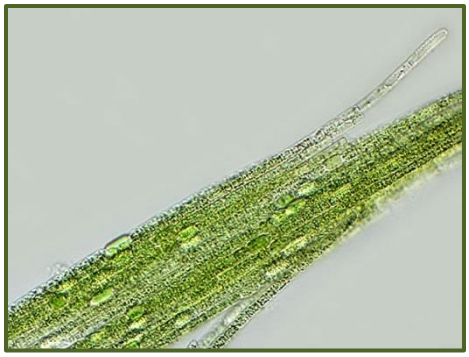
WORCESTER CYANOBACTERIA MONITORING COLABORATIVE
Monthly Report
August 2019

August 17th was the penultimate water collection and analysis event for the Worcester Cyanobacteria Monitoring Collaborative. Volunteers participated from Patch Reservoir, Bell Pond, Coes Reservoir, Crystal Pond, Cooks Pond, Burncoat Pond, and Lake Quinsigamond; in addition to Manchaug Pond and Singletary Lake in Sutton and Cedar Meadow Pond in Leicester. This month, we observed more cyanobacteria than we had in previous months, which is in line with what the rest of the state is experiencing and what we have experienced in Worcester in previous years.

Citizen scientists key out organisms they observe under the microscope to determine if there are cyanobacteria present.

Sampling Weather: This Saturday was clear and warm. Air temperatures across the sites varied between 70 and 79 degrees F, and water temperature between 74.8 and 78.8 degrees F. All volunteer water samples were taken between 8:25 and 10:20 am.



Aphanizomenon is a genus of cyanobacteria that is capable of controlling its height in the water column through buoyancy regulation. It also is capable of producing the cyanotoxins cylindrospermopsin and

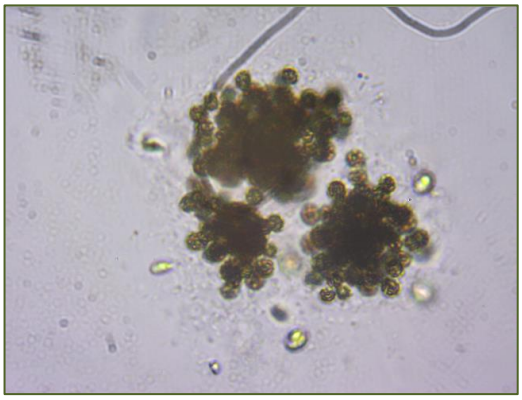
General Findings: Although this month had both cooler air and water temperatures, the number of instances of cyanobacteria in our samples was the highest of the summer so far. We found cyanobacteria in Burncoat Pond, Lake Quinsigamond, Cedar Meadow Pond, Cooks Pond, Crystal Pond, Lake Singletary, and Manchaug Pond. We did not find any in Patch Reservoir nor Coes Reservoir, though we had treated Coes with algaecide at the end of July so this was expected. Cyanobacteria present that we had already seen previously in samples included *Woronichinia, Dolichospermum, Microcystis, Oscillatoria.* However, we also observed two new genera, *Aphanizomenon,* and *Aphanocapsa.* There were many fewer green algae and diatoms than we had seen earlier in the summer.

What it means: August tends to be a hot month for cyanobacteria, as warm air and therefore warm waters are perfect conditions for their growth and reproduction. As we saw the observations of cyanobacteria increase, we see less and less of the other organisms, like green and golden alga. Coes Reservoir was treated in late July, and was one of the few waterbodies that did not follow this trend. While we must keep in mind that we are not able to quantify cyanobacteria cells with the methods that we are using, we can begin to determine if increased observations of these organisms are problematic by evaluating the clarity and color of the lake.

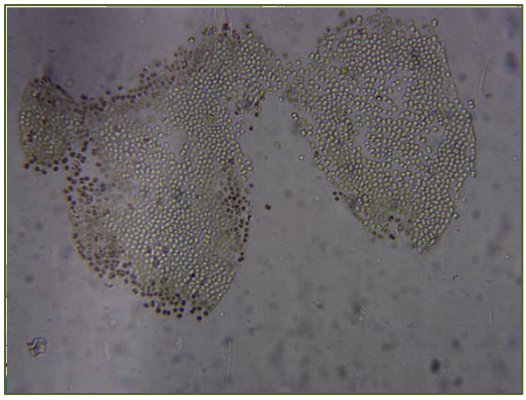
Thanks again to Joy Trahan-Liptak, Emily Dart, and all the volunteers for their support!

