

Spy Pond Algae Reports

August 2021

Brad Barber

See also the [Spy Pond Plant Reports for August 2021](#)

MyRWA tested for cyanobacteria algae in Spy Pond this summer. Their team of summer interns sampled Spy Pond five times in July and August. They also sampled Upper Mystic Lake and Wedge Pond. Nine samples per test was the target.

https://mysticriver.org/news/2021/9/3/myrwa-summer-fellows-pilot-new-cyanobacteria-analysis?blm_aid=24623

===== *August 21, 2021* =====

Saturday, 8-21-2021 -- Secchi depths are lower than on 8/15, especially along the Pleasant Street shore. The scum seen on Saturday morning has dissipated. The northwest bay near the sandbar had globs of algae floating in the water column.

Stormwater and dredging may have stirred up nutrients from the bottom near the sandbar. The granite slabs were removed the end of June or early July. The yellow turbidity curtain broke open on July 27.

Looking forward to next week's MRWA algae test results.

Three inches of rain on 8/19 (Eykamp).

8-20-2021, 6pm, sunny, still -- green scum by 74 Spy Pond Pkwy (Barber). A boater reported better conditions in north basin.

8-21-2021, 7:15 am, sunny, still -- heavy green scum by 74 Spy Pond Pkwy. Everything in sight looked worse than Friday evening.

8-21-2021, 2-4pm, sunny, light breeze -- no scum

100' from Kelwyn-Manor ramp -- secchi 1' 10" (on 8/15, 2' 4")

South basin buoy -- secchi 1' 7" (on 8/13, 2', Eykamp; on 7/16, 5' 11", Eykamp)

SW cove @ 1st stone walk -- secchi 2' 4"

Water gage 55cm, water over all sides, outlet pipe about 3/4 full, ca. 1' remaining

Deep hole by sandbar -- secchi 1' 5" (on 8/5, 3' 5"). Algae clumps in water column similar to fall turnover (ca. one per square foot). Fewer clumps seen along the Pleasant Street shore. None seen after 240 Pleasant St (Balazs).

Half way between Rock Island and Pleasant Street -- secchi 1' 2"

NE of Rock Island, 50' from shore -- secchi 1'

70' from Gould Rd -- secchi 1' 7"

Halfway between Elizabeth Island and 4 Devereaux (Berman) -- secchi 1' 7" (on 8/15, 1'

10")

Halfway between Elizabeth Island and 36 Peabody Rd (Jessen-Hatch), cloudy -- secchi 1' 4" (on 8/15, 2', closer to shore)

North basin, cloudy -- secchi 1' 9" (on 8/15, 2' 1")

East of south tip of Elizabeth Island in deep water -- secchi 2'

Halfway between Eliz. Island and Sheraton Park (Purcell) -- secchi 1' 11" (on 8/15, 2' 2")

===== *August 23, 2021* =====

Good news. Secchi depths are better. The most dramatic was N and NE of Rock Island. For example, NE of Rock Island, the secchi depth improved from 1' on Saturday to 2' 1" today. Other readings improved by 4-9".

The NW corner close to the sandbar has not improved. The water column contained clumps of algae. They were not evenly dispersed as on Saturday, and did not extend as far east. Instead there was algae clumps along the Rt. 2 shore.

One inch of rain since 8/20, due to tropical storm Henri, more rain expected tonight.

8-23-2021, 7:00 am, still -- green scum at 74 Spy Pond Pkwy (Barber), somewhat clearer than yesterday.

8-23-2021, 8:00 - 8:30 am -- Water sample collected at 245 Pleasant St. "Lots of green scum on top, but nothing in the bottom yet. I never see silt unless within a few hours of a major rain." [Eykamp]

8-23-2021, 4:30-5:30pm, cloudy, light breeze -- the water is clearer than this morning.

For secchi depths below, "was" refers to to 8-21-2021 between 2-4pm under sunny conditions. Ideal secchi conditions are within an hour of midday, sunny and calm.

