

Wallkill River Algae Report

August 15-18, 2016

Report by Wallkill River Watershed Alliance and Riverkeeper.

On 8-15-2016 streaks of bright green algae and pinpoints of green algae were visible on the surface and throughout the water column at several locations in the Wallkill River, from approximately the Route 32 Bridge to above Sturgeon Pool. In Sturgeon Pool, algae was visible, but appeared differently. Upstream of Rifton, toward the Wallkill River Valley Rail Trail, surface accumulations of green algae were visible in areas of still water, similarly to what had been observed a week prior, and determined at that time to likely be duckweed. A second greenish bloom 8-15-2016 was also observed far upstream near the Papakating Creek confluence with the Wallkill River, in Sussex, NJ at the Route 23 crossing.

On 8-16-2016 there was also a reddish look to water in the vicinity of the Rail Trail, possibly due to other algae (potentially dinoflagellate, which was observed in large numbers in samples from July, or Euglenophytes or Cryptophytes, which have also been documented in the Wallkill). The river had a similar reddish appearance 8-18-2016 in the vicinity of Rifton.

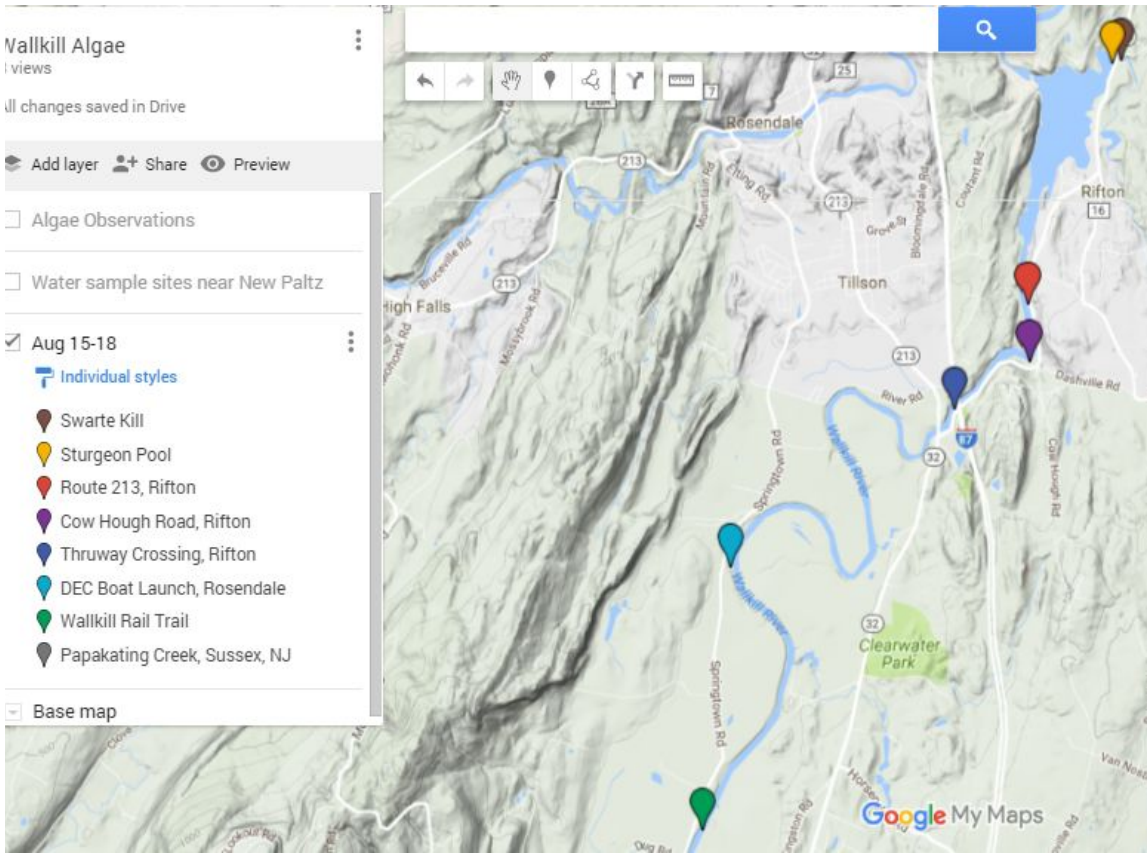
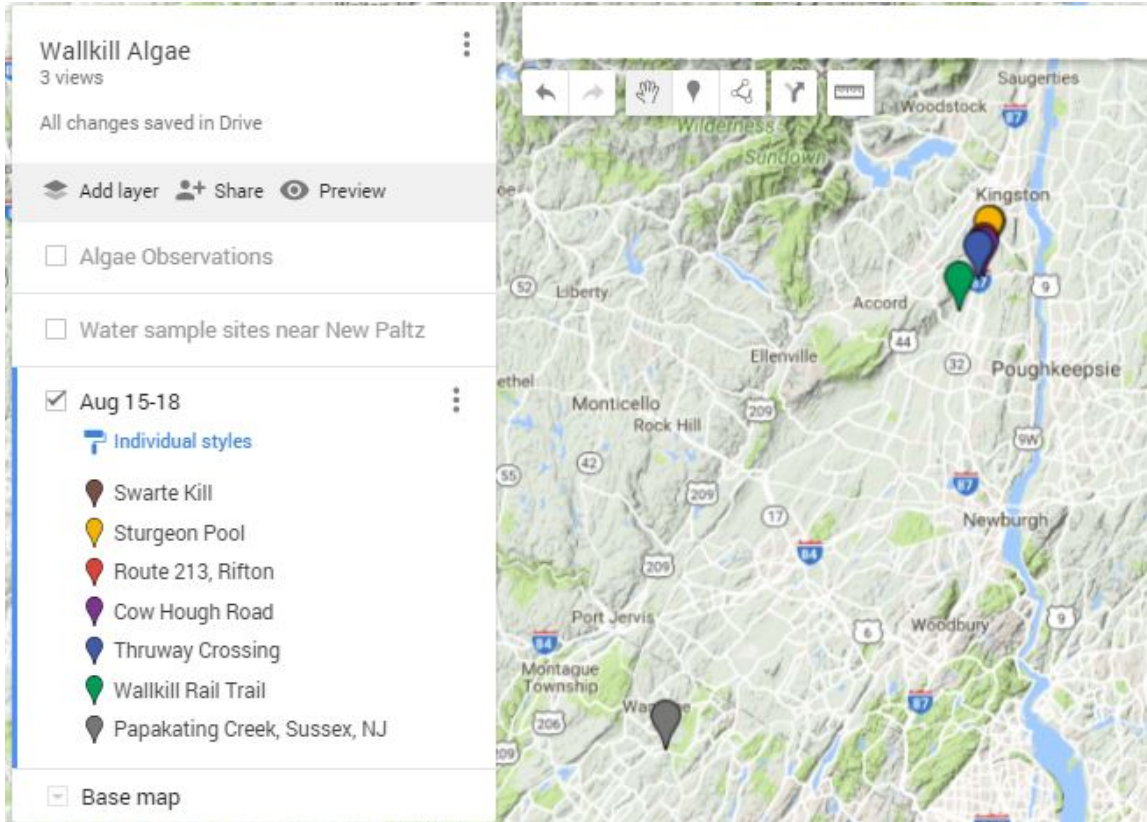
Samples from Cow Hough Road informal fishing access site and Papakating Creek were analyzed 8/15/2016 by John Gotto, Ph.D. The Cow Hough Road site sample (which was not taken in a method to reliably provide quantitative data) showed “unicellular cyanobacterium, each cell filled with tiny white structures (presumably the gas vesicles that provide buoyancy), and occurring mostly in irregular clumps of cells numbering maybe 50-100 cells per clump. This is absolutely the classic appearance of Microcystis.” The Papakating Creek sample from 8/15/2016 showed the same organisms “in appreciable numbers ... but not anywhere near the density of the Cow Hough site.”

A sample from near the Thruway/Route 32 crossing in Rifton taken on 8/16/2016, analyzed by Jillian Decker, Ph.D., also showed microcystis. (See photos below.)

The cyanobacterial genus *Microcystis* includes some species that have harmful strains.

Additional analysis of these and other samples is planned by John Gotto, Ph.D., and Jillian Decker, Ph.D.

