INTRO / BACKGROUND

- Lake Carmi is an upstream tributary to Lake Champlain
- Watershed mostly agriculture and forest
- Persistent cyanobacteria blooms due to watershed and internal nutrient loading
- $3\text{ mil.}$ aeration system installed in 2018 to oxygenate hypolimnion
- Has Lake Carmi become more eutrophic over the years due to anthropogenic activities?

RESULTS

Diatom species that appeared at least 5x, at or above 1%. Images with * are from diatom.org

CONCLUSION

- Increase in eutrophic species and a decrease in oligotrophic diatom species
- Aeration system installed in 2018 may have mixed core layers 1-10cm
- Most dissimilar depths were from 3cm to 30, 23, and 26cm at 74% dissimilarity suggesting a change in the assemblage over time
- Measured C:N decrease over time, suggesting increased primary production
- Future work: Lake Carmi sediment core is currently being Pb-210 dated and analyzed for stable isotopes