



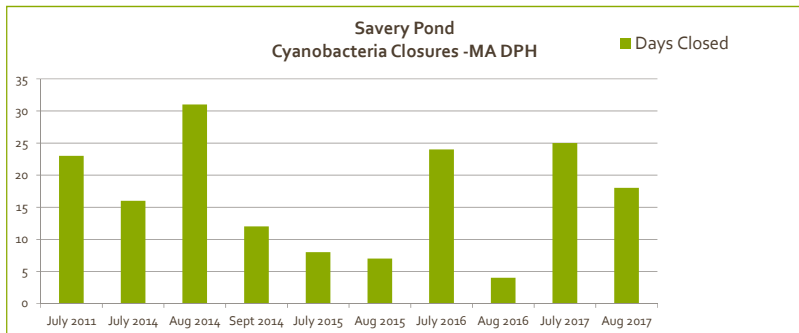
**Savery Pond:  
Funding Article  
Request for Fall 2019  
Town Meeting  
Warrant**

Plymouth Select Board      May 14, 2019

## Introductions: People & Organizations

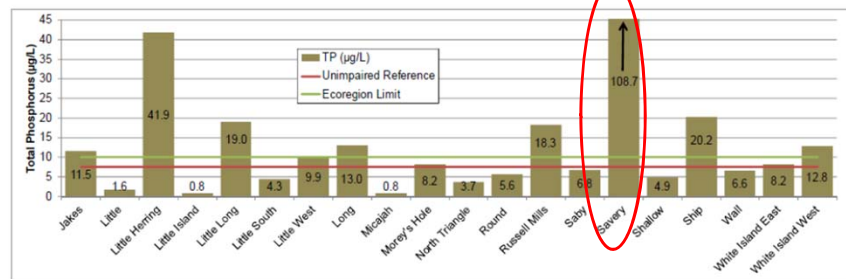
- Peter Schwartzman, hydrogeologist & pond resident
- Paula Marcoux, pond resident
- Savery Pond Conservancy (SPC)
  - Daughter organization of Friends of Ellenville Marsh (FoEM)
  - FoEM was established in 2007 and launched its "Savery Pond Project" (SPP) in 2012
  - SPP will officially become SPC (a 501(c)(3) non-profit) in July 2019
- **About This Request:**
  - SPC is requesting a Department Issued/Sponsored Funding Article for the 2019 Fall Town Meeting Warrant
  - Town of Plymouth Department of Marine and Environmental Affairs is a project partner and would manage the project
  - Request is fully supported by FoEM (see letter)

## Algal Blooms on Savery Pond



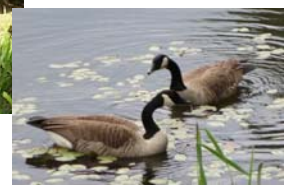
## Nutrient of Concern - Phosphorus

- 2015 PPALS report and further studies indicate high phosphorus in Savery Pond – *literally off the charts!*

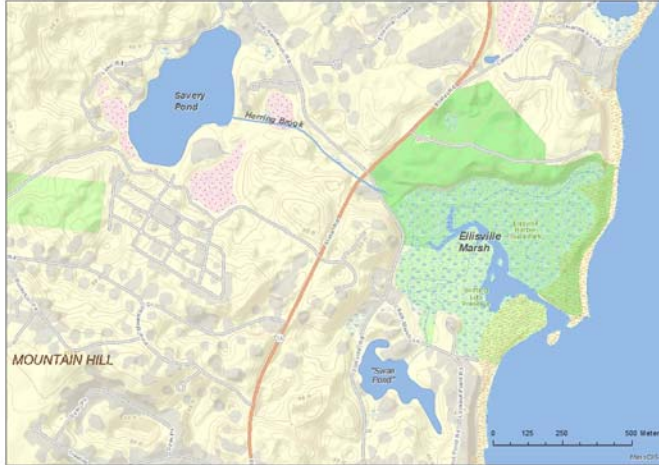


## Possible Sources

- Decades of nutrient loading to pond from cranberry bogs
  - “Legacy nutrients” adsorbed to pond sediment
- Septic system nutrient loading
  - Limited by residential density
- Waterfowl
- Organic matter decomposition

