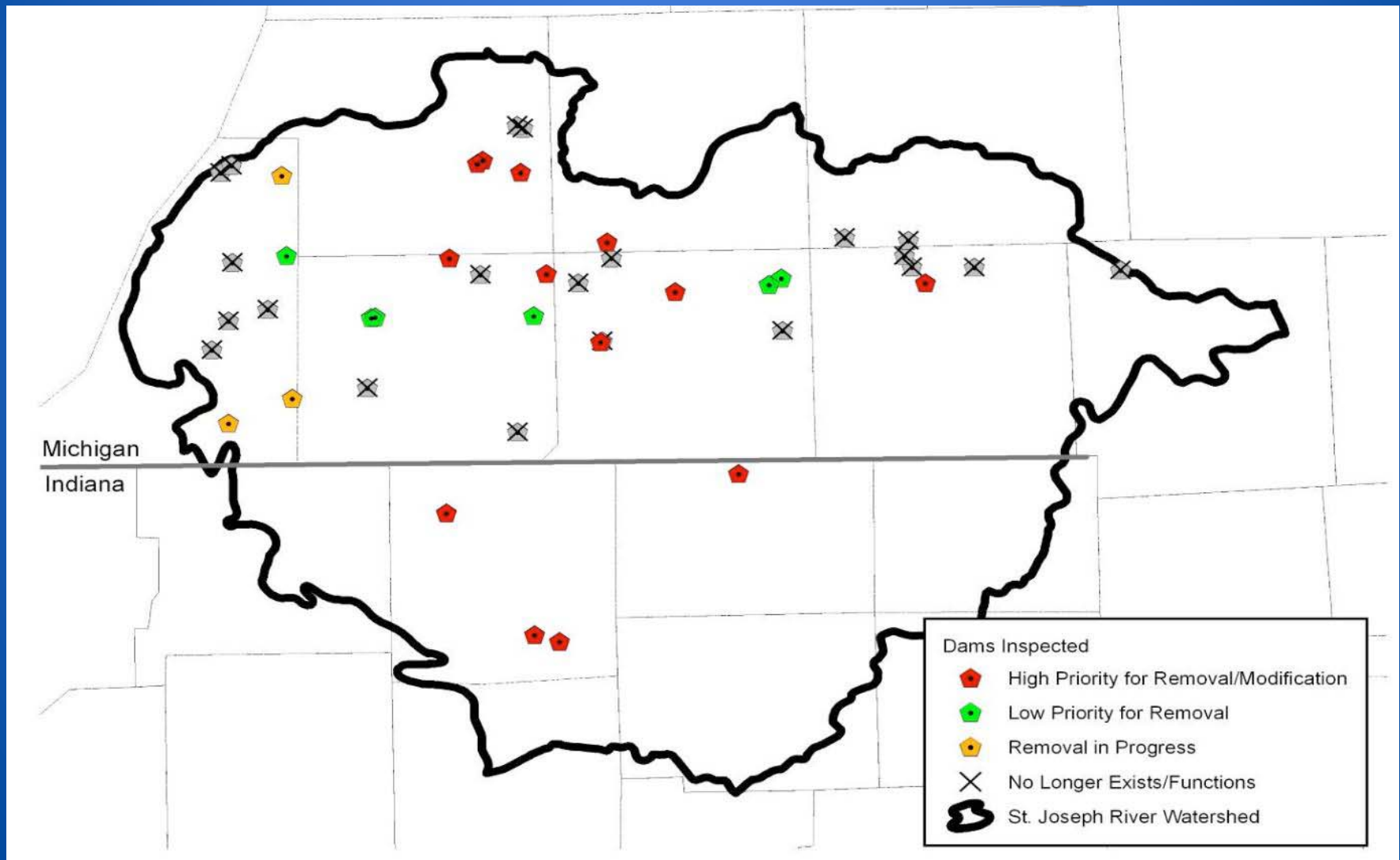


# DAMS - SUMMARY

43 Dams inspected in field

- 3 in process of being removed
- 21 no longer exist or are no longer functional
- 13 with high potential for removal
- 6 have low likelihood for removal, but could be modified for fish passage

# DAMS - SUMMARY



# CULVERTS/OTHER BARRIERS

1. Identified 'High Priority' Subwatersheds
2. Visited all Road/Stream Crossings
3. Used Pre-approved data sheets
4. Determine 'Passability' at each crossing
  - 0 - Most species/life stages cannot pass at most flows
  - 0.5 – Some species/life stages cannot pass at most flows
  - 0.9 – Barrier at high flows
  - 1 – Not a barrier

# BRIDGES



# CULVERTS - PERCHED





# CULVERTS – TOO SMALL



# CULVERTS – TOO LONG, TOO SHALLOW, NO SUBSTRATE



?????