The following photos are organized by date first, then place, from upriver to down. The following maps show the location of observation points. The first is zoomed out, the second zoomed in on the New Paltz/Rifton stretch where most observations were made.



8/15/2016

Papakating Creek, Sussex, NJ



8/15/2016 Wallkill River Valley Rail Trail crossing, New Paltz



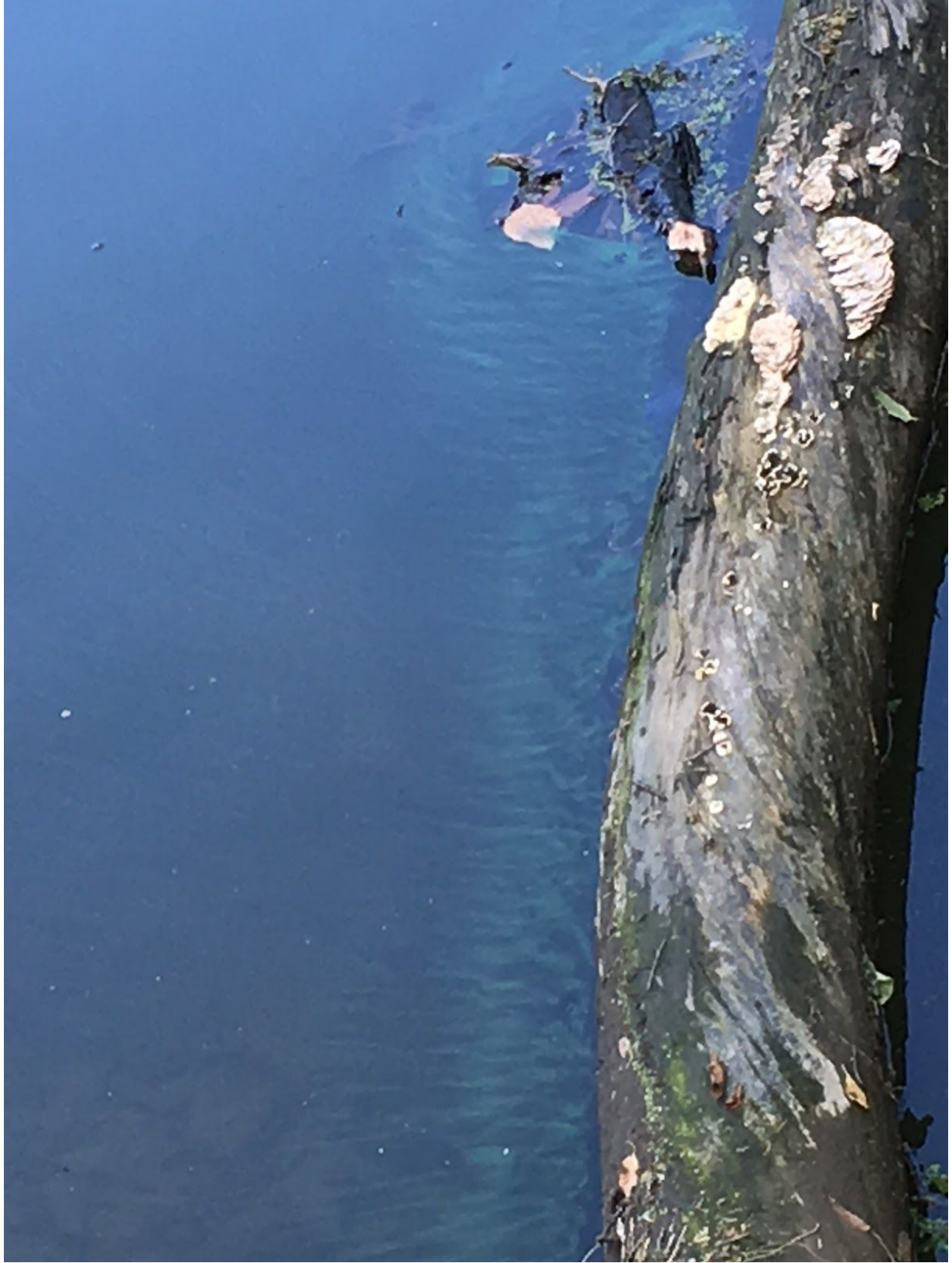
8/15/2016 DEC Boat Launch, Rosendale



8/15/2016 Thruway Crossing area (Route 32 Bridge to covered bridge)

This area is above the first Sturgeon Pool dam. Many areas of ghostly green lines of algae visible along Esopus shoreline. Impossible to tell how far across the river in extent.

