KEUKA LAKE OVER 30 YEARS

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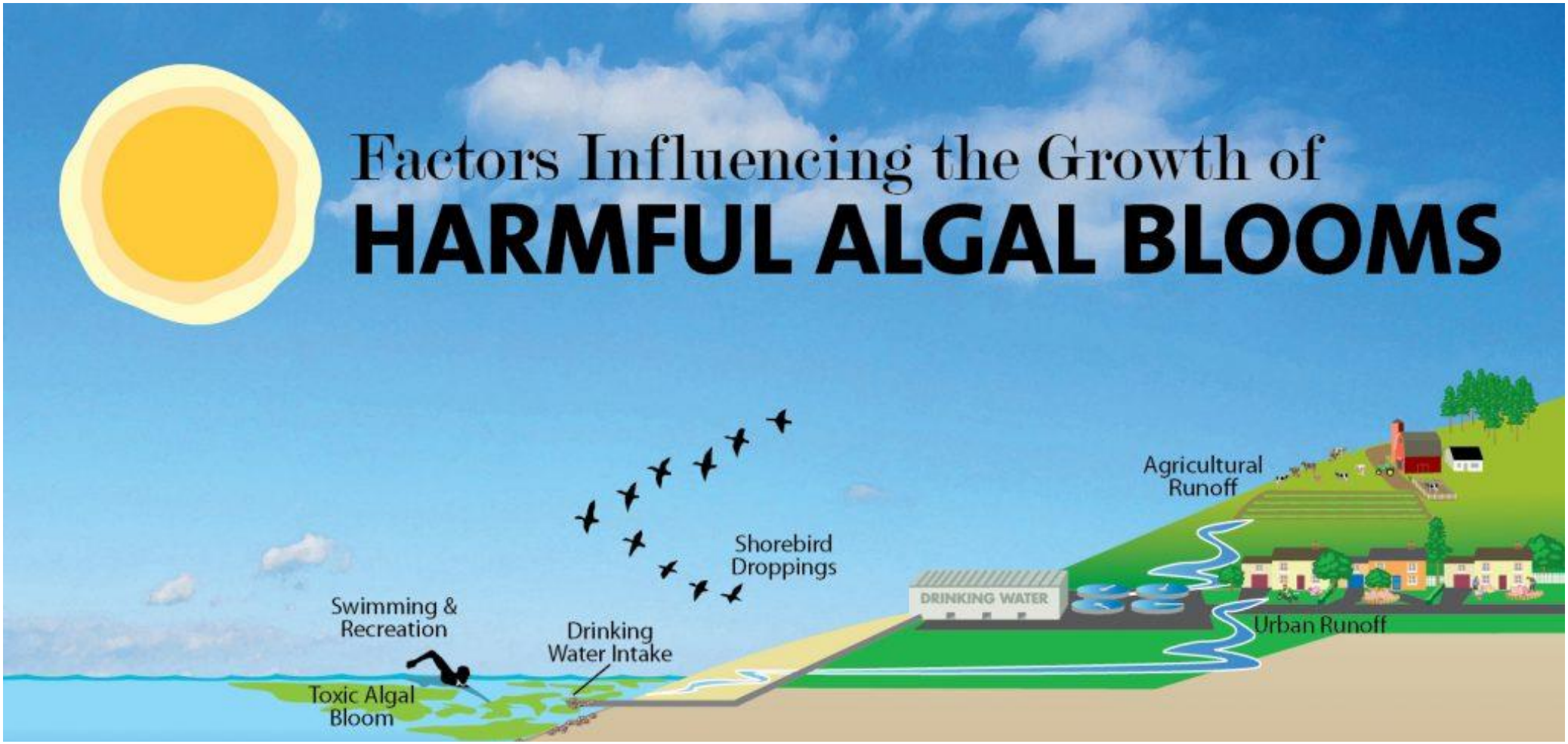
2025 ANNUAL MEMBERSHIP MEETING

