

Asian Clam Survey

Owasco Lake

August 9, 2022

Thanks to:

- Ed Wagner, OLWMC Member
- Adam Effler, OLWMC Executive Director
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Asian Clams:

- Were discovered in Owasco Lake in September 2010.
- Like warm shallow water with sandy sediments.
- Adults can reach a length of about 2 inches (5 cm). Live 3-4 years.
- Shell is yellow-green or brown with concentric rings when alive, looking more black and white once dead.
- Found at the sediment surface or slightly buried.
- Can suspension feed (filter feed) and deposit feed (with their foot) in the substrate.



September 2010

Asian Clams:

- In Lake George only 3% of clams smaller than 13mm were reproducing.
- Can reproduce at about 60 degrees F.
 - Buoy data show Owasco Lake around 60 degrees F starting around May 30, 2022.
- Timing of reproduction in Lake George is mid-June through mid-November.
- Highest rates in the fall in Lake George.
- Self fertilize.
- Single adult can release an average of 400 juveniles per day and up to 70,000 per year.



Asian Clams:

- Larval clams are released from adults at about 0.25 mm in size.
- Transported by currents using a mucous “parachute” or hitchhiking.
- Asian clams typically grow between 0.2-0.3 mm per week during the growing season in Lake George.
 - Can get to 6 -10 mm in 3 to 6 months.
 - Can grow to 10 to 30 mm during their first year depending on food availability and temperatures.



Asian Clams:

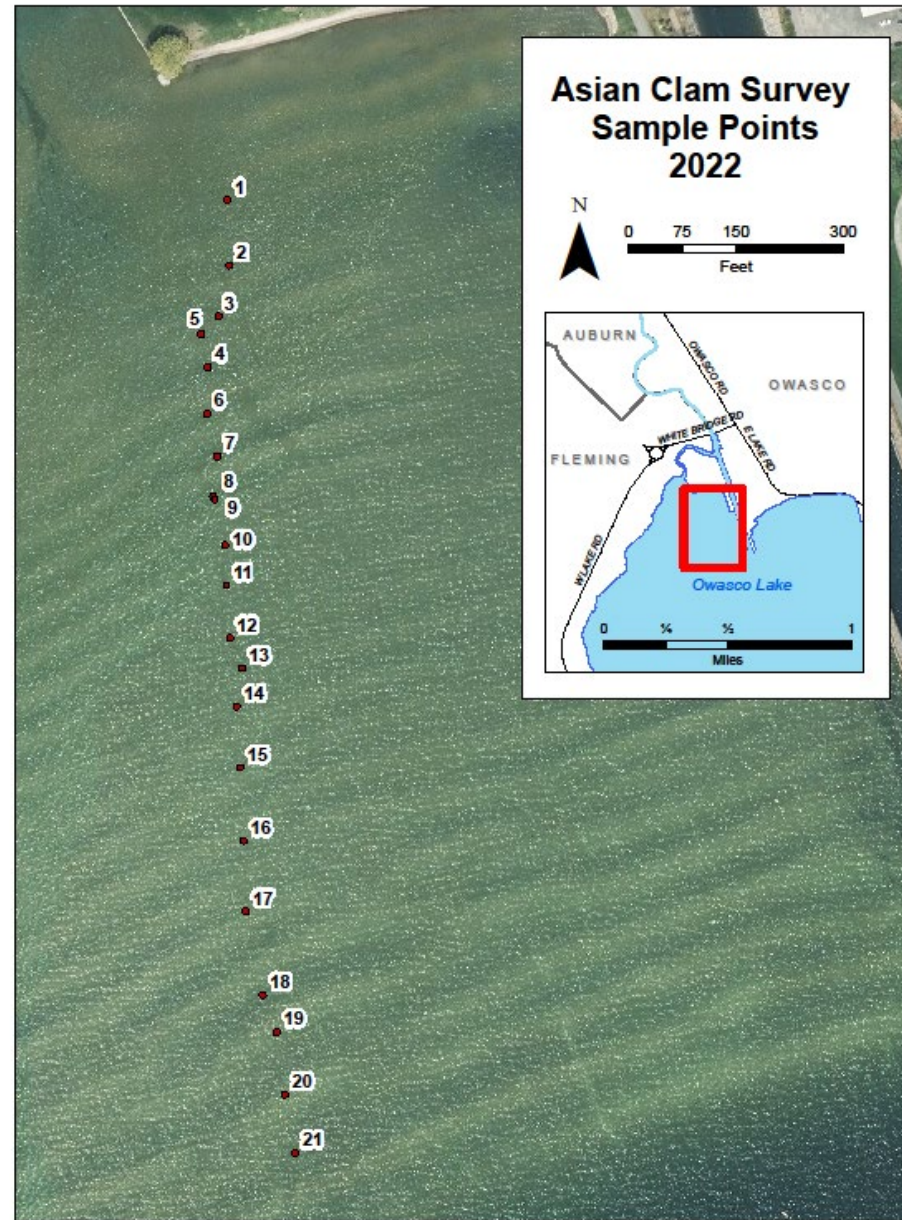
- Can alter food webs.
- Clog raw water intakes with clam shells or by juveniles that are sucked into the intake and grow in the system.
- Release phosphorus and nitrogen into the water through burrowing, feeding from the sediment and their excreta. Elevated nutrients can cause dissolved oxygen depletion or increased algal growth.

