

2016 Lake Ontario

# Salmon Symposium

Alewife

Life History & Assessment



# Gold Sponsors



## Silver Sponsors



## Bronze Sponsors



Halton Region Salmon & Trout Association

Melo Times Charter

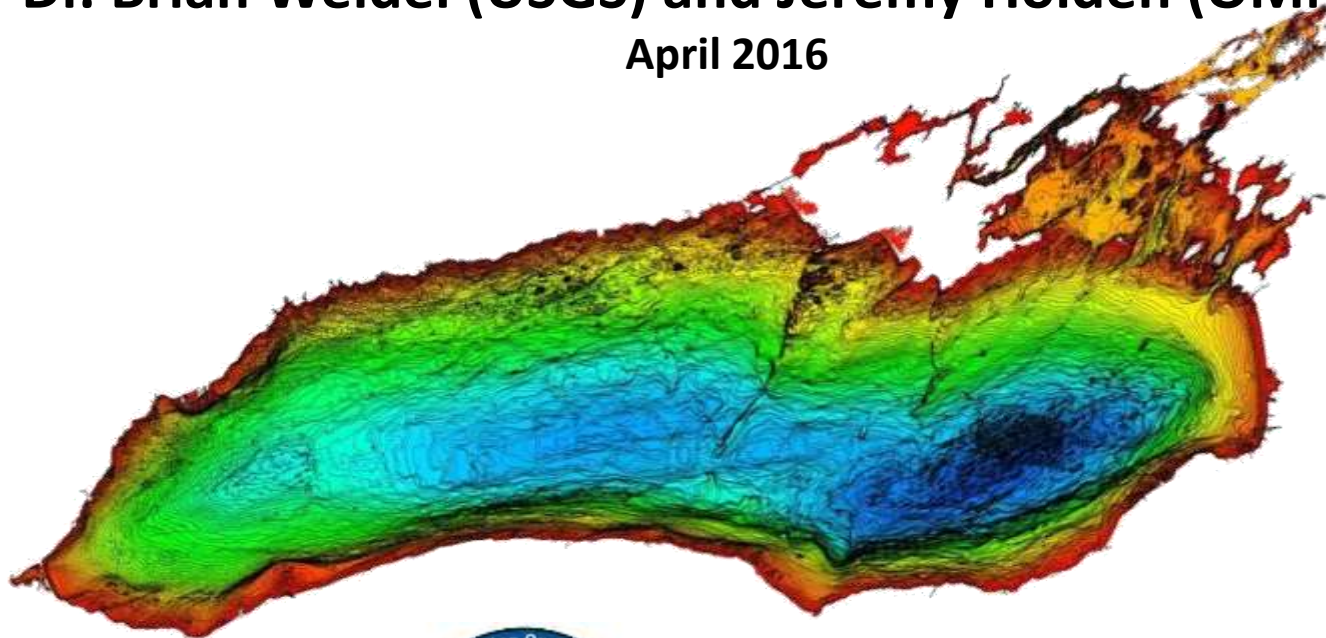
# ***Lake Ontario - Salmon Symposium***

## **Alewife**

# **Life History & Assessment**

**Dr. Brian Weidel (USGS) and Jeremy Holden (OMNRF)**

**April 2016**



Also known as:

- GASPEREAU
- SAWBELLY
- KYAK
- BRANCH HERRING
- FRESH-WATER HERRING
- GRAYBACK
- RIVER HERRING
- ALEWIFE



## Topics & *take home messages*

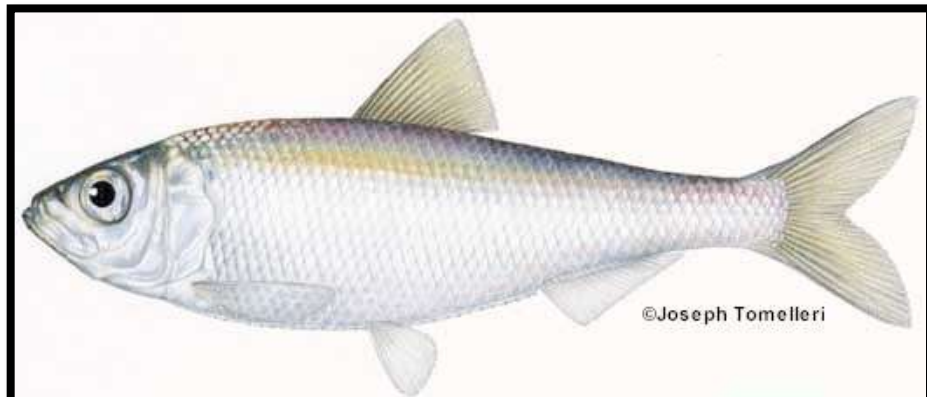
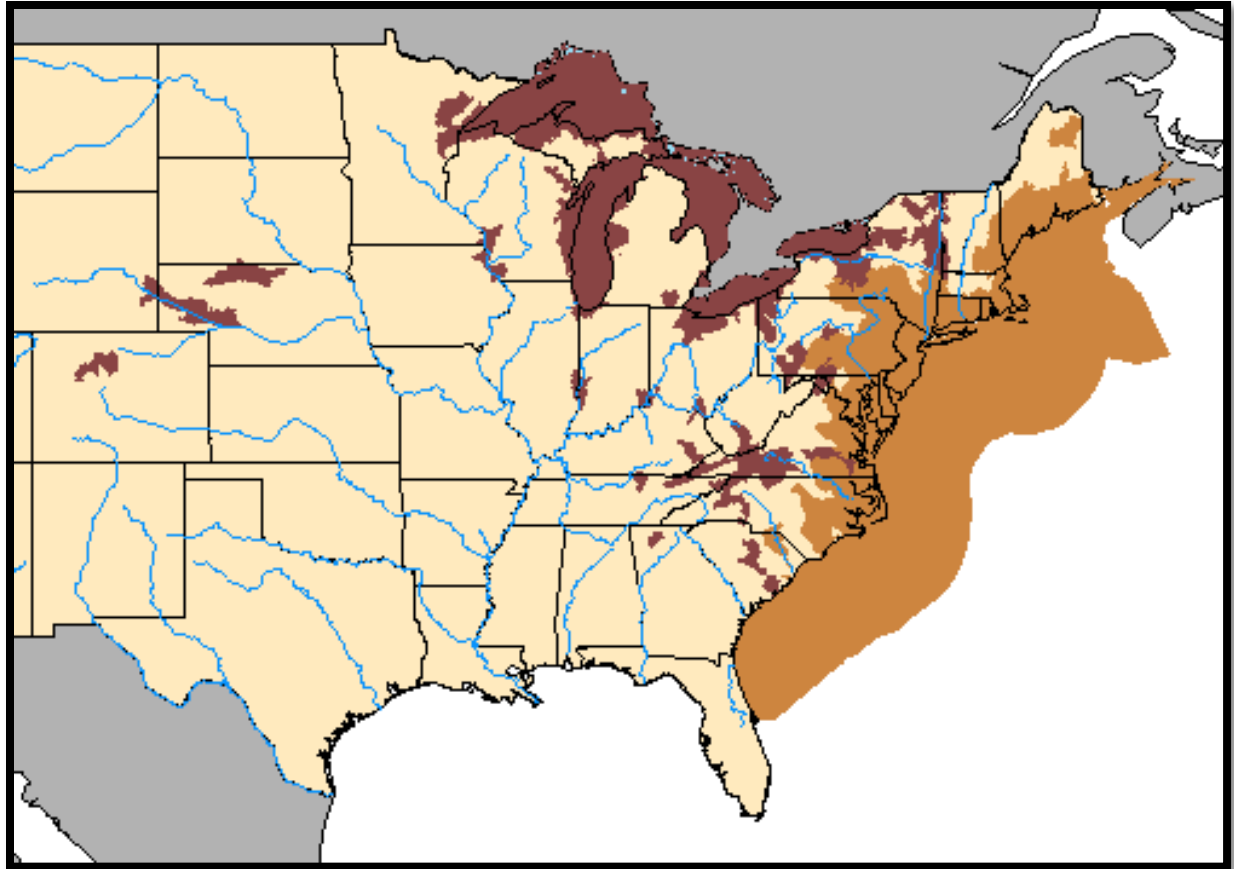
Native range & life cycle  
*very different than LO*

