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Lake Erie Millennium Network  
Status of Lake Erie Stocks  
Fish and Wildlife Services Branch  
Windsor, Ontario  
February 21-23, 2017

# Outline

- Goal Statement
- Methods
  - Walleye
  - Yellow Perch
- Results
  - Status of Commercial Fishery
  - Status of Ontario Sport Fishery
- Summary
- Research Questions

# Goal Statement

- To secure a balanced, predominantly cool-water fish community with walleye as a key predator
- Healthy ecosystems that support self-sustaining native fish communities
  - Maintaining mesotrophic conditions
  - Nearshore habitats that can support high quality fisheries
- Sustainable fisheries that provide benefits for all Ontarians
  - Productivity and yield target of 13.6 – 27.3 million kg (30-60 million pounds ) of highly valued fish

# Method



## ASSESSMENT SURVEYS



## NEARSHORE



## OFFSHORE

## FISHERY MANAGEMENT & ASSESSMENT



## HABITAT / LIMNOLOGY



## RESEARCH

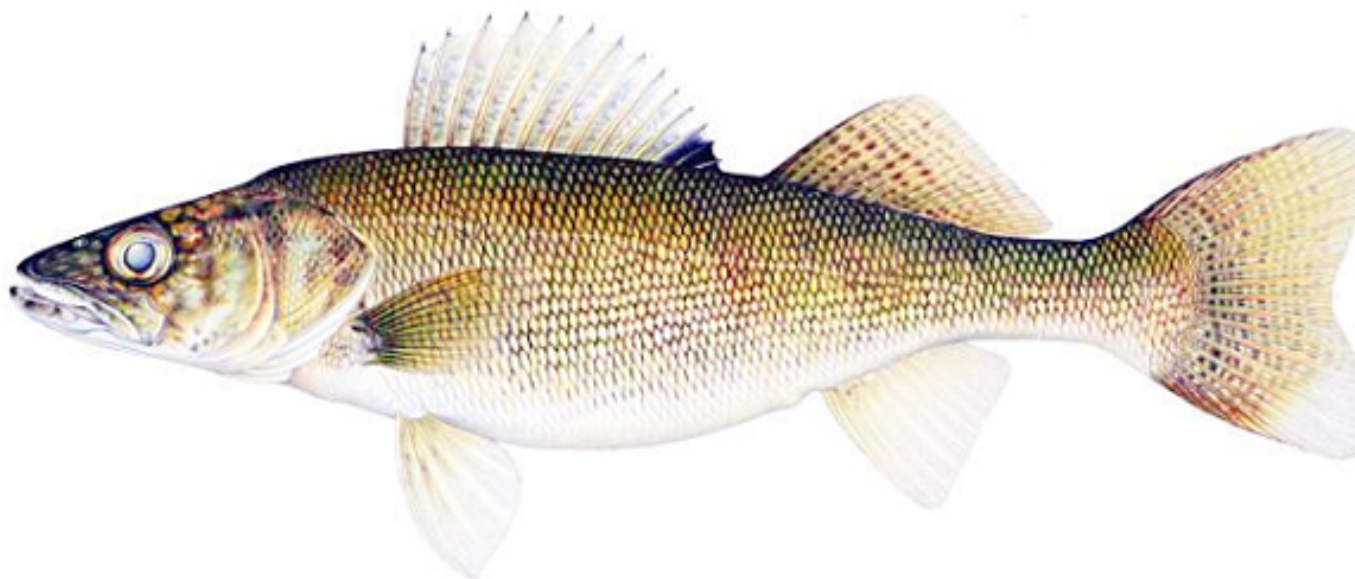


