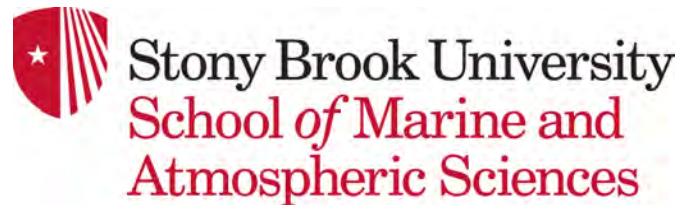


Monitoring Biodiversity of Georgica Pond

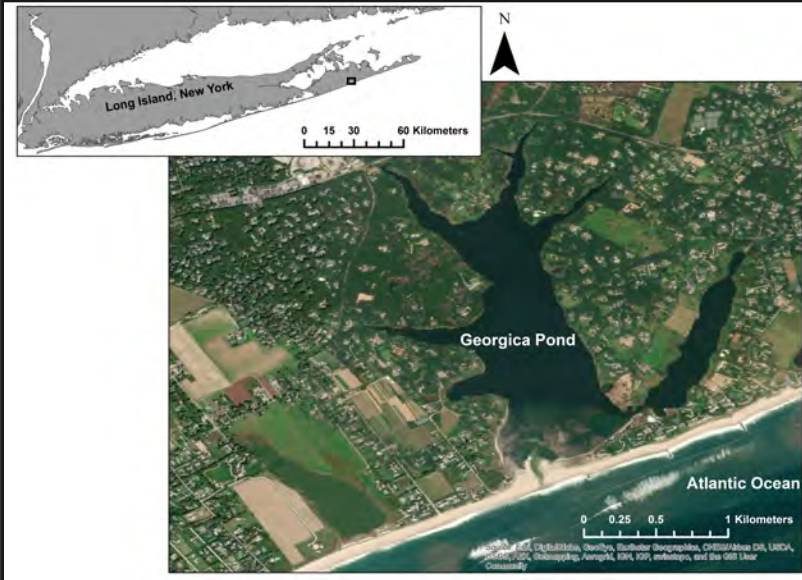


Stephen Heck, Brittney Scannell, Bradley Peterson
Friends of Georgica Pond | August 27th, 2023



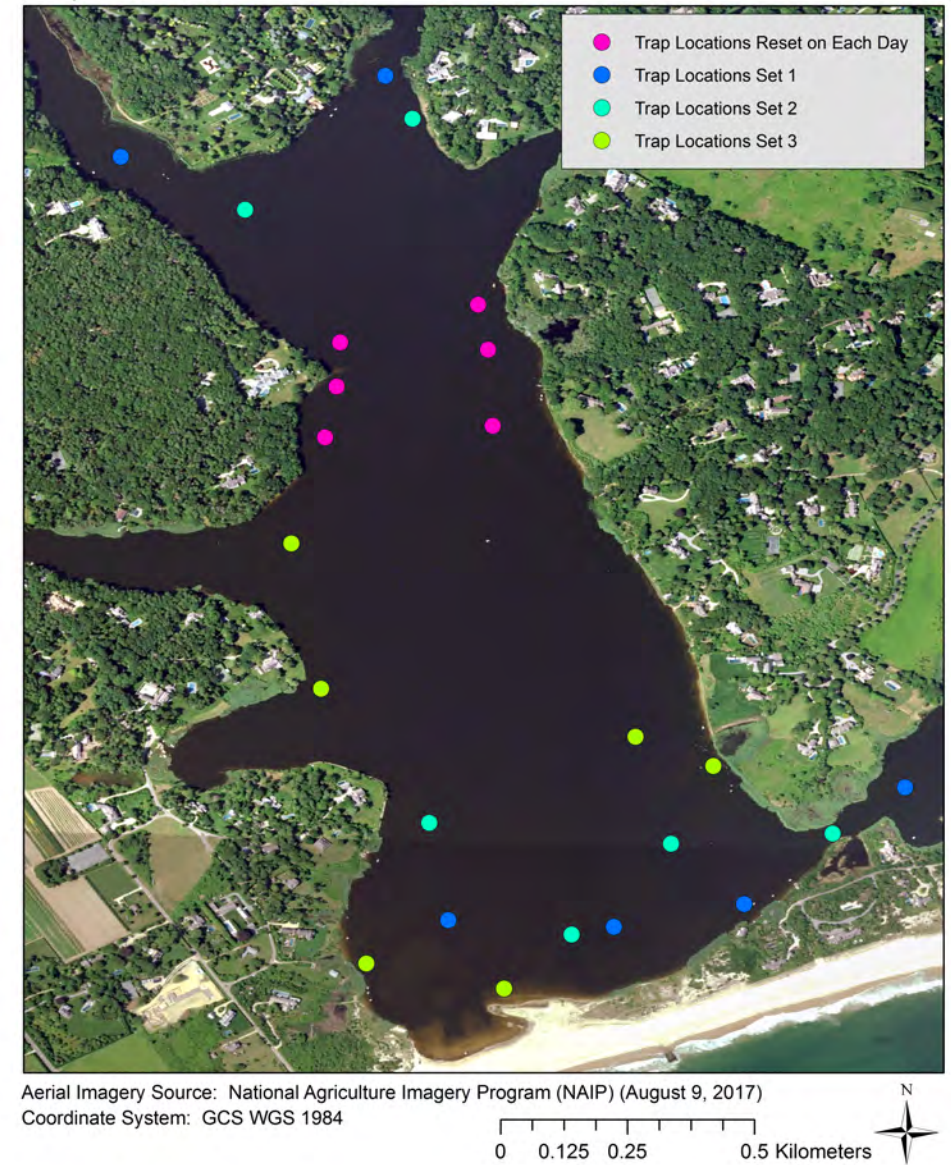
**Marine Community Ecology
Peterson Lab**

Monitoring Biodiversity of Georgica Pond



Trap Surveys of Georgica Pond

- Spring and Autumn Survey
- 2018 – 2023
- 12 locations each set
- 3 consecutive 48-hour sets



