# PROCEDURE 51 SCORES AND DELISTING CRITERIA

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# ELECTROSHOCKING VS SEINING

# Differences in Methodology

## SEINING

- Easy, economic collection method
  - Great to use with volunteers
  - Cost effective
- Possibility of collecting more benthic fish
- Better for sensitive species due to lower mortality

## ELECTROSHOCKING

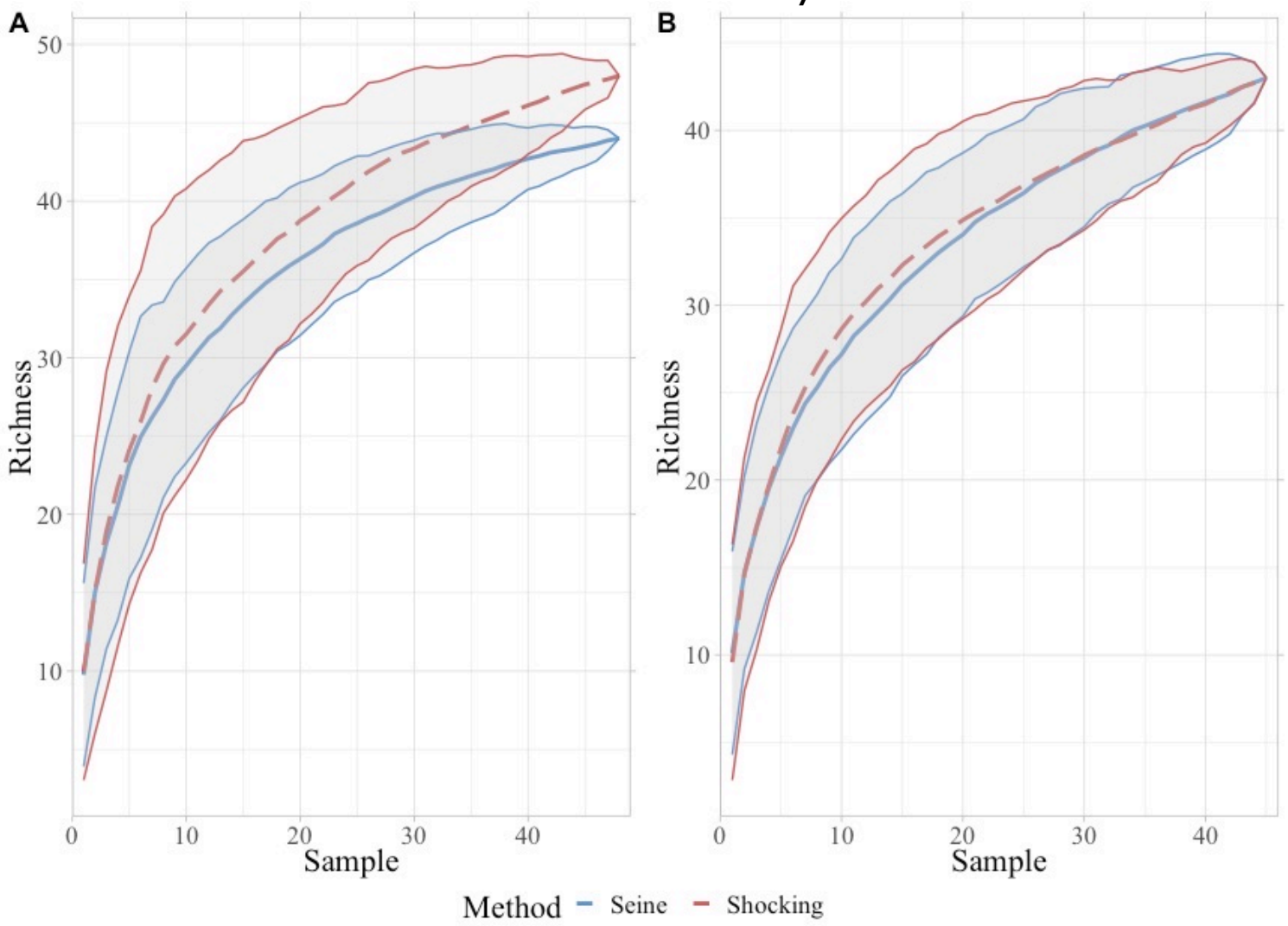
- Common fisheries methodology for state & federal
- Costly – starting cost is $7,000
- Limited by conductivity and turbidity
- Easier to standardize

