

**Marine and Fresh Water Quality Committee
Meeting Minutes
February 13 2023 (Nauset Room and via Zoom)**

ORLEANS TOWN CLERK
ECS
'23 MAR 31 9:08AM

Attendees: Judith Bruce, Ed Hafner, Carolyn Kennedy, Richard Levy, and Judy Scanlon (Chair)

Regrets: Carol Etzold, Mary Griffin, Valerie May, Robert Mullin

Other: Ed Eichner, SMAST; Michael Herman, SB Liaison

AGENDA

1. Call to Order.

The Chair called the meeting to order at 10:00 AM. This is an additional meeting scheduled for this month.

2. FY24 Water Quality Funding Requests: Orleans Freshwater Lake and Pond, Estuary Water Quality Data Summary Updates, and Communicating/Presenting Water Quality Monitoring Data and Trends to Citizen Volunteers and the General Public.

The Chair introduced the discussion by referring to the FY24 Draft Funding Needs document, in particular Items 4, 5 and 6 as presented by George Meservey at our January 23rd Committee meeting. (See Appendix 1. FY 24 Draft Funding Needs – Water Quality. January 23, 2023)

A. Item 4 of the FY24 proposal, Water Quality Data Analysis & Report

The Chair and Carolyn reported that the Funds would be derived from Special Revenue Funds, which originate from the Rental Tax revenue, not Orleans taxpayers. Judith stated that this short-term rental fund covers virtually all wastewater costs and is currently funding startup costs for the downtown sewer system. It is not a "bottomless pit" of money.

With respect to options for presenting water quality monitoring data and trends, the Chair had shared with the Committee some examples (website links) of what the Committee members and our citizens may be looking for if we created a water quality page on the town's website. These are:

Buzzard's Bay Coalition: <https://www.savebuzzardsbay.org/>

Martha's Vineyard Commission:
<https://storymaps.arcgis.com/stories/30dc099ffe749178b33b977c1606a8e>

Nantucket Massachusetts: https://www.nantucket-ma.gov/2129/Water-Quality-Analysis-Visualization#about_wqav

Center for Coastal Studies Interactive Water Quality Site: <https://coastalstudies.org/cape-cod-bay-monitoring-program/>

Water Quality Success Stories (summary example):
<https://www.deq.virginia.gov/home/showpublisheddocument/5151/637490875721030000>

Ed Eichner (SMAST) asked what is your goal in communicating to the citizens? Do you want to communicate trends vs. a simple data display? He noted that in the examples above, Brian Howes has used a modified eutrophication index he helped develop for estuaries and the Carlson index was used for lakes. Ed summarized that water quality trends require a different type of calculation.

Judith noted that we already have what we need to populate the proposed website, that is a big picture, simply a two-step interpretation of what we are seeing year to year: (1) water quality data without analysis or trends), and (2) a simple interpretation information (trends) which may not be necessary year to year. She prefers the Buzzards Bay Coalition website as a model. SMAST developed the short 2-page summaries for their website.

There was a discussion of what water quality parameters we might want be included. Ed Eichner suggested reviewing those parameters chosen for the Vineyard system.

Several Committee members liked the Buzzard's Bay pages (which Brian Howes helped develop) and the Nantucket summaries. The Pleasant Bay Alliance might be approached for possible assistance in funding data depiction for the southern sections of Pleasant Bay. Chatham Harbor would not be included.

For estuaries there seemed to be a consensus on reporting salinity, DO, Secchi disk, chlorophyll, temperature and nitrogen. For freshwater, DO, Secchi disk, chlorophyll, temperature and phosphorus. These data need to be presented in graphs as we already have the data on spreadsheets.

Ed Eichner noted that we still have several recent SMAST technical memos - which have been written annually up to and including 2019. There are 4 tech memos that reviewed previous years data – as a quick overview. For example, the 2017 summary has it all and is a baseline (estimated cost \$70K). In 2018 and 2019 there were added updates (at an estimated cost of \$11K each).

Ed Hafner would like to see a water quality data summary updated since 2019 in clear writing that public can engage with on an attractive website.

The Chair mentioned the importance of ensuring the quality of the data presented. Ed Eichner mentioned that in the proposed scenario, the Orleans water quality data will not be merged with other local water quality data. He mentioned that the information must be reliable and will be the public's entrée to our work and will help them understand the science behind the data. He likes the Vineyard site. Ed mentioned that it will take a web developer and the Town hosting the site for what the Committee seems to want.

Judith reiterated that she wants to see all Orleans ponds and estuary sampling stations for which we have data.

Bottom line: The Committee and Ed Eichner would need more discussion to match up the Committee's expectations. Ed would need additional conversations/feedback about this as March 8th is the deadline for the FY24 warrant submissions.

Based on the above discussion, Item 4 of the FY24 budget proposal was revised (see below).

Action (by Committee at meeting):

1. Regarding Item 4, the text below was approved as amended from the original by the following vote: 5-0-0. The Chair to provide this updated text to George Meservey as soon as possible.

“4. Water Quality Data Analysis & Report - \$26,500

Residents regularly request information on the health and trends of the water bodies monitored within the Town. This effort would aggregate and graphically display water quality data trends for the Town's lakes and ponds and all of the Town's estuarine basins (3 Cape Cod Bay basins, Nauset Estuary and Pleasant Bay). In addition, provide updated water quality data for up to 15 freshwater ponds in Orleans. The chosen data would be presented in an interactive, citizen friendly web-based platform hosted on the Town's website. A summary of the Town's robust data sets has never been done and will support public understanding of water quality issues.”

B. Item 5. Management Plan(s) - Remediation of Crystal Lake and Pilgrim Lake.

There was a brief Committee discussion, including the necessity and timing of alum treatments.

