Happy Spring from Salt Ponds Coalition!

Happy spring! Wow, what a winter! Polar vortices and a big influx of snowy owls made RI feel like the great north woods. Here at SPC, we fought the urge to hibernate and instead were busy wrapping up projects from last year and planning a busy 2014 summer season.

Our Status and Trends report is complete and you can find a PDF on our website. If you would like a full-color hard copy, please let us know; there’s a description of the report on pages 8 - 9. SPC Vice President Ted Callender, PhD has analyzed the data from his 2013 groundwater-borne nutrient study in Quonnie Pond. He is still working on a detailed final report, but you will find a brief summary on page 10. We have not yet received the 2013 sampling data from URI, but we’ll get right to work on it when it arrives.

We are busy gearing up for our 29th water quality monitoring season! We have five new pondwatchers and a new Director on our Board—we introduce you to them all on page 3. We also have planned a full summer packed with fun (and educational) activities. With four paddles and four safaris on the schedule, there’s plenty of fun to be had in the (hopefully) sun. Please check our events calendar on page 3, or go online and click the “Calendar” button for more details. Last but not least, we continue to work with Ardi Schneider on her children’s book about the ponds.

Thank you all for your ongoing support, and see you on the ponds!

Spring Reminder: Be a Gentle Pond Neighbor

If you are a long-time member of SPC you’ve probably seen all of this before, but we think it is helpful to remind folks how they can be gentle neighbors to our salt ponds. We all treasure these beautiful and valuable natural places and want to do what we can to keep them that way. A lot of what we can do involves what we do in our yards come spring and summer. So here goes...

1) Watch your fertilizer use near the ponds. Fertilizer that is not used by plants ends up in the pond—where it causes excess algae growth, which reduces water clarity and consumes oxygen, which is harmful to fish and shellfish. And, too much algae can make our many activities in the ponds pretty unpleasant. So please use fertilizer sparingly or not at all. If you must fertilize, try to use organic or low-soluble (slow releasing) fertilizer. Have your soil

Happy Spring from Salt Ponds Coalition!

Climate Change Planning a RI Priority

Climate change is a happening, and it is time that we start planning for its effects. This is the message that the State of RI is telling us loud and clear, with help from the University of RI (URI) Sea Grant and Coastal Institute. Our U.S. Senator Sheldon Whitehouse is working hard to get Washington, DC moving toward action, too.

Even though the effects of climate change are already evident here in RI (sea level rise, coastal erosion, shifting fisheries, a rapidly warming Narragansett Bay—the list goes on), some people in the central and eastern U.S. have taken our long, cold winter as “evidence” that climate change is fiction. However, data from the National Oceanic and Atmospheric Administration (NOAA) indicate that during January and February 2014, most of the world’s land areas experienced warmer-than-
Message From Our President

Dear Members,

It was a long winter but we weren't in slow motion at Salt Ponds Coalition. Thanks to Caitlin Chaffee at CRMC, Steve McCandless from the Town of Charlestown, Dick Sartor and Elise from SPC, and many other colleagues from Save the Bay, the Town of Westerly, and beyond, we have submitted a proposal to the Department of Interior for resiliency projects at the Charlestown, Quonnie & Weekapaug breachways and adjacent saltmarshes. Many thanks to all of you who submitted letters of support of this proposal—we hope to hear whether the grant was awarded in mid- to late-May. Our pond monitoring data from last summer have been delayed at the URI lab, so our Aquatic Health Analysis will not be posted until after we get the URI results. We are also breathlessly waiting for the company to remove rocks and the sandbar at Charlestown Breachway.

Our Board reorganization is complete, but we are in need of Environment Committee members. Interested volunteers should call Elise at the office. We continue to work on the development of the Shoreline Change Special Area Management Plan (Beach SAMP). This has morphed into several other projects in conjunction with the Corps of Engineers relating to regional preparedness projects and a possible dredging project in Winnapaug Pond. We also attended a seminar by a professor from Clarke University presenting case studies in climate change adaptation and economic tradeoffs in coastal management. One of the case studies in Waterford, Connecticut has great applicability here. There is a link to the presentation on our web site. As Coalition of Community Leaders, we helped with the formation of R.I. House bill 7904 to establish statewide planning development to address climate change and coastal flood mitigation.

Besides the Trends Analysis report, we are working with a local author Ardith Schneider in developing a children’s book. Once complete, we will be soliciting funds to print it. We are always in need of financial support of water testing—$18,000 is needed annually. Each year our grant from the state via the Rivers Council that helps support our testing is less (down 90% in the past eight years). As you know, our mission is high and our funding is low.

I am noticing that membership renewals are running behind previous years. Hopefully this is weather related—folks not thinking so much about the ponds this time of year. If there are members who are unsatisfied with our job performance, I would appreciate hearing about that, too.