Asian Clams

- Lake George researchers have observed that winter ice contact with sediments killed Asian Clams.
- Lowest lake levels during a cold snaps:
 - The second half of January of 2022 was very cold with multiple times the temperature dropped below zero for multiple days.
 - The lowest lake level Owasco Lake was at 709.4 feet (asl) on January 31st with low temperature of -9 degrees F on the January 30th and low of 6 degrees F on January 31st .
- Lake level the day of the survey was 712.2 feet (asl).
 - Anything in less than 2.8 feet would have been under ice.



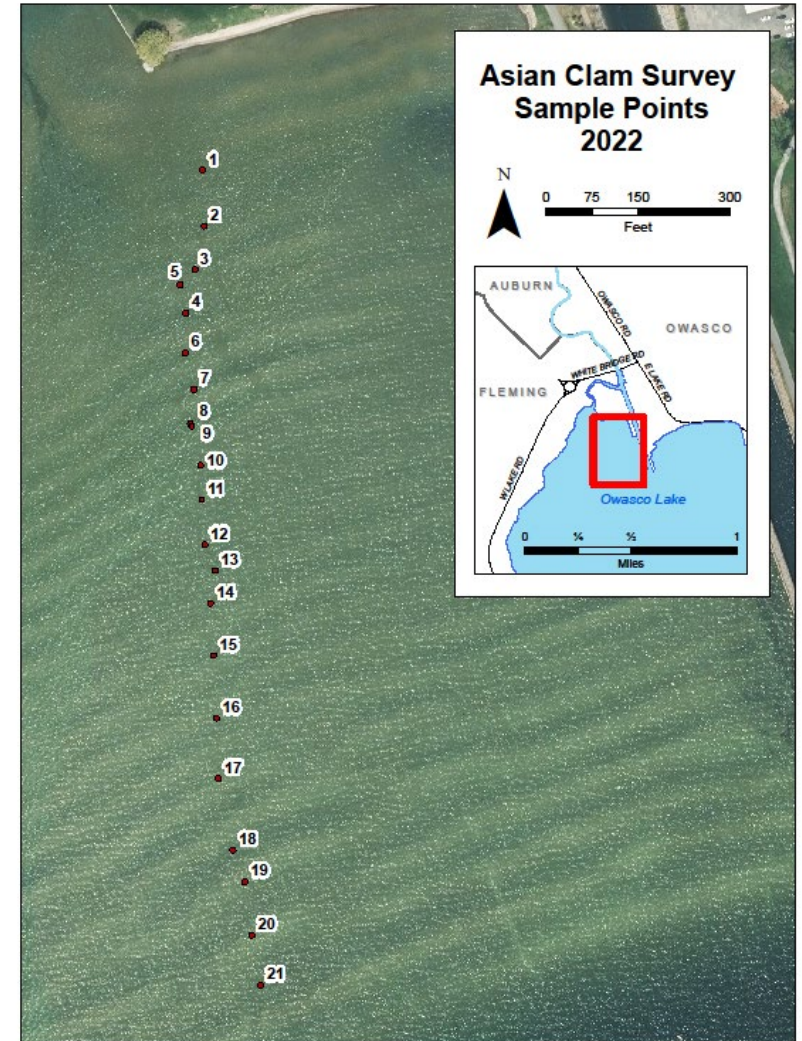
February 2011
Lower 3 clams killed by
freezing in shallow water