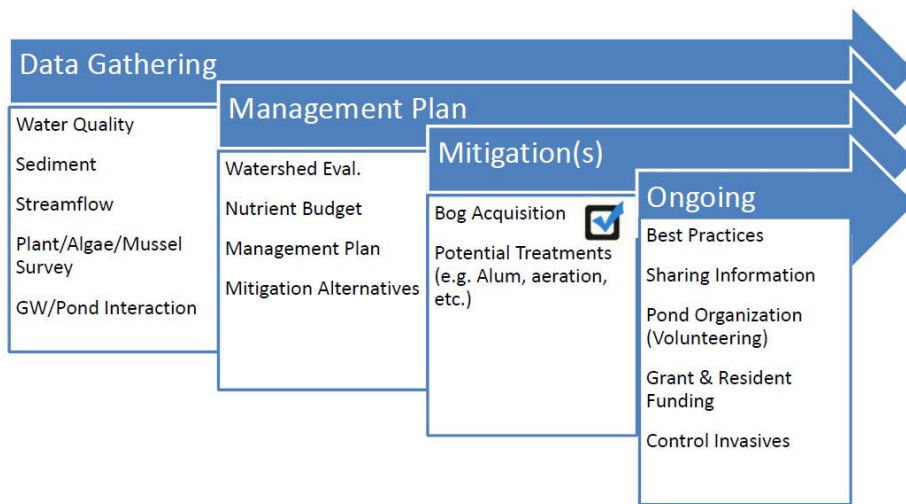


## About Savery Pond



- 28-acre shallow, spring-fed pond
- Headwaters of Ellisville Estuary
  - Feeds fresh water to Ellisville Marsh
- Historic commercial cranberry bogs
  - "East Bog" purchased by Town in 2016
    - Resulting reduction in nutrient loading
  - "West Bog" private, not in production
- Relatively low residential development, Indianhead Resort/Campground
- Town investment in land acquisition
  - Simmons Property (~500 acres)
  - East Bog (AKA "Savery Bog", 11.5 acres)
- Multiple cyanobacteria blooms over the past decade
  - Pose health threats to people and animals
  - Limit recreational access
  - Affect local property values
  - Are conveyed to marsh via streamflow
- Highest nutrient concentrations of 38 ponds (Plymouth Ponds & Lakes Atlas)
  - Listed on 303D impaired water quality list

## Roadmap to Address the Problem



("GW" = groundwater)