# Overall Species Richness

- In the wadeable Rouge River, species richness is comparable
- Below Henry Ford Dam is unsafe and ineffective to sample by seining

Rouge Watershed

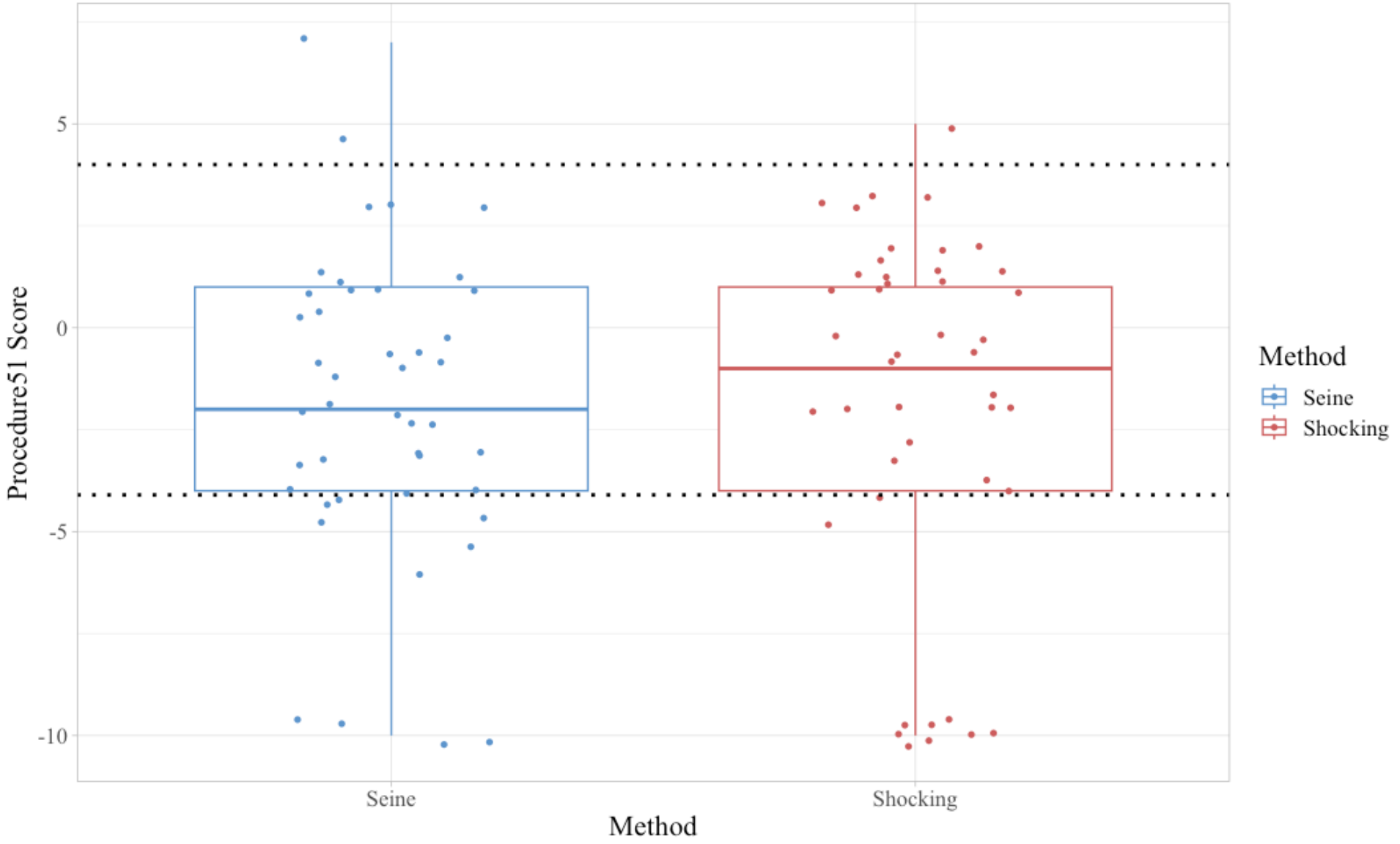
Wadeable Watershed – above Henry Ford Dam