We will begin our 2014 Pond Watcher season with several new volunteers (see p. 3)—thank you to all of you, and see you at our training session in April. We will celebrate and thank all of our Pond Watchers and volunteers at a special event May 5th, so check your mailboxes for invitations soon.

Our schedule of summer events (Salt Pond Safaris, guided kayak trips, annual pizza fundraiser at the Hill’s, etc.) is posted on our website, so please join us and bring a friend.

Art Ganz

Rhode Island Rivers Council and the Rhode Island Water Resources Board are sponsors of SPC’s water quality monitoring program.
Welcome to Our New Director...

At its November Board Meeting, the directors elected Ted See to fill a vacancy on the SPC Board. Ted was a partner at the Hartford, CT law firm Day Pitney LLP for more than 40 years. His main area of practice was municipal finance, but also included tax-exempt organizations and charitable giving. Ted and his wife Ellen have owned a home in Shady Harbor since 1986, where Ted served as Deputy Moderator from 2007–2009 and Moderator from 2009–2011. Ted is an avid kayaker and sailor on Quonnie Pond and is also an accomplished birdwatcher. In the short time since joining SPC’s Board, Ted has devoted a great deal of time on Board governance and revising the bylaws (to be voted on by SPC members at the 2014 annual meeting). SPC is extremely fortunate to have Ted on our Board.

...and Welcome to Our Pondwatchers!

Welcome back and many thanks to our wonderful veteran pondwatchers returning for 2014! They are Susan Carr, Tom Dodd, Barbara Engel, Peter Gaffey, Bruce Loeckler, John Crandall, Chris Randall, Pam Ganz, Goody Lovvoll, Dick Sartor, Rich Caldon, Louise Nicolosi, Ralph Minopoli, Don Rocheleau, Richard Sisson, George Hill, Laura Moehrke, Ted Truslow, Bernie Forand, John Slusarski, Adam Roman, Elise Torello, Paul & Kim Hooper, Rachel Dahl, and Margaret Hayden.

And, a warm welcome to our six new pondwatchers! We hope you are looking forward to our training session on April 26 at 9:00 a.m. They are Ken Simmons, Nikki Vanasse, Brad Dean, Sr., Bob Long & Hope, and Kim Meneo. Volunteering to sample every other Wednesday morning from May 14 to October 1 takes dedication, and we appreciate your enthusiasm.

Finally, we are excited to partner with the U.S. Fish and Wildlife Service to monitor Trustom Pond within the National Wildlife Refuge. Ted and Ellen See will assist in that venture.

Many thanks to you all!!!
RI on the Forefront of Climate Change Planning

Continued from front page

average temperatures. Overall, NASA data show that the January Northern Hemisphere land surface temperature was 2.17°F above average—the fourth warmest since records began in 1880; February was the 21st warmest on record. Furthermore, NASA points out that “February marked the 29th consecutive February and 348th consecutive month with a global temperature above the 20th century average. The last below-average temperature for February and the last below-average temperature for any month was February 1985.” These are sobering statistics, and a reminder that we need to look far beyond our own local weather to understand what climate change will do to us, and the rest of the world.

Nationally, RI is in the forefront of efforts to plan for the effects of climate change. For starters, the development of the Shoreline Change Special Area Management Plan (or “Beach SAMP”) is a model for other coastal states.

On February 21st this year, Governor Lincoln Chafee signed an Executive Order which creates the RI Executive Climate Change Council (ECCC). According to the Governor’s press release, “The ECCC will advise the Governor, the General Assembly, and the public on best practices to ensure that the state continues to be a national leader in developing and implementing strategies that address challenges created by climate change... RI must act boldly to position the state as a national leader in climate adaptation with a comprehensive approach that will benefit our communities and businesses.” The ECCC will include the leaders of the state’s environmental, administration, transportation, health, emergency management, energy, planning, and commerce departments. The intent is to develop long-term strategies and to work with cities and towns to help prepare communities.

On February 24th, RI Sea Grant announced the launching of a state climate change website: www.RIClimateChange.org. This website is intended to keep the public informed with a “down to earth” explanation of climate change. The site describes how climate change will affect our environment, economy, and communities, and what actions people can take to adapt. The website will be updated regularly to include the latest information about climate change and adaptation.

Being a Good Neighbor to the Ponds

Continued from front page

tested to determine your lawn’s needs to avoid overfertilizing, and fertilize only one or two times/year (and not after late October). Try to make sure that excess fertilizer does not reach the pond by sweeping fertilizer spilled on driveways/walkways into the grass. Keep in mind that older (10+ years) lawns need less fertilizer. And please consider using organic methods—healthy lawns need fewer fertilizers and pesticides.