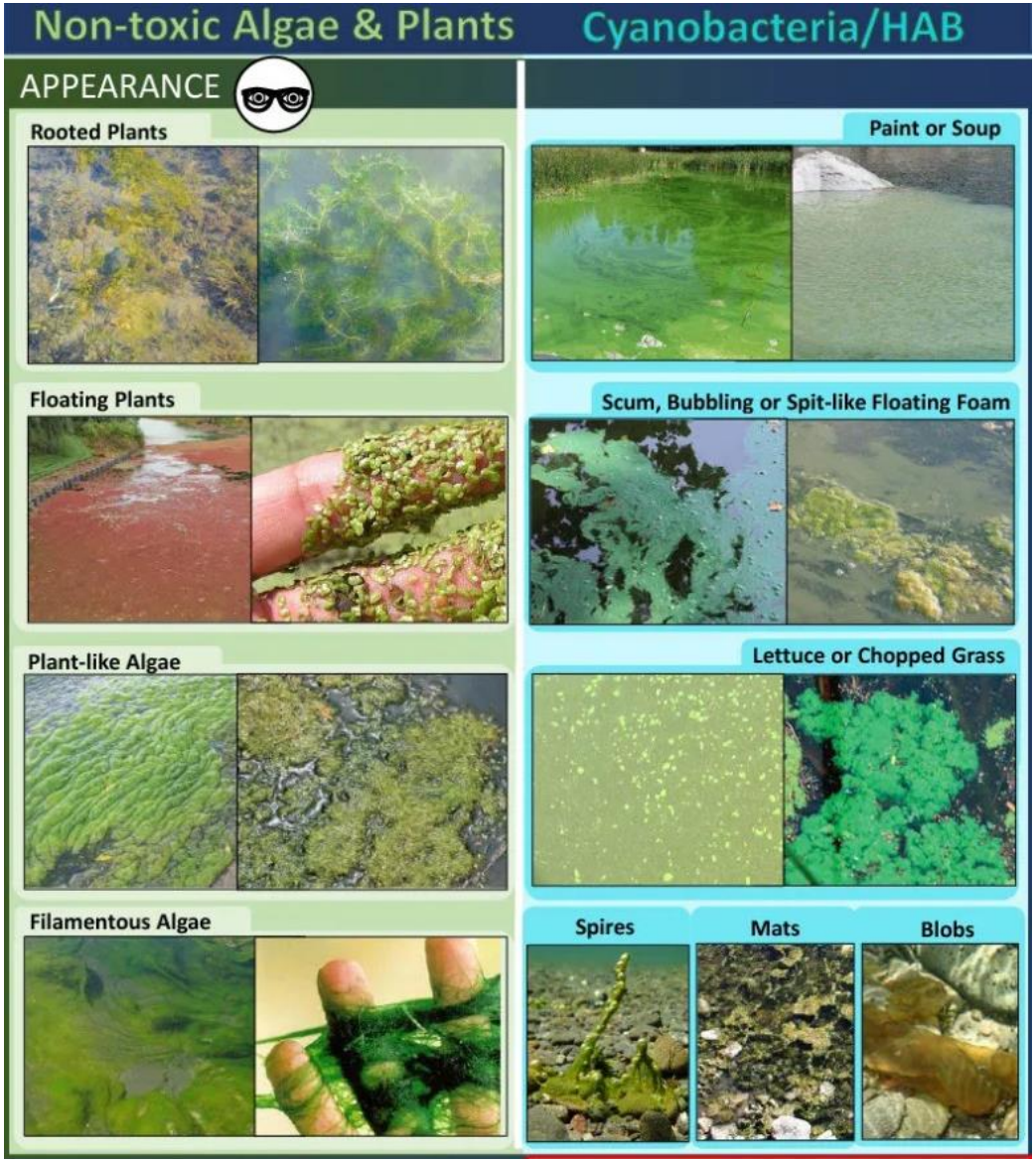
Agenda

- Keuka Lake Sampling Background
- Has Keuka Lake Changed?
- Comparing Keuka Lake to other Finger Lakes
- Take Aways

What are Harmful Algal Blooms (HABs)?

- Algae and cyanobacteria (also called blue-green algae) are plant-like organisms that live in water
- HABs quickly grow out of control
- Some HABs produce toxins that can harm people, animals, or the environment.
  - You and your animals can get sick
- Stay out if water looks discolored, has scum, or smells bad

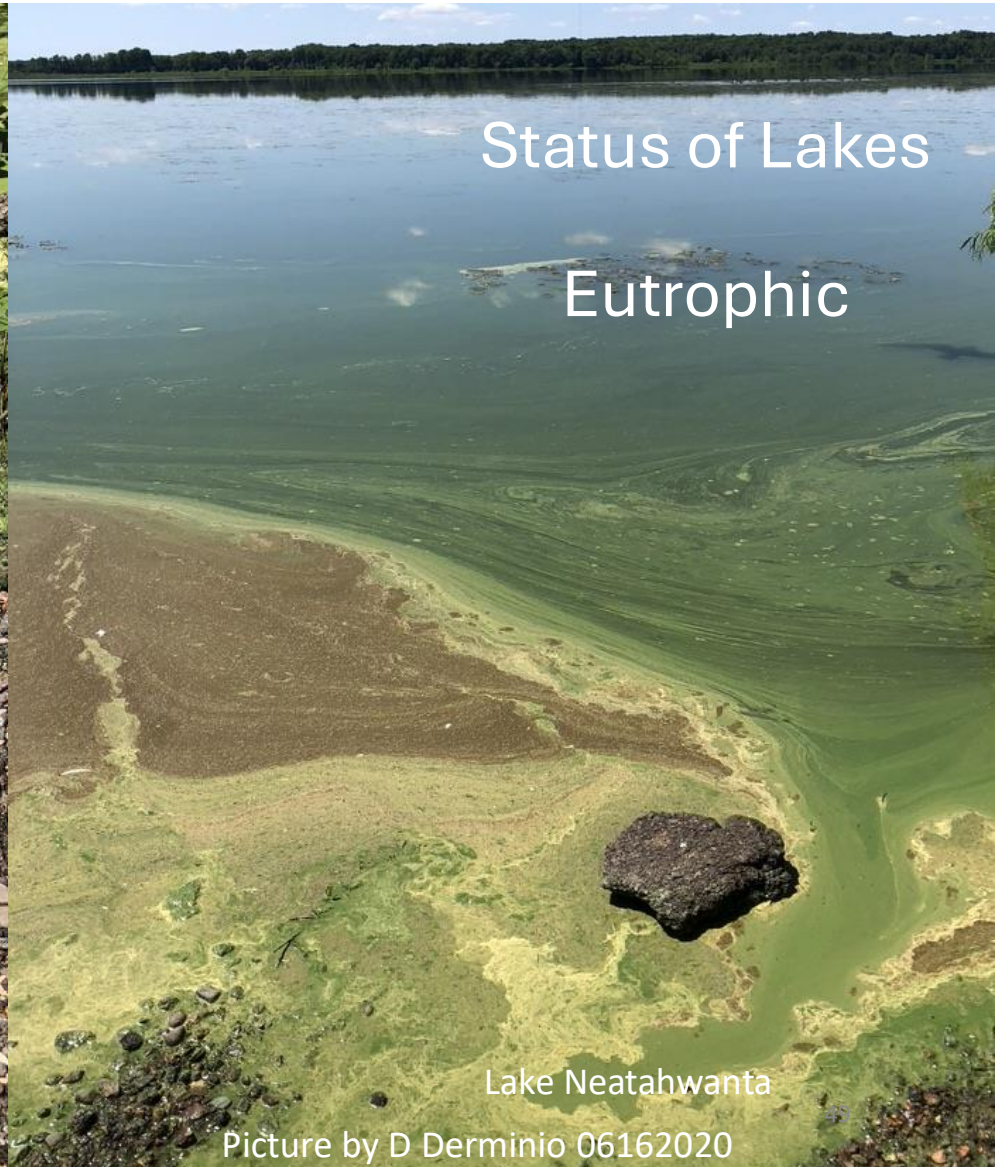

Factors Influencing the Growth of
HARMFUL ALGAL BLOOMS
Agricultural Runoff
Shorebird Droppings
DRINKING WATER
Swimming & Recreation
Drinking Water Intake
Urban Runoff
Toxic Algal Bloom



What to look for with HABs

Keuka Lake near Point Neamo

Picture by D Dermin[illegible]0930202[illegible]