# Procedure 51

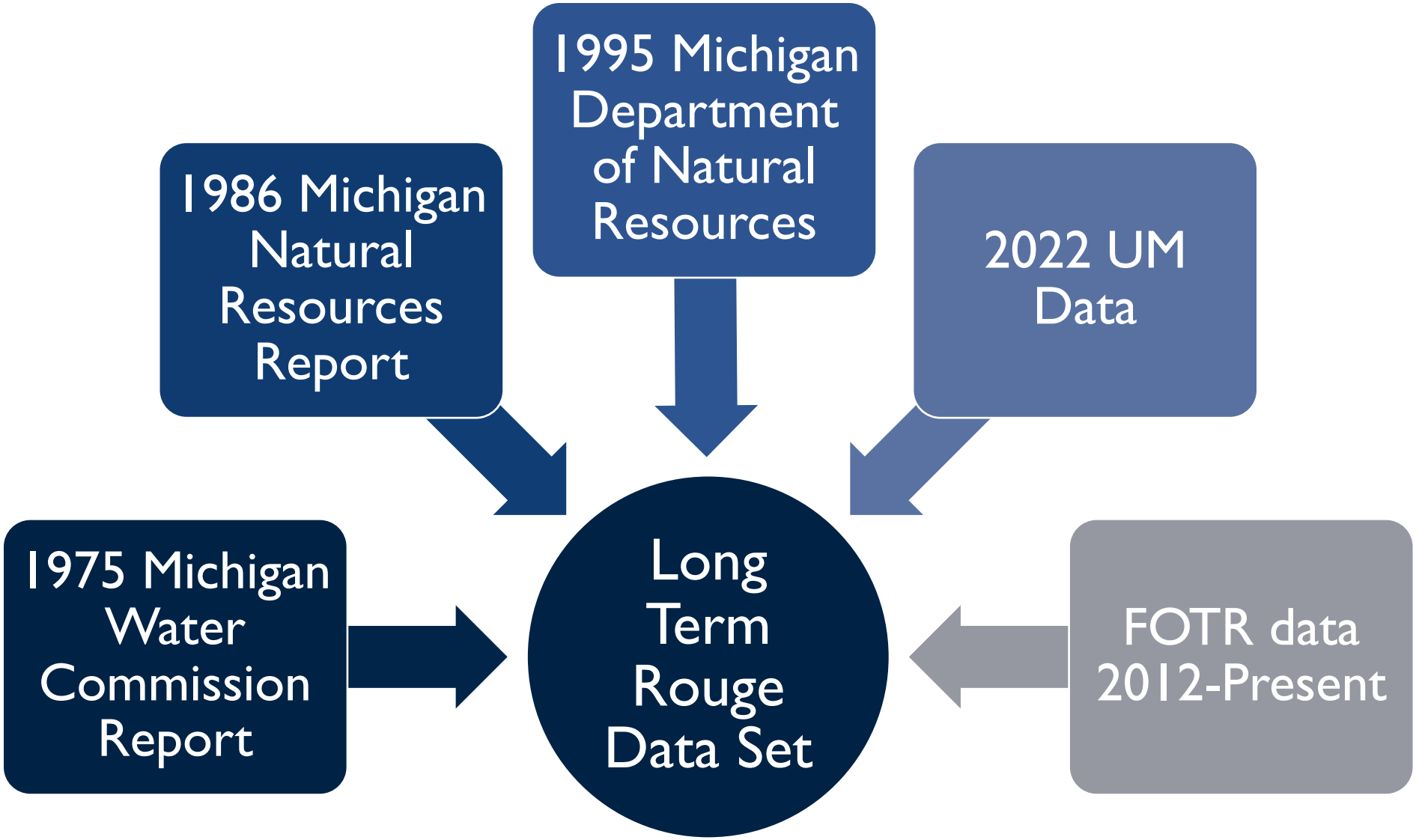
- A rapid,  qualitative and quantitative survey of habitat, macroinvertebrate and fish communities
- Follows standards to compare **wadeable** streams and rivers
- Each site is scored from -10 to 10 based on multiple metrics

