Salt Pond Animal Life Study

by Peter Mogielnicki, SPC Member. Edited by John Lake, RI Department of Environmental Management Principal Biologist, and Alicia Eichinger, SPC.

Rhode Island’s salt ponds can be perceived as many different things:

- to the tourist they are part of a beautifully varied and unique landscape
- or the birder, a fabulous site to spot a wide variety of shorebirds
- for the shellfish lover, a place to harvest the freshest of quahogs and steamers
- for anglers, a perfect spot to engage in their favorite pastime
- or the entrepreneur, a place to consider starting an oyster farm

....and the list goes on.

These uses depend on understanding what is happening beneath the ponds’ surface, specifically the complex chemistry which underlies the pond ecosystem and the multitude of marine organisms that compete to live within that system. Understanding these systems is often made more complex when one stops to think how humans impact them as well.

Thanks to the Salt Pond Coalition’s (SPC) dedicated Pond Watchers, we have a historical record of salt pond chemistry and water quality. But there is also a parallel historical record of select salt pond biota or animal life stocks created under the guidance of biologist John Lake of the RI Department of Environmental Management (RIDEM).

Since 1994, RIDEM has towed a 130 foot long, 5.5 foot wide 1/4 inch mesh net

Continued on page 5
Dear members,

Thankfully winter is over, and we can look forward to spring and summer. Certainly last winter was a mixed bag of “wicked” cold with significant ice on the ponds, a warm February, and three “nor’easters” in March. Many of Rhode Island’s beaches suffered significant beach erosion, but hopefully we will see that sand replenish itself over time.

SPC’s former Board Member, Ted Callender was posthumously awarded the 2018 Blueways Stewardship Award. It was great to see Ted’s work was acknowledged by many of the state’s conservationists. As we start our 2018 sampling season, we can’t help but appreciate our volunteer Pond Watchers. Their dedication is so commendable; many have served for ten, fifteen and some cases twenty years. We want to recognize two in particular who retired after the 2017 season. The first is our longtime Dean of the Pond Watchers, Ralph Minopoli. Ralph was coordinator of the Pond Watcher Program for fifteen years. He led the annual spring training and continued to sample Vigna’s Dock in Ninigret Pond until last fall. We will continue to seek Ralph’s counsel. He and Mary have been an important part of the SPC community. We also want to thank Adam Roman, our longtime Pond Watcher on Point Judith Pond. Adam has covered two important areas of that pond for many years.

Planning is underway for the dredging of Quonochontaug Breachway and salt marsh restoration scheduled for the fall/winter of 2018. The EPA funded study to improve operation of denitrification systems in the salt ponds watershed located in Charlestown is well underway. Last year, we added two additional sampling sites to monitor results. Our intern Claire Hodson will be reporting on progress of both projects through video and social media.

We welcome Liz Garofalo to our staff as our part-time office assistant. SPC is growing and extra help will allow Alicia to conduct more outreach programs. Also, we have a new and more efficient data management program to handle our memberships and renewals. From now on your annual memberships will renew every year from the date when we process your membership.

Finally, Alicia has filled up our 2018 summer season with lots of events! You can find a calendar of events on our website, social media, and on page 9 of this newsletter. Our programs are free, but we request members and guests sign up ahead of time by contacting Alicia at alicia@joinsaltponds.com. Salt Pond Safaris do book up, so they are first come-first serve. As always we are available to meet with and talk to community organizations about our program offerings and topics of concern regarding the salt pond watershed.

We can’t operate without our members and volunteers, as always thank you for your support. Hope to see you on the salt ponds this summer!

Sincerely,

Arthur Ganz
President
Charlestown
Salt Ponds Coalition Visits Rhode Island Statehouse

On April 4, 2018, SPC Executive Director Alicia Eichinger and Board Member Ann Manion made the trek to Providence to attend the Rhode Island Rivers Council Annual Meeting which was held at the Rhode Island Statehouse. SPC joined the R.I. Rivers Council and nine other watershed councils from all over the state there to spread awareness about our work protecting Rhode Island’s waterbodies. Representative Carol Hagan McEntee came to address those present as the meeting’s keynote speaker and answered questions posed by various members of the watershed councils. SPC debuted its new display banner at the statehouse. We will be using this banner at many of our outreach events, and we are grateful to the RI Rivers Council who helped to subsidize the purchase of the banner through a grant that they received. During this meeting, Alicia was also voted in as Vice-Chair of the Rhode Island Rivers Council!

Photo: Alicia and the SPC display.