## BIODIVERSITY

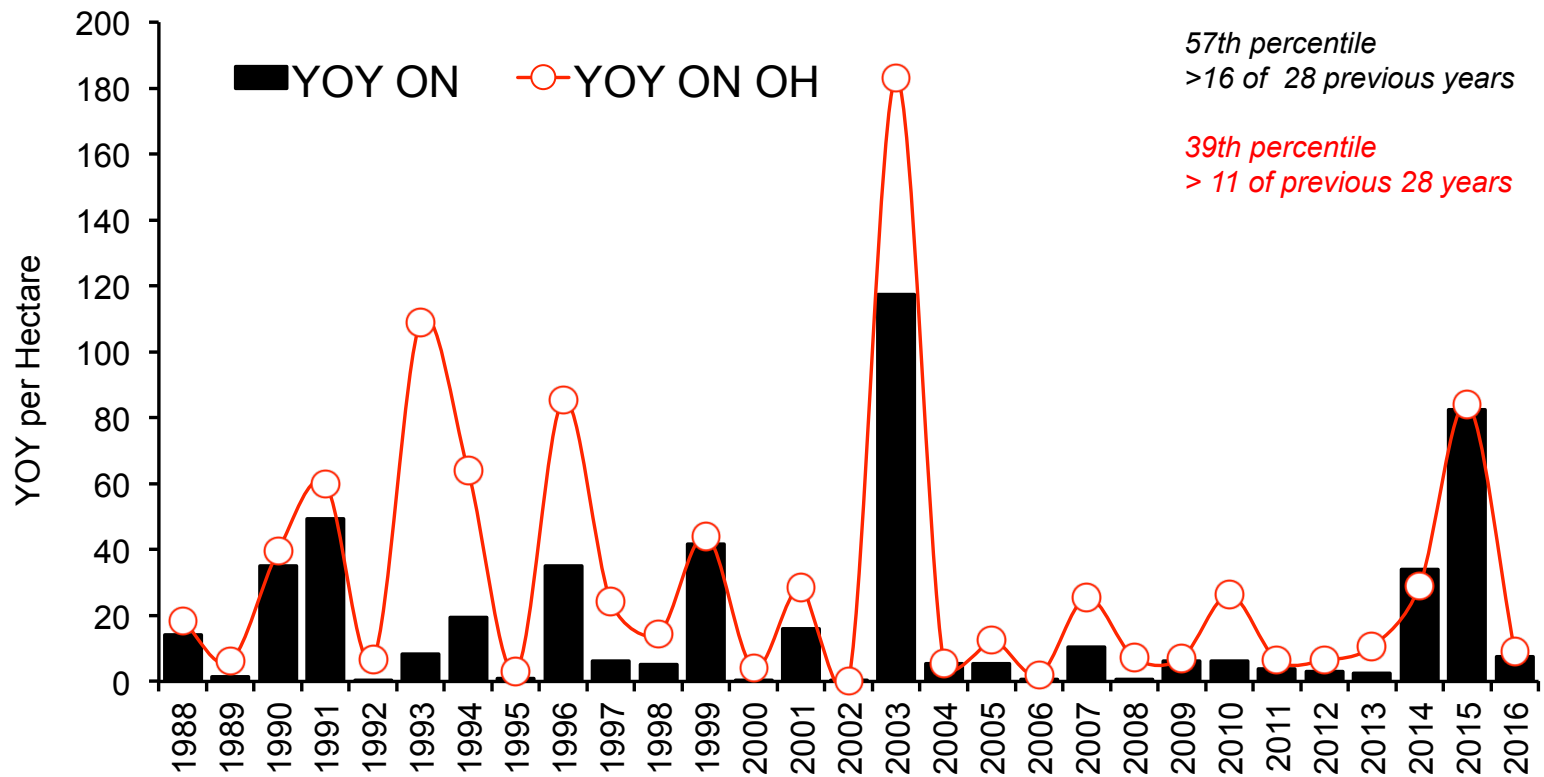


## COMPLIANCE

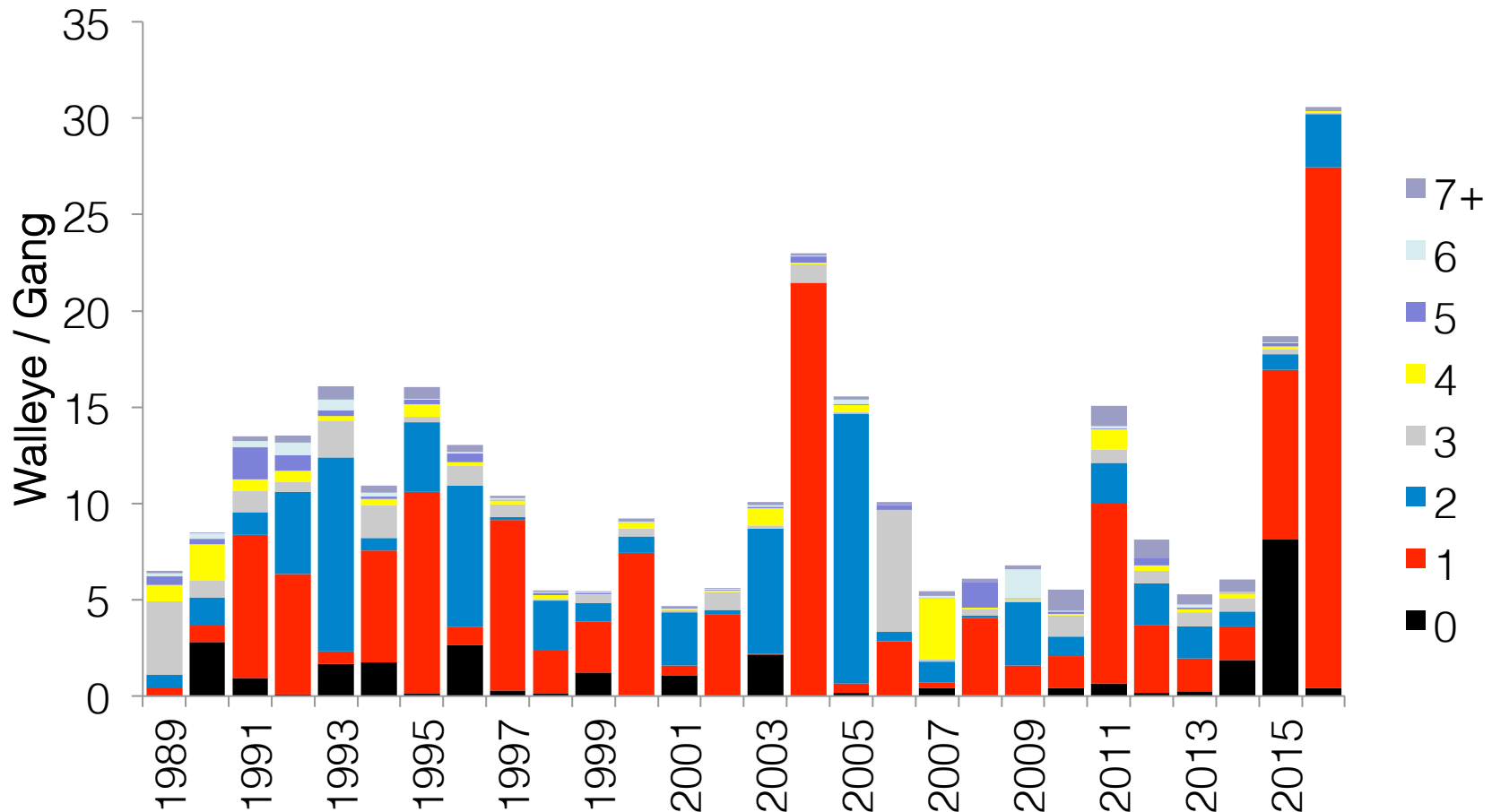
# Walleye



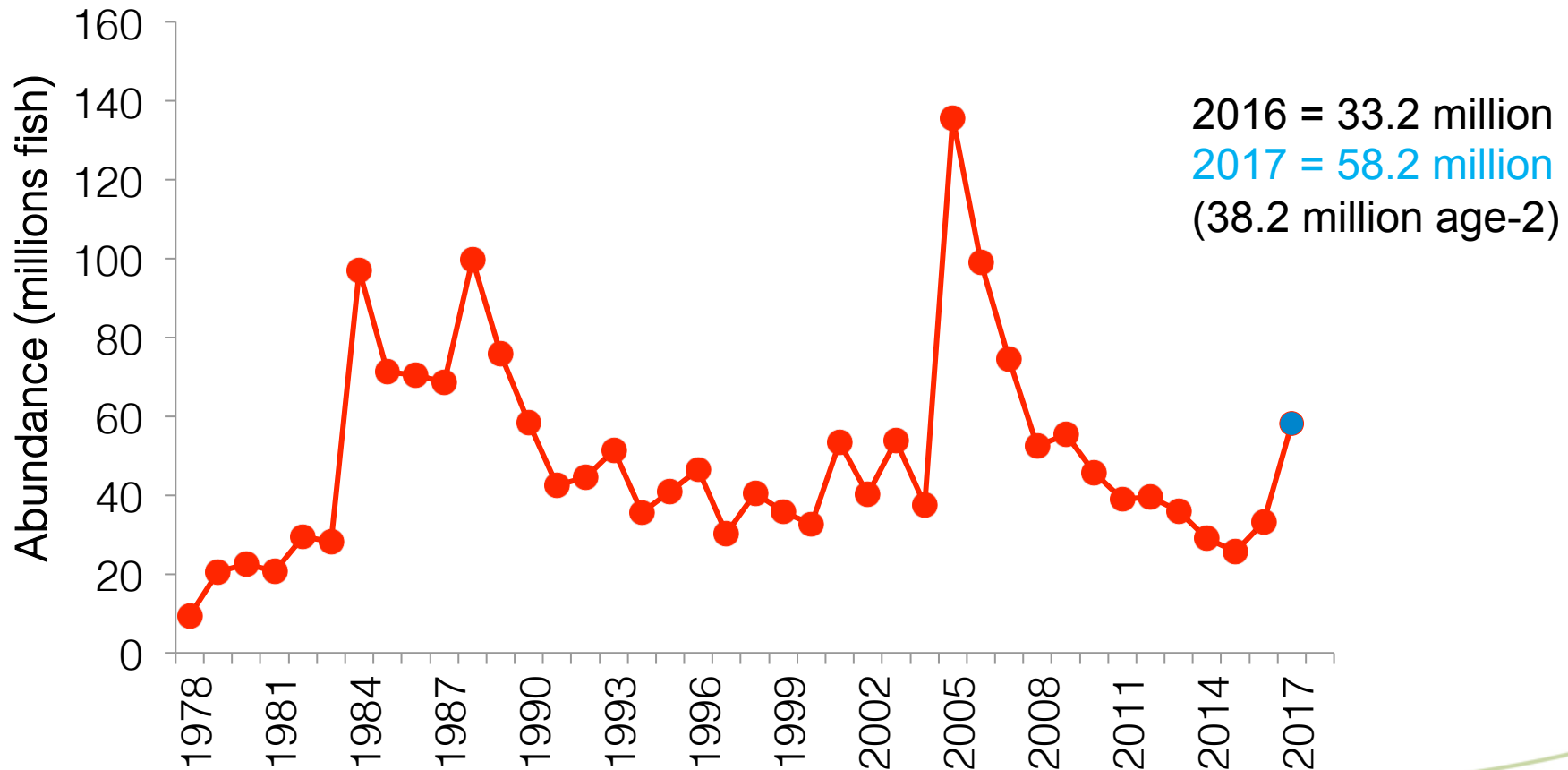
# Recruitment



## Walleye Catch Rate (number / gang) West - Central Partnership Gillnet Index



# Walleye Abundance Forecast

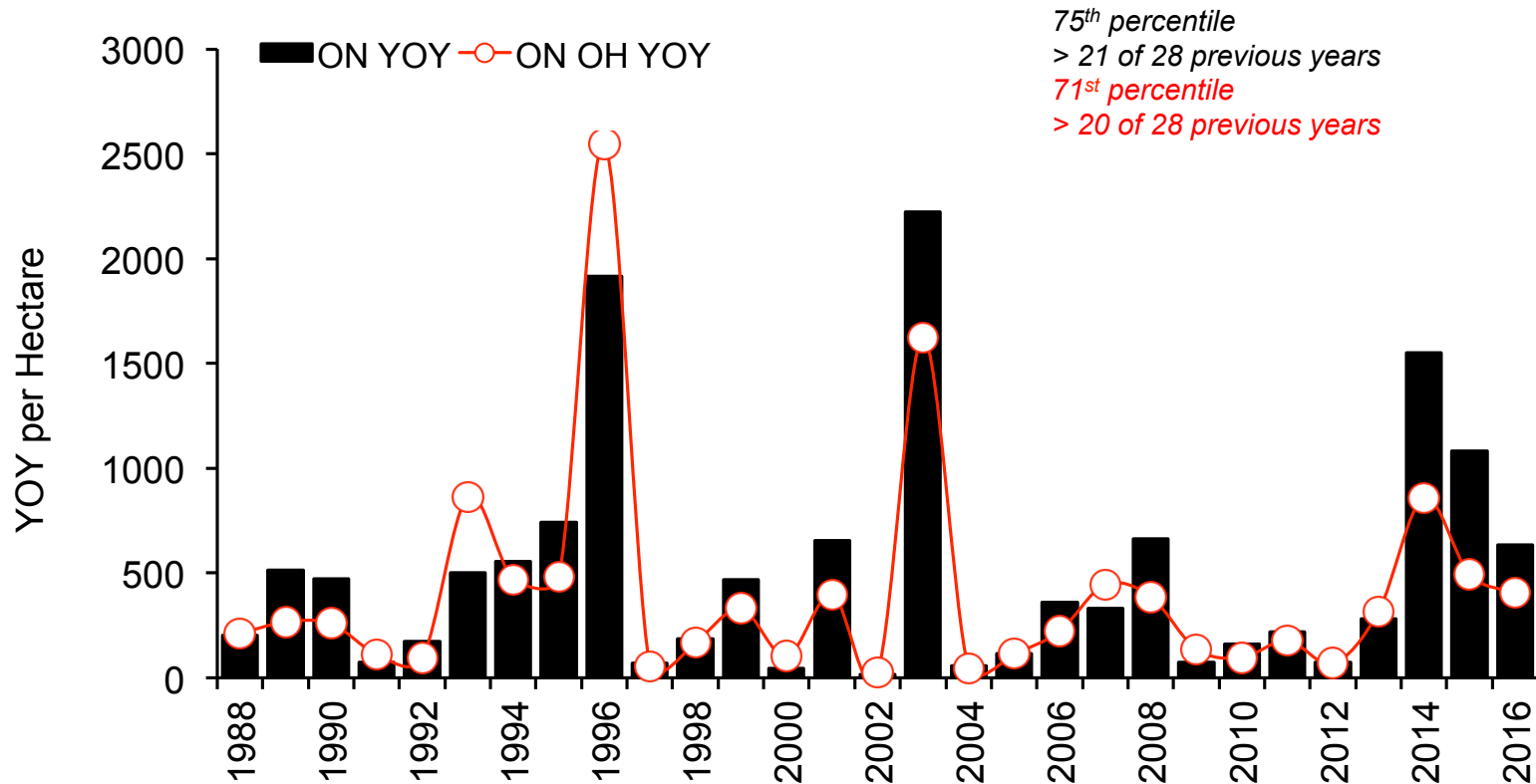




# Yellow Perch

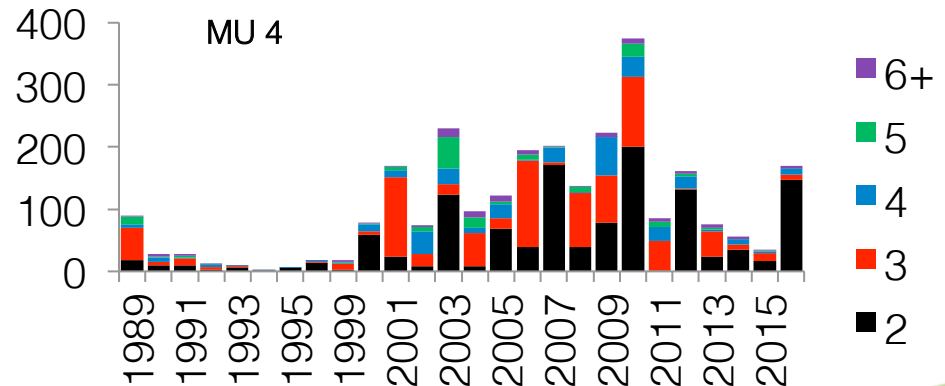
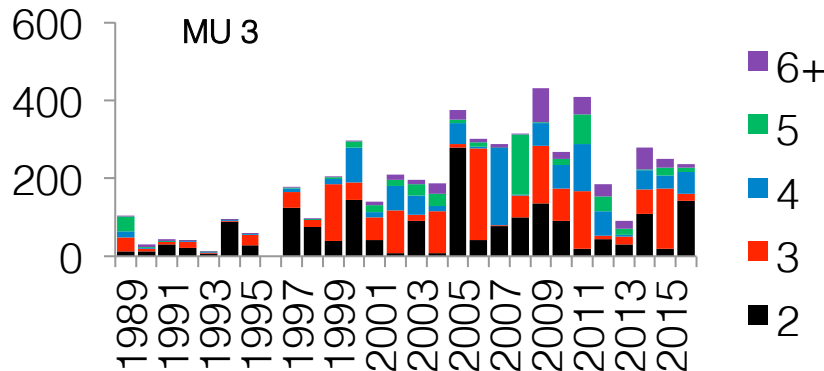
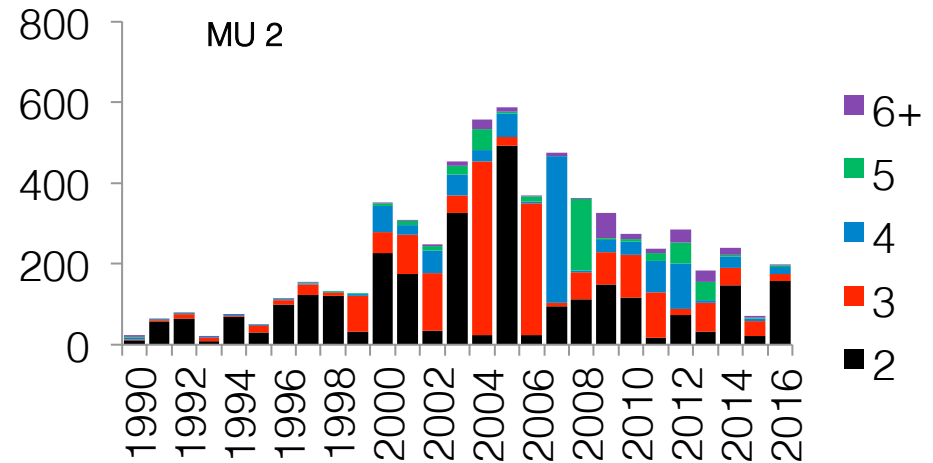
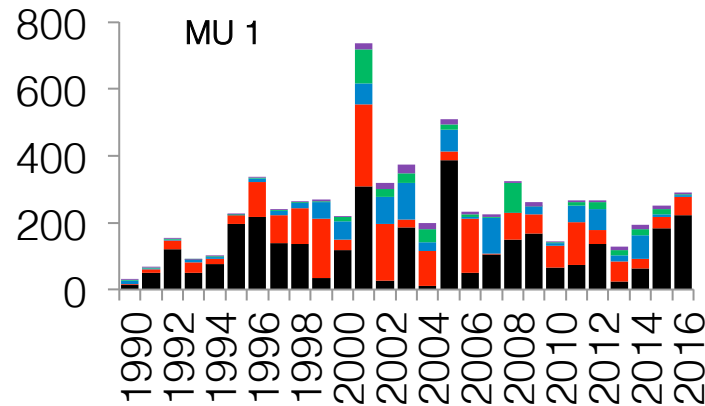