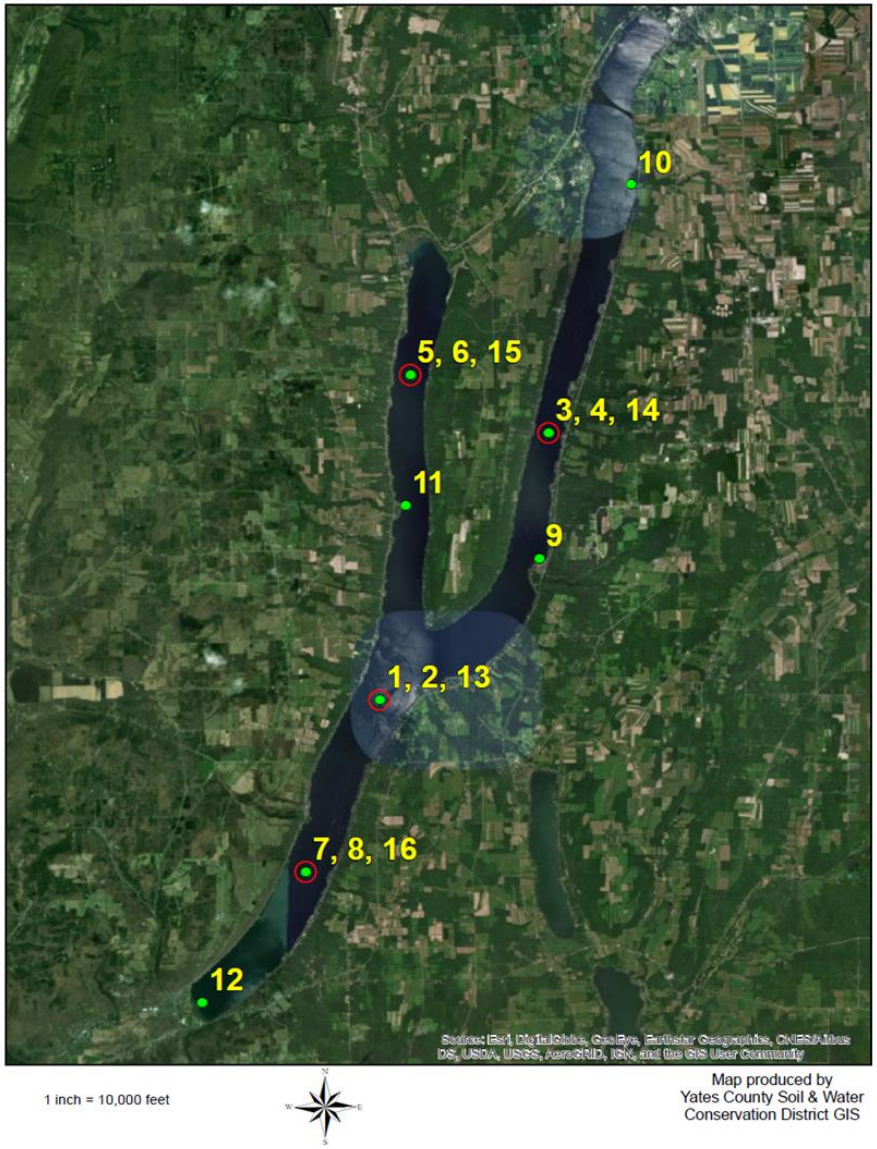
Status of Lakes

Eutrophic

Lake Neatahwanta

Picture by D Derminio 06162020

Keuka Lake Sampling Sites



(Koeberle, 2024)

Tests Run

DISSOLVED OXYGEN

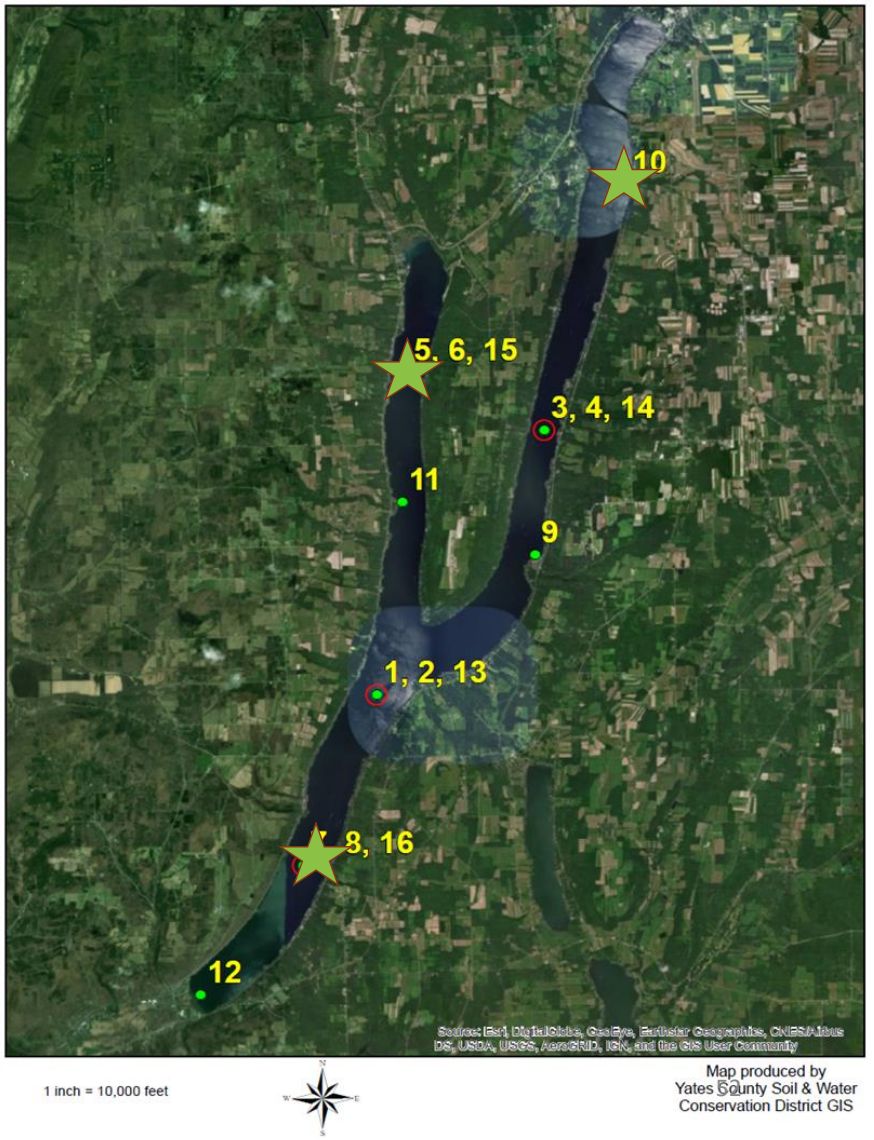
NUTRIENTS

WATER CLARITY

CHLOROPHYLL

Chlorophyll is higher at some locations

- Three locations over NYS DEC chlorophyll levels for blooms in the last 30 years