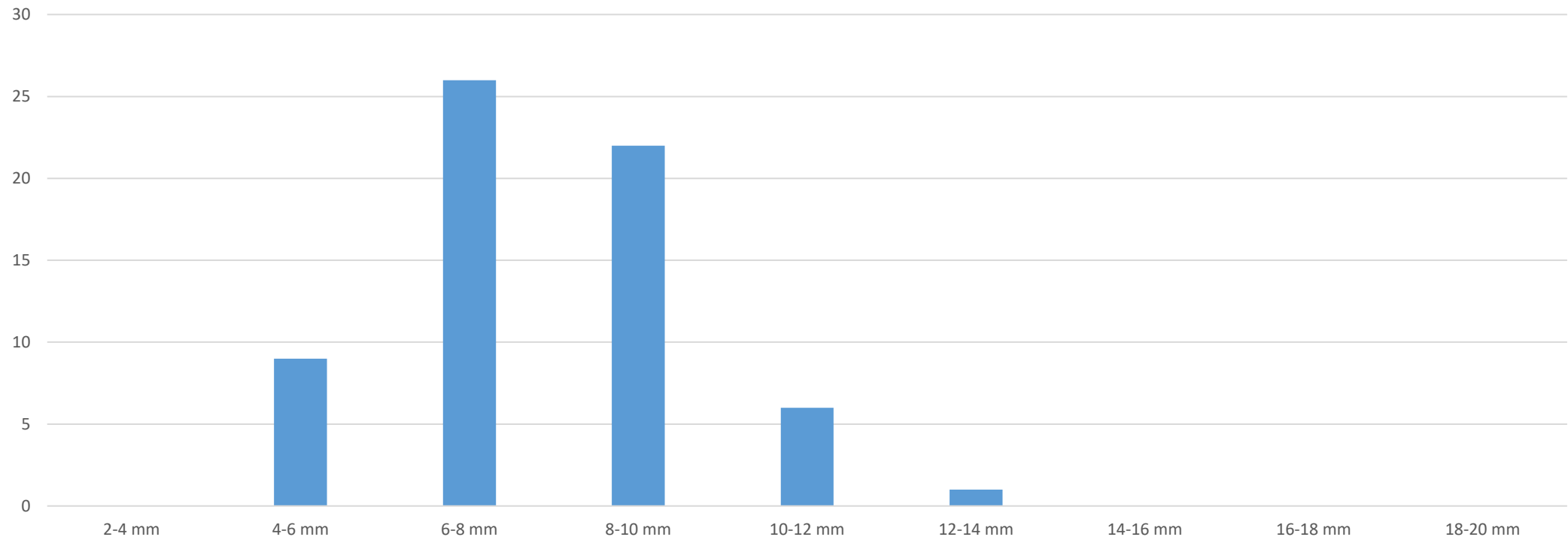


West Side off of Deauville Island, 2022

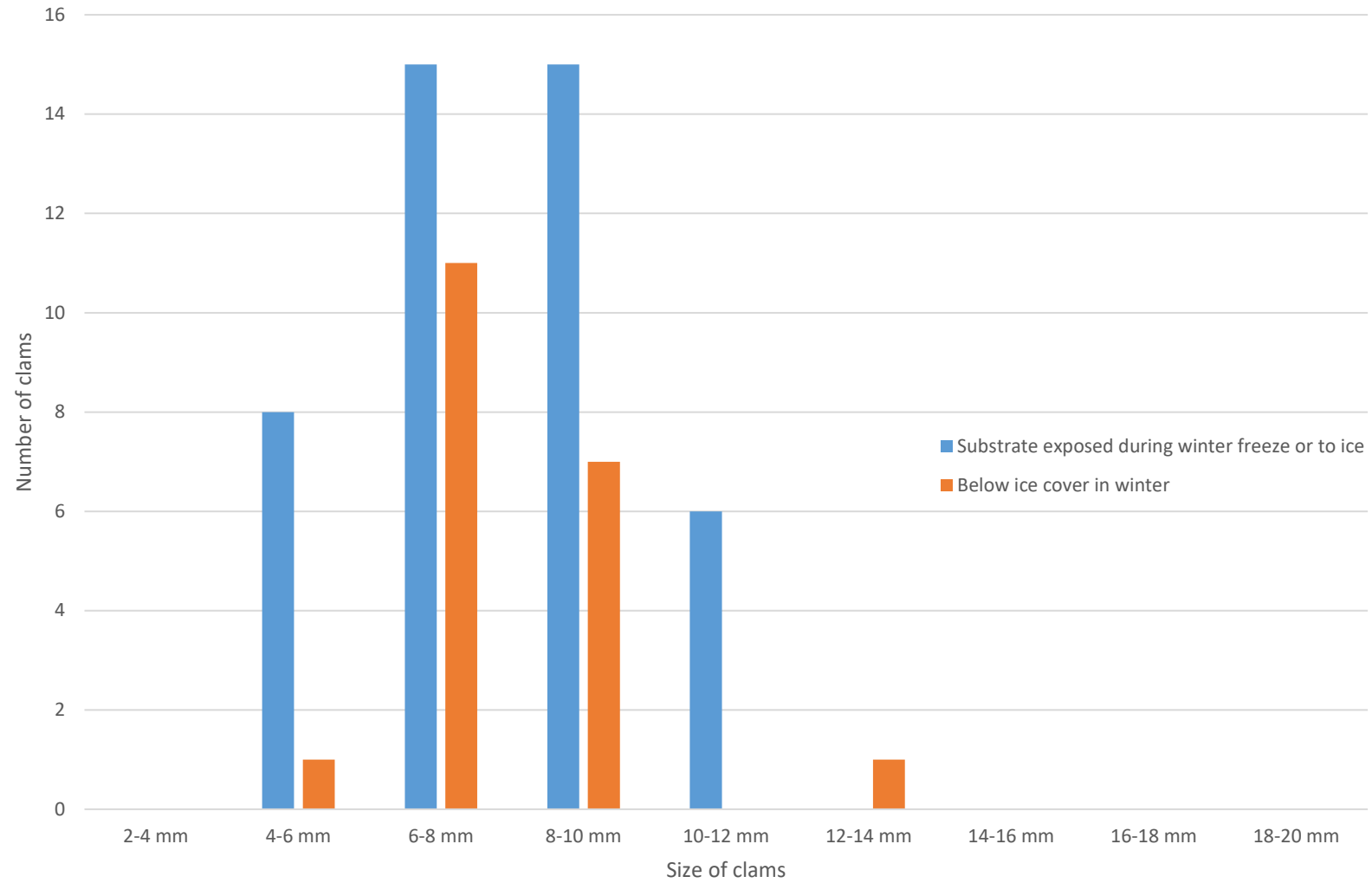
- Transect from shore toward buoy.
- Only 64 clams from 22 sampling locations.
- 57 out of the 64 clams found were smaller than 10 mm (89%).
- One was of reproductive size in 3 feet of water.
- This year, all samples had 13 or less clams. Similar to 2014, 2015 and 2019.
- In 2021, 60% of samples had 20 or more clams. In 2020, it was 81%, in 2018 it was 30%, in 2016 it was 40% and in 2017 it was 11%.
- 2022 had most likely young of the year with only one adult found of reproductive size.