Trap Surveys of Georgica Pond

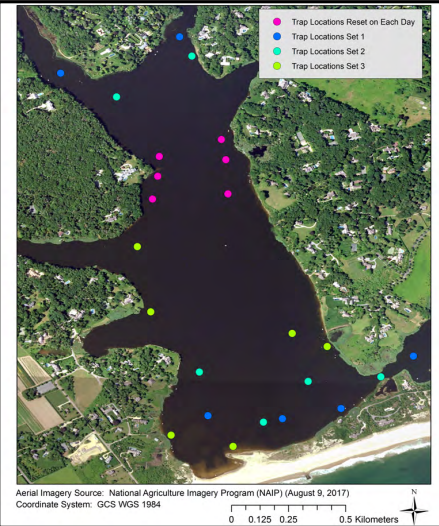


Trap Surveys of Georgica Pond



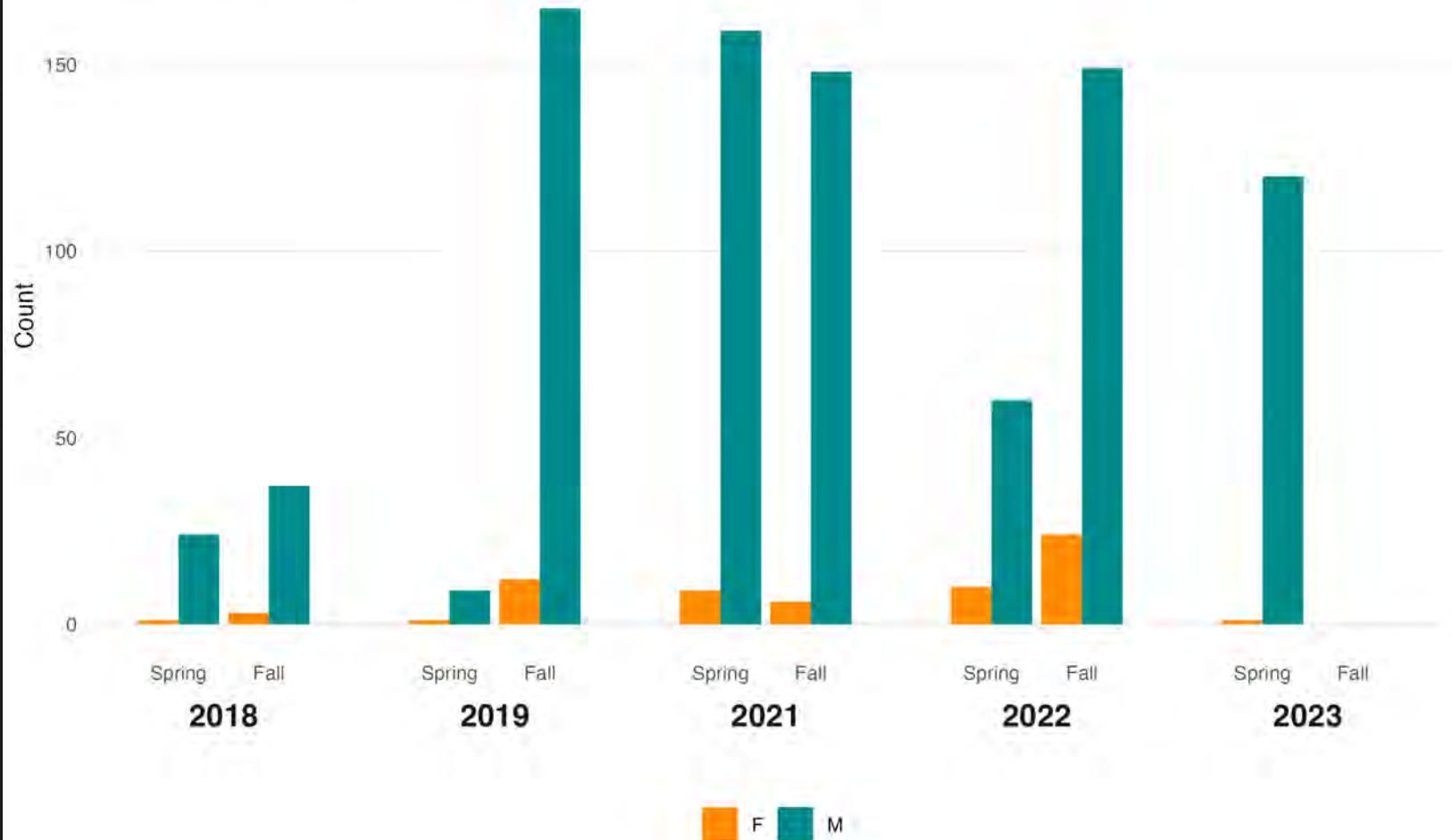
Trap Surveys of Georgica Pond

Blue crabs (*Callinectes sapidus*)



- Catch rates fluctuate
- 3/4 sampling seasons there are more blue crabs captured in fall than spring
- More males than females
- Females on southern end

Number of Georgica Pond Blue Crabs



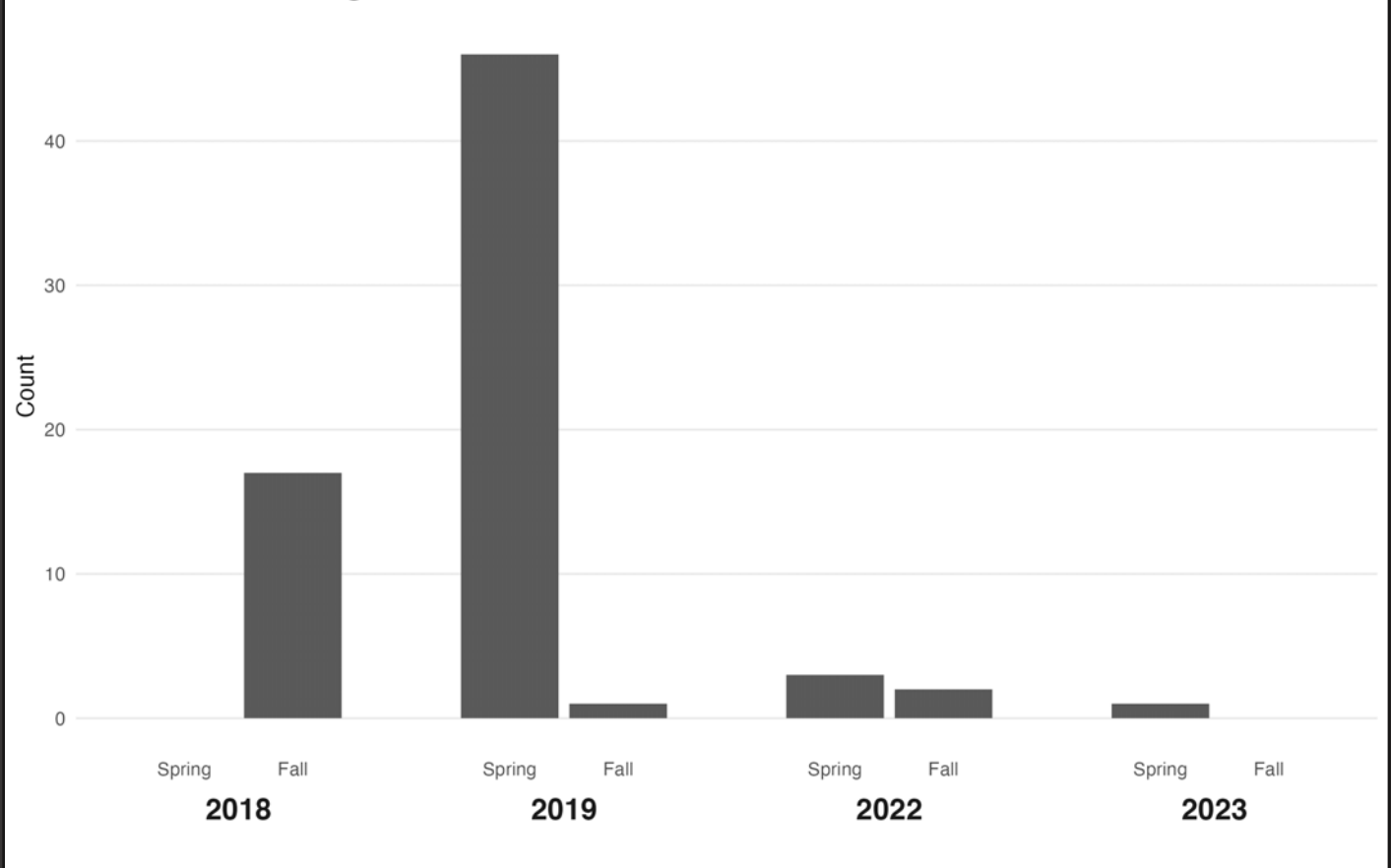
Trap Surveys of Georgica Pond

White perch (*Morone americana*)



- Peak during prolonged breach opening of the spring of 2019
- Very low abundance comparatively since then

Number of Georgica Pond White Perch



Trap Surveys of Georgica Pond



2019
Rock crab
(*Cancer irroratus*)



2018
American eel
(*Anguilla rostrata*)



2018
Summer flounder
(*Paralichthys dentatus*)

Beach Seine Surveys of Georgica Pond

- Spring and Autumn Survey
- 2018 – 2023
- 4 beach seine locations
- ~50 meters x 7.6 meters wide