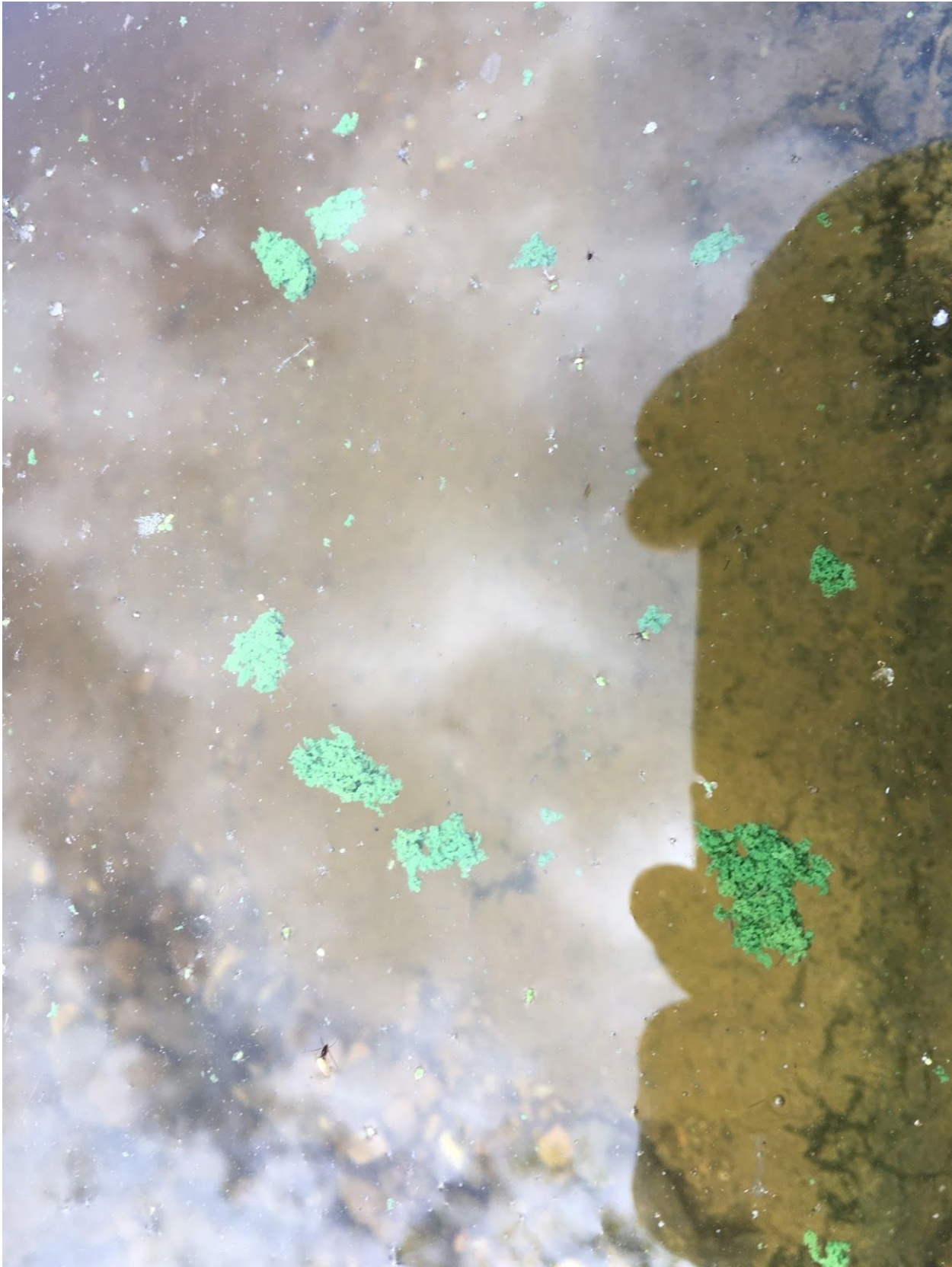




8/15/2016 Cow Hough Road informal fishing access site (below first dam)



8/15/2016 Sturgeon Pool, near confluence of Swarte Kill



8/15/2016 Swarte Kill

Swarte Kill was receiving flow from Sturgeon Pool, presumably because the lower dam on Sturgeon Pool was retaining water sufficiently to prevent discharge of the stream into Sturgeon Pool.