Lake Ontario history and life cycle  
*hatch to age 1 = most critical*

factors influencing alewife population  
*temperature, nutrients, predation*

# Range

■ native  
■ introduced



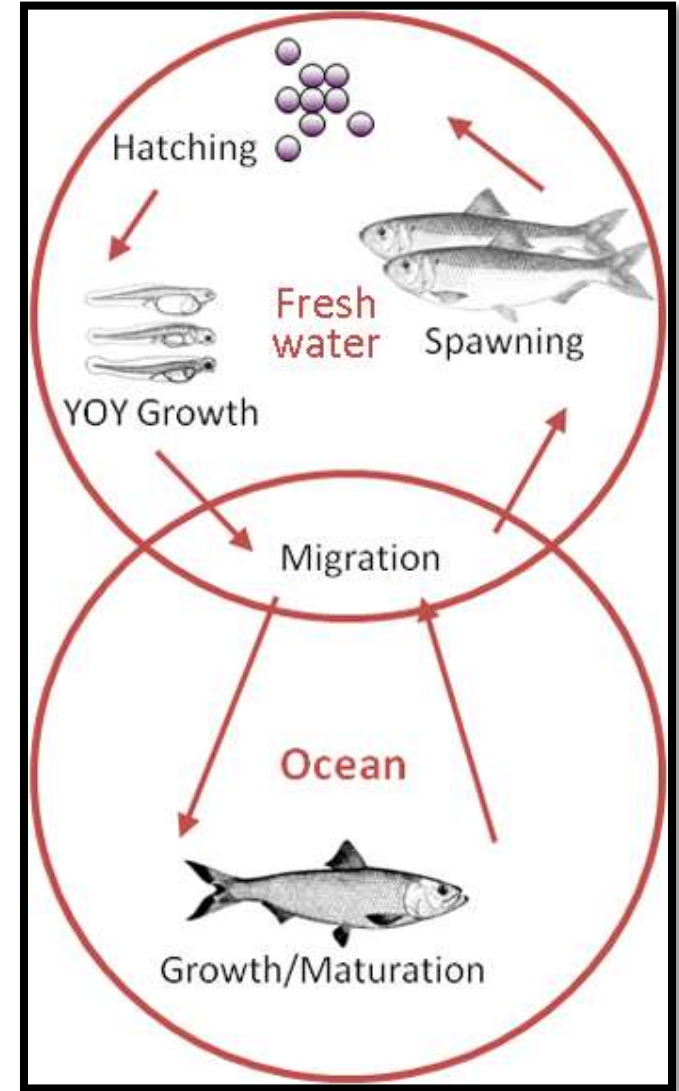
# Life Cycle in Ocean

“No stream seems to be too small for them if its waters are derived from a pond, and there can have been hardly an accessible pond in the whole State they did not visit.”

## Cape Cod



## FRESHWATER



## OCEAN

# Working to Save the Alewife

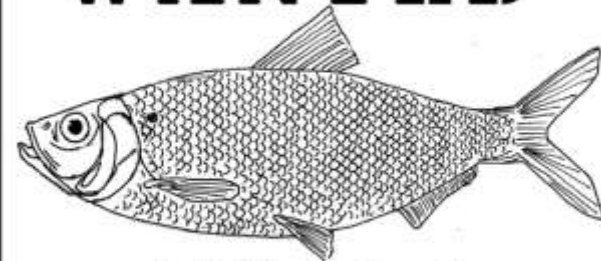


Calling all Citizen Scientists!

Conservationists push to bypass or remove dams,  
restore alewife run in Maine

ABSOLUTELY No Fishing  
Taking, or Molesting The  
AlewifeS AT Any Time.  
NO Trespassing Between  
9:00 PM - 7 AM.