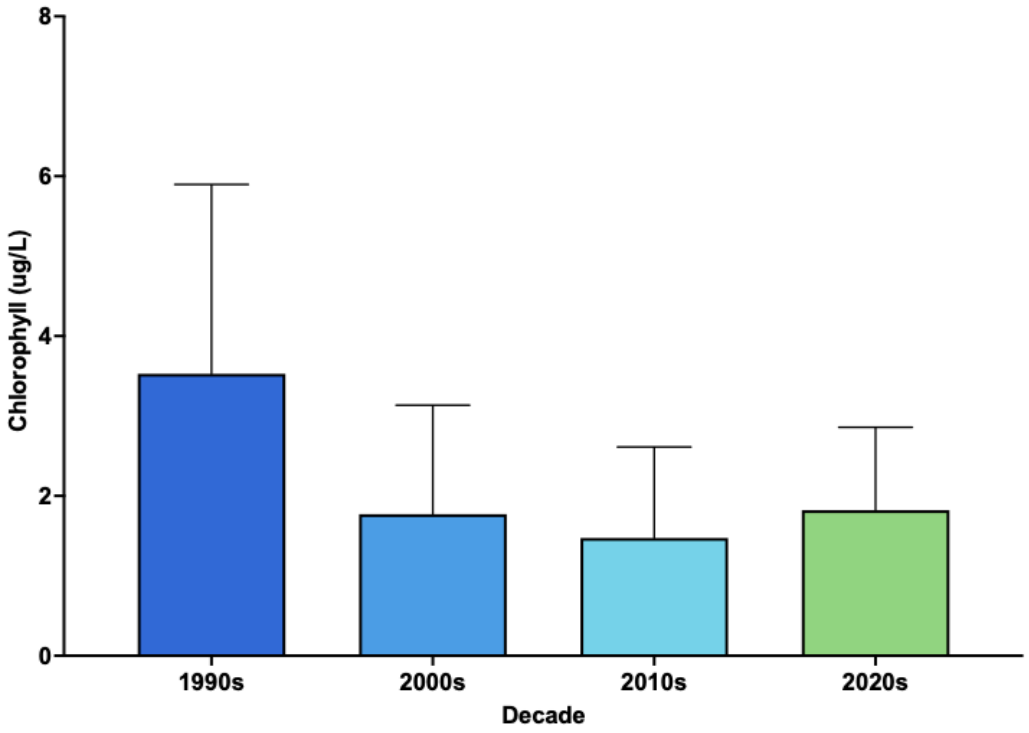
Chlorophyll over the decades

Good news!

Less than 0.1% of all samples have high chlorophyll levels!