8/16/2016

New Paltz

(Note reddish tint, which could be sediment, or algae: potentially dinoflagellate, which was observed in large numbers in samples from July, or Euglena, which has previously been documented)

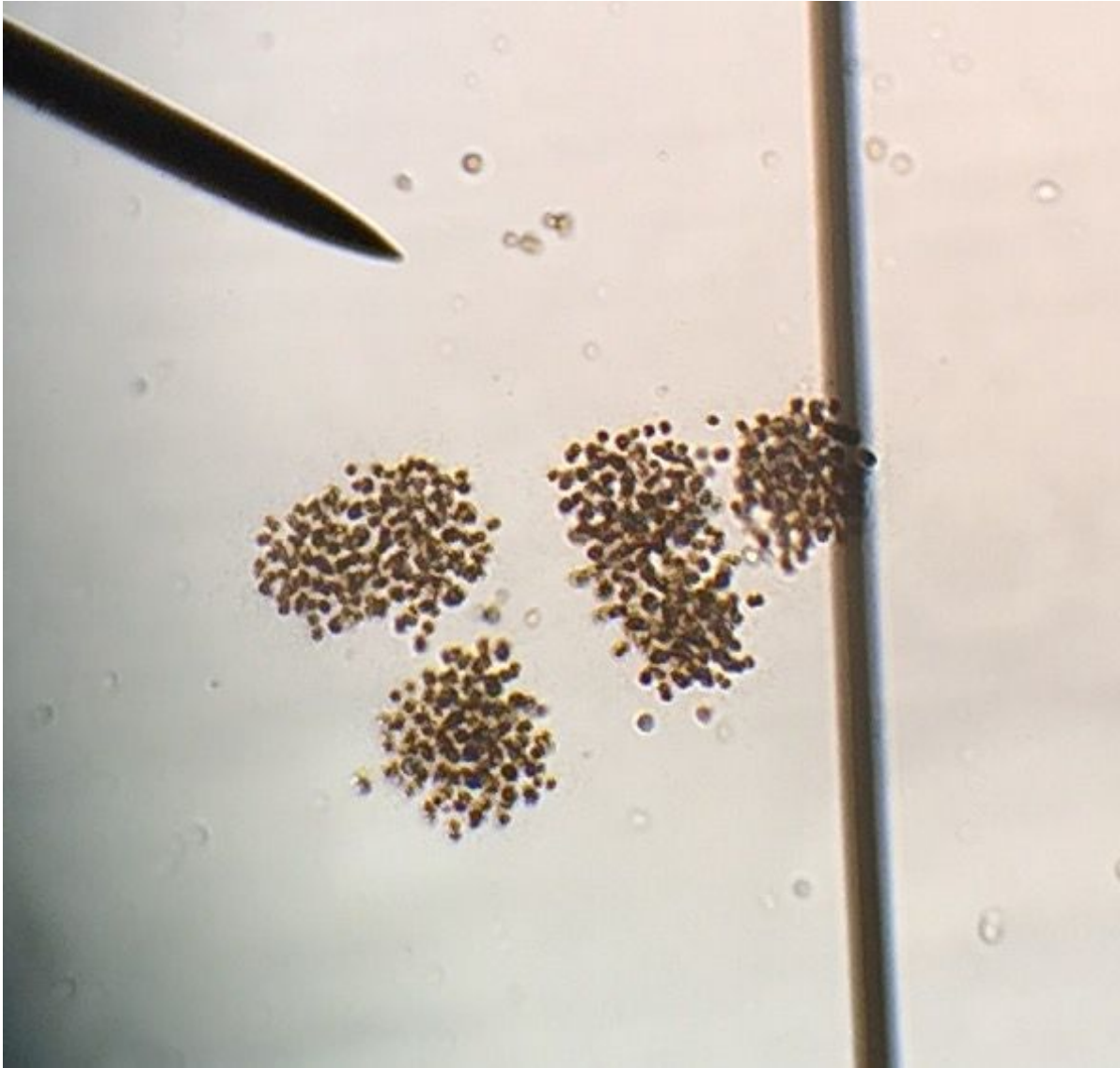