# WANTED



*Alewife (Alosa pseudoharengus)*

**HELP FINDING ALEWIFE**



*“Google, what’s the best way from the Atlantic Ocean to Lake Ontario”*

**“Take the Hudson River north, turn left at the Erie Canal, then turn right at the Oswego River. You are on the fastest route and as of 1862 your route is clear”**

genetics support an  
1860<sub>ish</sub> introduction

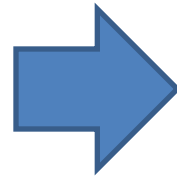
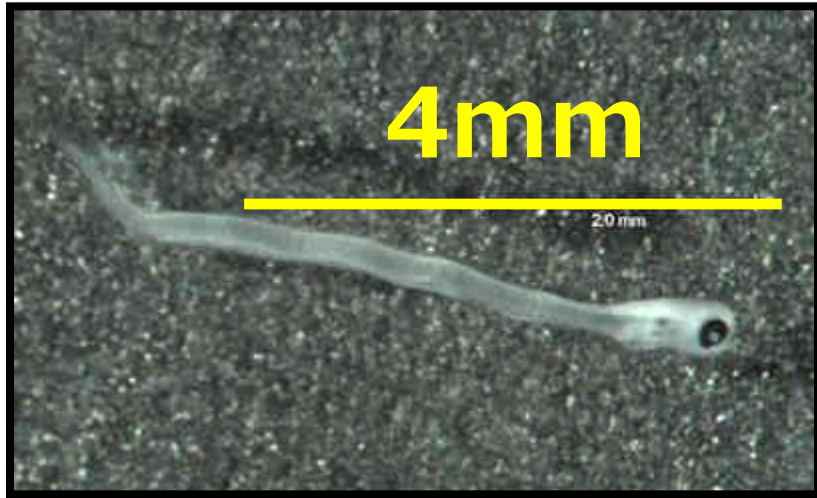


# Lake Ontario Alewife spawning fun facts

- first spawn ~ age 3
- repeat spawners, oldest = 11
- 11000-22000 eggs per female
- eggs hatch 3-6 days
- 1.3mm or .05"
- spawn peaks late June & July



# in Lake Ontario : larvae to yearling critical



one  
year



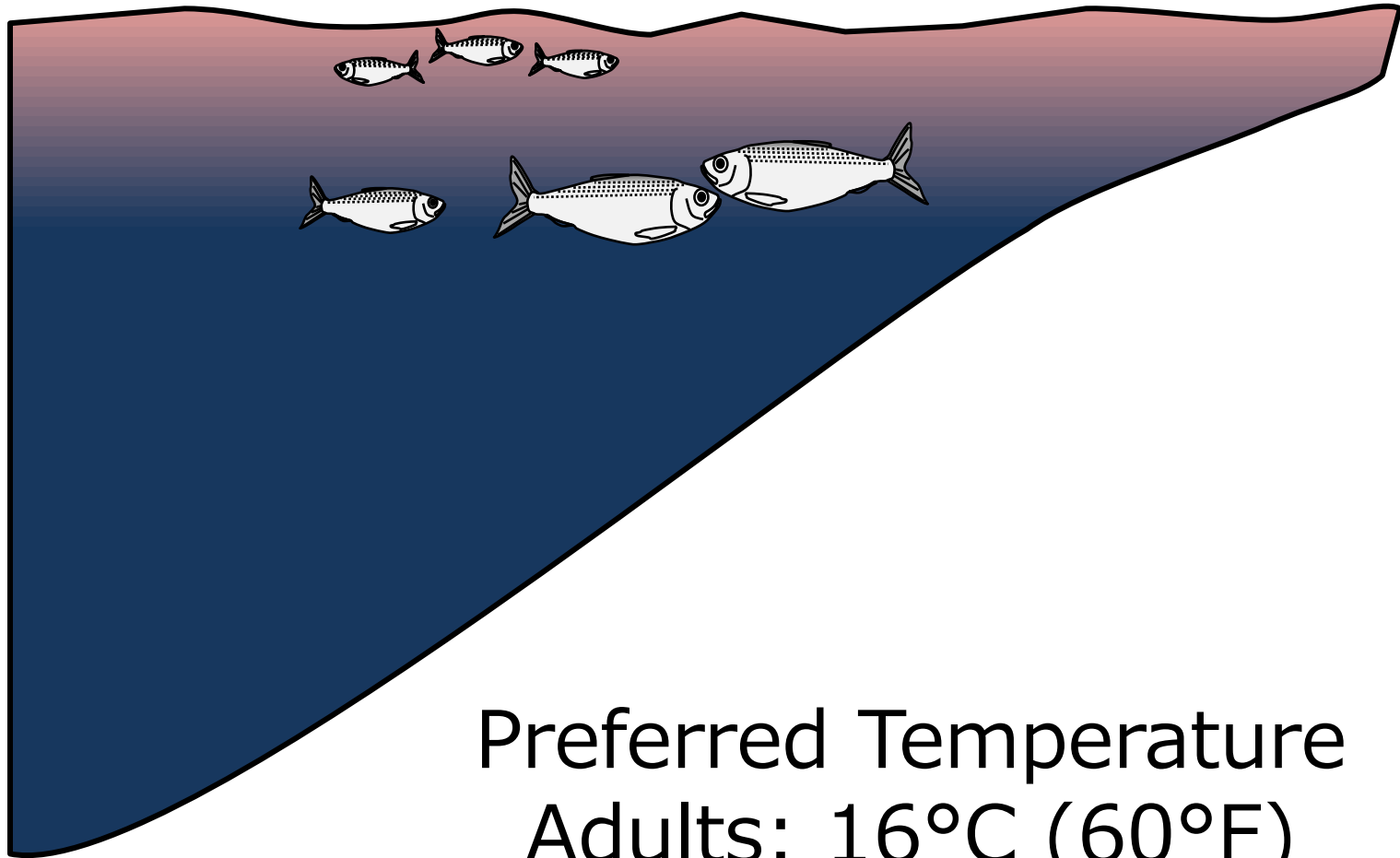
Spring stocking, before we know how  
many young Alewife survived winter!!