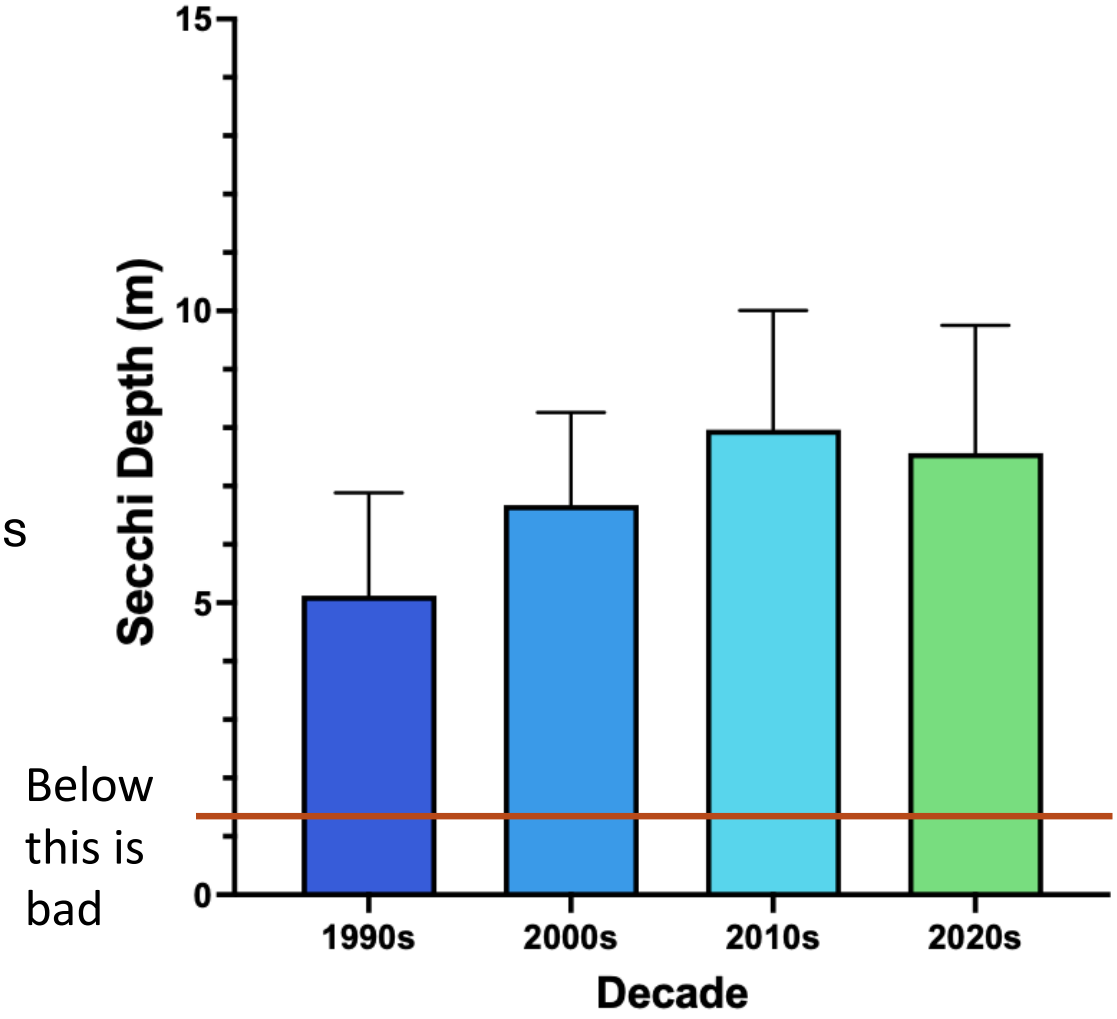
Less chlorophyll now than past

Over 25 µg/L = BAD



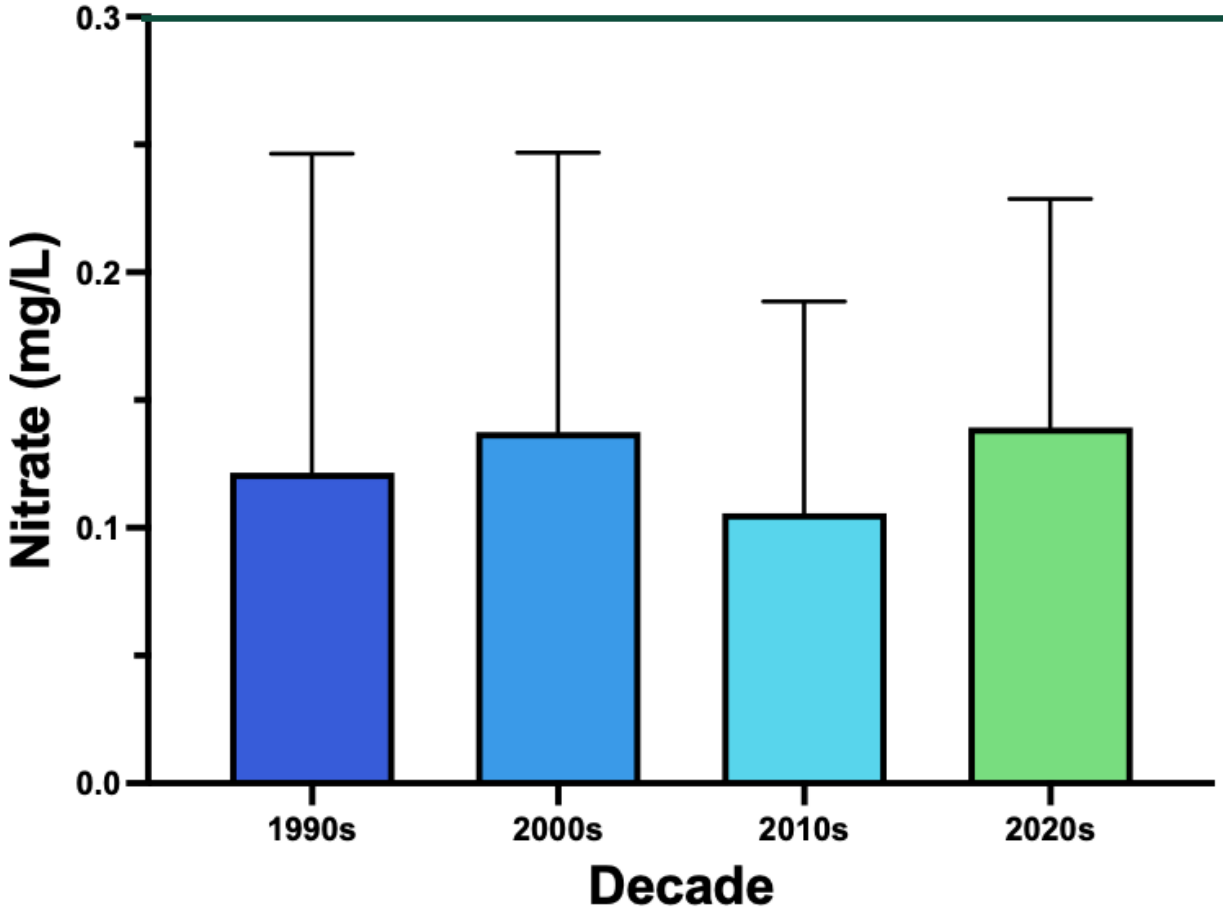
Has the Secchi depth changed over the years?

- Yes! For the good!
- The past 15 years, the average has been consistently better than the 1990s and early 2000s
- This makes sense! Less chlorophyll means deeper Secchi depth



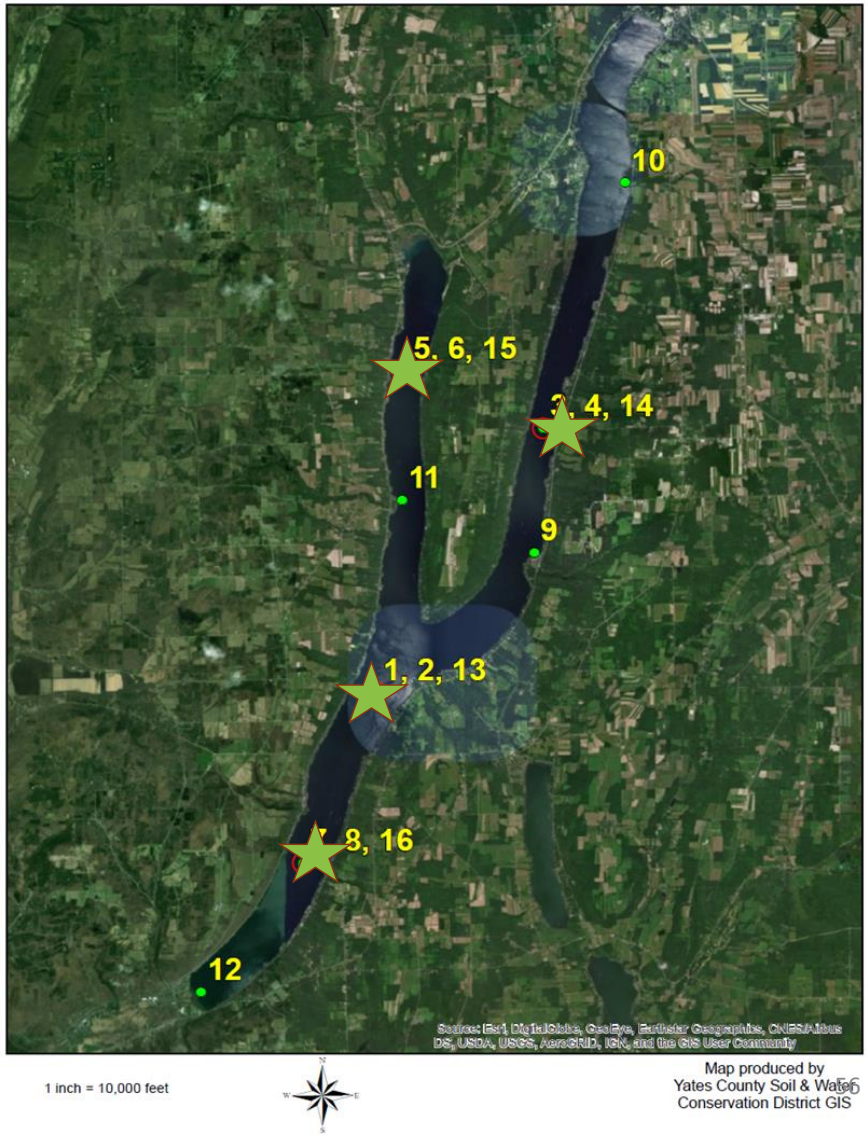
Nitrates have not changed over the years