Beach Seine Surveys of Georgica Pond

- Fish identified to species
- Subset of 50 individuals were measured



Beach Seine Surveys of Georgica Pond

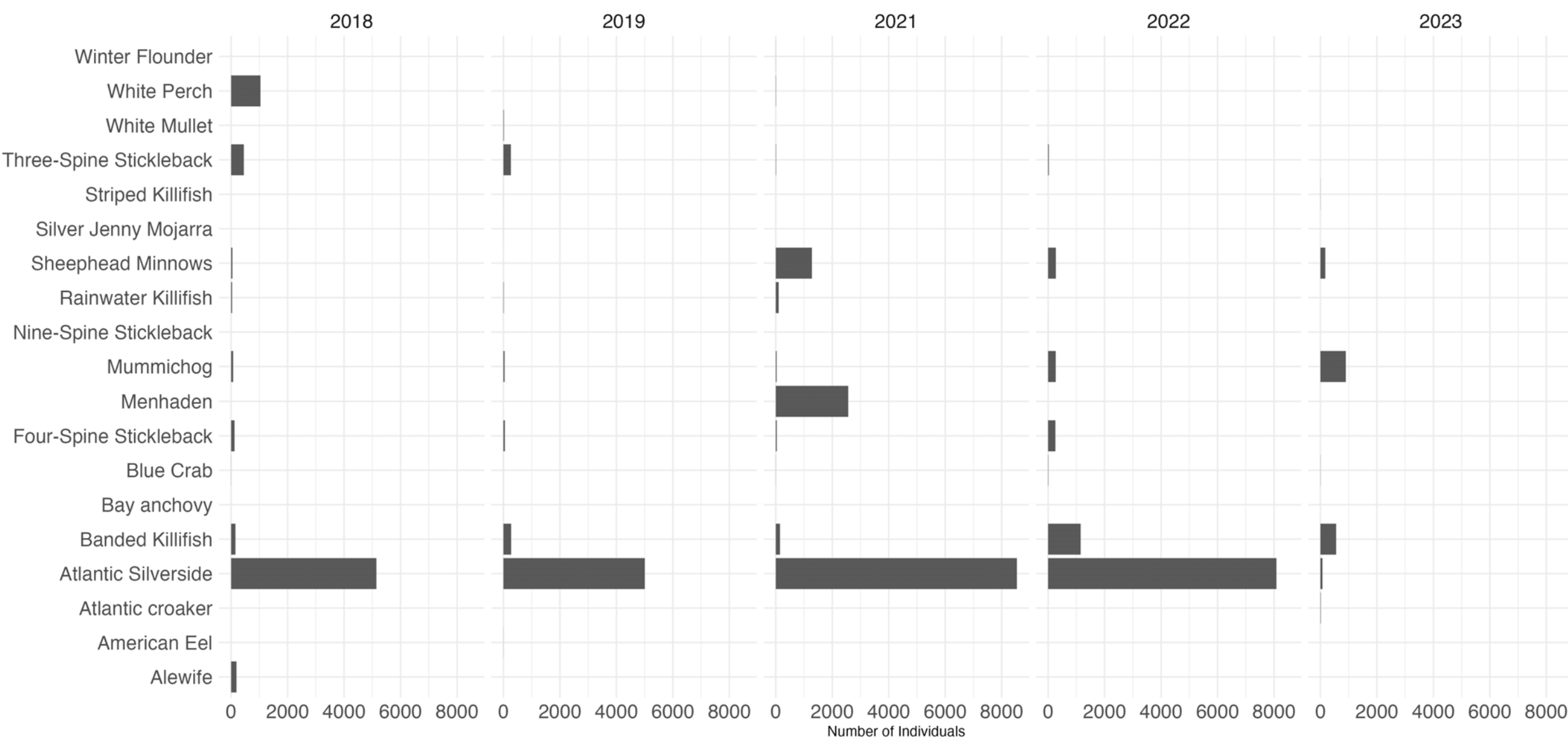
- Min. of 7 species
- Max. of 11 species
- 19 species over all years (18 fish, 1 crustacean)



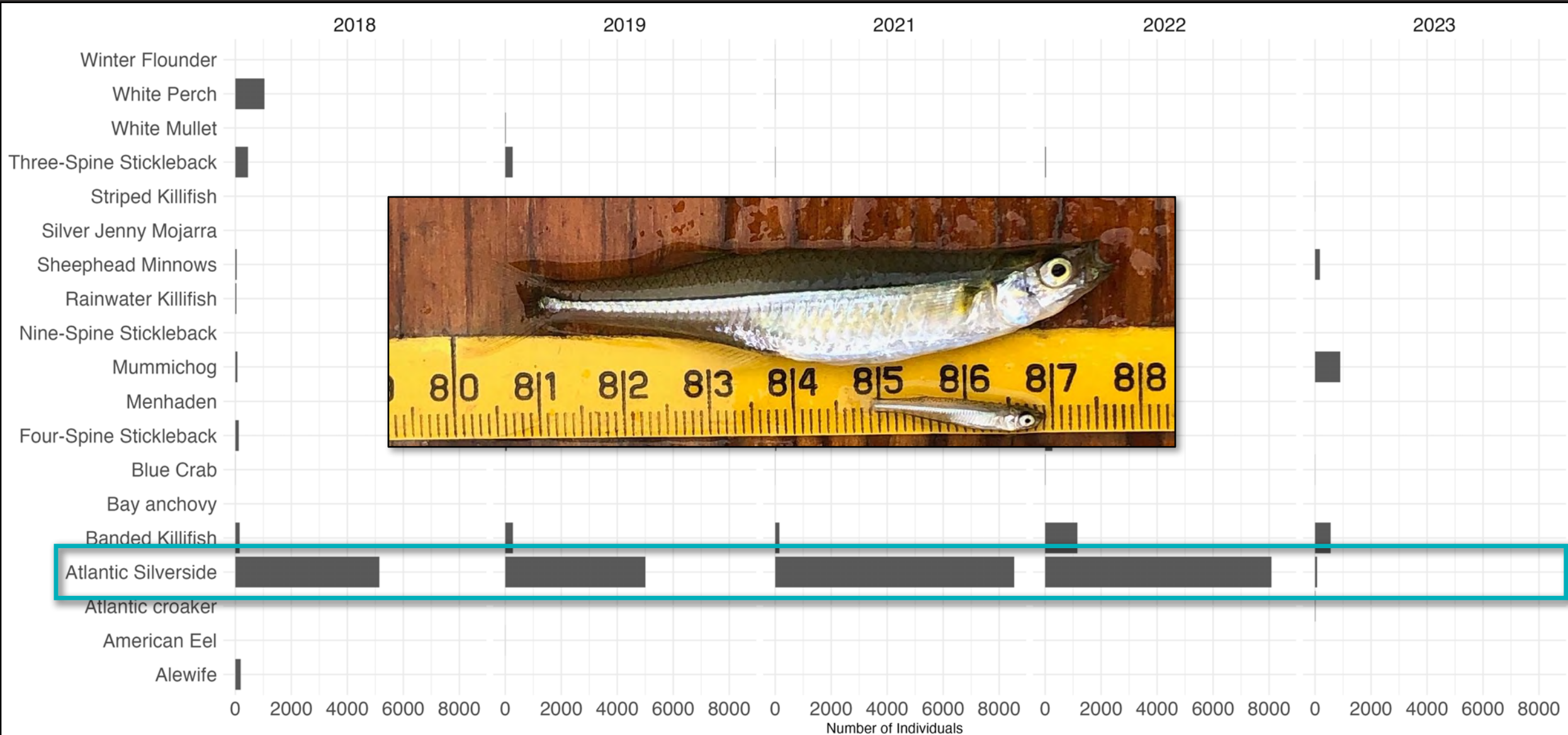
Number of Species Caught in Georgica Pond Seines