# Seasonal Behavior: Summer

21°C  
(70°F)

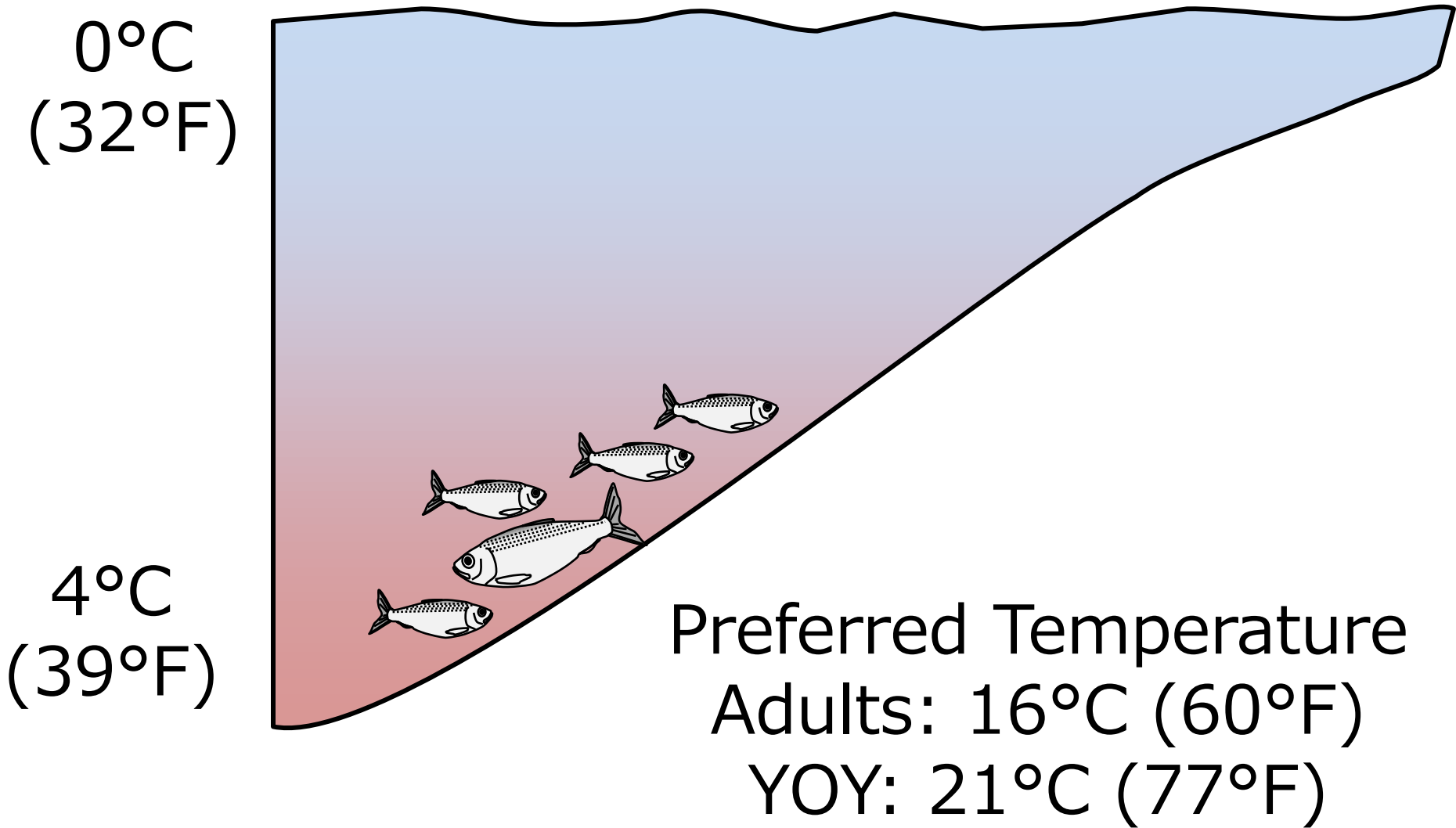
16°C  
(60°F)

4°C  
(39°F)



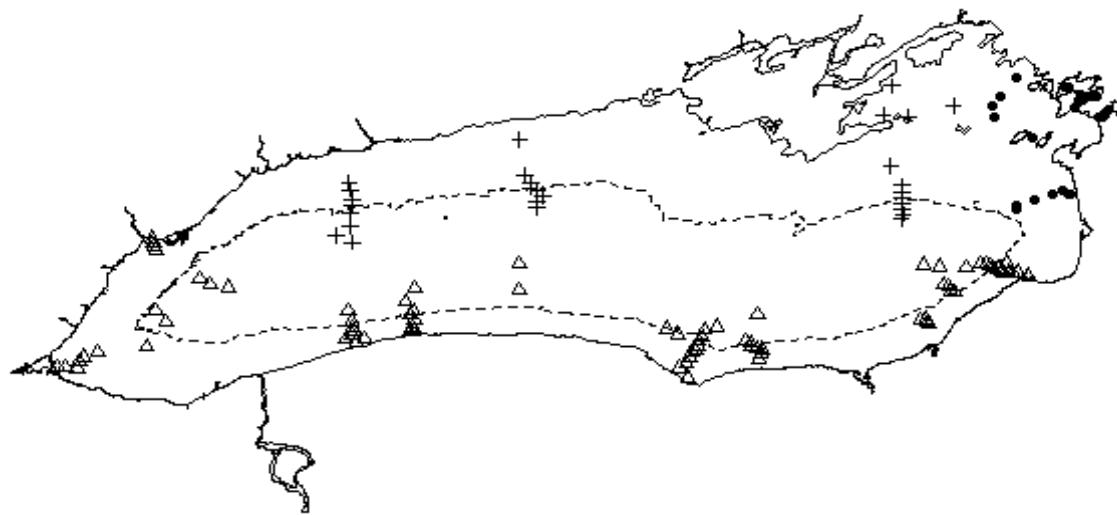
Preferred Temperature  
Adults: 16°C (60°F)  
YOY: 21°C (77°F)