# Procedure 51 Scores

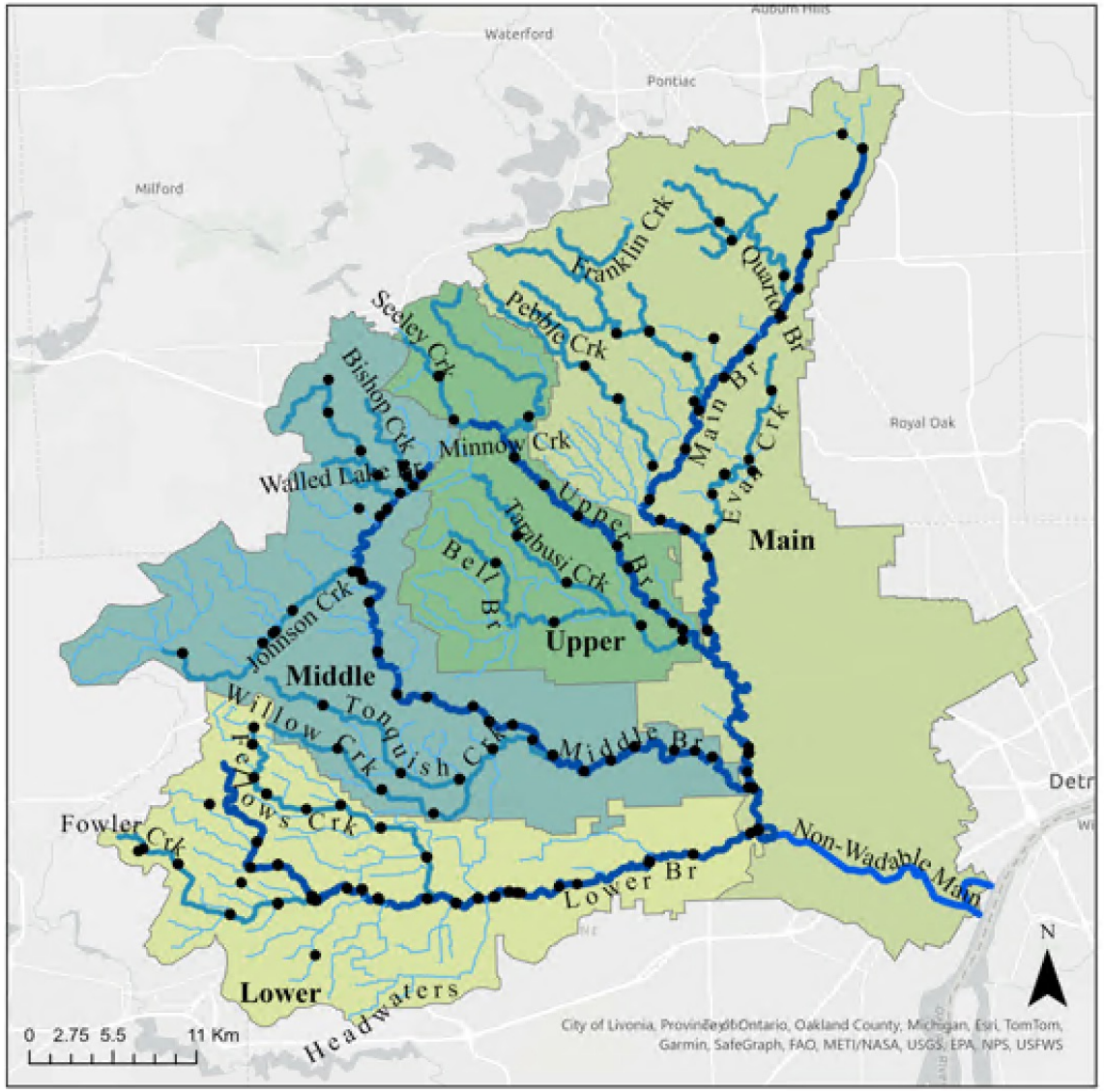


# CHANGES IN PROCEDURE 51 SCORES

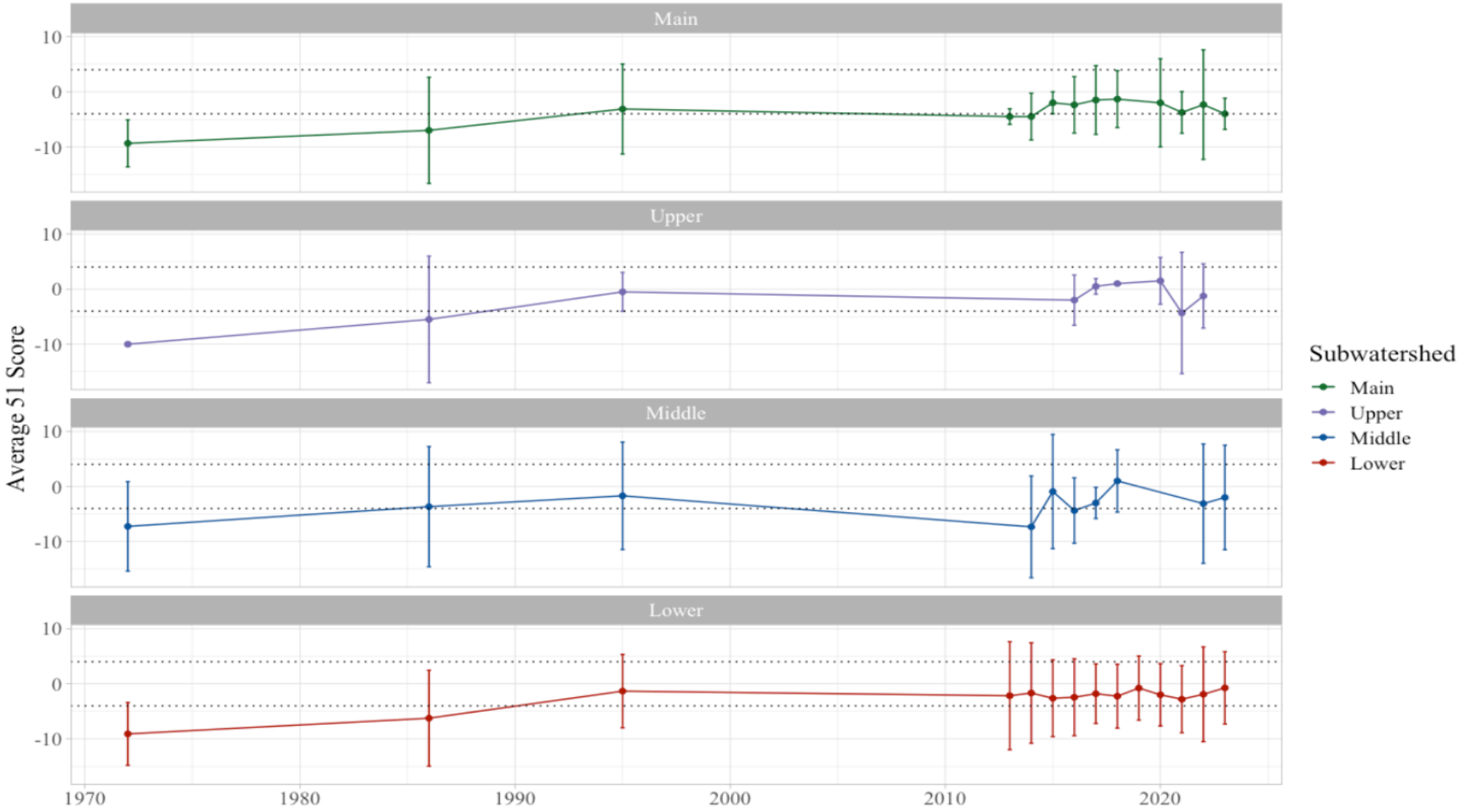
# Data Used


1995 Michigan Department of Natural Resources
1986 Michigan Natural Resources Report
2022 UM Data
1975 Michigan Water Commission Report
Long Term Rouge Data Set
FOTR data 2012-Present

# Locations


Waterford
Pontiac
Milford
Royal Oak
Franklin Crk
Quarton Br
Pebble Crk
Seeley Crk
Bishop Crk
Minnow Crk
Walled Lake Crk
Main Br
Evan Crk
Upper Br
Tarabusi Crk
Bell Br
Main
Upper
Johnson Crk
Middle
Willow Crk
Tonquish Crk
Middle Br
Fellows Crk
Fowler Crk
Lower Br
Non-Wadable Main
Lower
Headwaters
0 2.75 5.5 11 Km
N
City of Livonia, Province of Ontario, Oakland County, Michigan, Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS

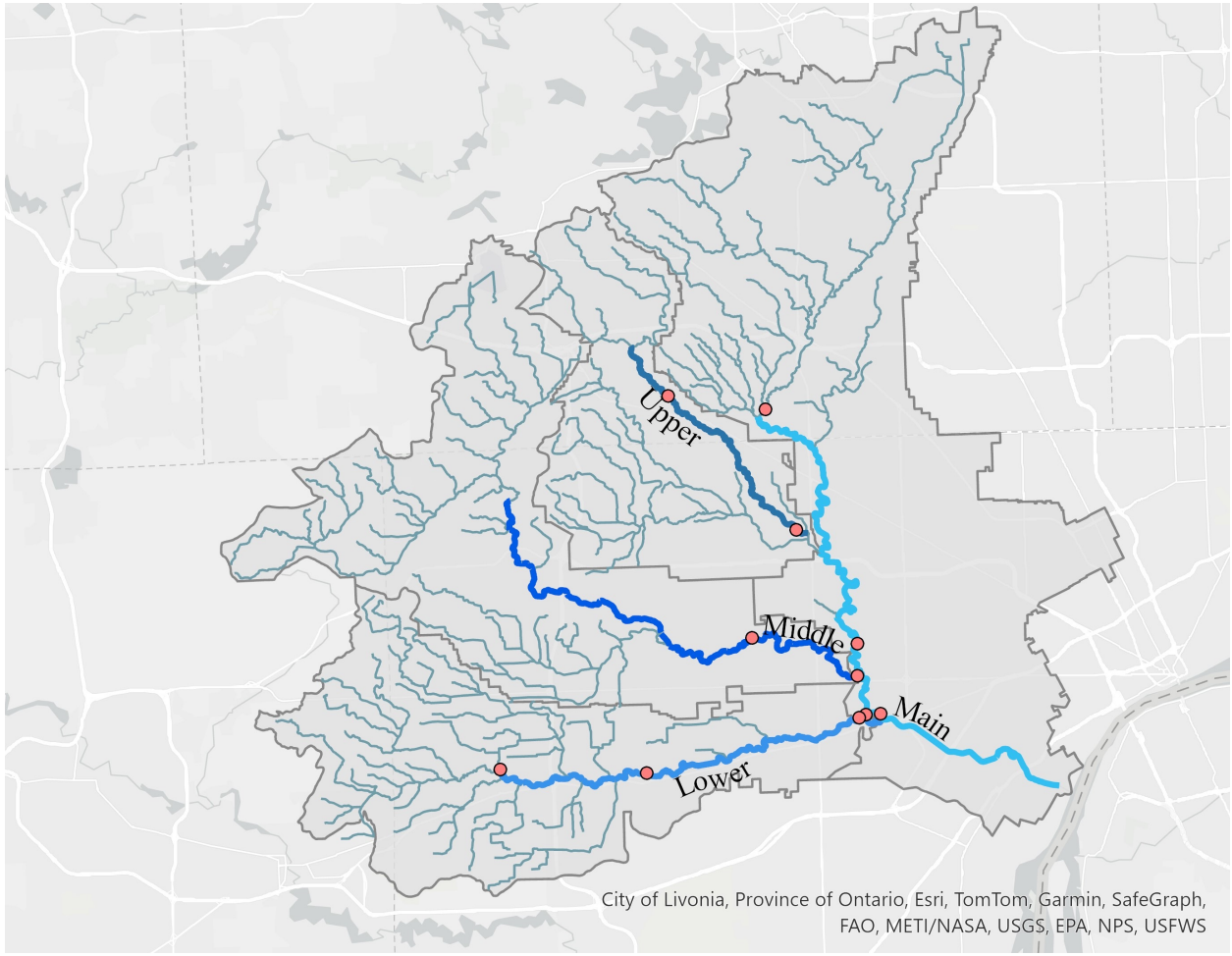
# Historic Changes in P51 Scores



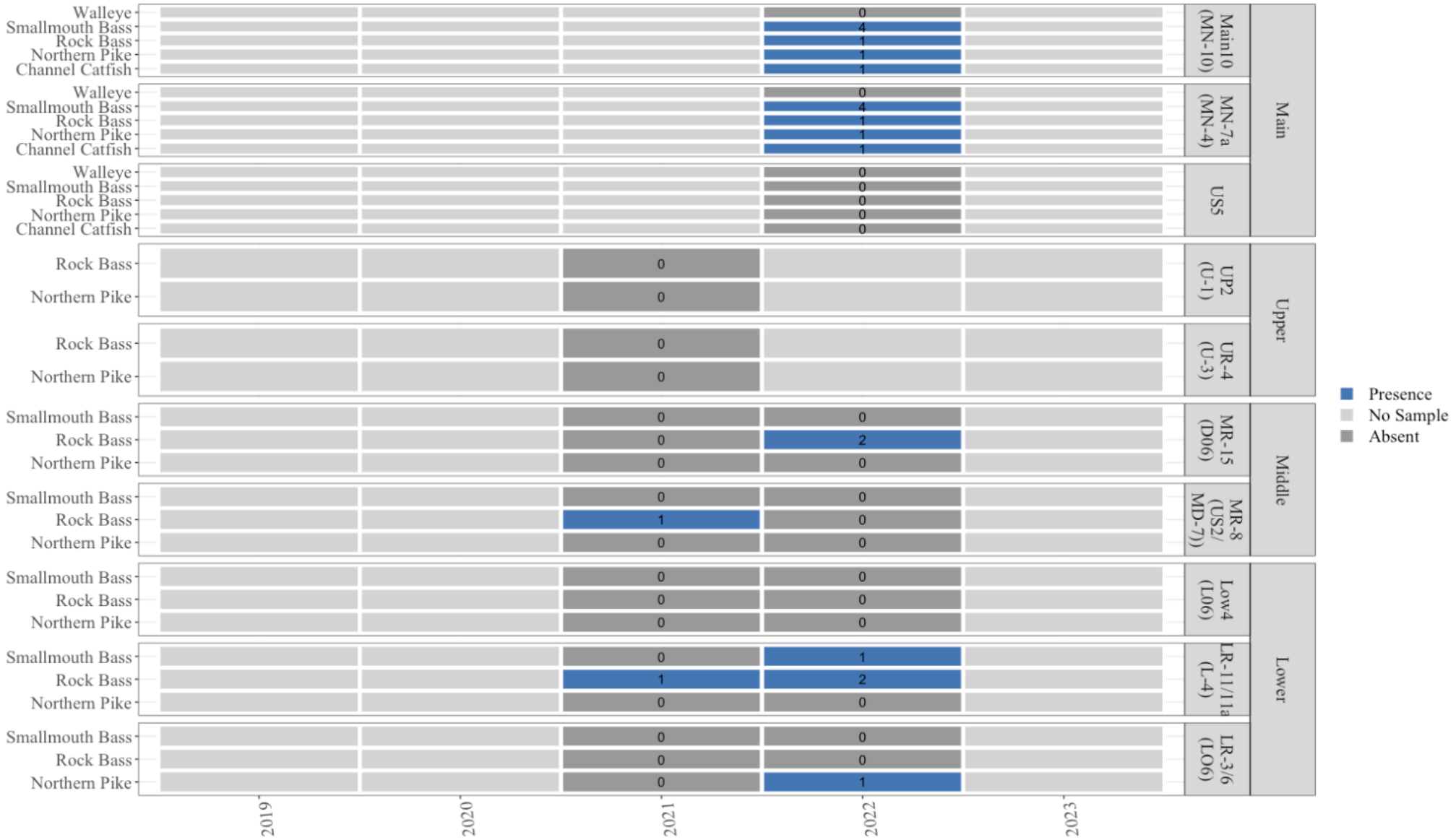
# DELISTING CRITERIA IN THE ROUGE

# Delisting Criteria for Fish and Wildlife Populations: 2008 Delisting Targets Report

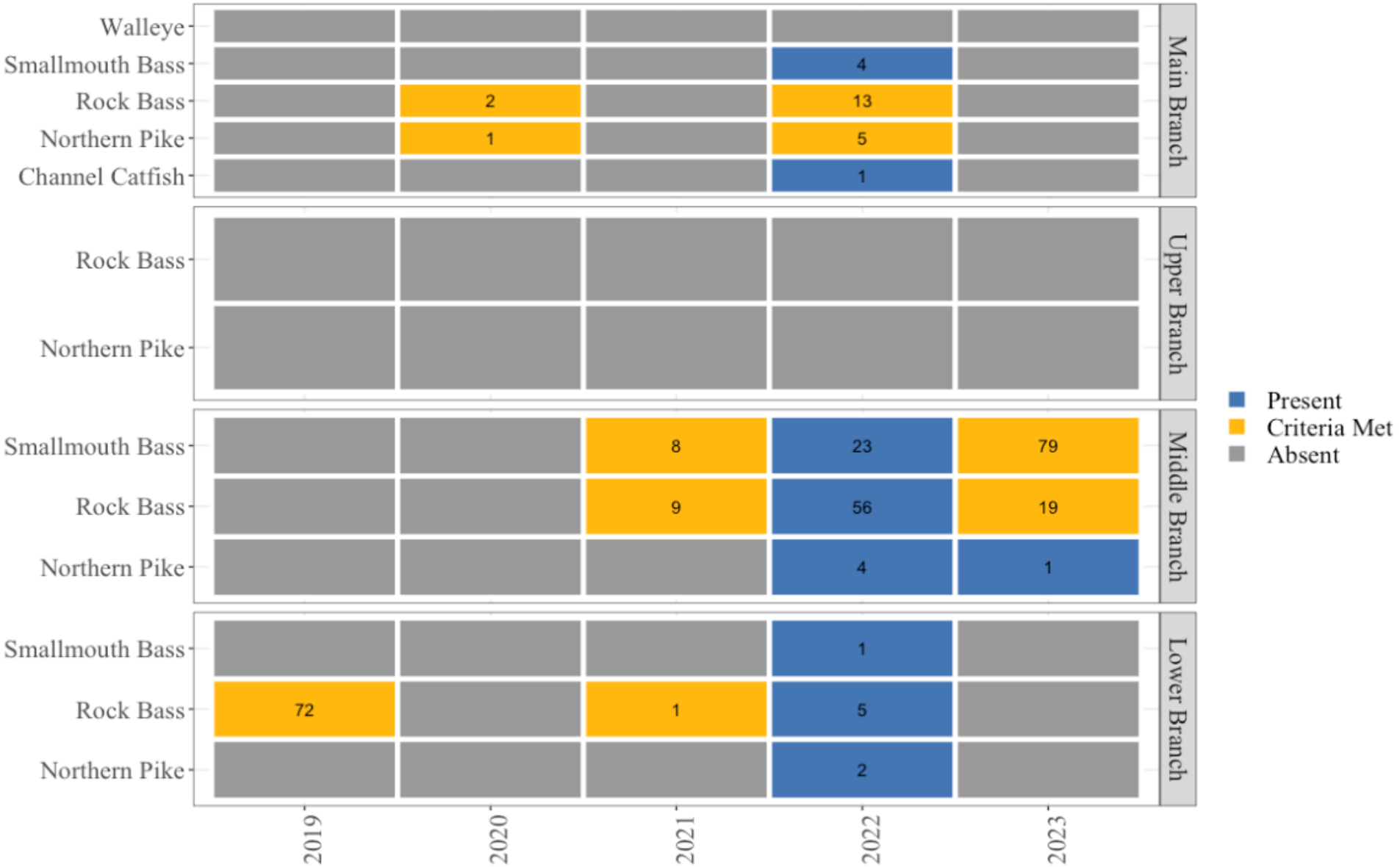
1. Beneficial Use Impairment for Degradation of Benthos is removed.
2. Using Wiley-Seelbach model, certain number of game fish are expected in segments of the Rouge
3. Game fish must occur twice with-in a 5-year period, but no sooner than one year apart