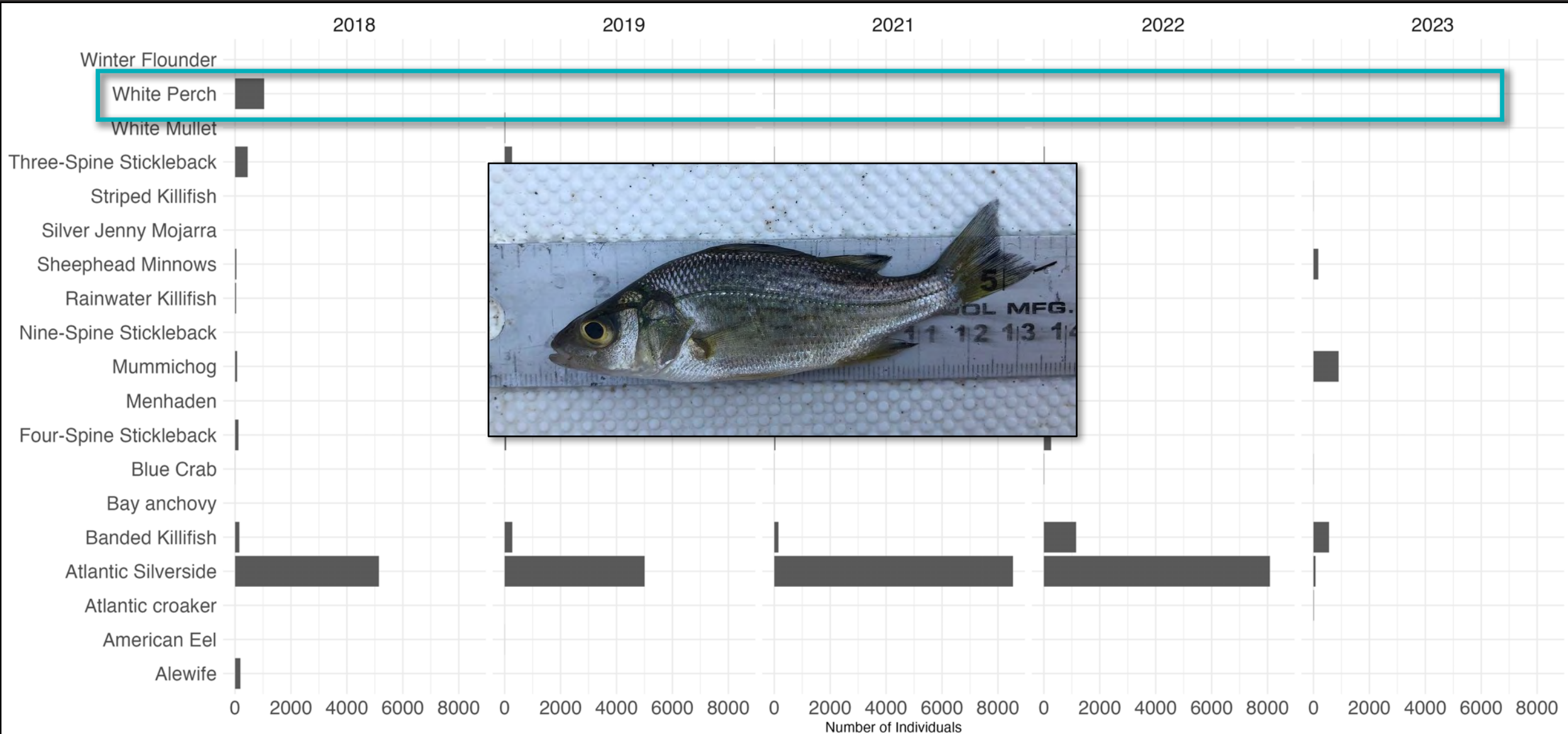
Beach Seine Surveys of Georgica Pond



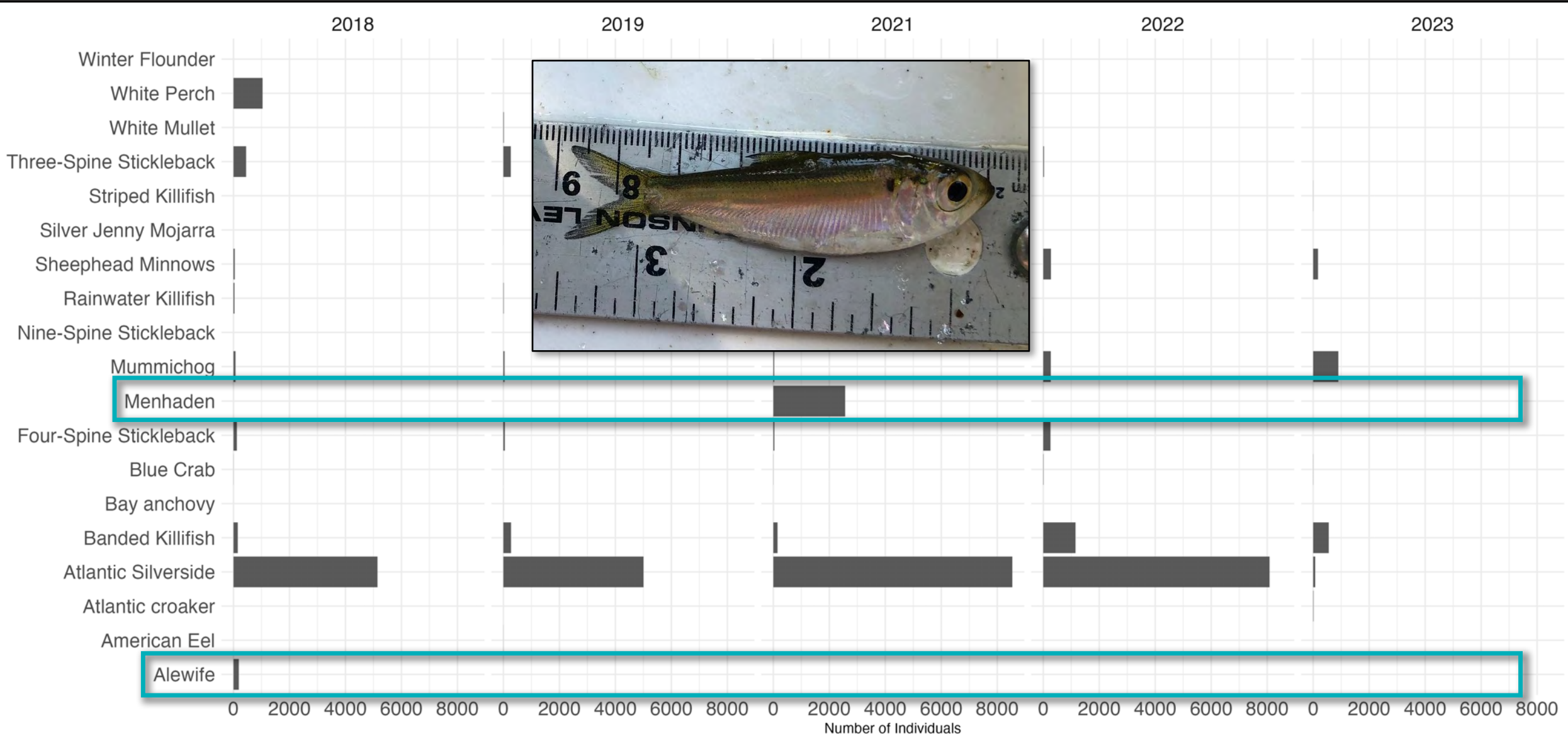
Beach Seine Surveys of Georgica Pond