# Seasonal Behavior: Winter

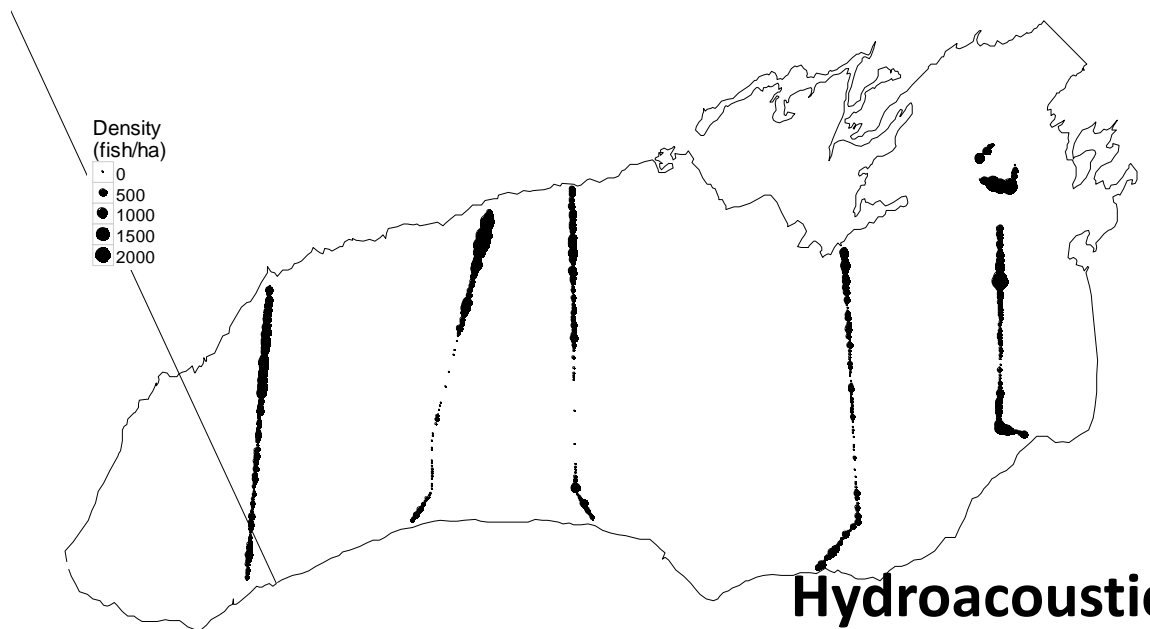




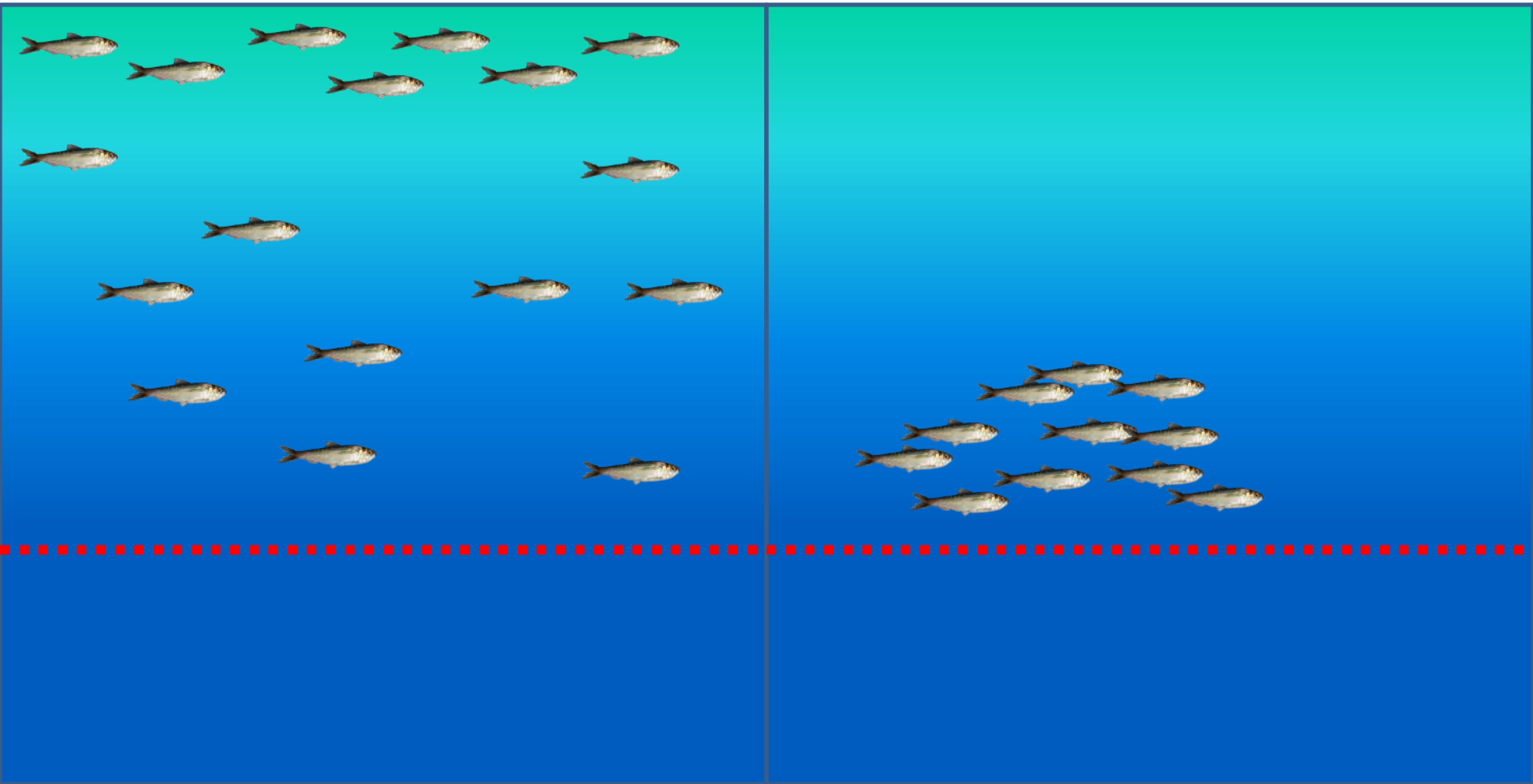
- NYSDEC
- △ USGS
- + OMNRF



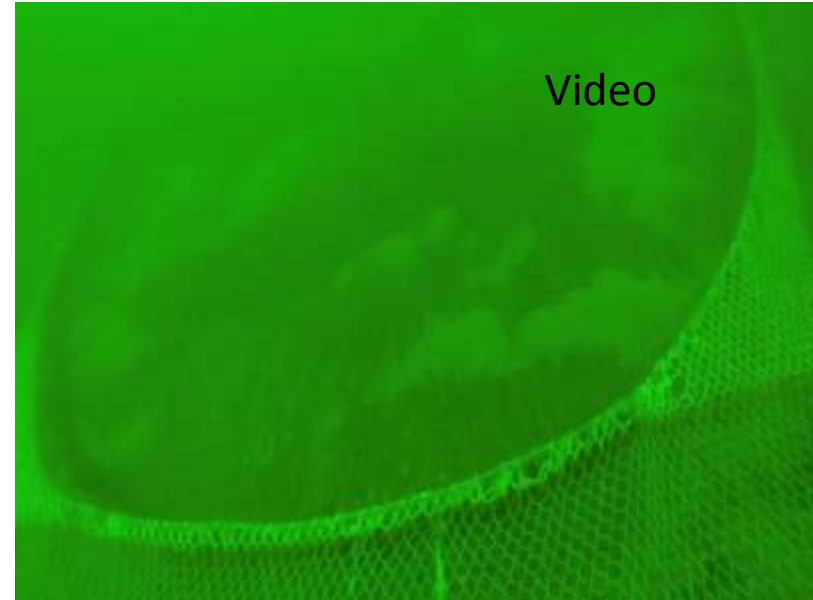
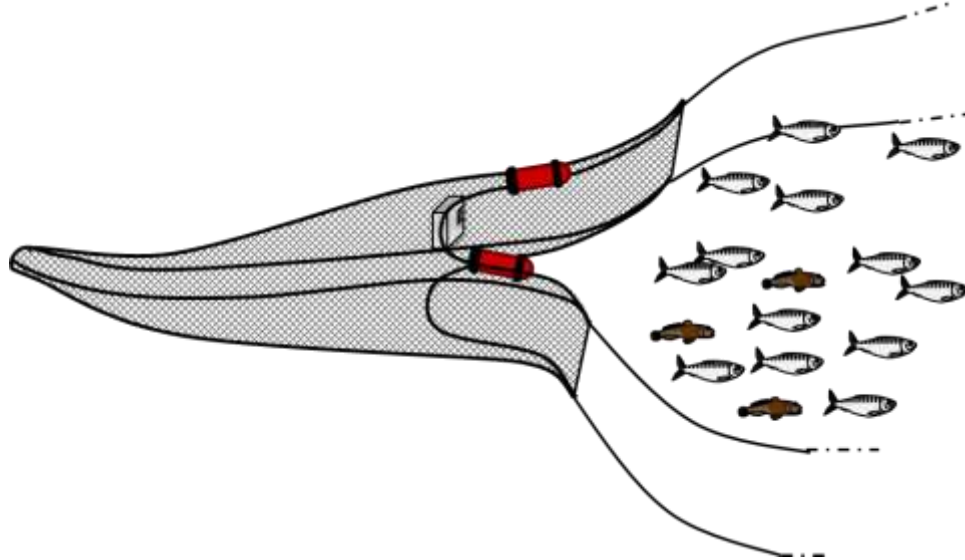