Judith was not in favor of including any funding request for alum treatments for Pilgrim and Crystal Lakes; prioritizing the sewerage of the upgradient properties. Ed Hafner noted that this request is just a recommendation to ensure the funding is available if needed. Rich noted that both Lakes will be well past the 5-year sewerage recommendation by SMAST if upgradient properties are not seweraged and hooked up by 2028 or 2029, adding more urgency to the interim alum treatment recommendations.

The Chair read Bob Mullins statement supporting an interim treatment if needed.

The Chair reported that \$40,000 was allocated in 2021 (FY22) for interim remediation of one lake; the additional in this FY24 funding request would cover the permitting costs for both lakes, and interim remediation of the other lake.

The Chair asked about whether other towns have used similar management strategies. Ed Eichner reported that in other community's circumstances where sewerage was a long way off or uncertain, even when the sediments were not the primary source of the phosphorous, alum treatments were recommended. There have been issues with freshwater mussels, but this can be mitigated. It is a time of year application issue; treatment providers would work with MADNR.

Action (by Committee at meeting)

1. Regarding Item 5. Ed Hafner motioned that we approve the text as written, and Rich seconded. The original FY24 request was approved as originally written by the following vote: 4-1-0 The Chair to inform George Meservey as soon as possible.

“5. Remediation of Crystal Lake and Pilgrim Lake - \$100,000.

Management plans have been completed, and recommended extending sewers. Since this is outside the planned sewer area of the Consensus Agreement, the short-term alternative would be to complete an alum treatment or begin an aeration project. They are both Great Ponds, so some of the issues with Uncle Harvey's Pond alum would not be relevant. Estimate includes \$25,000 for permitting for each pond, plus \$50,000 for the treatment of one of the ponds.”

C. Item 6. Boland Pond Management Plan

Carolyn recommended that we seriously consider remediation and that you can't do that without a Management Plan. She mentioned that there have been changes in bathymetry of the pond due to sediment deposited from runoff.

Judith questioned if the town should do this when the Pond does not have public access and we already monitor it for cyanobacteria. She believes that the Committee has other activities to focus on and the Baker Management Plan is already in progress.

Ed Hafner reported that it does have access, but it's not full-blown access. The Town does have property abutting and therefore has access.

After the discussion, the Chair agreed that Boland Pond it is not a priority for the Committee for FY24 and the development of a Management Plan should be postponed.

Action (by Committee at meeting)

1. Regarding Item 6 - Boland Pond Management Plan-- Ed Hafner motioned to remove Item 6 from the proposed FY24 budget request. Rich Seconded --Approved by vote: 5-0-0. The Chair to inform George Meservey as soon as possible.

3. Review and Approval of Meeting Minutes- December 19, 2022

The December 19 Committee Minutes were amended as requested by several of the Committee members as reported by the Clerk. Motion to approve as amended by Rich, seconded by Ed. Approved 5-0-0.

4. Public Comment

There were none.

5. Adjourn

Motion: On a motion by Rich and seconded by Carolyn, the Committee voted 5-0-0 to adjourn at 11:43 AM.

Future MFWQC Meeting Dates: YR 2023 – 02/27, 03/27, 04/24, 05/22, 06/26, 07/24, 08/28, 09/25, 10/23, 11/27, and 12/18.

These Minutes were approved as amended by the MFWQC Committee on March 27th by a vote of 7-0-0.

Handwritten signature and date: RHP 03/30/23

Appendix 1. FY 24 Draft Funding Needs – Water Quality. January 23, 2023

FY24 FUNDING NEEDS - WATER QUALITY (DRAFT)

Required for Permit Compliance: **\$96,700**

1. Lonnie's Pond Monitoring - \$47,000

Water quality sampling, monitoring of oyster deployment, weigh-out and annual report, as required to meet permit requirements of Pleasant Bay Watershed Permit and document nitrogen removal through aquaculture. SMAST is reviewing 2022 data that indicates a significantly greater nitrogen reduction from bottom sediment than in previous years.

2. Cedar Pond Monitoring - \$30,000

Required monitoring under the MADEP Superceding Order of Conditions. Adaptive management of pond outlet has demonstrated progress toward the Town's water quality goal for the pond.

3. Summer 2021 Marine Water Quality Sampling - \$19,700

Supports sampling and analysis of Nauset Estuary sampling stations and three Cape Cod Bay creeks. This is the same sampling contract amount since the Town returned to limited sampling in 2008.

Additional Water Quality Funds Requested: **\$181,500**

4. Water Quality Data Analysis & Report - \$26,500

Residents regularly request information on the health and trends of the water bodies in and around the town. This effort would aggregate and graphically display water quality data trends for the Town's five major estuarine basins (3 Cape Cod Bay basins, Nauset Estuary, and Pleasant Bay). A summary of the Town's robust data sets has never been done and will support public understanding of water quality issues.

5. Remediation of Crystal Lake and Pilgrim Lake - \$100,000

Management plans have been completed, and recommended extending sewers. Since this is outside the planned sewer area of the Consensus Agreement, the short-term alternative would be to complete an alum treatment or begin an aeration project. They are both Great Ponds, so some of the issues with Uncle Harvey's Pond alum would not be relevant. Estimate includes \$25,000 for permitting for each pond, plus \$50,000 for the treatment of one of the ponds. \$40,000 was allocated in FY22 for one pond, this funding would cover the other pond.

6. Boland Pond Management Plan - \$55,000

Year 1 would be analytical work in the pond - stormwater monitoring, sediment cores, bathymetric measurements, phytoplankton review, Water quality sampling & analysis, and 1 year deployment of a SONDES continuously measuring device.

Total Funds Requested: \$278,200