CYANOBACTERIA

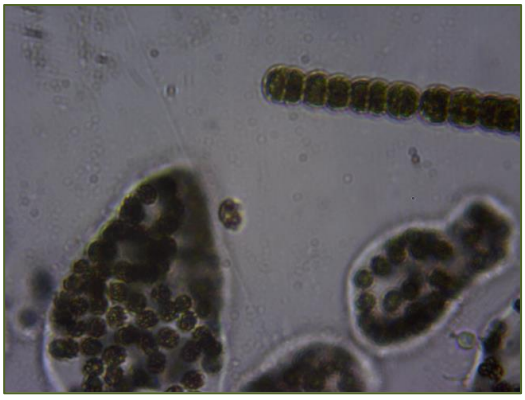
Dolichospermum at Burncoat Pond (40x)



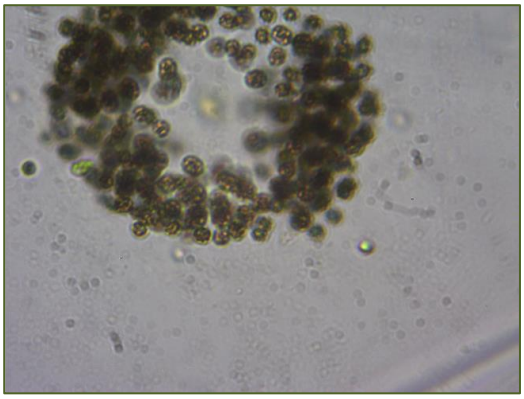
Microcystis at Burncoat Pond (40x)



Aphanocapsa at Lake Quinsigamond (10x)



Dolichospermum and *Mircocyctis* at Burncoat Pond (40x)

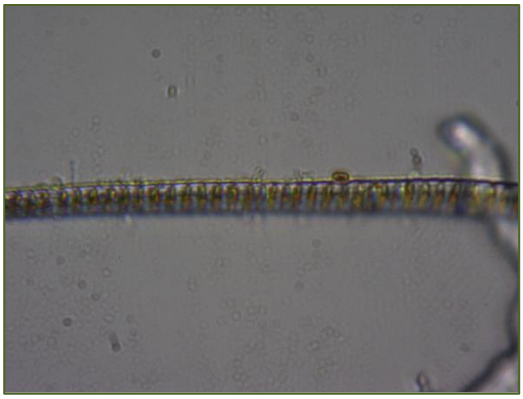


Microcystis at Cedar Meadow Pond (40x)

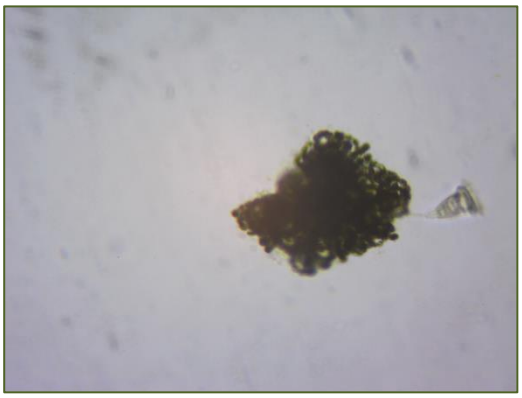
Oscillatoria at Cooks Pond (40x)

Thanks again to Joy Trahan-Liptak, Emily Dart, and all the volunteers for their support!

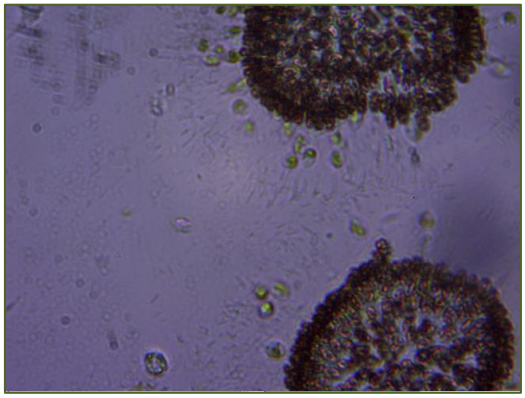
CYANOBACTERIA continued



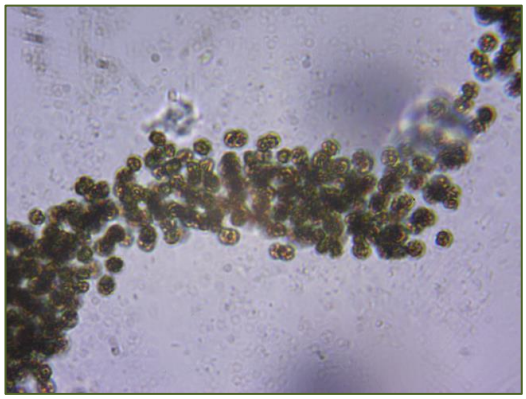
Oscillatoria at Crystal Pond (40x)



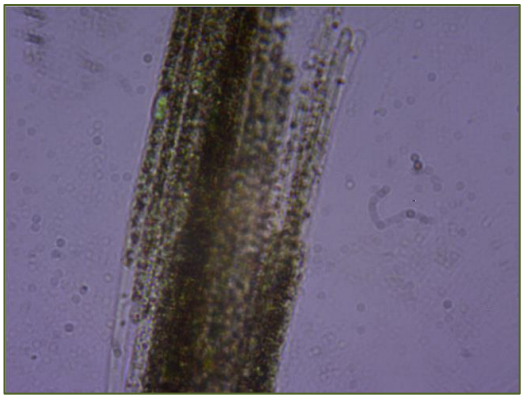
Dolichospermum at Lake Singletary (10x)