# YOY Yellow Perch Catch Rates, Interagency Trawling, West Basin

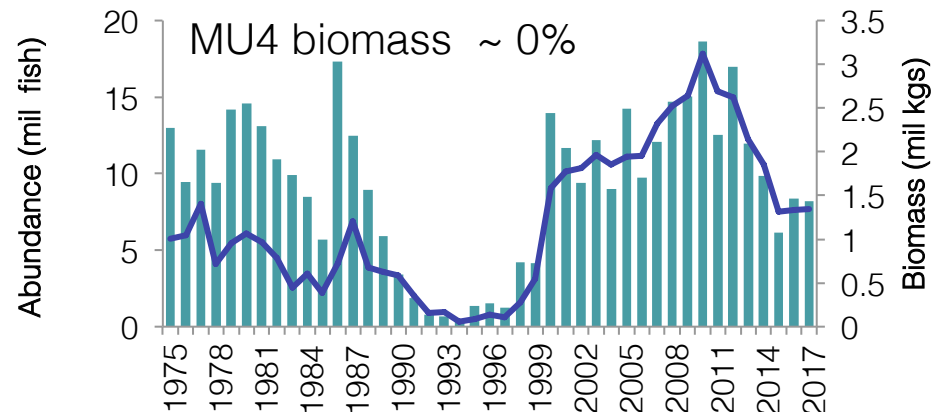
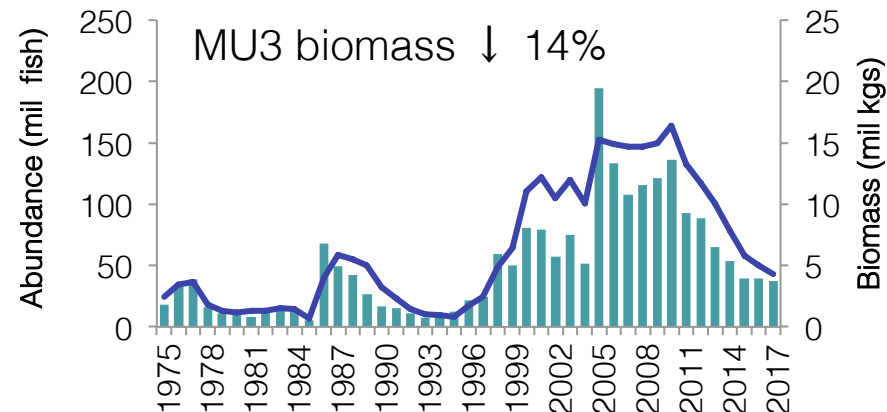
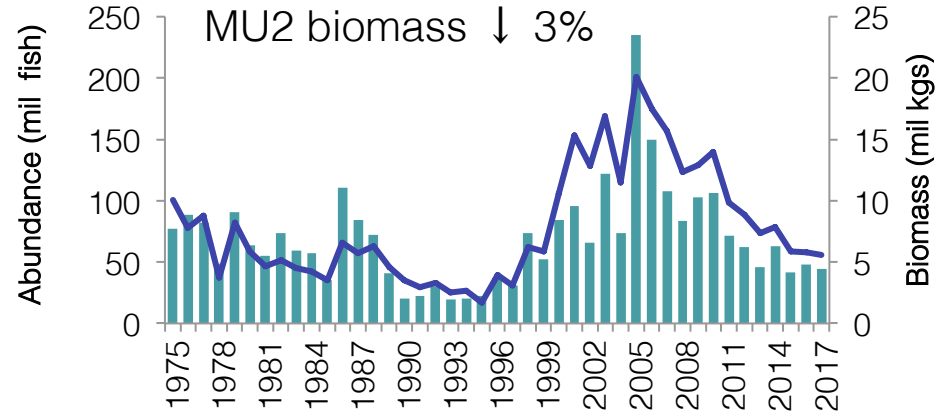
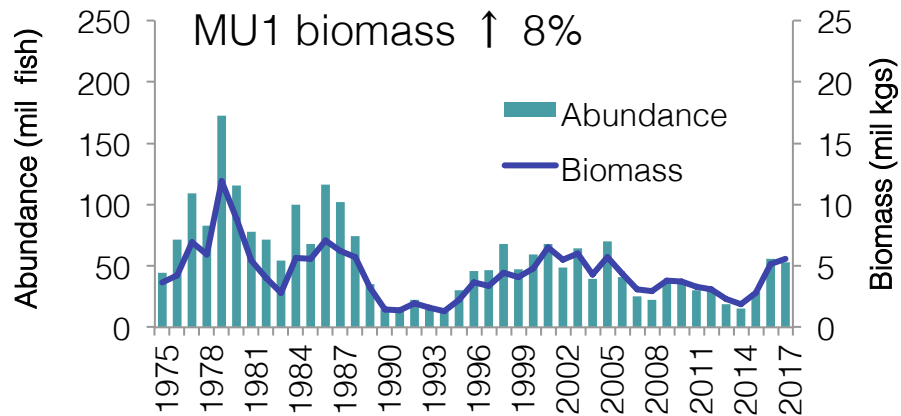