Special thanks to watercolorist Cathy Johansen who contributed her watercolor art of the Weekapaug Yacht Club. Learn more about Cathy and her beautiful watercolor art at cjdesign-gallery.com

Salt Ponds Coalition Summer Member Event

July 12, 2018
Weekapaug Yacht Club

Look for your invitation in the mail soon!

Join us for an evening of great food and a wonderful view of Quonochontaug Pond.

SPC will be hosting a silent auction to raise money for our water quality testing and education programs.
A Model for Turf Management

By Ann Battersby, Senior Environmental Scientist, Rhode Island Department of Environmental Management Office of Compliance and Technical Assistance

Increasingly more land is developed and turf takes the place of native biodiverse land cover. Stakeholders within the turf industry view turf as essential to aesthetics and those in the environmental field see the negative side of turf management such as its contributions to non-point source loading in the form of nutrients (fertilizers) and chemicals (pesticides) into surface and ground water supplies. Without existing regulations regarding fertilizer application rates at the Rhode Island Department of Environmental Management (RIDEM) and the rising concern within the Department over water quality impairments for nutrients, RIDEM’s Office of Customer and Technical Assistance Pollution Prevention Program (P2) created a “Sustainable Turf Management Program” to provide assistance to turf managers, measure pollution metrics, support and encourage continuous improvement, and to provide incentives to turf management industry stakeholders to embrace more sustainable practices. This P2 program is strictly voluntary. More information on this program can be found at the RIDEM website: http://www.dem.ri.gov/programs/customertech/green-hospitality/index.php

The goal of the program is to promote continuous improvement in the practice of pollution prevention and encourage sustainable practices. This program has had successful results in reducing water consumption, fertilizer use reduction, and greenhouse gas reductions all while savings businesses money (see Metrics Tables) below.

By working with businesses in a non-regulatory business friendly manner, we have found there are many businesses in RI that are willingly taking steps on their own to be more sustainable. By having this program give recognition to these businesses we have found that the relationship is a win-win! We get the data and metrics to report on sustainable trends and also provide assistance and they get to utilize the program incentives as marketing tools. This program has similar content to the Town of Charlestown Landscaper Approved Program. Here is a list of businesses who have participated.

To the right is a list of participating businesses as of March 2018.

Over the course of the grant program and beyond, we have collected data that have allowed us to calculate the following “source reduction” metrics shown in the table below that have been as a result of the P2 program and its intervention and friendly businesses assistance with turf management stakeholders in the state.

The “Metrics Table” on the next page was prepared for the EPA Assistance Grant Final Report 2017. All metrics reported were calculated by using the rate at which fertilizers were applied in lbs/1000 sq. ft, water use in acre ft/acre, pesticide application rates, and EPAs greenhouse gas reductions and cost savings calculators found at this link (https://www.epa.gov/p2/pollution-prevention-tools-...
Salt Pond Animal Life Study, continued.

in semicircles against the shoreline at multiple standardized fixed points in the salt ponds each month from May to October. They carefully count and tabulate the hauls. The method provides a snapshot of biota within the salt pond shallows with a focus on young of the year finfish. While it is not intended to sample adults, shellfish and other species, this systematic sampling has provided an accurate measure as exists for how life in the ponds varies from month to month and how it has changed over more than two decades.

These studies are a window into the ponds’ incredibly rich biodiversity. In 2017, the researchers collected close to fifty different species, (Figure 1 -- see page 6) and this represents only the near-shore life captured by the 1/4” net mesh. For those species felt to be of commercial or recreational value, month of capture as well as size are recorded. For example, the May to July 2016 and 2017 data showed that juvenile winter flounder on average grew from 3+ cm to 5 cm in length. Hunter-gatherers who spend time crawling on their knees on the flats digging quahogs or steamers know that there are plenty of other little critters like grass shrimp and small amphipods that could easily slip through a 1/4 inch mesh. The method also misses the species inhabiting the deeper portions of the ponds and the organisms living in the mud like shellfish and sandworms. RIDEM does observe jellies but only to document their presence or absence; and in the case of comb jellies they document if they are present in large quantities. Those familiar with the life in our salt ponds already know there are plenty of mummichogs and other baitfish like silversides, killifish and sheepshead minnows in the shallows. But for some it might be surprising to learn that oyster toadfish, mantis shrimp and an occasional seahorse, hogchoker, inshore lizardfish or naked goby also could sometimes be found there.
Changes and trends in the ecosystem become more apparent when we look at historical data. It is conventional wisdom among fishermen that the once plentiful winter flounder has become a rare catch in RI salt ponds. Conversely, black sea bass which have historically been thought of as a fish most common off the New Jersey shore are now very frequently caught by boaters in Rhode Island. The carefully standardized seining from the same points in the salt ponds year after year clearly confirm these observations, showing juvenile winter flounder declining as juvenile black sea bass have increased (Figure 2 and 3). The data also suggest a puzzling and rather worrisome decline in the numbers of baitfish; though baitfish had better numbers in 2017 than they did in 2016 (Figure 4). The full RIDEM scientific reports from which this information was obtained are available on the “Hot Topics” page of saltpondscoalition.org.