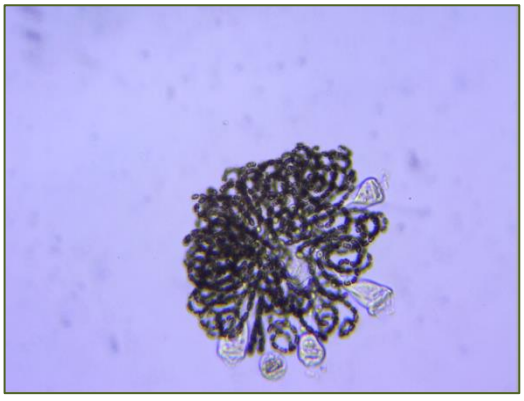
Woronichinia at Manchaug Pond (40x)



Mircocyctis at Manchaug Pond (40x)



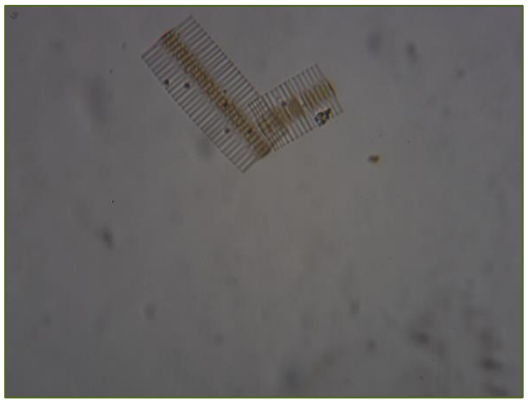
Aphanizomenon at Manchaug Pond (40x)



Dolichospermum at Manchaug Pond (10x)

Thanks again to Joy Trahan-Liptak, Emily Dart, and all the volunteers for their support!

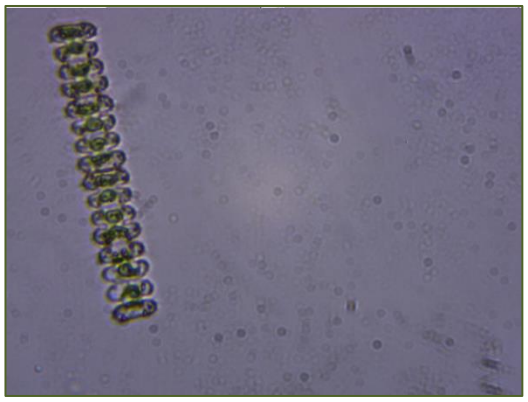
DIATOMS



Fragilaria at Coes Reservoir (10x)

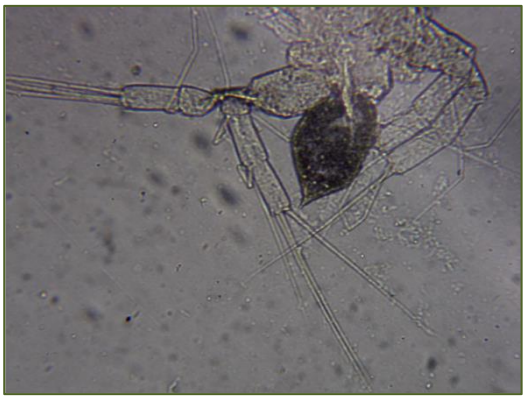
Tabellaria at Patch Reservoir (10x)

GREEN ALGA



Spondylosium at Lake Singletary (40x)

ZOOPLANKTON

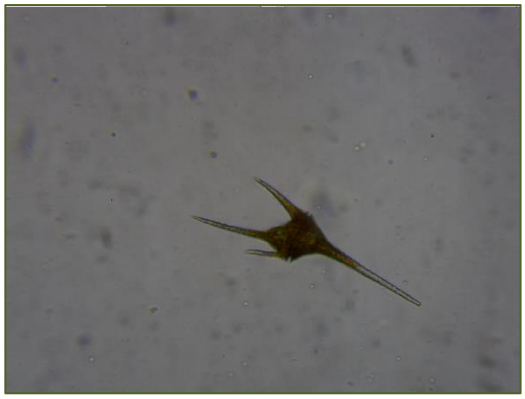


Copepod at Lake Quinsigamond (10x)

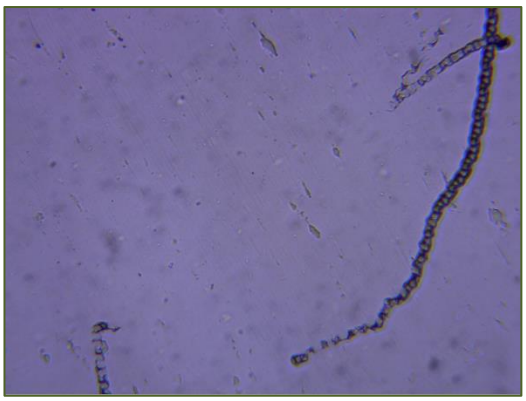
Copepod at Patch Reservoir (10x)

Thanks again to Joy Trahan-Liptak, Emily Dart, and all the volunteers for their support!

MISCELLANEOUS



Ceratium at Lake Quinsigamond (10x)



Potential scratch at Lake Quinsigamond (10x)

Thanks again to Joy Trahan-Liptak, Emily Dart, and all the volunteers for their support!