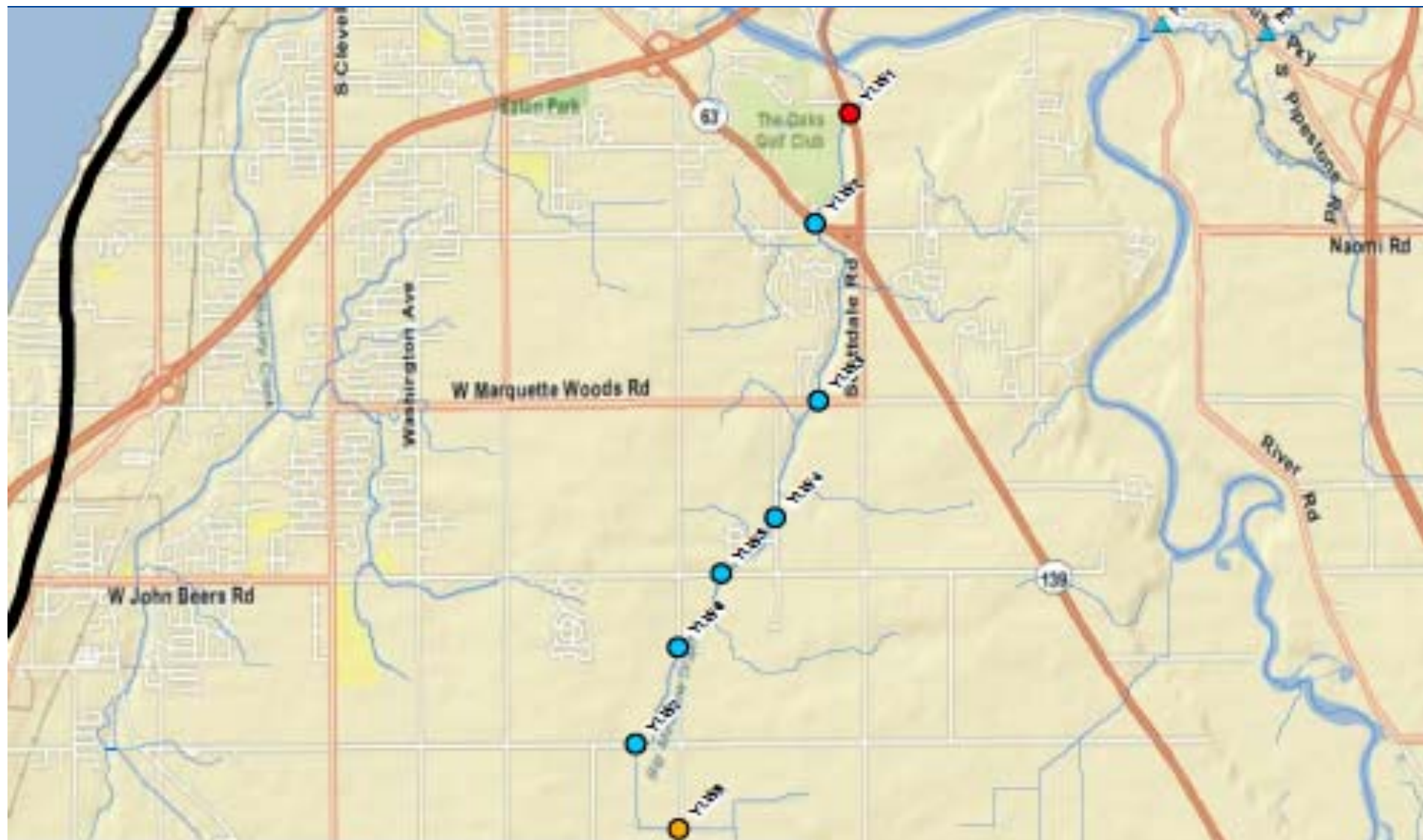
# OTHER BARRIERS



# OTHER BARRIERS

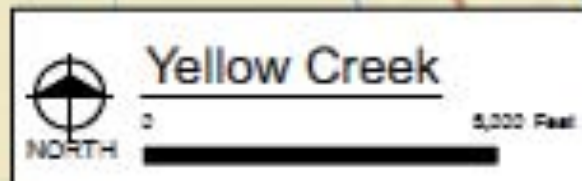


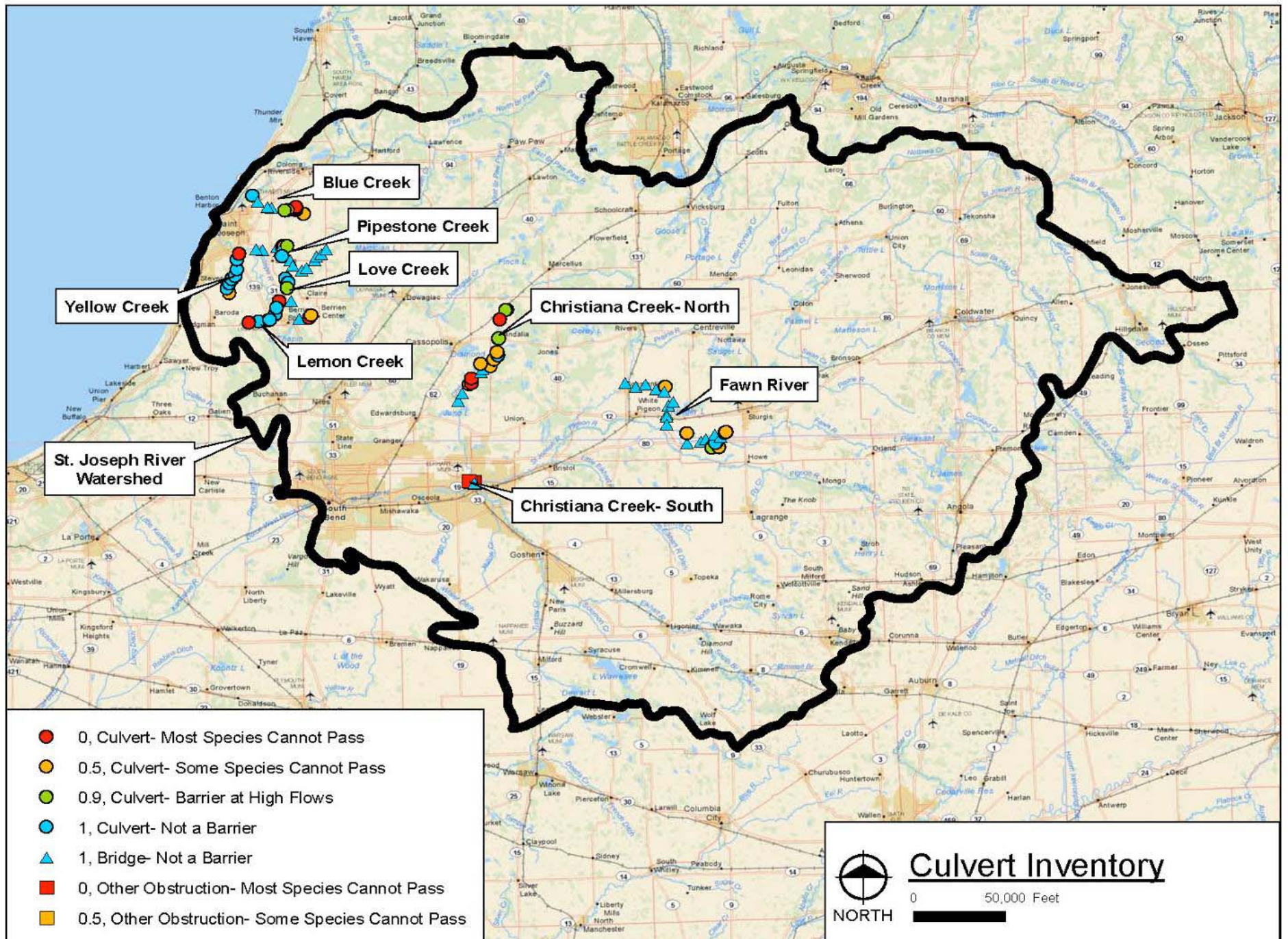
2010/12/29



- 0, Culvert- Most Species Cannot Pass
- 0.5, Culvert- Some Species Cannot Pass
- 0.9, Culvert- Barrier at High Flows
- 1, Culvert- Not a Barrier
- ▲ 1, Bridge- Not a Barrier
- 0, Other Obstruction- Most Species Cannot Pass
- 0.5, Other Obstruction- Some Species Cannot Pass

- Dam Inspection**
- High Priority for Removal/Modification
  - Low Priority for Removal
  - Removal in Progress
  - ✕ No Longer Exists/Functions
  - Dam- No Inspection