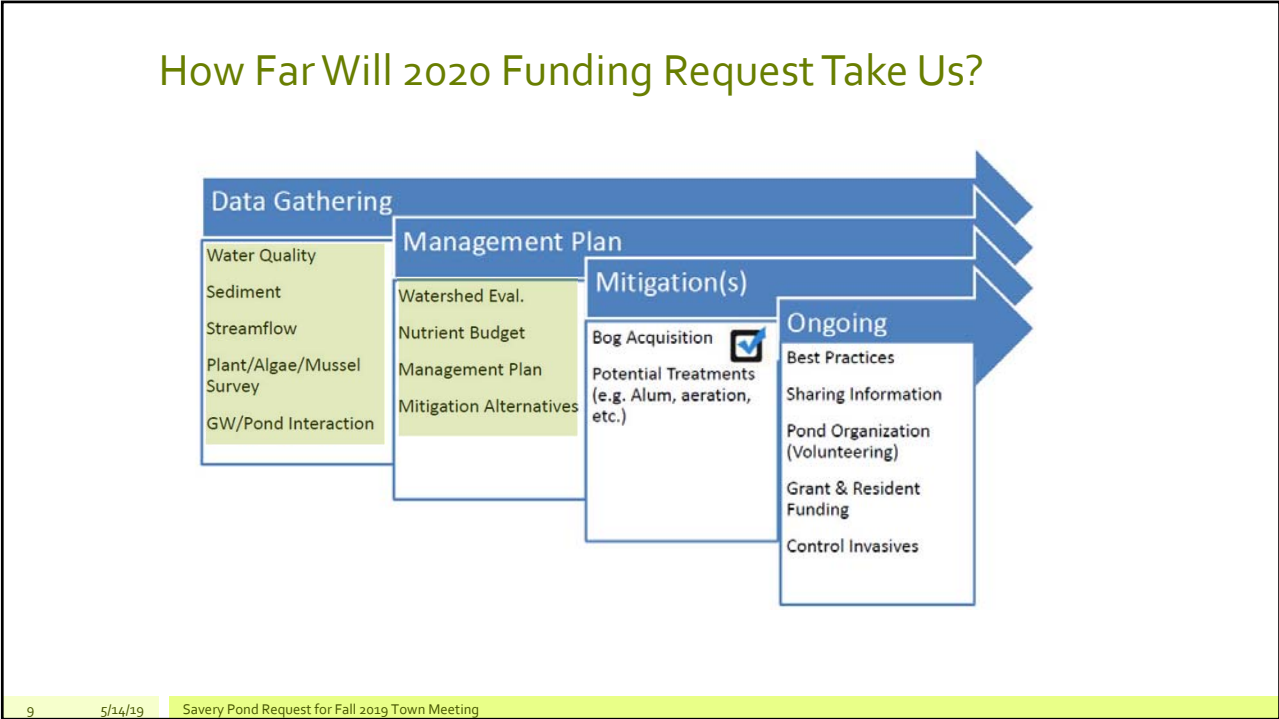
## SPP and Town of Plymouth




- Successful public/private partnership
- Many years of cooperation and shared goals
- Teamed data-collection efforts, data sharing
  - Town has provided technical expertise, funds towards data collection/analysis
  - SPP has provided technical expertise, funds & data collection efforts
- SPP assisted in facilitating Town purchase of adjacent cranberry bog
- Joint Town/SMAST/SPP Grant Submittals (3x)
- Shared goals maintained for moving forward:
  - Complete data collection
  - Develop management plan
  - Maintain a healthy pond ecosystem



## SPP's Demonstrated Record of Commitment

- We have invested \$11,600 (100% from private donations and grants) on the Saverly Pond Project since 2012
  - 2012 Baseline Water Quality Assessment – consultant study
  - Purchase of monitoring equipment (e.g. stream gauge, field instruments)
  - Laboratory fees for sample analyses
  - 2019 fund matching w/ Town for sediment sampling (\$4,000)
- Our volunteers have spent countless hours collecting data & community networking
- We have completed focused investigations & issued useful reports
- We are accountable to local residents and concerned citizens
  - Promoted public education and awareness
  - Informational website ([www.saverlypond.org](http://www.saverlypond.org)), public meetings, newsletters
- We have reserved money and volunteer resources for contribution to 2020 effort



- ## 2020 Funding Request Budget
1. Quality Assurance Project Plan (QAPP) and Historic Data Review
  2. Aquatic Plant, Mussel, Phytoplankton Surveys + Supplemental WQ Sampling
  3. Stream Outflow Monitoring & WQ Sampling
  4. Cranberry Bog Investigations
  5. Management Plan
    - ✓ Nutrient sources fueling algal blooms
    - ✓ Potential mitigations to reduce nutrient concentrations
    - ✓ Ongoing monitoring requirements
    - ✓ Basis of roadmap for mitigative actions, community support, funding acquisitions
- *Initial Estimated Budget Request: \$50k*
  - *Likely Source = Environmental Affairs Fund*
  - *Cost to Town reduced by SPC Matching & In-Kind Donations*
  - *Town Retains SMAST (School for Marine Science & Technology) Services*
- 


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## Project Benefits

- Protect recreational access at Town's public properties (Savery Bog and Simmons)
- Protect public health for tourists and Campground visitors
- Protect public health for pond residents and visitors
- Protect estuary health as Savery Pond discharges into Ellisville Harbor (state park includes beach access)
- Reduce Town staff commitments for ongoing cyanobacteria sampling
- Demonstrate a successful public/private partnership that proactively addresses emerging cyanobacteria issues

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## Questions? Discussion...



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## Additional Slides for Q&A



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## SPC Mission Statement

1. Restore, preserve and maintain the Savery Pond ecosystem;
2. Organize volunteer and consulting support for monitoring, scientific studies & restoration;
3. Undertake fundraising for the benefit of the Savery Pond ecosystem;
4. Coordinate communication and joint activities between the SPC, academic researchers, municipal governments and other non-profits;
5. Support other non-profits with similar missions by sharing information, expertise and monitoring equipment; and,
6. Educate/inform interested parties about the Savery Pond ecosystem.