## Bottom Trawl Program



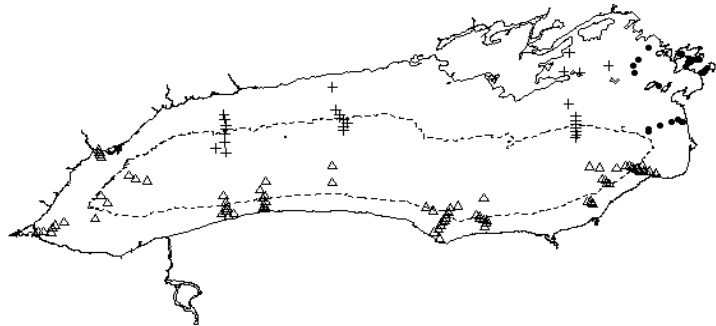
## Hydroacoustics



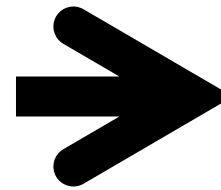
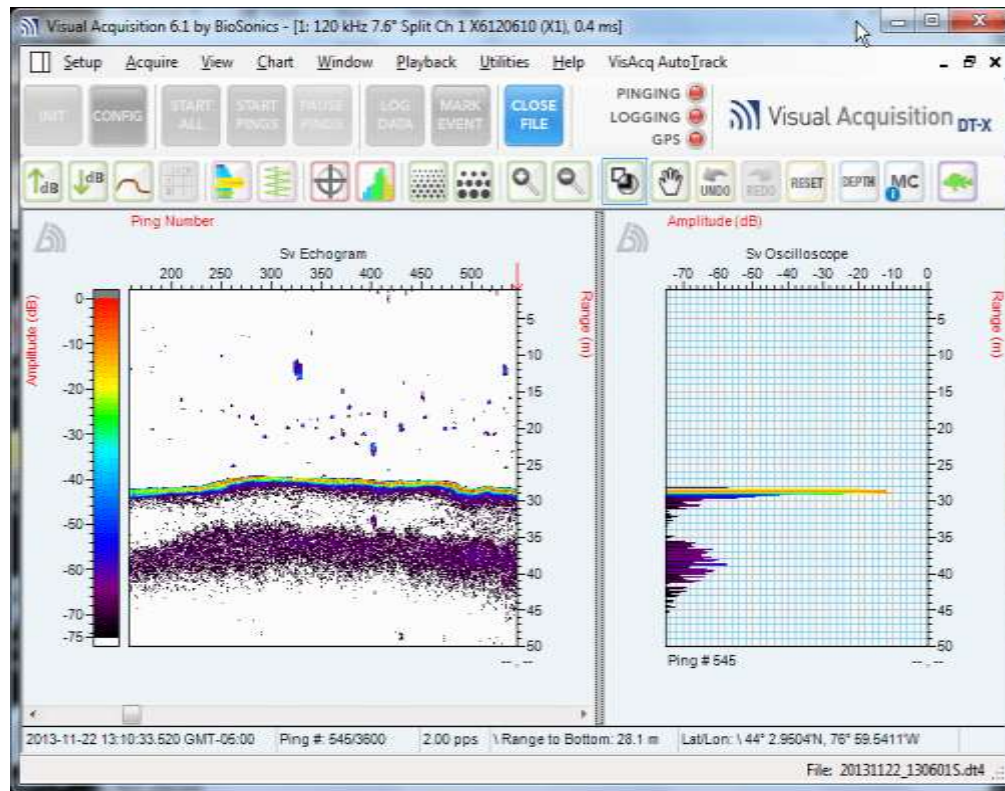
# Bottom Trawl Survey



