

**BRC WQM PROGRAM  
PROGRAM COORDINATOR UPDATE**  
Submitted by Heather Parry, November 1, 2022

WQM GENERAL:

- Sampling was conducted in July, August, September, and October

| Number of Sites Sampled Each Month |                 |                |                   |
|------------------------------------|-----------------|----------------|-------------------|
|                                    | Headwaters (30) | Mid-reach (28) | Rhode Island (17) |
| July                               | 30              | 27             | 17                |
| August                             | 30              | 28             | 17                |
| September                          | 29              | 27             | 17                |
| October                            | 30              | 28             | 17                |

- Adam trained 1 new lab volunteer

WQM ISSUES:

- Continued orthophosphate replicate issues
- One of the colorimeters in the Rhode Island lab stopped working during the August sampling. Nick was able to finish processing the samples using the other colorimeter. The colorimeter was replaced and used in the September sampling event.

WQM SITE ISSUES (July/August/September) only as per Field Coordinators Quarterly reports:

| Headwaters sites with Poor Results |   |  |  |
|------------------------------------|---|--|--|
|                                    | July  | August   | September  |
| Turbidity                          |   |  |  |
| Conductivity                       | Coal Mine Brook (1240)<br>Dark Brook (984)<br>Poor Farm Brook (917) | Coal Mine Brook (1111)<br>Dark Brook (1355)<br>Poor Farm Brook (1009)<br>Leesville Inlet (975) | Coal Mine Brook (1222)                                   |
| Phosphate (P>0.3mg/l)              | Dunkirk (.82/.49/.55)<br>Fisherville (.29/.35)                      | Dunkirk (.51/.59)<br>Beaver Brook @ Carwash (.33/.26)<br>Fisherville (1.64/1.71)               | Dunkirk (.49/.43)<br>Tatnuck Brook @ Carwash (1.97/1.90) |

|                        |   |  |  |
|------------------------|---|--|--|
| Nitrate<br>(N>0.9mg/l) | Beaver Brook @<br>carwash (1.1/<br>1.1) | Beaver Brook @<br>Carwash (1.2/<br>1.2)<br>Kettle Brook (.9/<br>.9)<br>Tatnuck Brook @<br>Carwash (.9/ 1.3)<br>Fisherville (2.5/<br>2.6) | Beaver Brook @<br>Carwash (1.2/<br>1.3)<br>Dunkirk (0.9) |
| Dry Sites              |   | Tilly Brook  | Tilly Brook  |

### Headwaters site issues

- There was erosion/ undermining the bridge on the Quinsigamond River at
  - Pleasant Street in Grafton observed by a WQ monitor. I contacted Conservation Agent (Leah Cameron) via email through the town website. Leah said that she would pass this information on to the DPW.
- In August low water levels resulted in “scummy” surfaces noted on the Quinsigamond River at Wheeler Road and Route 140. Peter and I investigated and determined it was due to the drought.
- In August “orange algae” noted on the Tatnuck Brook at the VFW
- In September the Tatnuck Brook at the carwash has a sewage smell.

| Mid-Reach sites with Poor Results |      |   |  |
|-----------------------------------|------|---|--|
|                                   | July | August  | September  |
| Turbidity                         |      |   |  |
| Conductivity                      |      |   |  |
| Phosphate<br>(P>0.3mg/l)          |      | Blackstone River @ Sutton St.<br>Blackstone River @ Plummers<br>Blackstone River @ Stanley<br>Blackstone River @ Gorge<br>Mill River @ Mill Street<br>Mumford River @ Manchaug Inlet<br>Mumford River @ Manchaug Outlet | Blackstone River @ Sutton St.<br>Blackstone River @ Plummers<br>Blackstone River @ Stanley |

|                        |   |   |  |
|------------------------|---|---|--|
| Nitrate<br>(N>0.9mg/l) | Mill River @ Mill St. (1.5)<br>Mill River @ Hartford Ave (0.9)<br>Mill River @ Valati (1.5) * | Blackstone River @ Sutton St.<br>Blackstone River @ Plummers<br>Blackstone River @ Stanley<br>Mill River @ Mill St. | Blackstone River @ Sutton St.<br>Blackstone River @ Plummers<br>Blackstone River @ Stanley<br>Blackstone River @ Gorge<br>Mill River @ Mill Street<br>Mill River @ Hartford Ave<br>Mill River @ Valati |
| Dry Sites              |   | Meadow Brook  |  |

**Mid-reach site issues**

- Bacon Brook is having runoff issues persist, silt/sand in streambed
- Silt accumulating at Plummer’s Landing possibly from new housing development or solar installation upstream.
- Our nitrate data indicates something going on the Mill River, possibly implicating the Hopedale WW treatment plant. There are four sites from Hopedale to Blackstone. The top site, Fitzgerald Ave, has reasonable nitrate numbers. The next site, Mill St, has elevated nitrate and the next two, Hartford Ave and Valati are also elevated; usually decreasing as we move downstream. The plant is between Fitzgerald and Mill.

| <b>Rhode Island sites with Poor Results</b> |   |  |  |
|---|---|--|--|
|   | <b>July</b>   | <b>August</b>  | <b>September</b>   |
| Turbidity                                   |   |  |  |
| Conductivity                                |   |  |  |
| Phosphate<br>(P>0.3mg/l)                    | Blackstone River @Albion Dam (0.35)   |  | Cherry Brook (0.35/ 0.45)  |
| Nitrate<br>(N>0.9mg/l)                      | Clear River (1.0/0.9)<br>Sneech Brook (1.0/1.3/1.3)<br>Miller’s River (1.3/1.2) | Cherry Brook (1.1/1.0)<br>Miller’s River (1.4/1.5)<br>Mussey Brook (1.8/1.7) | Sneech Brook (1.3/1.3)<br>Miller’s River (1.7/1.7)<br>Mussey’s Brook (1.8/1.6) |

|  |                             |                 |  |
|--|-----------------------------|-----------------|--|
|  | Mussey's Brook<br>(1.6/1.5) |                 |  |
|  |                             | Monastery Brook |  |

**Rhode Island site issues**

- No site issues other than a dry site at Monastery Brook

DATABASE and QUALITY CONTROL

- I have QC'd 50% of the data entered by the Field Coordinators.
- Adam is up to date with his data entry
- Mike has entered 80% of his data, he will be complete by the end of December
- Dan Crocker and Mike Sperry are finalizing the last issues in order to enter the legacy (pre-2020) data into the database.

WEBSITE and DATA ACCESS

- Meet with Mariel Sorlien from the Narragansett Bay Estuary Program to discuss developing a clickable map on our website which can be used to access our data
- Based on the way our database was developed Mariel will use Rshiny to develop a map that will be easily inserted into our website
- Stefanie Cavino offered assistance with updating the BRC website

DATA REQUESTS:

- We have shared our data with the following professors:
  - Gareth Roberts at Holy Cross for his class in Mathematical modeling
  - Nathan Algren at Clark University for his research on water quality (macroinvertebrate study) in Worcester
- Bruce Howe requested data on the Mill River in Mendon due to concerns over a warehouse being built near the river.