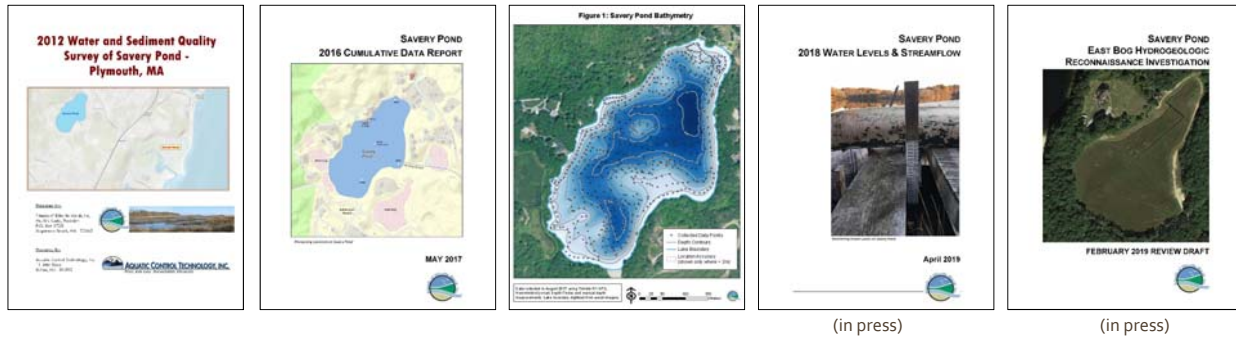
*SPC'S GOALS BENEFIT THE WATER RESOURCES & ECOSYSTEMS OF SOUTH PLYMOUTH!*

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## Savery Pond Project Investigations & Reports



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## Completed to Date...

- Water-quality monitoring + preliminary analysis
  - Bathymetric (pond depth) survey
  - Installation of stream gage, nearly 1-year monitoring
  - Installation of private weather station
  - Monitoring pond and groundwater levels
  - Mapping groundwater flow patterns
  - Town's East Bog acquisition
  - Hydrologic reconnaissance of "East Bog"\*
  - Pond Hydrology Characterization (precipitation, groundwater, surface water)\*
  - Sediment sampling & adsorbed nutrient analysis (2019, Town \$6.2k, SPC \$4k)
- (\* in press)

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FRIENDS OF ELLISVILLE MARSH, INC.  
P.O. Box 1728  
SAGAMORE BEACH, MA 02562

May 14, 2019

Town of Plymouth Select Board  
26 Court Street  
Plymouth, MA 02360

Dear Chairman Tavares:

Re: Letter of Support for Fall 2019 Town Meeting Funding Request – Savery Pond

The Friends of Ellisville Marsh, Inc., is a 501(c)(3) Plymouth-based, nonprofit corporation founded in 2007 for the purpose of restoring and preserving the fisheries and wildlife in Ellisville Marsh. Since 2012 the Friends have also conducted research and collected scientific data to investigate the underlying causes of poor water quality at Savery Pond. Indeed, the Town of Plymouth Pond and Lake Atlas in 2015 identified Savery Pond as one of the most significantly impaired water bodies in our town. Savery Pond and Ellisville Marsh are key elements in the Ellisville/South Plymouth watershed and Savery Pond is the key contributor to the Ellisville estuary, being connected to Ellisville Marsh by Herring Brook.

The Friends' Savery Pond Project has closely coordinated its efforts with the Town's Department of Marine and Environmental Affairs (DMEA) for a number of years. This approach has been proactive as well as collaborative. By collecting scientific data in a systematic and forward-looking manner we and our partners in DMEA have hoped to address the problem in a way that identifies its root causes and the most effective remedial actions. In doing so, we have tried to avoid a situation in which spending becomes driven by a water quality crisis. With its strong neighborhood support and public/private cost-sharing approach, collaboration at Savery Pond may be a useful model that can be replicated to address water quality problems at other Plymouth ponds. To date, the Friends have spent more than \$7,600 on work at Savery Pond, not including \$4,000 we have committed to the Town's project to sample sediments at Savery Pond in 2019.

The Friends' Savery Pond Project is in the process of becoming its own independent 501(c)(3) nonprofit – called the Savery Pond Conservancy – to sharpen the focus on what needs to be done at Savery Pond. While our two organizations will be fully independent by the time of Fall Town Meeting, our common interest in improving water quality at Savery Pond remains strong. We urge you to give careful consideration to SPC's request for funding.

Thank you for your consideration of our comments. We urge you to recommend favorably on this warrant article. I regret that I am currently out of state on business and unable to attend your meeting in person.

Respectfully,

Eric Cody, President  
Friends of Ellisville Marsh, Inc.