Oligo



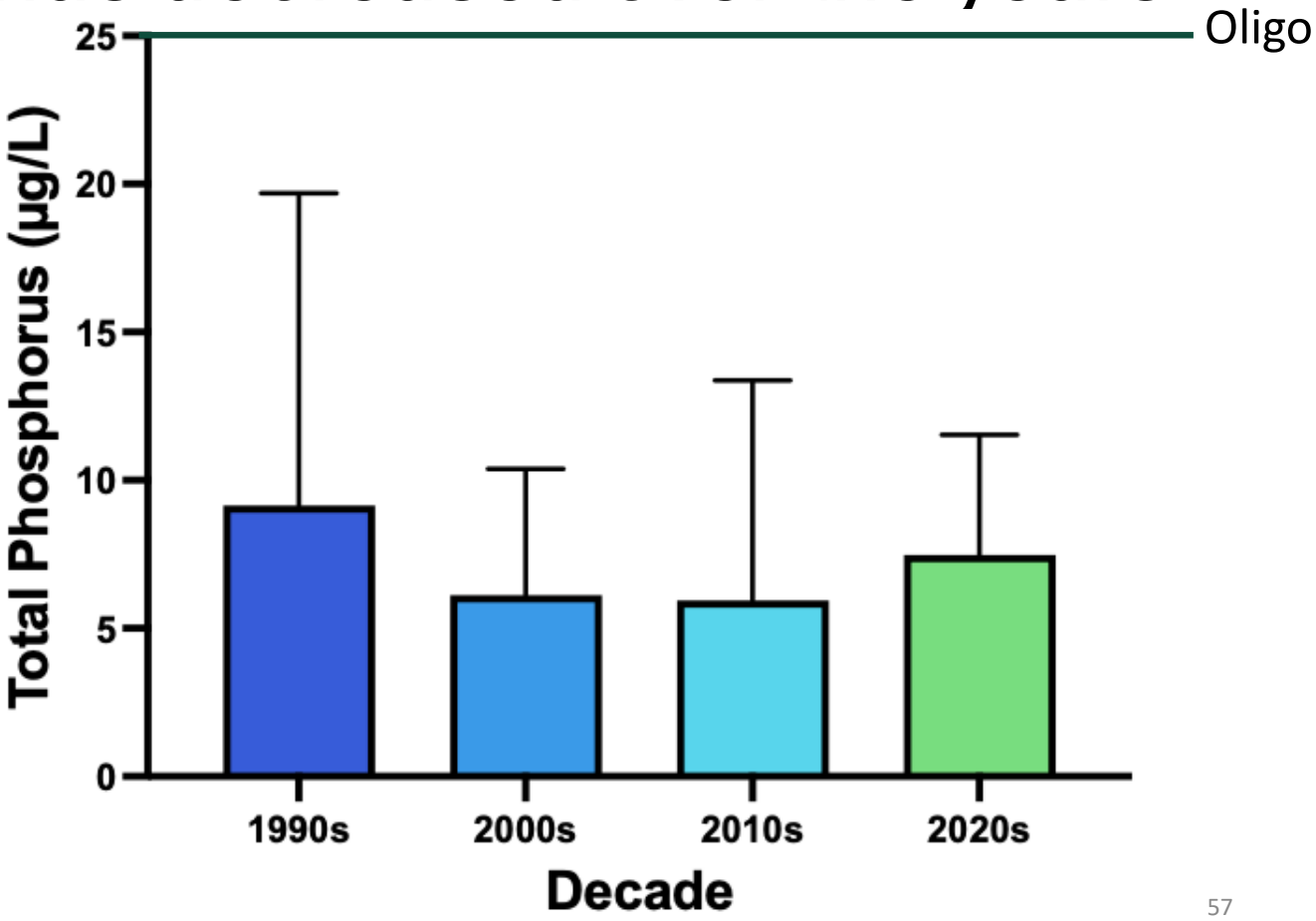
But the sites have different nitrate levels