# Yellow Perch Catch Rates Partnership Gill Net Index

Yellow Perch / bottom gang



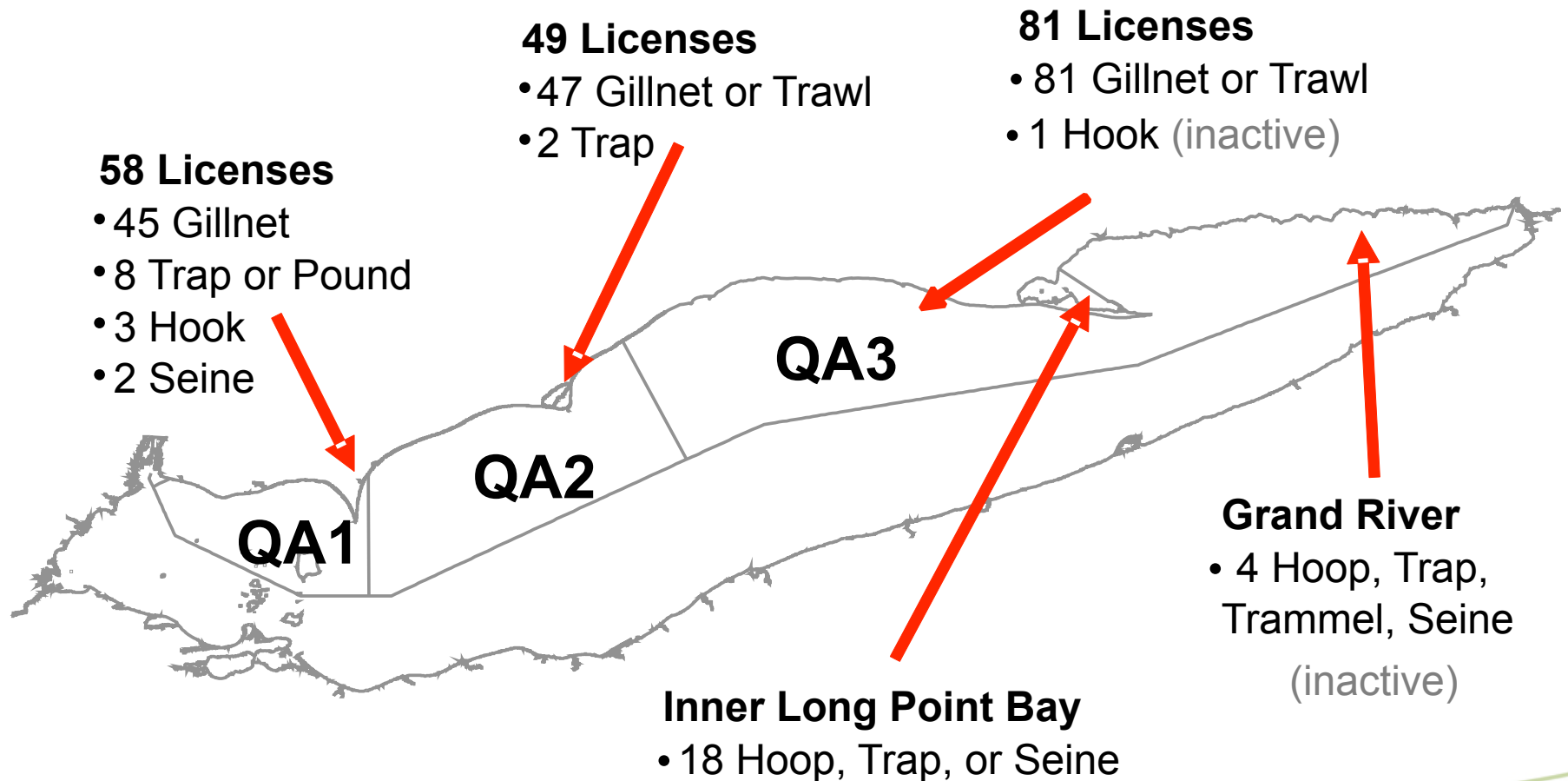
# Yellow Perch 2017 Abundance Forecast



# The Ontario Commercial Fishery

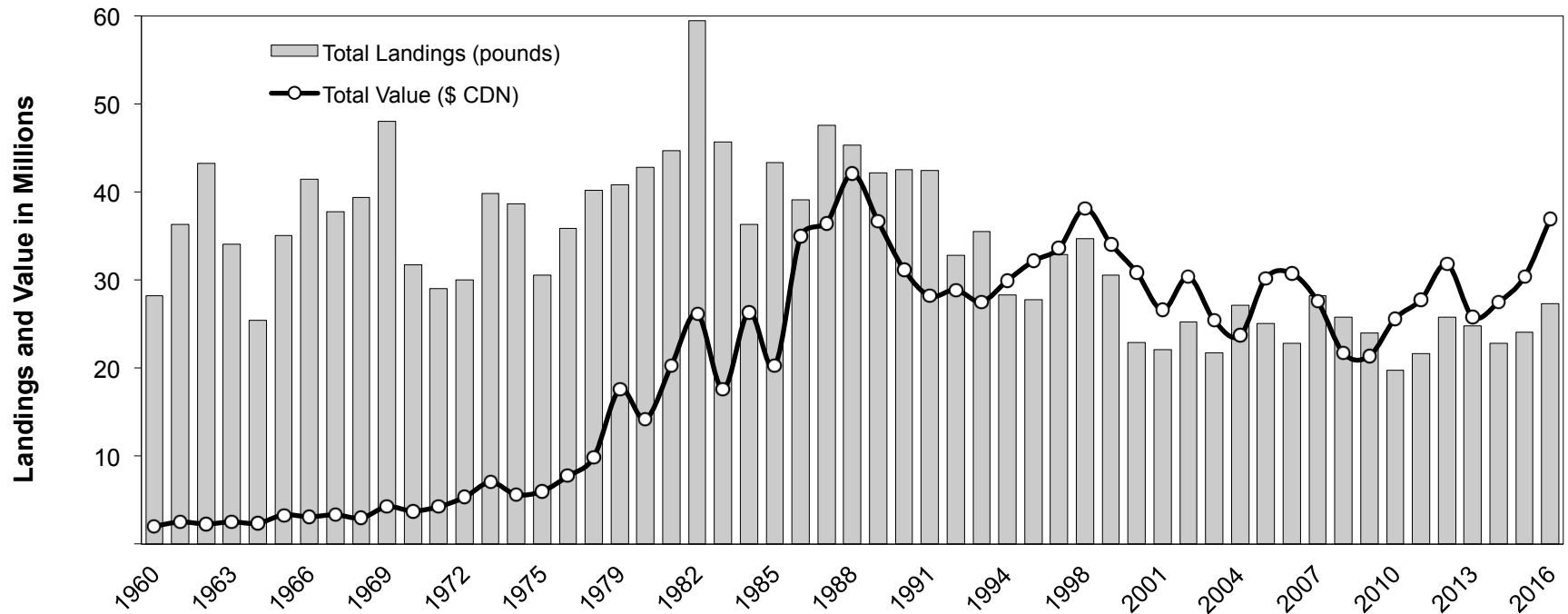


# Number of Commercial Fishing Licenses by Lake Erie Quota Area

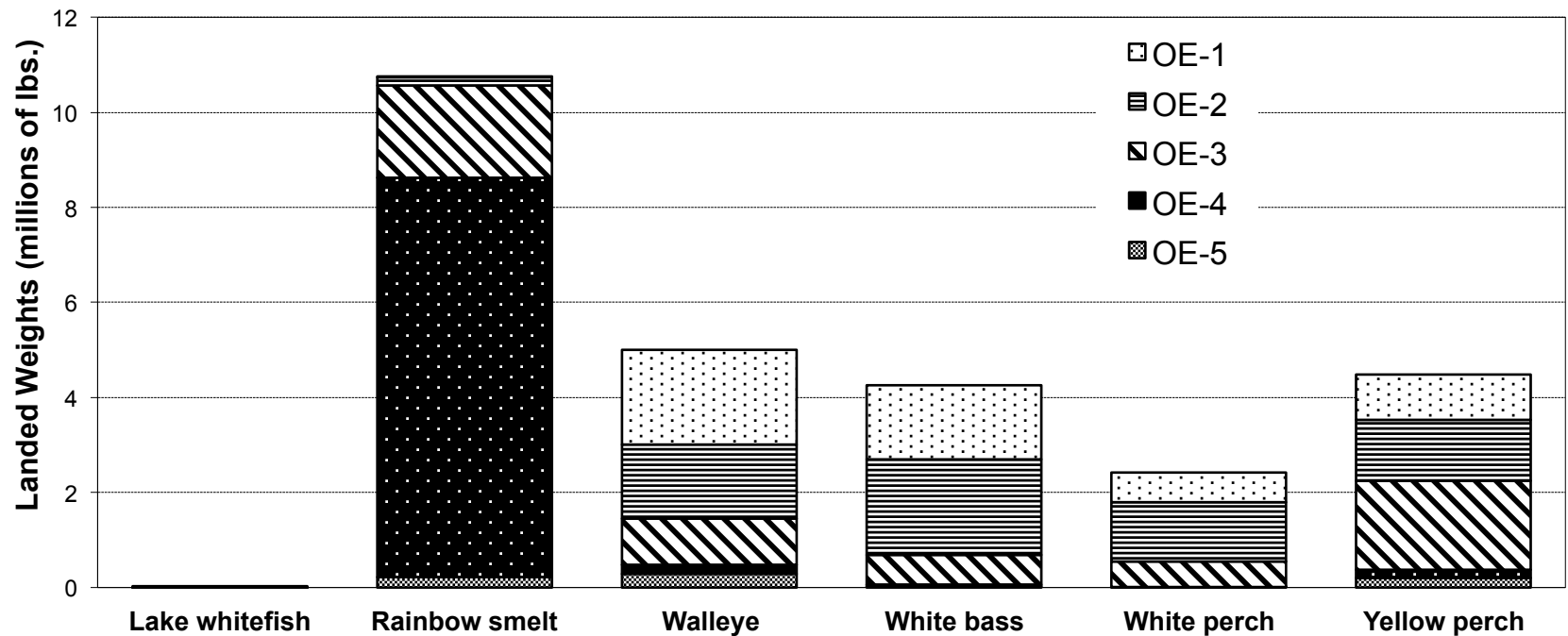