One tantalizing finding for recreational fisherman is the presence of an occasional juvenile striped bass in the seine hauls. This raises the possibility that here in Rhode Island there is a small breeding population of this prized sport fish whose widely recognized breeding sites are the Chesapeake Bay and the Hudson River estuary. This can lead some to speculate that ocean warming may push striped bass breeding northward, making the RI shore more likely to hold adult fish year round. For example, there is some indication that adult stripers overwinter in Norwich, Connecticut at the head of the Thames.

Like much research, the DEM study brings to mind additional questions.

• What goes on below the five foot depth assessed by the DEM seine?
• What are the trends in numbers and types of adult fish that inhabit the pond intermittently?
• Is there any pattern to the times of year when adults are present?
• Will the dredging of Quonochontaug Breachway scheduled for the winter 2018-2019 have any effect on the use of the pond by ocean living adult finfish that enter it intermittently to prowl its deeper sections.

To answer these and other questions SPC is considering gathering additional data this summer to establish a broader biotic baseline. Anyone interested in participating as a “citizen scientist” on this project should contact SPC Executive Director Alicia at saltpondscoalition@gmail.com.
A watershed is an area of land that drains into a river, pond, or the ocean.

In the Eastern Ninigret & Green Hill Ponds subwatershed alone, there are a total of 474 On-site Wastewater Treatment Systems, including 56 substandard systems, 244 conventional systems, & 130 Nitrogen-reducing systems.

Nitrogen reducing septic systems can be fine-tuned to maximize efficiency.

Scientists from URI are analyzing system discharge from 50 existing Nitrogen reducing systems to make them more efficient. They have recently developed a new cost effective way to field sample them so they can be adjusted during an inspection.

Regular maintenance is critical to a well-functioning on-site waste water treatment system.

URI Scientists are using the information they learn from analyzing systems in the salt ponds watershed to teach industry people how to properly maintain these systems for the homeowner.

Water quality monitoring is key to knowing what changes to on-site waste water treatment systems will have on the amount of nutrients heading into the ponds over time.

SPC is monitoring three sites in Eastern Ninigret and Green Hill Ponds that will be directly affected by the efforts of Charlestown and URI under the EPA grant.

Nutrients like Nitrogen are essential to plant and algal growth, but too much is detrimental to an ecosystem and ultimately result in oxygen-depleted dead zones.

By upgrading fifteen substandard septic systems, the Town of Charlestown is hoping to remove 150 pounds of Nitrogen from entering the Eastern Ningret/Green Hill Pond Watershed per year.

SPC is currently a partner with the Town of Charlestown, University of Rhode Island, and Save the Bay in an effort to reduce nutrients heading into the salt ponds funded by an EPA Grant.

Benefits of Septic System Upgrades on the Salt Ponds

FIVE FACTS about the
The Atlantic Silverside

As summer time approaches, here at SPC we can’t help but look forward to Salt Pond Safari season. One animal that we find quite often on our exploration of the salt ponds are Atlantic silversides. Now don’t let their small size fool you; these fish are important to the salt ponds ecosystem!

Atlantic silversides are a small fish that grow no bigger than six inches in length! That’s about the size of an American dollar bill.

They have a metallic silver strip that runs from their head to their tail on both sides of their body, their common name is a reference to this feature. They are also commonly called minnows and baitfish.

The Atlantic silverside is an important part of the diet of bigger fish such as striped bass. Shorebirds such as egrets, gulls, and cormorants also prey on silversides. This makes them an important part of the salt pond food chain!

Silversides tend to travel in large schools as a way to protect themselves from predators. Their appearance, combined with the fact that they are quick swimmers, makes them difficult to see.

In the summer, silversides tend to swim near the shoreline. This is why we catch so many on our safaris! They swim to deeper waters in the winter to avoid the low temperatures.

Why are fish so smart?
Because they travel in schools!

Silversides are commonly used as a baitfish.

Check out our Summer Salt Pond Safari schedule, and contact Alicia at alicia@joinsaltponds.com to sign up!