- Some areas do have more nitrates
- Overall, levels are low

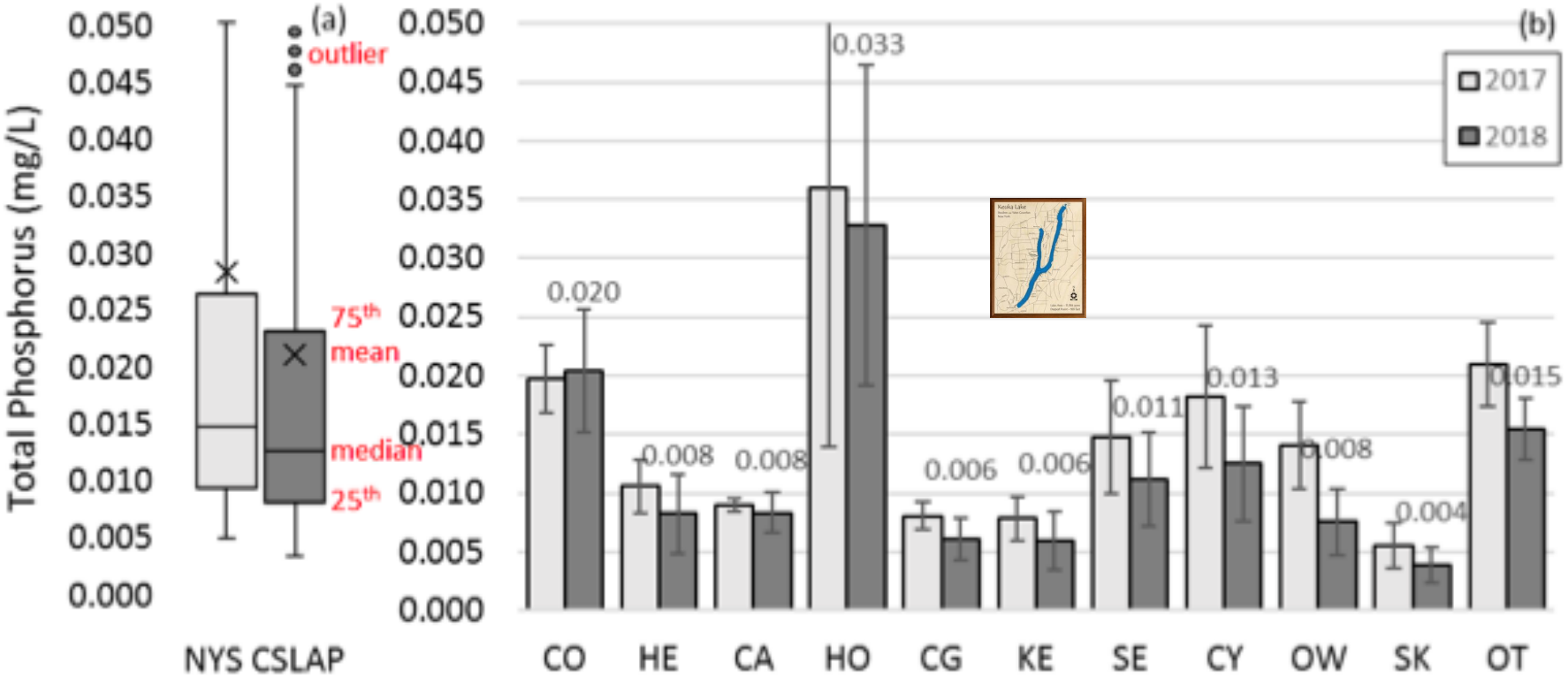


Phosphorus has decreased over the years

- Lower P than 1990s
- Overall, levels are low
- P same across sites
- P drives more chlorophyll



Keuka Comparison to Other Finger Lakes - 2018



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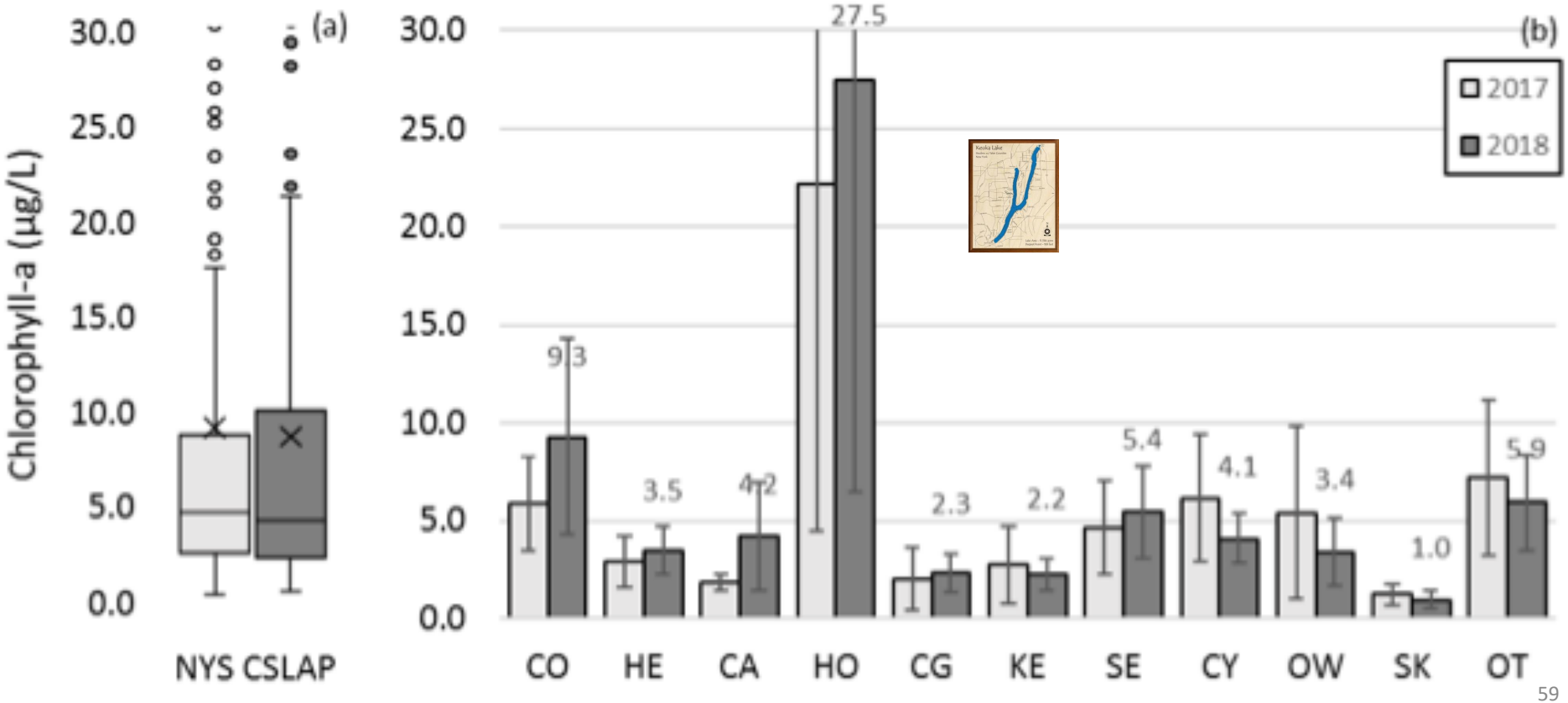