# Commercial fishery landings (pounds) and value (\$ CDN) from the Canadian waters of Lake Erie, 1960-2016.



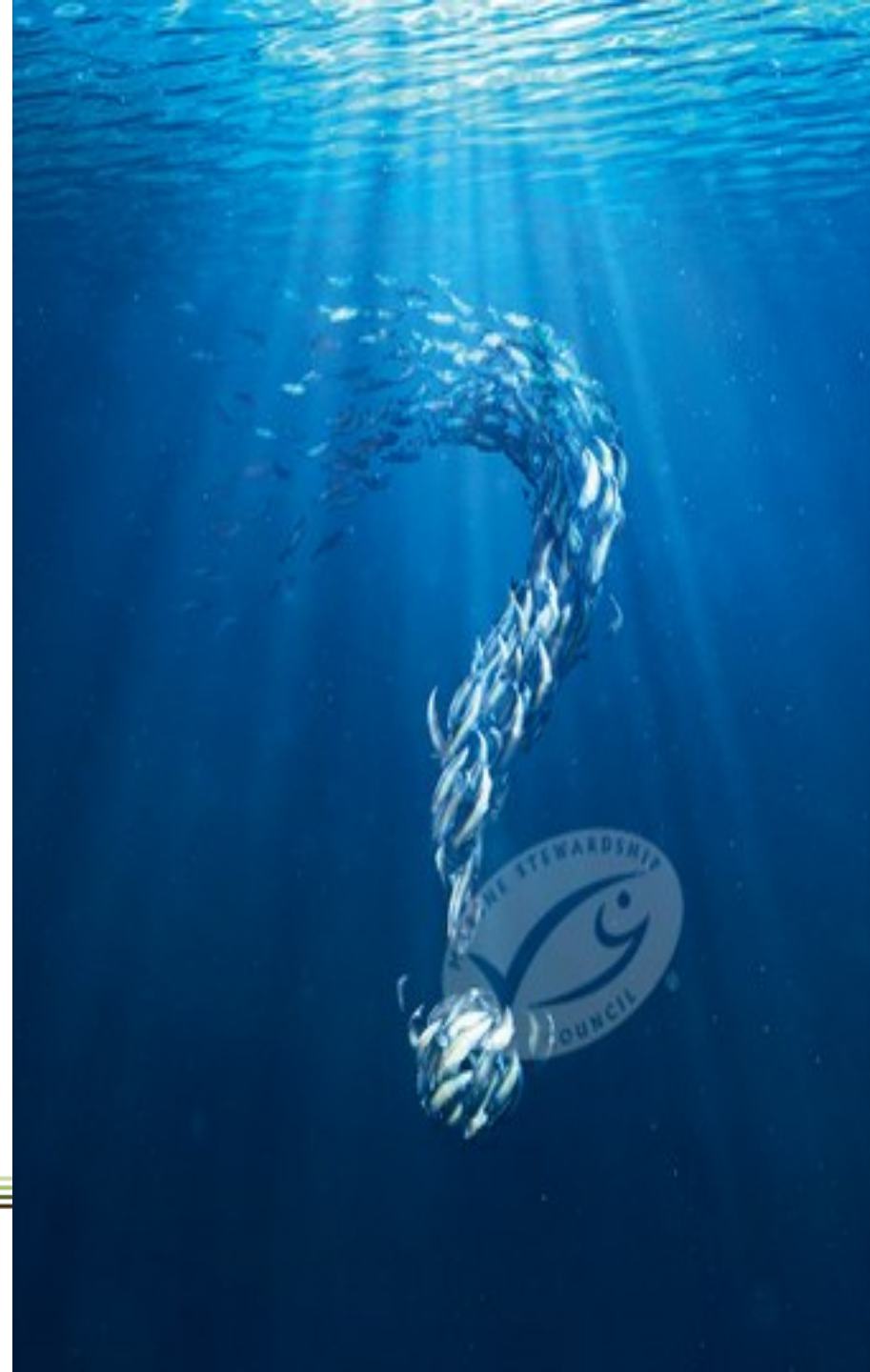
Total annual commercial fishery landed weights (millions of lbs.)  
for principle species by statistical district, Lake Erie  
2016.