100' from Kelwyn-Manor ramp -- secchi 2' 3" (was 1' 10").

Halfway between Elizabeth Island and 4 Devereaux (Berman) -- secchi 2' 4" (was 1' 7").

250' east of north tip of Elizabeth Island -- secchi 2' 1" (was 1' 9")

70' from Gould Rd -- secchi 2' (was 1' 7"). 36" naiad on anchor.

NE of Rock Island, 50' from shore -- secchi 2' 1" (was 1'). Dense 36" naiad on anchor.

Half way between Rock Island and Pleasant Street -- secchi 2' 2" (was 1' 2").

20' from 252 Pleasant St. dock (Schweich) -- secchi 1' 5". Algae clumps in water column, similar to Saturday but unevenly dispersed. The algae clumps decreased rapidly heading east along Pleasant Street. Their extent is perhaps half the distance of Saturday.

40' from Rt. 2 infall -- 2' secchi. Algae clumps in water column

Deep hole by sandbar -- secchi 1' 5" (was 1' 5"). A few algae clumps, much less than on Saturday.

Along Rt. 2 shore on way to buoy -- algae clumps throughout. Not observed on Saturday.

South basin buoy -- secchi 1' 11" (was 1' 7"). Reduced secchi depth due to rain.

===== *August 24, 2021* =====

The board of health was notified Aug. 17, with updates since then. Kelwyn Manor and Spy Pond Committee notified Aug. 16; and on 8/21, I reported an algae bloom in the south basin ("Pets and people should stay out of the water"). A follow-up email was sent 8/22 when the bloom was at its worse.

The water bodies group of the Conservation Commission and I discussed to problem on Friday. David White and Chuck Tirone will take over some of Emily Sullivan's responsibilities -- she has left for Hingham. Solitude Lake Management was on Spy Pond August 18. Spiny naiad needs treatment. No plans yet.

The Conservation Commission and Dept of Health are looking forward to your algae results.

Here's a review of recent history. You should have most of these emails. The "algae reports" contain details.

The problem appears to originate from the NW corner by the sandbar project (Rt. 2 @ Pleasant St). A heavy rainfall makes it worse. It cleared up Monday afternoon. Murky water and scum returned this morning. There was an inch of rain last night.

Thurs 8/12 -- Spy Pond swimmable despite being cloudy. No need for a shower afterwards

[bradb 8/16 11:23a] Re: Spy Pond quality

Saturday 8/14 -- Stinging eyes and scratchy skin after a swim. Murky water.

[Pat Martin 8/18 3:58p] -- Response to your Board of Health Request::
W132778-081721

Mon 8/17 -- Arlington Board of Health request concerning murky water
Tue 8/18 -- An inspector found Spy Pond OK

3" of rain on Thurs 8/19

[bradb 8/21 7:26a] algae bloom in south basin, Spy Pond
Saturday morning -- heavy scum at my dock, pond looks worse than Friday evening

[bradb 8/22 1:32p] Spy Pond algae report -- 2021-08-21
Saturday afternoon -- Minimum 1' secchi depth.

1" of rain on Sunday 8/22 AM

[bradb 8/23 7:12p] Spy Pond algae report -- 2021-08-23
Monday late afternoon -- Pond clearer than before. Minimum 1' 11" secchi depth. NW corner unchanged

1" of rain on Monday 8/23 before midnight from tropical storm Henri

[bradb 8/24 10:55a] Re: Spy Pond algae report -- 2021-08-23

Tuesday morning 8/24 -- murky water with scum at my dock

===== *August 25, 2021* =====

Spy Pond is a murky green, both basins at noon. Heavy green scum this morning at my dock. I collected a sample. There was a green sheen yesterday evening.

Monday afternoon, 8-23 [bradb 8/23 7:12p] -- Spy Pond significantly clearer than the weekend. Some secchi depths doubled. Others improved by 4-9". The NW corner by Rt. 2 did not improve.