**Blue Creek**

**Pipestone Creek**

**Love Creek**

**Yellow Creek**

**Lemon Creek**

**Christiana Creek- North**

**Fawn River**

**St. Joseph River Watershed**

**Christiana Creek- South**

- 0, Culvert- Most Species Cannot Pass
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**Culvert Inventory**

0 50,000 Feet

# CULVERTS - SUMMARY

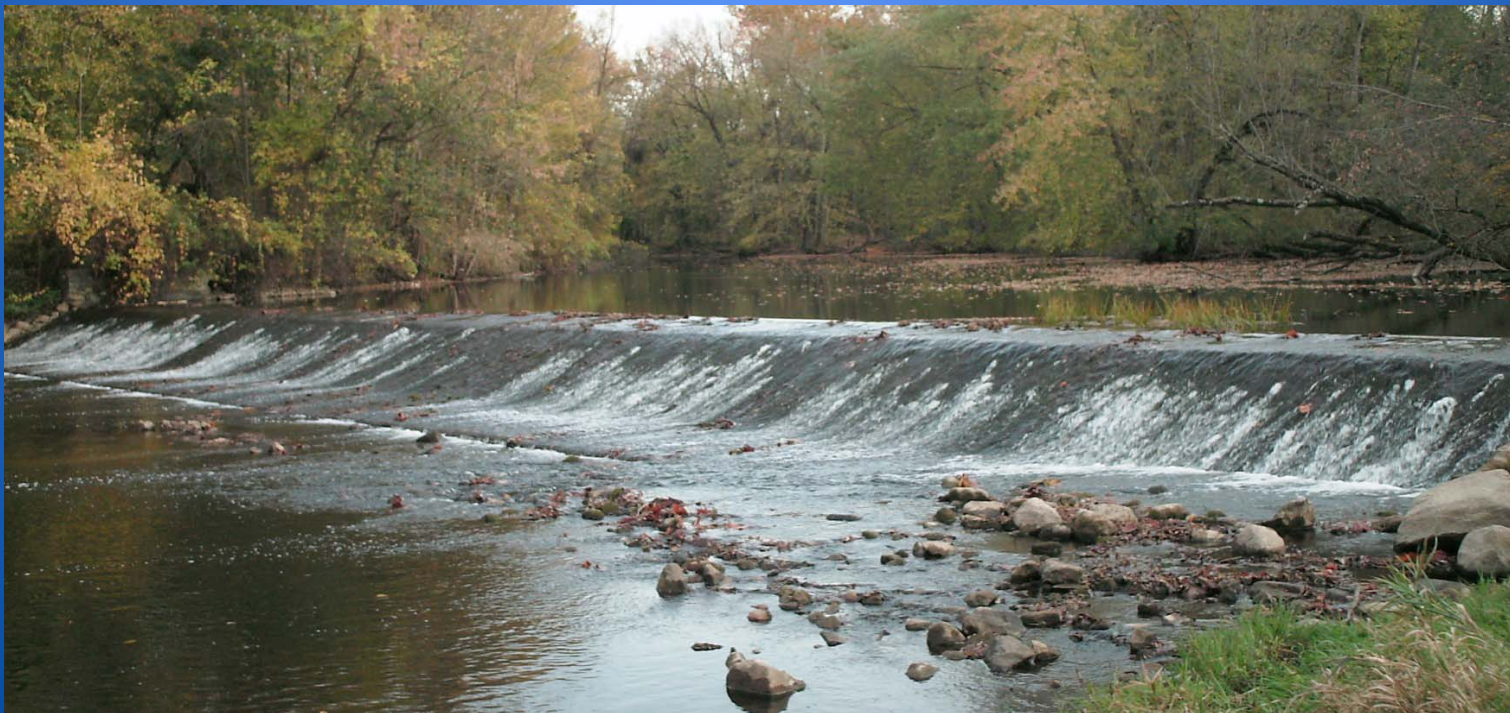
- 96 crossings on 8 streams assessed
- 33 sites receiving a score of 0 or 0.5





# NEXT STEPS:

- Finalize Report
- Build Partnerships and Seek Funding
  - Big Meadow Drain and Bitty Creek already funded
  - Seeking funding for Baintertown Dam (Elkhart County Parks)



# LESSONS LEARNED:

- Aerial photos necessary in the field; mobile mapping app indispensable
- Many dams are not 'where they are supposed to be'
- Our knowledge of existing dams is not great



# LESSONS LEARNED:



THANK YOU.....QUESTIONS?