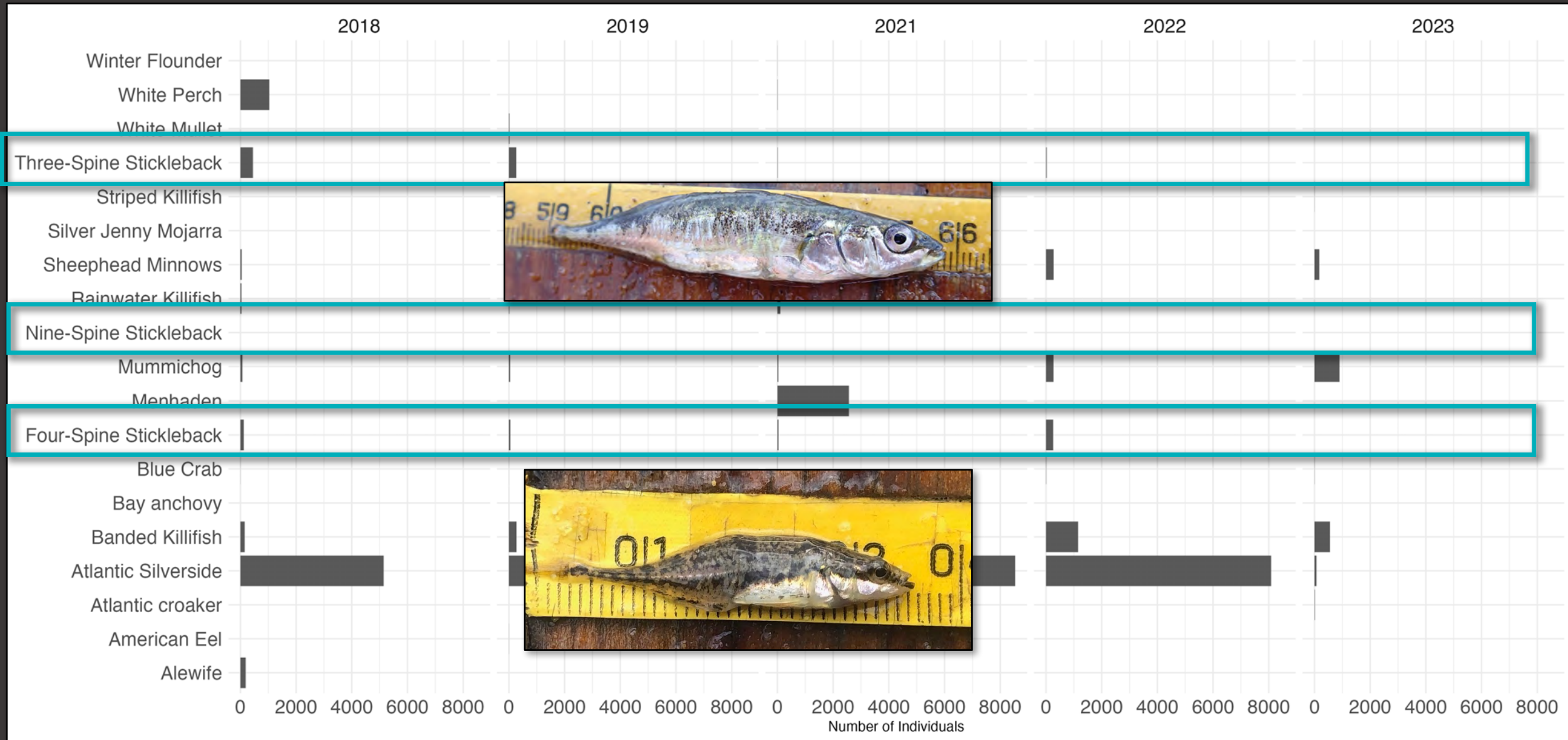
Beach Seine Surveys of Georgica Pond



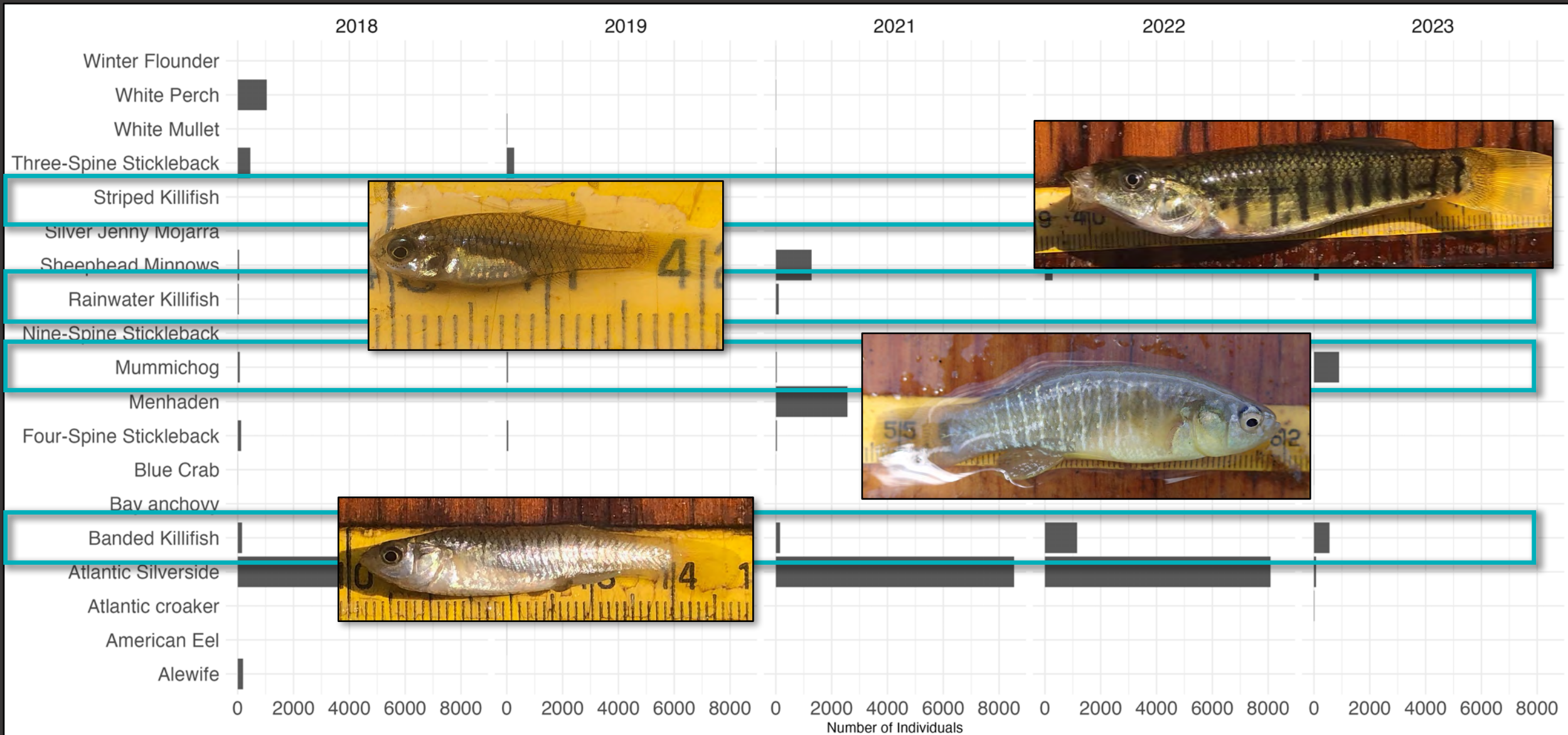
Beach Seine Surveys of Georgica Pond