Monday night, 8-23 -- One inch of rain from tropical storm Henri.

Tuesday morning, 8-24 -- Spy Pond is murky again . Green scum this morning at my dock.

Tuesday evening, 8-24, still, 7:00pm -- A sheen of light green scum throughout the south basin. Despite the late hour, secchi depth of 2' at 300' feet of the Rt. 2 infall. Secchi depth 2' over the sandbar (water depth 7'). Algae clumps on the surface along the Rt. 2 shoreline, and sparse elsewhere. Algae clumps mostly gone by the sandbar.

Wednesday morning, 8-25, 7:15am, still -- Heavy green scum at my dock. I took a sample (a murky green). The scum appears to cover the south basin.

Wednesday noon, 8-25, light breeze --- North and south basins are a murky green.

===== *August 26, 2021* =====

I looked at various samples with a 140x microscope using 2mm wells 0.25mm thick and a 0.5mm grid. Almost all of the visible algae were Spirogyra -- straight, thin rods up to 0.75mm long. The rods looked vaguely like a string of beads with some internal structure.

Especially in the thick sample from Wednesday morning, there were small round globs, 4-10 times the width of one Spirogyra. I saw a somewhat curled glob that was 0.25mm long.

In a sample from near Bill's dock on Saturday afternoon, the small globs were more irregular. One of the larger ones was misshapen with dots on its protuberances. As in the samples from my dock, most of the algae was Spirogyra.

===== *August 31, 2021* =====

The algae bloom continues on Spy Pond. In the morning, the SW cove had green scum (pictures attached). In the afternoon, most of Spy Pond was a murky, greenish brown. Secchi depth was two foot or slightly less. There was half-inch, oblong algae clumps visible throughout. The western shore along Rt. 2 had an algae scum. It was heaviest in the NW corner by the sandbar.

Heavy rain tonight and tomorrow may lead to more algae. The outflow from the Rt. 2 storm drain is stirring up decades of silt and sediment (see Eykamp's anchor below). It may be turning over the stratification layer in the deep basin near the sandbar. The increased rainfall compared to the previous two years may also be a factor.

Should we consider adding an algaecide to Friday's diquat treatment? An algaecide is often included with diquat to enhance its effectiveness. It would be limited to the treatment areas (SW cove, Kelwyn Manor ramp, SE cove, NE of Rock Island) and, in addition, the NW cove and the Rt 2 shoreline.

Saturday, 8-28 -- The previous week Bill Eykamp recovered a navigation beacon from the sandbar project. It was outside of the turbidity curtain in 9-10' of water. Its 5" mushroom anchor was covered with a foot of heavy mud. This mud would have been deposited after the anchor was placed.

Tues. morning, 8-31 -- Franz Pruefer reported extensive green scum in front of the Spy Pond Condominiums (the building closest to Scannell field, pictures attached).

Tues late afternoon, 8-31, 4:30-7:30p, sunny, light breeze, 0.8" rain the night before.

Secchi depth is 2' to 1' 10" throughout Spy Pond.

Oblong algae clumps (1/2" long) on the surface and under water throughout Spy Pond. The quantity varies. Some areas are clear.

North basin and the sill west of Elizabeth Island -- pond is a murky, greenish brown. No scum on surface.

No nitella seen in the north or south basin. The sill west of Elizabeth Island was not searched.

204 Pleasant St, near dinosaur, water depth 7'. East and west toss had lots of matted algae [it is aquatic moss]. Matted algae was also seen along the Pleasant St shore west to 224 Pleasant St.

NW cove -- murky green-brown water with extensive algae scum. Algae scum thinned outside of the cove. It extended as far east as 232 Pleasant St (Friis).

Rt. 2 shoreline -- Algae scum along most of the shoreline. Heaviest in the SW cove. Water a murky, greenish brown.