References:
www.edc.uri.edu
www.chesapeakebay.net
www.fishbase.org

Conservation Fact:
Silversides can be used as an indicator of pond health and are often studied by scientists. They are sensitive to extreme conditions such as low oxygen, temperature change, and contaminants in water.
Salt Pond Safaris introduce people of all ages to the wonders of salt ponds. Using a 30’ seine net, we catch a variety of aquatic creatures. Children enjoy hands-on experience with salt pond ecology. Capacity is limited, so pre-register the number of people in your party with Liz@joinsaltponds.com.

Directions:
Salt Pond Safaris | Ninigret Pond
Location: Ninigret National Wildlife Refuge, Charlestown, RI. GPS address is: 61 Park Lane, Charlestown, RI [Frosty Drew Observatory]. From there, continue along Park Lane, traveling past the Dog Park, until you reach the Fish & Wildlife parking area.

Guided Pond Tours | Location varies
Join us with your kayak, canoe, or paddle board as SPC leads guided tours of a RI salt pond. Each tour is 2 hours. Pre-register with Liz@joinsaltponds.com.

Paddle Launch Points
Point Judith - Marina Park off Route 1, on Salt Pond Rd. (GPS 214 Salt Pond Road, South Kingstown, RI)
Quonnie - Quonochontaug Breachway, off West Beach Rd. (nearest GPS 999 W. Beach Rd., Charlestown, RI)
Winnapaug - Westerly Town Beach overflow parking lot; N. side of Atlantic Ave. (GPS 342 Atlantic Ave., Westerly, RI)

Events are Free  Pre-Register with Liz@joinsaltponds.com

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Ted Callender Honored with Stewardship Award

In our last issue of The Tidal Page, we remembered former SPC Board Member Dr. Ted Callender who passed away in early October 2017. Ted served on the board for 10 years and served as both SPC’s Vice President and Chair of the Environmental Committee. Ted was a brilliant and talented scientist with strengths in hydrology, chemistry, and geology; plus his love for the salt ponds was unmistakable. During this year’s Rhode Island Land and Water Summit held in March 2018, Ted was honored posthumously with the R.I. Blueways Alliance’s Blueways Stewardship Award in recognition of exemplary dedication to the stewardship and conservation of Rhode Island’s rivers, lakes, and coastal waters. SPC Executive Director, Alicia Eichinger, accepted the award on behalf of Ted’s family. SPC is grateful to the award selection committee for choosing Ted for this award.

Welcome Liz Garofalo!
Meet SPC’s Newest Staff Member

Liz Garofalo joined the SPC staff as a part time administrator in March, where she hit the ground running to help launch our new membership management system. Working side by side with Alicia, Liz ensures all our marketing and membership communication programs run like clockwork.

A resident of Rhode Island for more than 34 years, Liz resides near Warden’s Pond in South Kingstown. She brings to us a wealth of experience as a lead administrator for organizations like Rhode Island College and Westerly Public Schools.

Liz loves the salt ponds of Rhode Island and joined our team with the career goal of working for a RI community organization that shares her values on environmental preservation. Liz remarks:

“There’s nothing I enjoy more than relaxing with a steaming cup of coffee, gazing at the water, inhaling the salt air, watching the sea birds and sailboats. Each day I give thanks for the opportunity to live in such a beautiful place. This summer will be my first season with SPC, and I can’t wait.”

When not working for SPC part time, Liz volunteers for The Preservation Society of Newport County, helping to maintain mansion gardens. She looks forward to meeting our members, so if you see Liz on deck at an SPC event, please reach out and say hello!
JOIN US TODAY

Because It Takes A Coalition To Protect RI Salt Ponds

YES! I want to show my support for Salt Ponds Coalition and my commitment to protecting the irreplaceable salt ponds that make Rhode Island so special.

To ensure our salt ponds are always protected, cared for, and shared, I am joining Salt Ponds Coalition with a generous membership contribution of:

- Contributing · · · $45 - $74
- Supporting · · · $75 - $149
- Sustaining · · · $150 - $249
- Advocate · · · $250 - $499
- Steward · · · · $500 - $999
- Benefactor · $1000 - $2499
- Patron · · · · · · $2500+

Memberships are for the calendar year. Members receive the Tidal Page newsletter which publishes the water quality testing data and enjoy our community events including Salt Pond Safaris, Guided Kayak Tours, Speakers, Special Events & more.

Visit joinsaltponds.com to sign up online.

Or complete this tear out form and mail to:
Salt Ponds Coalition, P.O. Box 875, Charlestown, RI 02813

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Your information will never be shared. Salt Ponds Coalition is a 501©(3) non-profit. Your membership donation is tax deductible.

Got Questions? 401-322-3068

Follow SPC on Social Media

Visit joinsaltponds.com for links to our social media.

Volunteers Needed

Want to get more involved?

Contact Alicia for more information.

alicia@joinsaltponds.com