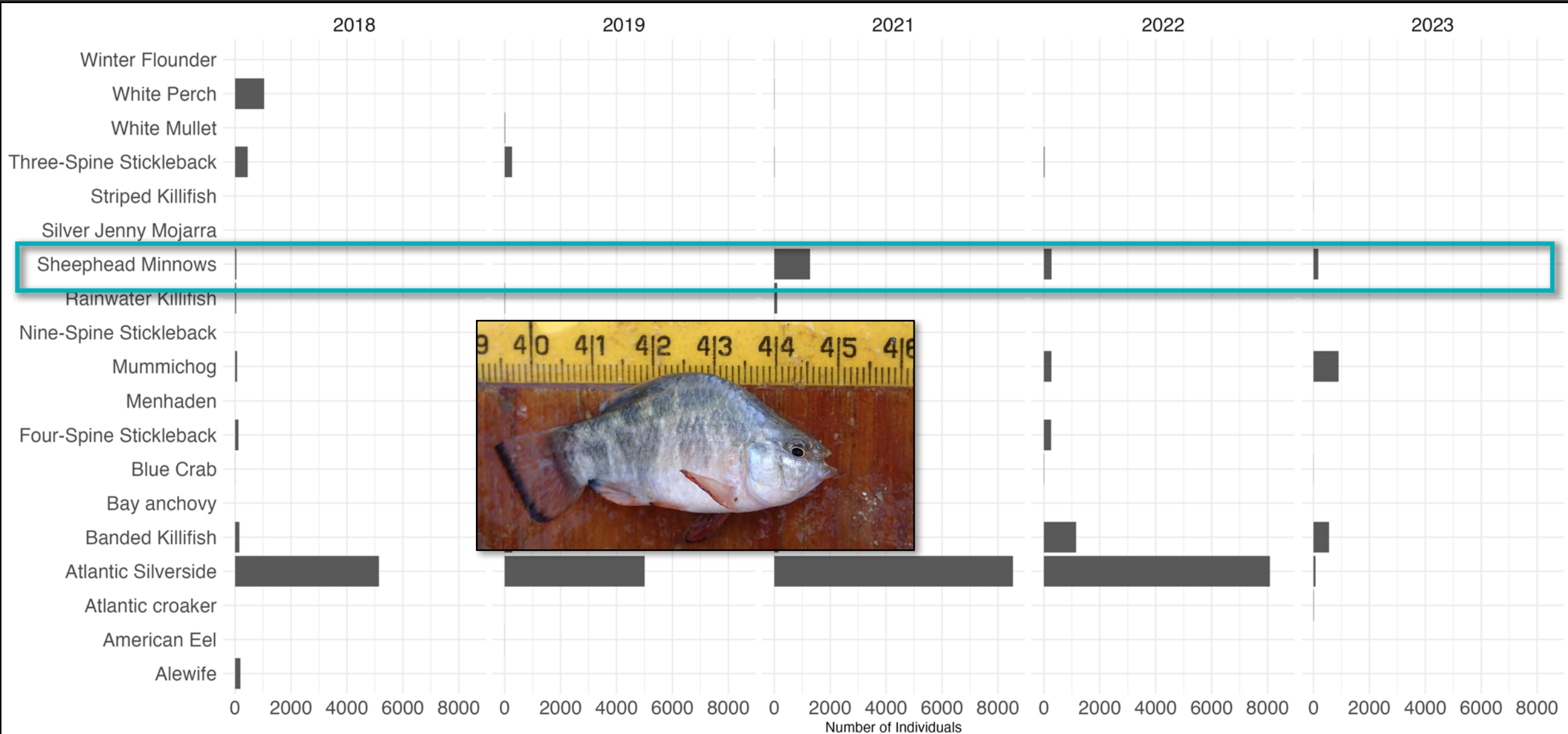
Beach Seine Surveys of Georgica Pond



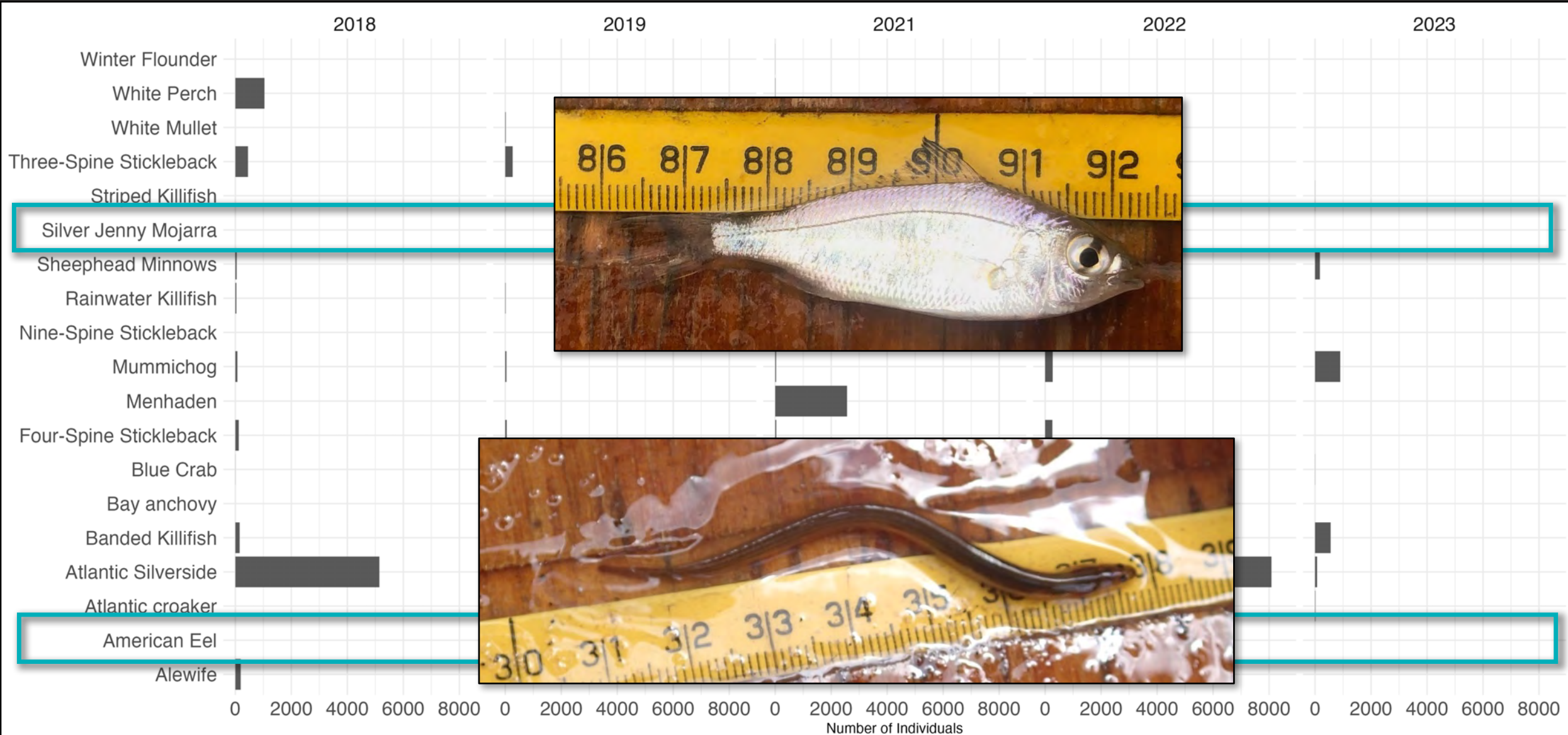
Beach Seine Surveys of Georgica Pond



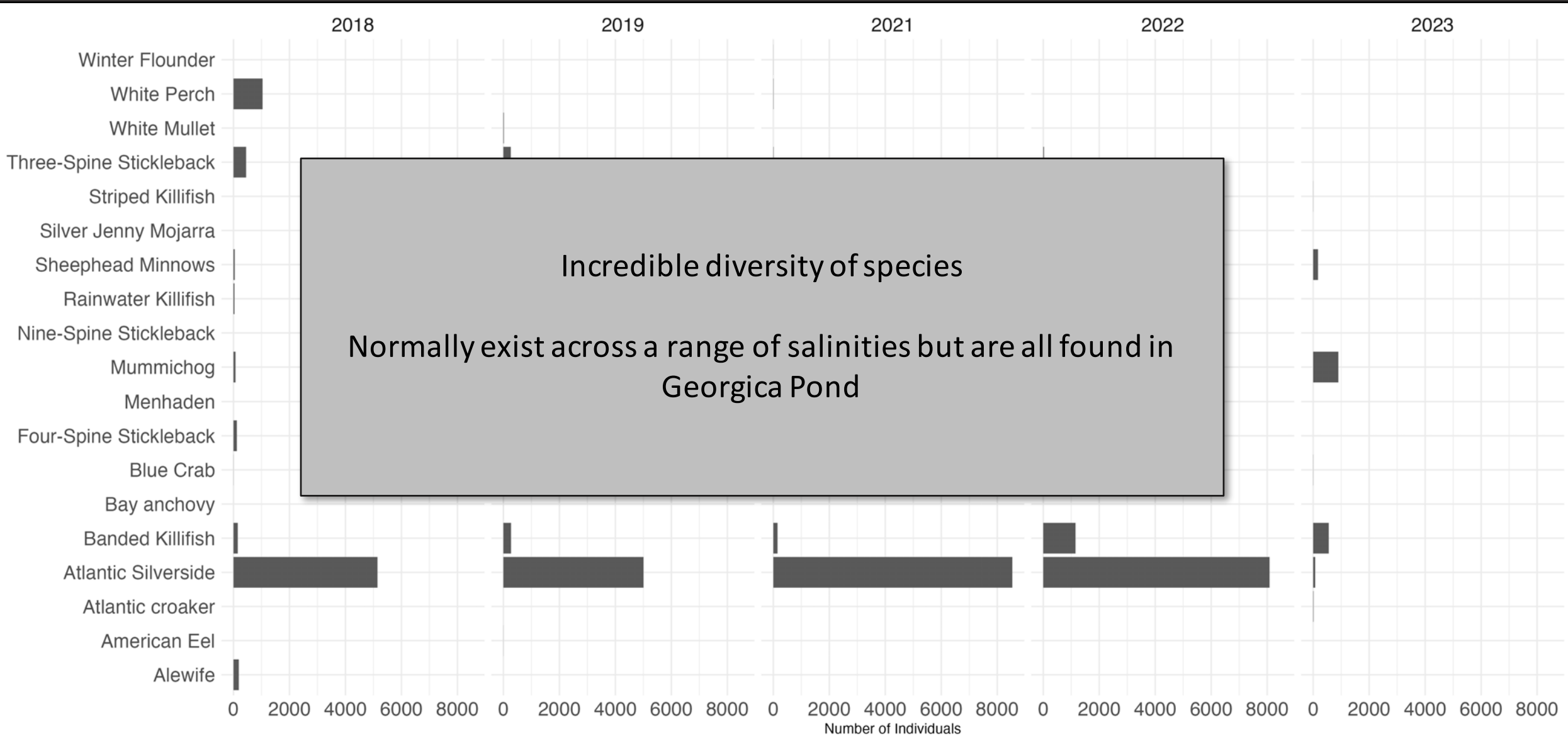