# Site Delisting



# Branch Delisting



# Future Considerations

- Historically, single game species dominated fisheries research
- Apex predators might not be the best representation of entire fish community
- Wiley-Seelbach Model (1998): Predicts a wide variety of native fish
- 2018 delisting report recognizes that healthy populations are important


# Future Considerations

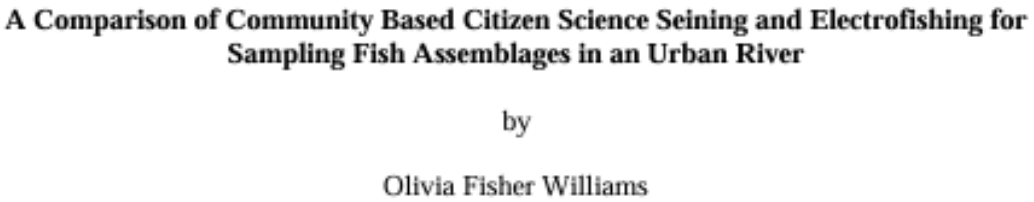
- FOTR has captured a community diversity in the Rouge


# Conclusions

- FOTR seine data is comparable to electroshocking
  - FOTR should continue to sample to capture fish diversity
  - Partnering with other agencies to sample when needed
- Procedure 51 scores have improved over time
- Fish Criteria from 2008 Report is met for several species in the Rouge
  - Sampling in delisting stream reaches should continue

# Final Deliverables

- Thesis
- Final Summary Report
- ArcGIS Interactive Story Map



**A Comparison of Community Based Citizen Science Seining and Electrofishing for Sampling Fish Assemblages in an Urban River**

by

Olivia Fisher Williams

SCAN ME

# Acknowledgements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# QUESTIONS?

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