2) Lawn Maintenance Tips: Mow high (3”) and leave clippings on the lawn as fertilizer; reduce excessive or frequent/shallow irrigation, as too much water moves nitrogen below the root zone and frequent/shallow watering encourages shallow root zones and weak plants; aerate and thatch to reduce compaction; shift to fescue grasses, which need less fertilizer and water.

3) Try to catch rainwater before it gets to the ponds. Rain barrels and rain gardens catch roof runoff before it can wash fertilizers, pet waste, and goose droppings into the pond. Water from rain barrels can be used in gardens during dry spells and outdoor water bans. A vegetated pond-side buffer of native plants is beautiful, plus it catches yard runoff and discourages Canada geese from walking onto your lawn. And please don’t feed the geese!

4) Pick up after pets. Pet waste contains high levels of nutrients and bacteria, and picking it up prevents these from washing into the pond. Please seal the waste tightly in a plastic bag and put it in the trash.

5) Try to be a “green” boater. Limit use of cleaning agents that can wash into the pond and use non-toxic and biodegradable products whenever possible. Use pumpout facilities to empty holding tanks.

Many of our individual actions to protect the ponds add up to BIG overall benefits—thank you!
The Nuclear Power Plant that ALMOST Was...
or, How Ninigret National Wildlife Refuge and Ninigret Park Came To Be

By Art Ganz & Elise Torello

Have you ever walked the peaceful trails at Ninigret National Wildlife Refuge or used the U.S. Fish and Wildlife Service kayak launch to paddle the beautiful waters of Ninigret Pond? Have you taken any of the children in your life to one of SPC’s Salt Pond Safaris, so that they can learn about the abundant life in Ninigret Pond’s waters? Have you ever enjoyed any of the many events held in Ninigret Park (the Charlestown Seafood Festival, the Big Apple Circus, Rhythm & Roots, to name just a few)? Have you ever enjoyed shellfish collected or grown in Ninigret Pond, or fished anywhere off the south coast of RI? Now imagine that instead of a wildlife refuge and town park adjacent to Ninigret Pond, there was a two-reactor nuclear power plant, discharging its cooling water through a great big pipe under Ninigret Pond into the waters off of East Beach.

If you came to RI after the 1970’s, you might not know how close the entire Ninigret Pond watershed and ecosystem came to total transfiguration. Most people know that Charlestown Naval Auxiliary Landing Field (NALF) was operated during World War II. It served as a training field for Navy pilots including President George H.W. Bush, and some local pilots who still live in the area. After WWII the field was vacant and the buildings deteriorated. During a short time in the late 1950’s the runways were used for drag racing on Sundays. The Defense Department finally announced in 1974 that the NALF was being surplused.

First, a few words about surplus federal property. Once federal property is surplused, whether a jeep, office equipment or land, if a fellow federal agency wants it they have first refusal for its acquisition under the authority of the Federal Property and Administrative Services Act of 1949. If no other federal agency wants it, it is offered to the state; if unwanted, the town; and finally, if none of these government entities want the surplus property it is available to the private sector.

In the case of the NALF, the General Services Administration (GSA) gave its conditional approval to an agreement to sell the land to Narragansett Electric Co., a subsidiary of New England Power Company (NEPCO), for $3.3 million, without any bidding. The land was declared surplus on April 26, 1974, and on May 6th NEPCO requested in a letter to the Administrator of the GSA that the GSA join in a sales agreement with them for the entire 604 acre site for a nuclear power plant. Also in this letter, NEPCO states that it had been “carrying on investigations of the site for more than a year” prior to the surplus declaration. On May 23rd, the U.S Fish and Wildlife Service (USFWS) requested 367 acres of the site which was of high value for wildlife and migratory waterfowl. The GSA ignored the requests of the USFWS for the air field for use as a wildlife refuge, and made a deal directly with NEPCO to build a nuclear power plant. A U.S. House of Representatives subcommittee challenged the legal basis of an exclusive, non-competitive sale to NEPCO, and despite the request for the land from the USFWS. Interest in the land expressed by the State of Rhode Island and the Town of Charlestown were also ignored by the GSA.

According to an editorial in the Providence Journal, this deal was cloaked in secrecy by the office of then Governor Philip Noel. Residents of the south coast, from Westerly to Narragansett, were immediately concerned about radiation hazards and the threat to the environment. They were also angry and resentful of being excluded in the secret planning of this deal.