Thruway / Route 32 crossing area, Rifton

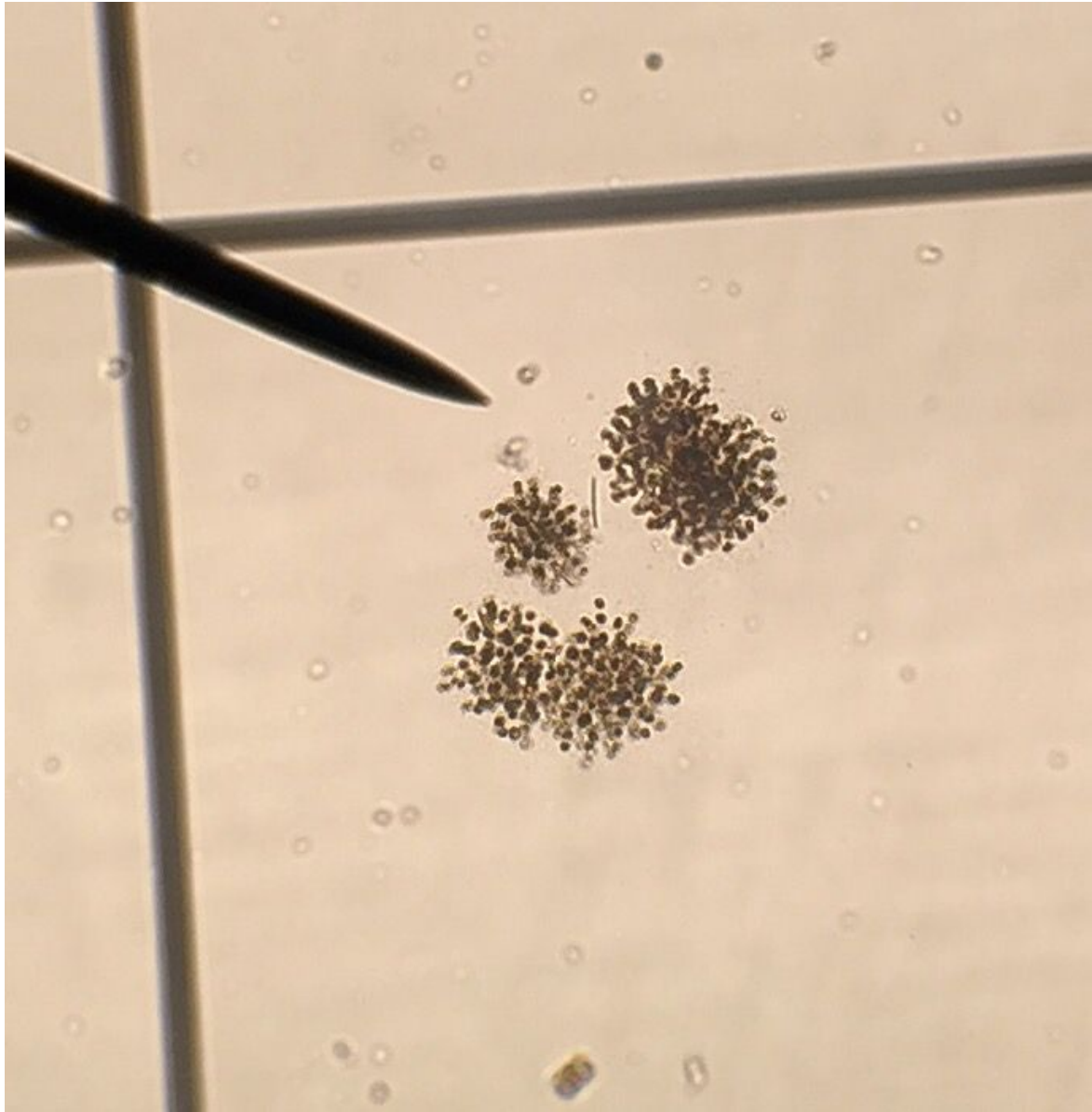




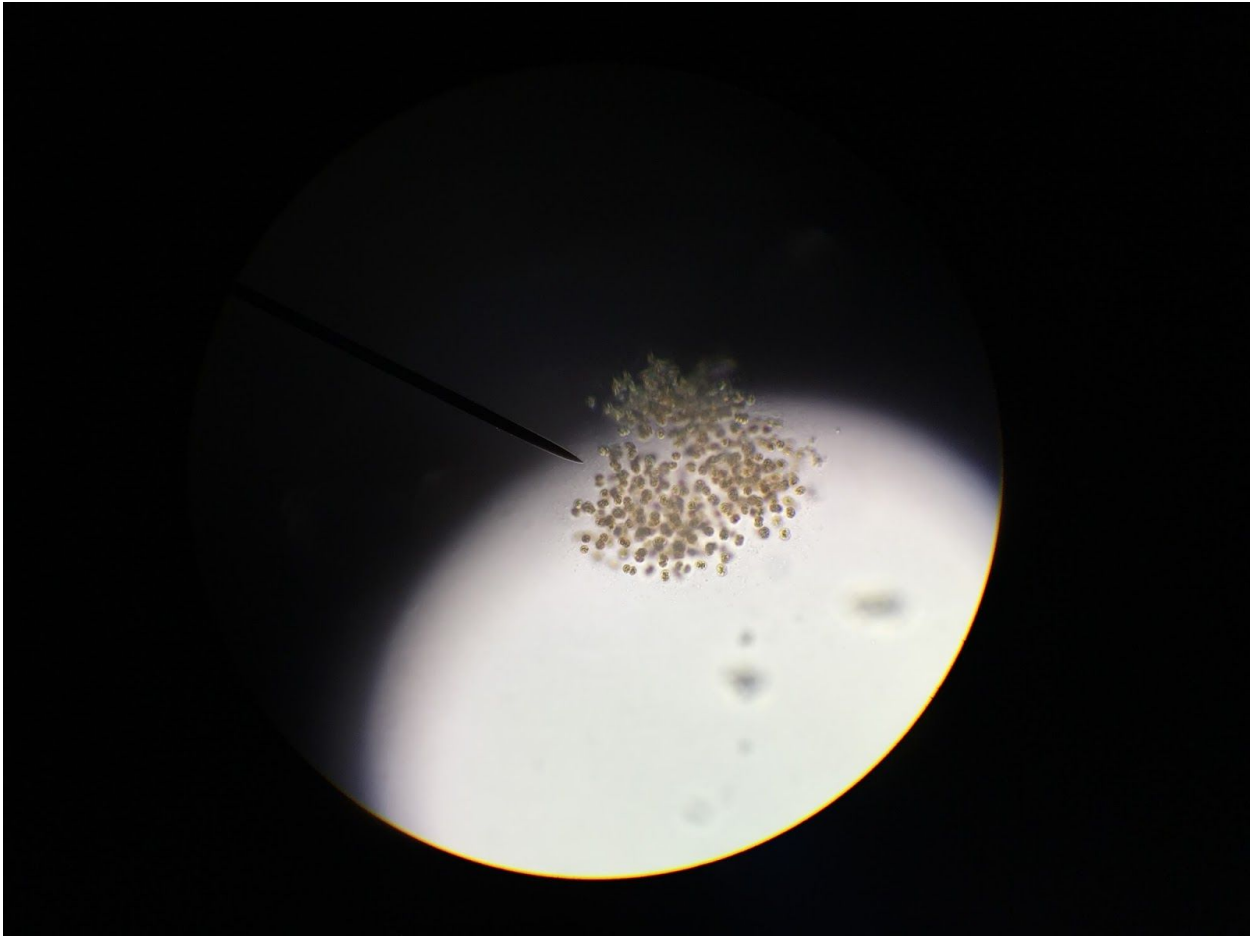
100X magnification showing microcystis from 8-16-2016 Rifton sample



100X magnification showing microcystis from 8-16-2016 Rifton sample



400X magnification, showing microcystis from 8-16-2016 Rifton sample



8/18/2016

Rifton

Reddish tint observed from Rifton to Sturgeon Pool. This photo is from Rifton near the Thruway crossing.