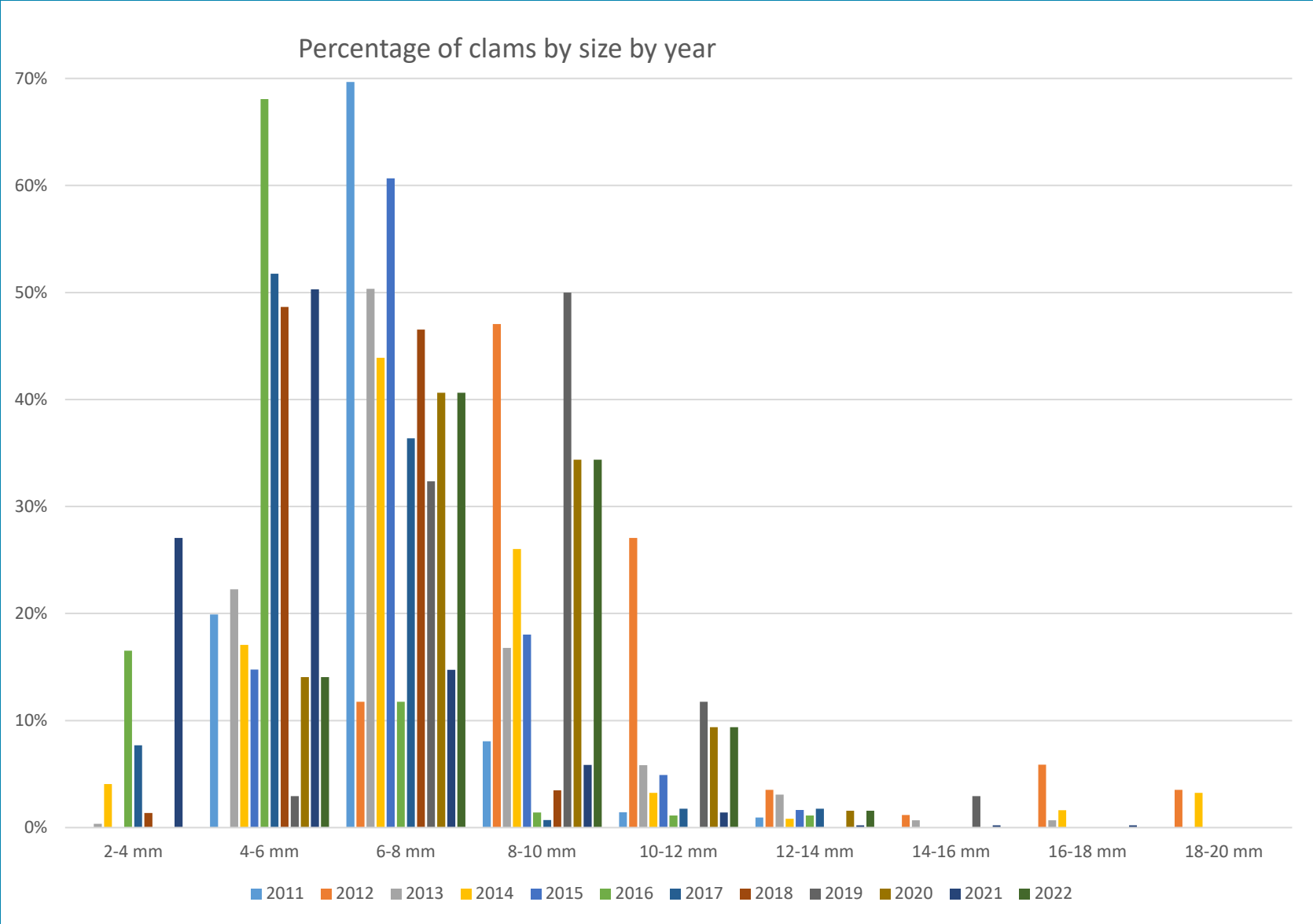


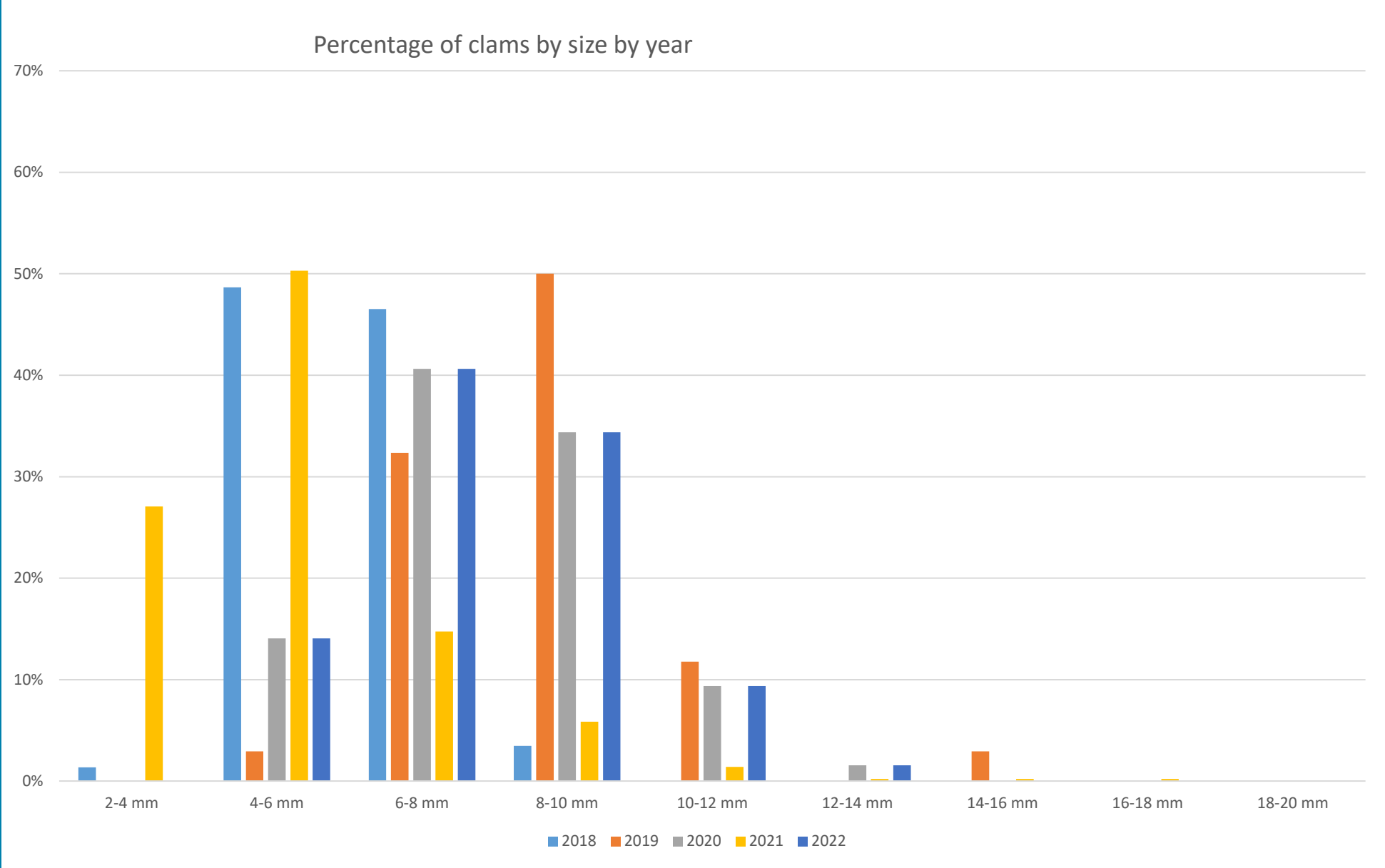
Asian clam sizes along north south line off of Deauville Island in 2022