Beach Seine Surveys of Georgica Pond



Beach Seine Surveys of Georgica Pond

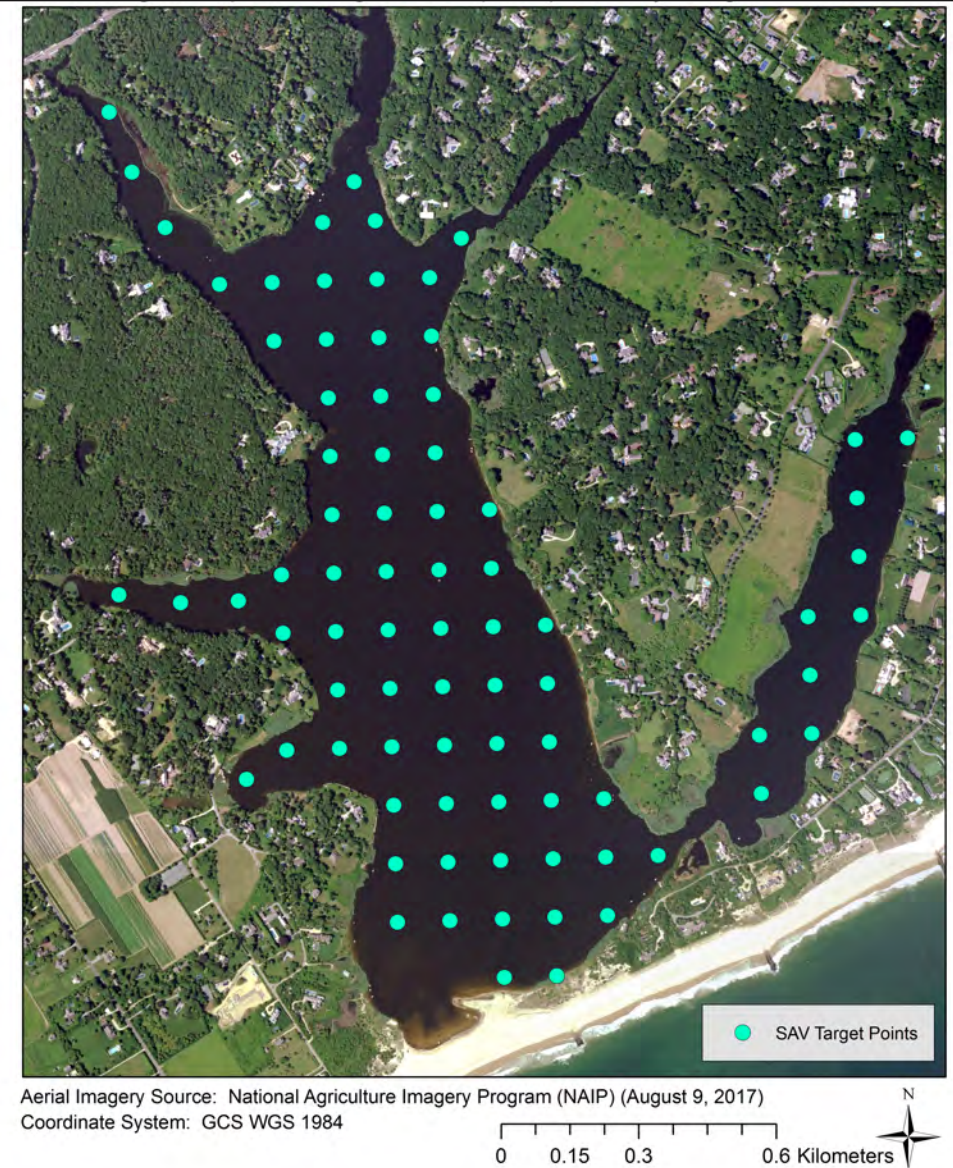
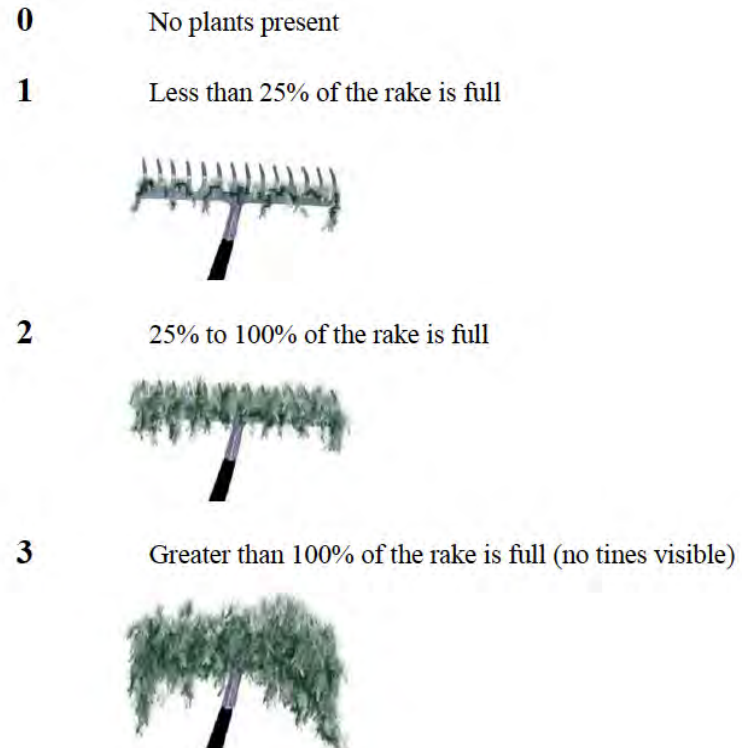