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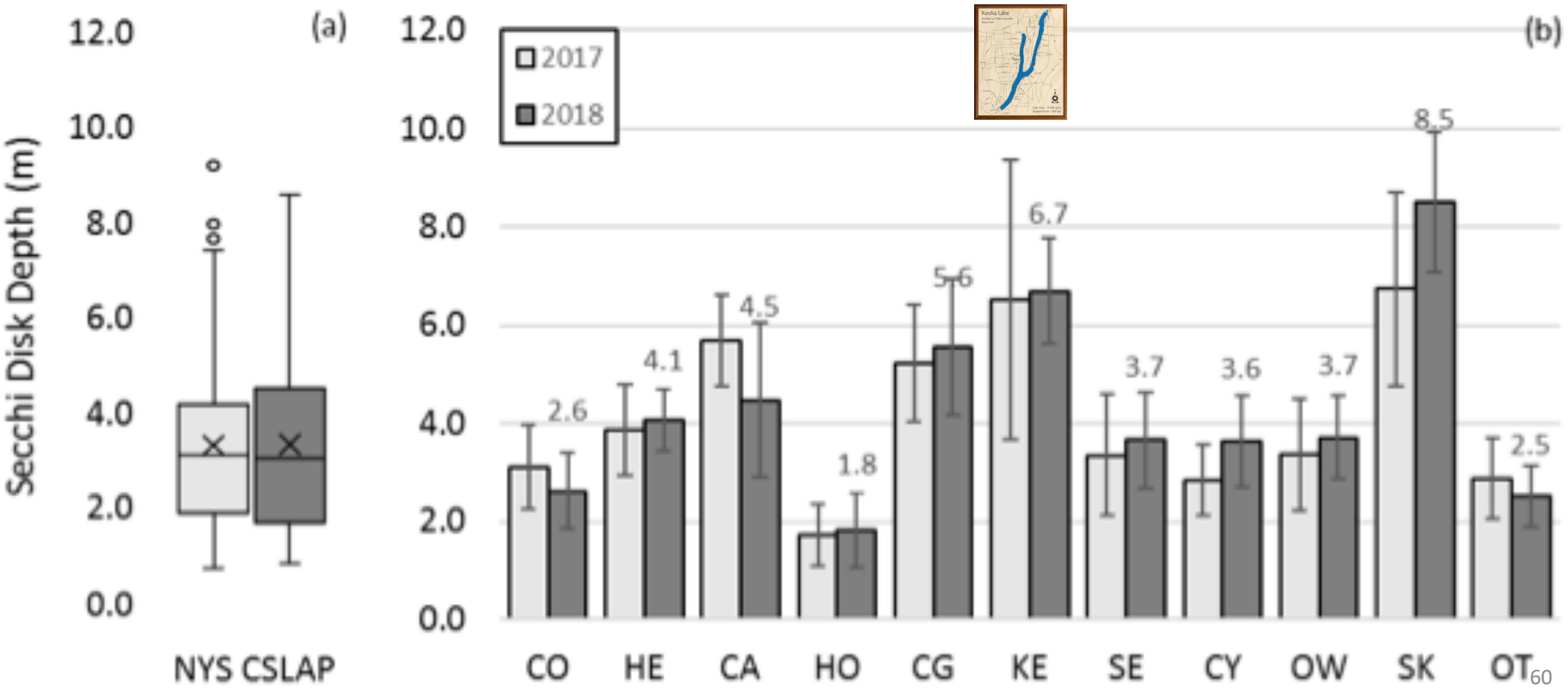
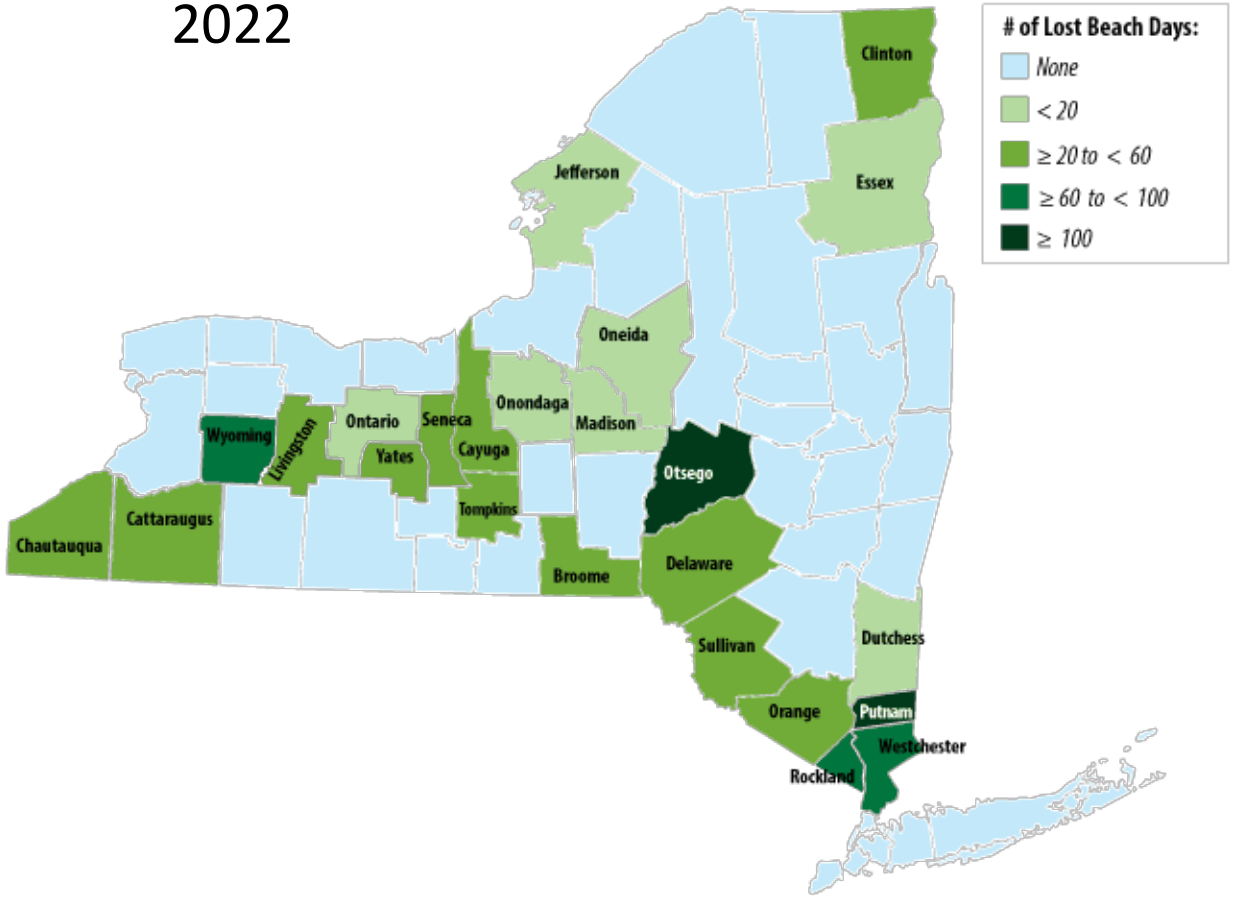


What about HABs?

- Keuka Lake started reporting blooms in 2017
- In 2022, reported closure for a total of 32 days
  - Hard to compare to previous years
  - DEC does not use toxic blooms to close

2022



https://www.yatescountyny.gov/633/Water-Quality-HABs-PublicWell

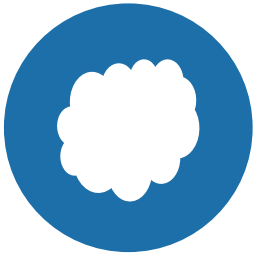
Future of Keuka Lake

- Keuka Lake is still healthy!
- Low nutrients
- Low chlorophyll
- Deep Secchi readings

Take Aways

NUTRIENTS ARE LOWER THAN 1990S

LAKE IS HEALTHY!



UNDERSTAND THE SOURCE OF NUTRIENT INPUTS

- Questions?

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