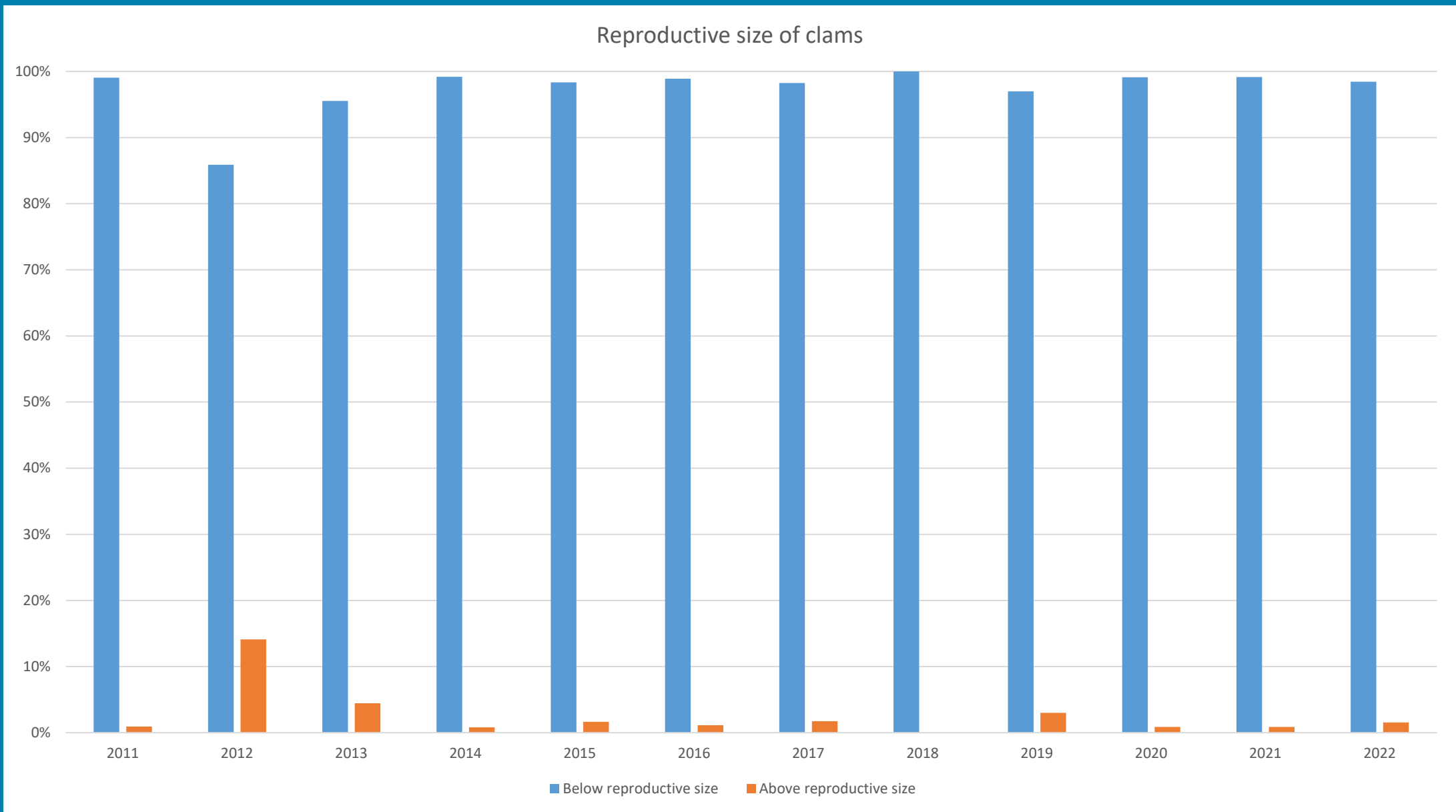


Asian clam in North South Transect 2022









*based on Lake George research

Observations:

- Very few clams found this year after a long cold spell in January 2022 during low lake levels. The cold and low lake level seems to have decreased the population greatly this year.
- The clams found off Deauville Island Beach were likely young of the year.
- Only one clam found that may have been of reproductive size that was below the ice cover in the winter.

Questions?