# Eco-certification

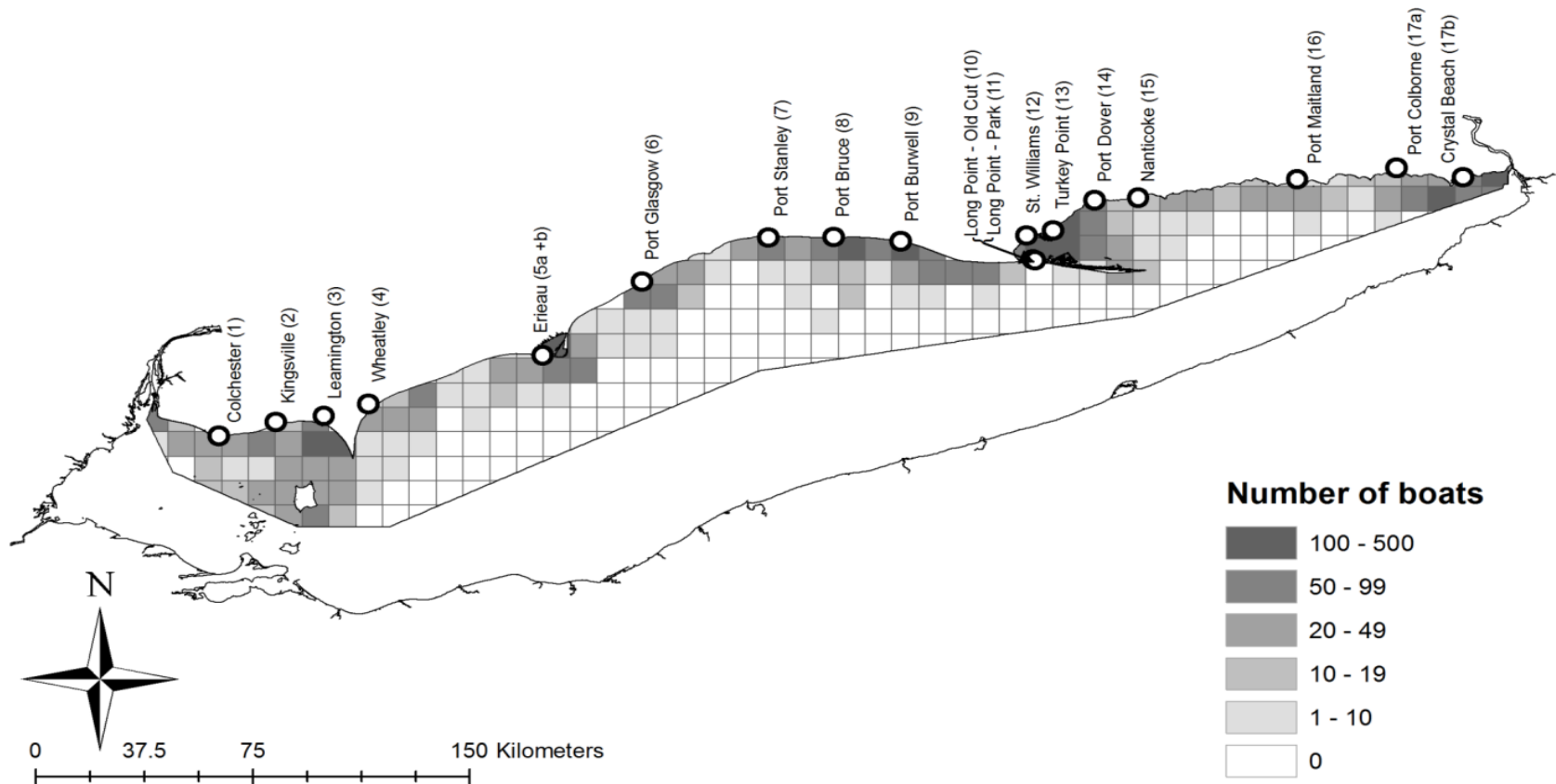
- Market based, consumer choice certification process that rewards those fisheries deemed “sustainable”
- Volunteer private contract between fishery and certifier
- 3<sup>rd</sup> party, independent, arms length verification of sustainability
- Lake Erie Walleye and Yellow Perch fisheries are MSC Certified