• NYSDEC  
△ USGS  
+ OMNRF

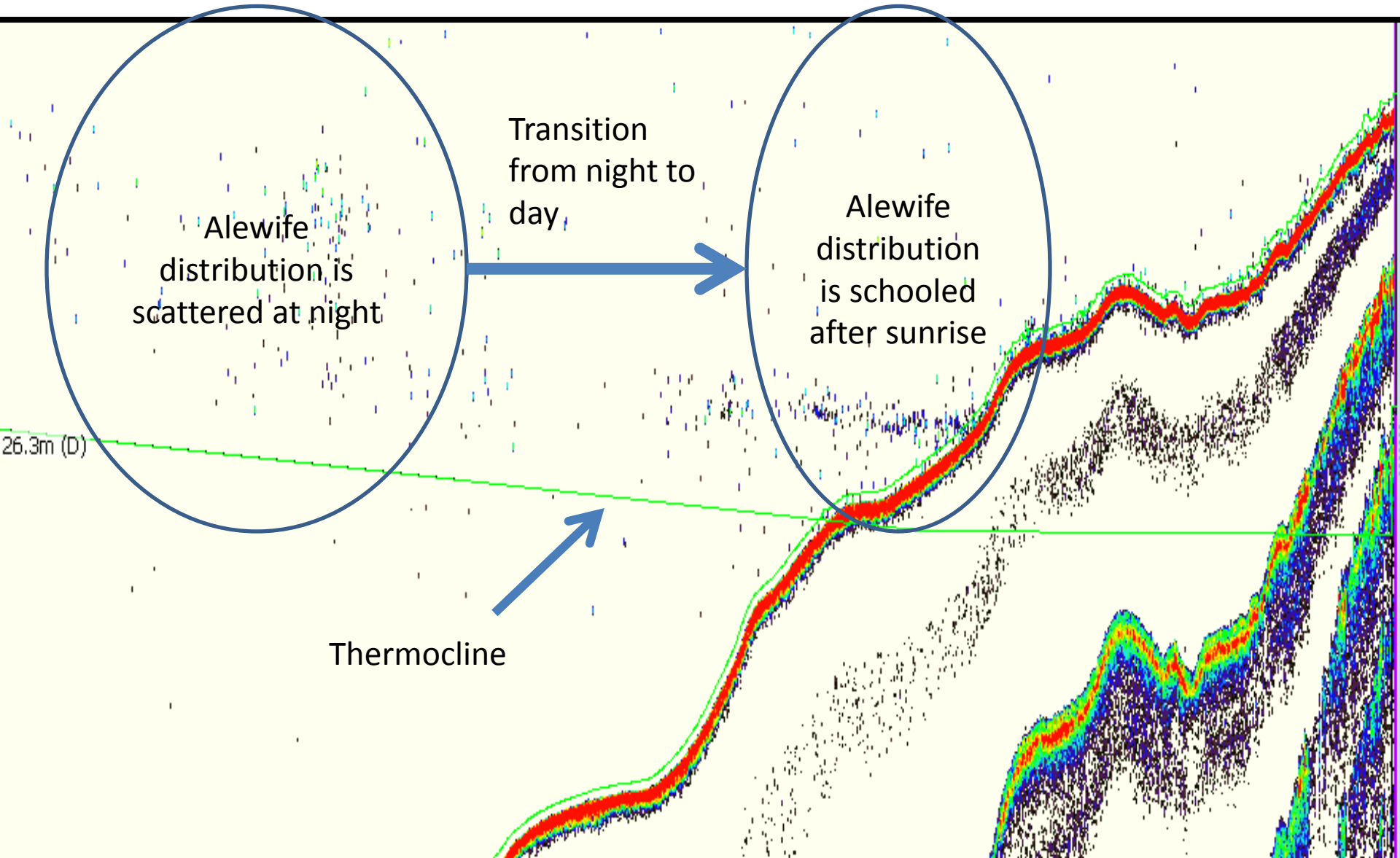


# Hydroacoustic Survey

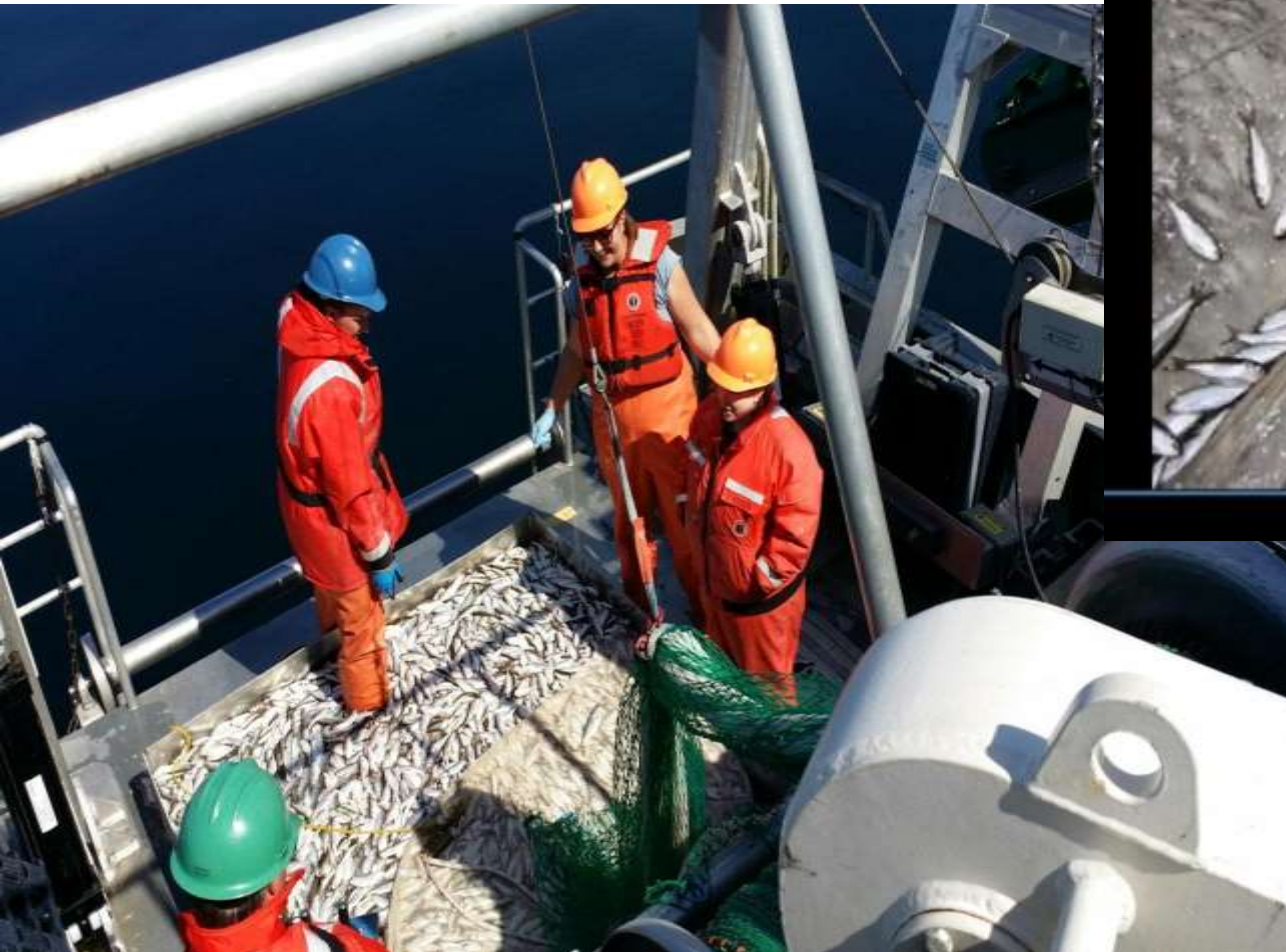


Hydroacoustic survey is just a sophisticated depth sounder that allows fine tuning and logs all the data for further processing. We get a rapid snapshot of summer distribution of the alewife (when people are fishing).

# Alewife Distribution Night vs Day



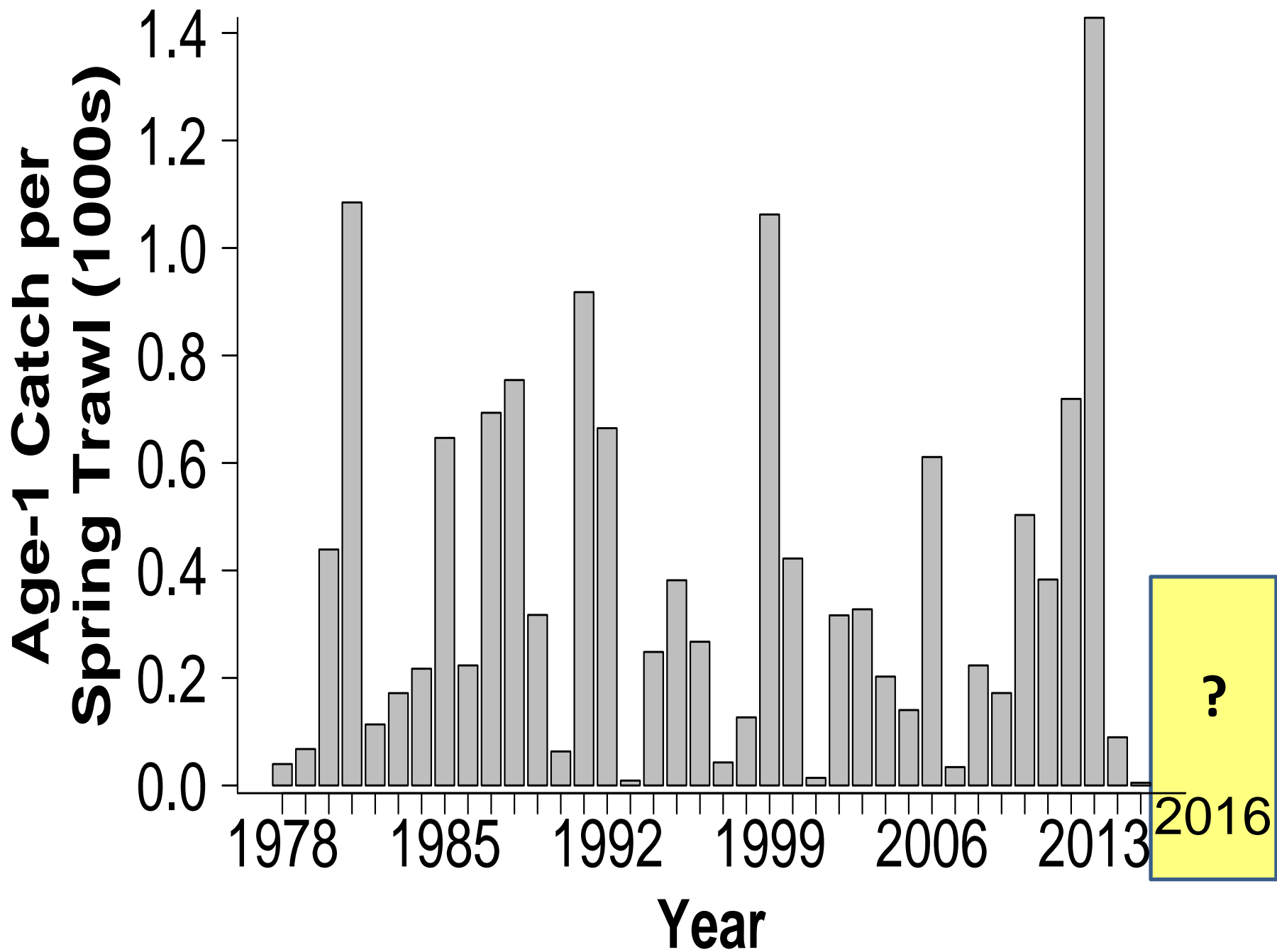
# There's a lot of Alewife – is there enough?



## Lake Ontario has a lot of Alewife compared to other Great Lakes



*L. Ontario trawl catches of Alewife alone far exceed catches of ALL fish in Superior and Huron!*



# Acknowledgements

- Prey Fish Working Group (Walsh, Weidel, Connerton, Hoyle, Yuille)
- Vessel and Operations Staff (USGS, NYSDEC, OMNRF)