Beach Seine Surveys of Georgica Pond



Aquatic Vegetation Surveys of Georgica Pond

- Spring and Autumn Survey
- 2019 – 2023
- 80 locations

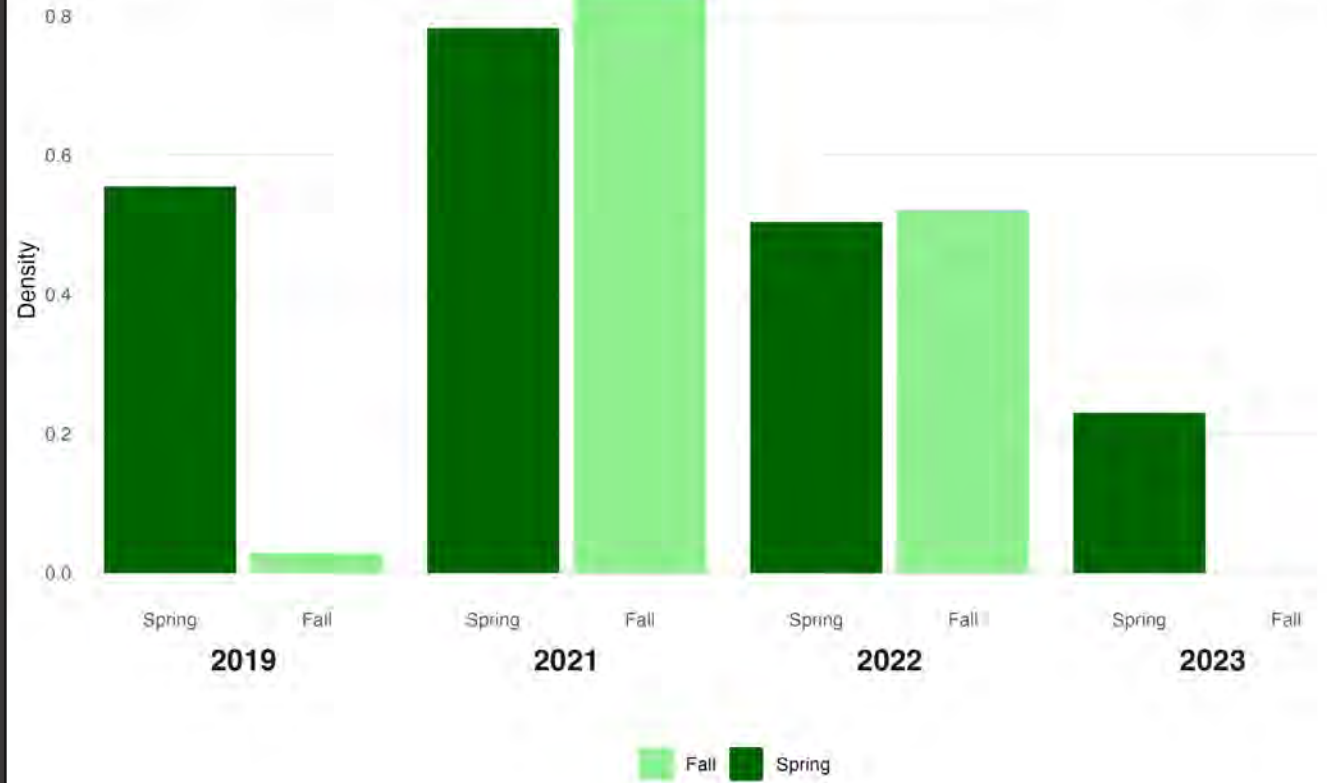


Aquatic Vegetation Surveys of Georgica Pond

- 0 No plants present
- 1 Less than 25% of the rake is full
- 2 25% to 100% of the rake is full
- 3 Greater than 100% of the rake is full (no tines visible)



Total Submerged Aquatic Vegetative Abundance of Georgica Pond



Aquatic Vegetation Surveys of Georgica Pond

Sago Pondweed
(*Stuckenia pectinata*)



Claspingleaf Pondweed
(*Potamogeton perfoliatus*)



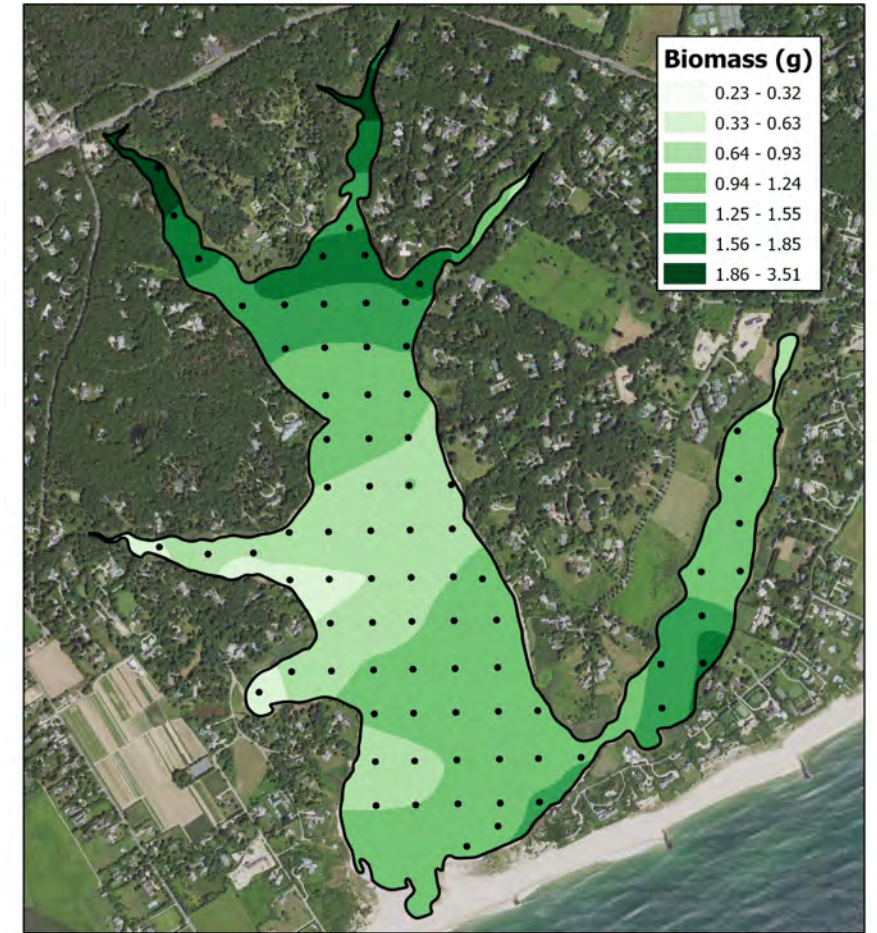
Cladophora vagabunda



Ulva spp.



Georgica Pond - Wainscott, NY
2022 - June - SAV Dry-Weight Biomass



Spatial Reference:
NAD 1983 StatePlane New York Long Island FIPS 3104 Feet

Imagery Source:
Esri, USDA Farm Service Agency (NAIP)

0 0.25 0.5 1 Km



Monitoring Biodiversity of Georgica Pond



Unique ecosystem combining freshwater and saltwater species

Relatively high diversity of fish species

Abundant blue crabs

Diverse assemblage of freshwater plants

Threats include nutrient loading in the watershed from septic systems and fertilizer

Continued monitoring is important to understanding whether efforts to mitigate threats are working

Monitoring Biodiversity of Georgica Pond



Thank you!