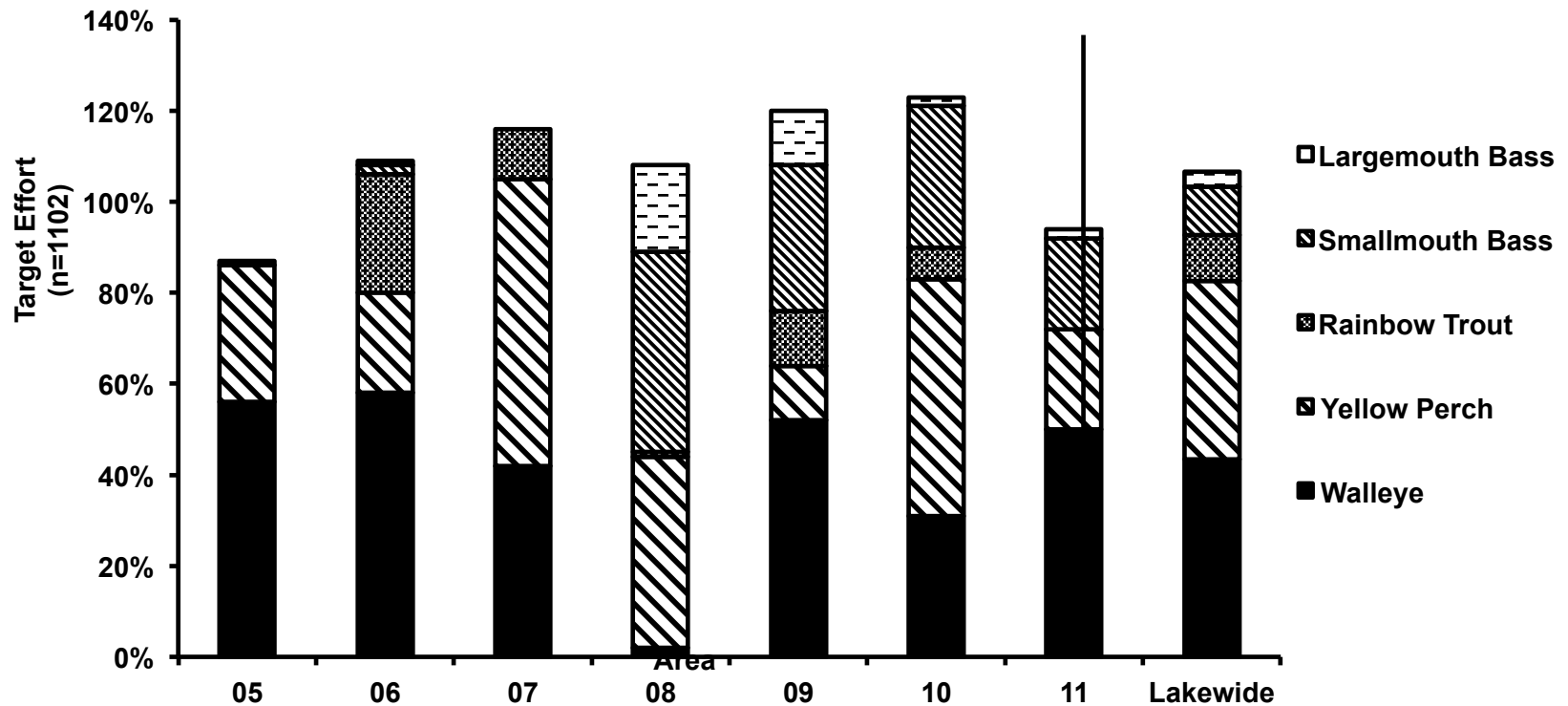
# The Ontario Recreational Fishery



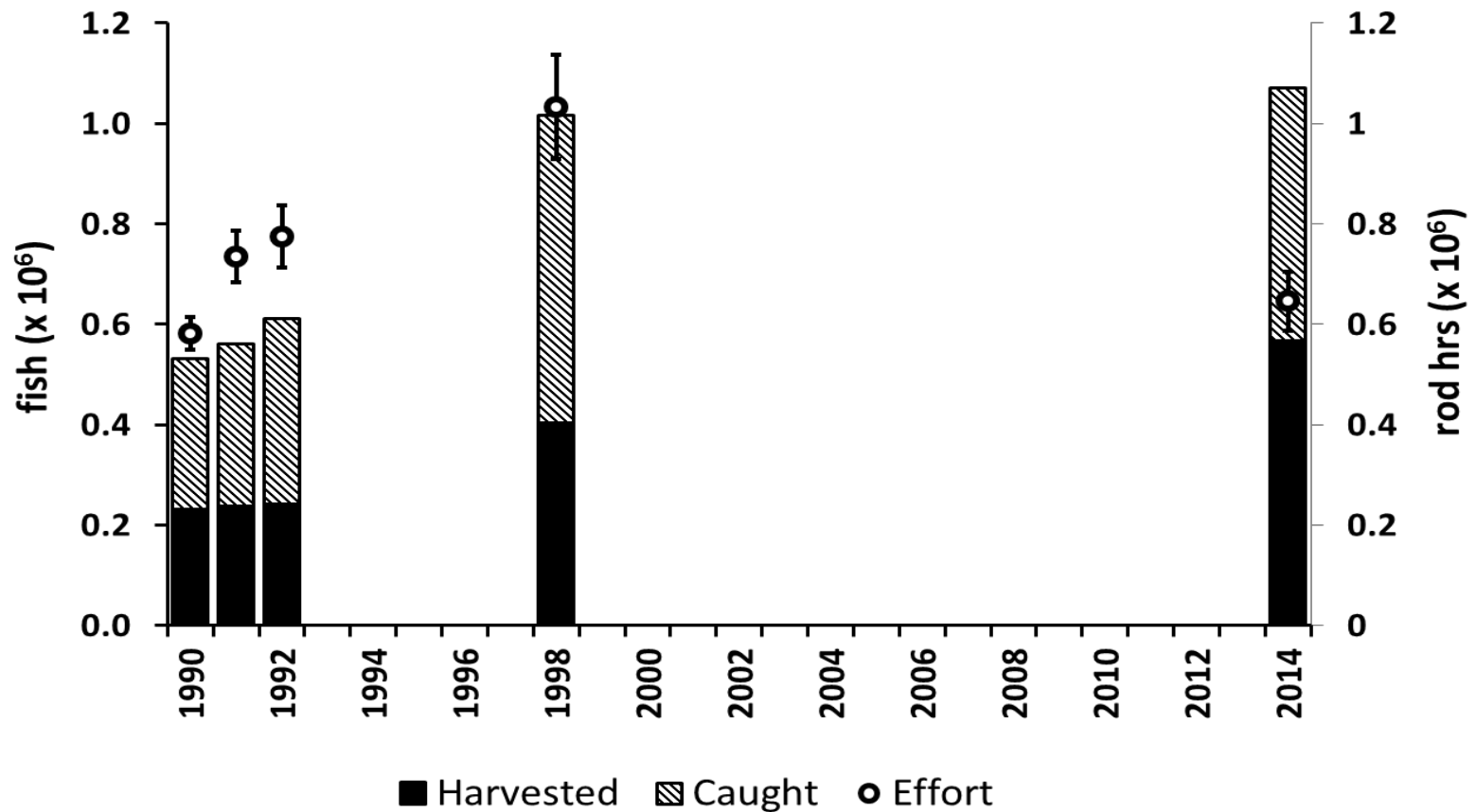
# Map of Total boats counted by 5 mid grid during the 23 survey flights from June 1 to August 31, 2014 across Lake Erie



# Top target species by area based on target effort in the 2014 Lake Erie Creel Survey.

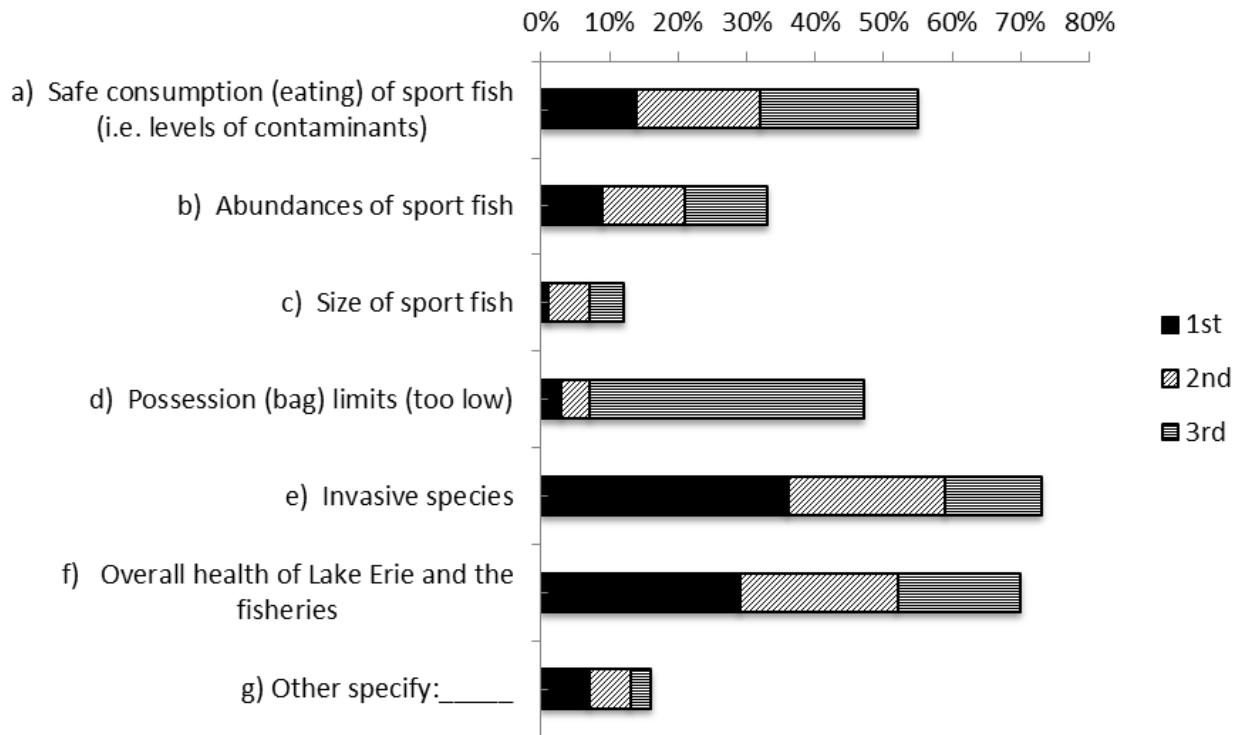


## Results- Lakewide catch, harvest and effort



# Results – Angler Attitude Survey

- What are you most concerned about as a Lake Erie recreational angler?*



# Summary

## Status of Fish Stocks varies regionally

- Recruitment patterns influenced by environment
- Most of Lake Erie is cool water habitat suitable for Percids
- Cold water species (Whitefish, Burbot, Lake Trout): less habitat
  - More vulnerable

## Fisheries

- Cooperative Assessment : Task Groups
- Lake Erie Percid Management Advisory Group (LEPMAG)
  - Total Allowable Catch by consensus
  - Sustainable
  - Adaptive management

# Required Research

- Explain how the following factors influence recruitment, mortality or compromised health of economically and ecologically important species;
  - Nutrient loadings and algal blooms
  - Invasive species (smelt)
  - Environmental change (water temp, D.O. ice cover and wind)
  - Zooplankton dynamics – causes of changes in composition and abundance
  - Parasite and diseases
- What impacts will climate change have on the varying Lake Erie ecosystems and how will this impact the fish community or abundances?



Thank You