



Falmouth Water Stewards Newsletter

Spring 2024

President's Message

A few months into 2024 and we are examining many issues related to protecting our water resources.

- Water refill stations have doubled in number and can now be found at parks, sports fields, beaches, and other recreation areas throughout Falmouth. Our interactive Google Map can be accessed using this QR Code:



- Our water monitoring programs for cyanobacteria in Falmouth ponds in collaboration with APCC will begin in May and continue through November.
- Our Pond Atlas with results from the 2022 pond and stream nutrient monitoring during summer and winter at 36 Falmouth ponds and streams will be released this Spring.

Judith E. McDowell

New Website and Email Address

We have updated our website and email address for easy access to our program information and resources. The website can be found at <https://www.falmouthwaterstewards.org> and our new email is falmouthwaterstewards@gmail.com

2023 Cyanobacteria Monitoring Review

In response to increasing frequency of cyanobacteria blooms in freshwater lakes and ponds across Cape Cod, we partnered with the Association to Preserve Cape Cod (APCC) again this year to monitor Falmouth ponds for the presence and abundance of cyanobacteria. Sixteen Falmouth ponds are monitored biweekly from May to November and data are added to the Cape Cod Cyanobacteria Monitoring Network. Falmouth Water Stewards collects samples from six of the sixteen ponds in the Falmouth program: Cedar Lake, Deep Pond, Fresh Pond, Jenkins Pond, Mares Pond, and Siders Pond. In 2022 APCC established Cyanobacteria Risk Categories to compare severity of bloom conditions in each pond: acceptable, potential for concern, or use restriction warranted. With five years of data for the six Falmouth ponds sampled by FWS, we examined seasonal trends in each pond on an annual basis to pinpoint possible environmental triggers associated with the occurrence of cyanobacteria blooms. Based on the risk criteria, the most common times when 'potential for concern' or 'use restriction warranted' warnings are posted, are during the early summer and fall. This program has increased awareness for local residents to be on the lookout for signs of cyanobacteria blooms.

FWS Awards \$500 Scholarships to High School Science Fair Students

The recipients are Sophie Holmes, Falmouth Academy, for her project “The effect of diet on urea production”; and Ryan Simone, Falmouth High School, for his project “The effects of carbonate addition on pond chemistry”.

Congratulations, Sophie and Ryan!

OLAUG honored by Massachusetts Chapter of the American Red Cross

Old Ladies Against Underwater Garbage (OLAUG) was awarded the first ever “Climate Resilience Hero Award” at the Heroes’ Breakfast in Boston on April 4th. This event pays tribute to extraordinary acts of courage, kindness, service, and making an impact in communities. Congratulations, OLAUG, and especially FWS Board Member Susan Baur.

Falmouth Freshwater Ponds Advisory Committee

The Town of Falmouth established a Falmouth Freshwater Pond Advisory Committee with the objectives of advising the Select Board and the Town Manager on the protection and preservation of Falmouth’s ponds. The mission of this new committee is to advise the Select Board and Town Manager on the protection and preservation of Falmouth’s freshwater ponds, and to recommend goals, strategies, action steps, and measurable outcomes that can be integrated into the Town’s overall strategic plan. On April 22nd, the Falmouth Select Board approved Kim Comart, Lynn Francis, George Heufelder, William Kerfoot, and William Mebane as committee members, with Steven Solbo as an alternate member.

Cyanobacteria and OLAUG Videos

In collaboration with the Woods Hole Center for Oceans and Human Health, the Great Pond Foundation, APCC, and Circuit Arts, we assisted in the production of high quality videos on cyanobacteria monitoring and OLAUG activities that can be shared online and/or presented at meetings to increase awareness of these activities.



Fresh Pond, Summer 2023

Falmouth Pond Atlas



Mares Pond, Summer 2023



Deep Pond, Summer 2023

FWS received funding from the Woods Hole Foundation to survey 36 ponds, rivers, and streams in Falmouth for assessing water quality characteristics during both summer and winter. Runoff of plant nutrients (nitrogen, and phosphorus) from land degrades the quality of surface waters. These impacts include excessive growth of algae, periodic low oxygen, and blooms of potentially harmful algae. While nitrogen largely drives water quality declines in coastal salt waters, both nitrogen and phosphorus contribute to water quality decline in fresh waters.

Results from the summer sampling revealed five concerns: (1) Nitrate is high in rivers and low in ponds; this is expected, as rivers are carrying groundwater that is enriched in nitrate from septic systems. Plankton and submersed plants growing in summer take up nitrate and ammonium. (2) Most ponds had low levels of ammonium and nitrate (inorganic and available) nitrogen; exceptions seemed to be Siders Pond (a unique pond due to its salinity profile), and Deep Pond that had higher nitrate levels than other ponds. It is likely that pond nitrogen is mostly low but occasionally high when a phytoplankton bloom ends (it did not have particularly high chlorophyll). (3) Some ponds were particularly notable for high chlorophyll: Wings, Punch Bowl, Shallow, and Mill ponds in Woods Hole and East Falmouth. (4) Phosphate was low almost everywhere, but highest in the two Mill Ponds. (5) Temperature and dissolved oxygen profiles in all but the very shallowest ponds were highly stratified and hypoxic or anoxic in the bottom water, and thermoclines were at 5 to 7 meters. In contrast, winter sampling revealed well-mixed water columns at all sites.

All results from the Falmouth Pond and Stream Survey will be published in the **FWS Pond Atlas** that will be distributed during Spring 2024. Winter and Summer profiles for each sampling location will be included.



Falmouth Water Stewards
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Find a Water Refill Station Near You!

- Shining Sea Bikeway & County Road
- Shining Sea Bikeway & Old Dock Road
- Falmouth High School Softball Field
- Coonamessett River Restoration
- Goodwill Park
- Highfield Hall & Gardens
- Shining Sea Bikeway & Depot Avenue
- Falmouth Town Hall (indoor)
- Falmouth Chamber of Commerce (indoor)
- Peg Noonan Park
- Falmouth Main Library (indoor)
- Gus Cauty Community Center (indoor)
- Falmouth Harbor
- Falmouth Heights Beach
- Falmouth Heights Fields
- Bristol Beach
- Menauhant Beach
- Chapoquoit Beach
- Megansett Beach
- Old Silver Beach (2)
- Wood Neck Beach
- Surf Drive Beach – Town of Falmouth Beach Dept.