This was NEPCO’s plan for the NALF. The main power plant would be 122 ft high with a 310 x 95 ft footprint. The foundation was to extend down to bedrock. The two 200 ft tall reactor containment buildings would be 140 ft in diameter with 5 ft thick concrete walls. Two 18 ft diameter pipes would be burrowed beneath Ninigret Pond and the coastal barrier: one to take reactor cooling water from Block Island Sound, and the other to pump the heated effluent back into Block Island Sound in about 40’ of water depth. The discharge pipe would
The nuclear waste would be stored on the former Westerly Drive-In, now the Shelter Harbor Golf Club. The plant was projected to cost $1.5 billion and was scheduled to be operational by 1983.

A group of residents formed the Concerned Citizens of Rhode Island (CCRI) in early 1974, and they joined the Department of Interior (DOI) in a lawsuit to block the direct transfer of the base to the power company. This became a long and ugly fight. Politically, the Town of Charlestown was split between the pro-nuclear and anti-nuclear factions that carried scars around the town for years. NEPCO launched a campaign to secure the support of local residents, including a tour of another nuclear power plant (the Connecticut Yankee plant in Haddam, CT), informational sessions, a clambake, and even going door-to-door. To raise money for its legal fight, CCRI met in peoples’ homes, held tag, bake, and craft sales, and raised and sold flowers.

In July of 1975, a Federal judge ordered that an environmental impact study (EIS) had to be done before plans for the power plant could proceed—this EIS was completed in January of 1979. NEPCO had argued that the existence of the national energy crisis allowed them to bypass having to do an EIS. The EIS found the potential for significant sedimentation of Foster’s Cove and Ninigret Pond during construction. The EIS also notes that the plant is in a flood plain and susceptible to storm danger. The construction phase—and associated noise, disruption, and dust adjacent to Ninigret Pond, plus heavy traffic—was anticipated to last nine years. NEPCO indicated that they might have eventually added another one or two power units—either nuclear or fossil fuel—at the site. The transmission line corridors from the plant would vary from 75 to 350 ft wide and incorporate about 2000 acres of mainly forested upland from the NALF north to Danielson, CT and Burrillville and East Greenwich, RI.

The town of Charlestown voted against the power plant in a nonbinding referendum in early 1976. Then, on March 28th, 1979, the partial meltdown of a nuclear reactor at Three Mile Island in Pennsylvania resulted in a tremendous loss of support for nuclear power generation. According to an April 2nd, 1979 Associated Press story, RI Representative Edward Beard, who was a strong supporter of nuclear power in RI, withdrew his support of the nuclear power plant planned for Charlestown. He was quoted as saying “I wouldn’t want that nightmare in my state.”

Thankfully, the CCRI and DOI succeeded in a June 1979 federal court ruling. The judge relied on the findings of the EIS and noted that the NALF “is situated in a unique ecological area with a long history of migratory waterfowl use on the East Coast flyway. It is a resource with exceptionally high value for shellfish and other wildlife… It protects and maintains valuable and irreplaceable wetland ecological systems.” The judge also expressed reluctance, in light of the town referendum, “to impose a project of this magnitude on a community against the wishes expressed by the electorate.”

USFWS was awarded 307 acres, including all of the waterfront land. The U.S. Environmental Protection Agency was awarded 60 acres, which they transferred to the USFWS not long after. The Town of Charlestown was awarded 237 acres for passive recreation (a park) with the understanding that all activities on the town property would be approved by USFWS and compatible with the refuge.

However, even after having lost two court decisions and the country experiencing the horror of the Three Mile Island accident, NEPCO stated in August of 1979 that they planned to appeal the June 1979 decision. They did so and lost in a December 4, 1979 court decision. Finally, on December 19, 1979, NEPCO announced that they were dropping their plans to build a nuclear power plant in Charlestown. According to a 1980 New London Day article, NEPCO privately blamed CCRI for the plan’s failure.

USFWS took possession of their property and began the clean-up and construction of a trail system. Now that the Town of Charlestown had all of this land, what to do with it? What follows are the personal recollections of our SPC Board President, Art Ganz.

The Town Council appointed a development committee, with yours truly and George Bliven as co-chairs. The committee met at least weekly in my living room. George was a gifted man, skillful in many ways and had the energy of a hyperactive ten-year old! The group decided to name the parcel Ninigret Park and gained the Town approval. We had an incredibly
Yankee horse-trading! This led George to exchange for the scrap metal—talk about offered to move two buildings for us in ing, gutters, and other scrap metal. Irving eral weeks was to collect the copper wir- some of the buildings. My job for several business and was interested in salvaging the time, ran a used furniture & antiques levers. Lloyd, our state representative at moving buildings using simple jacks and on Ross Hill Rd. and was well known for Due to the continued strong opposi- tion by the pro-nuclear group in town, each request for funding met with a fight. It was then that I learned that in order to get things passed, you get all your allies to attend the meeting and vote! We routinely got an appropriation of $20,000 per year. This is where it got fun! Demolition of the derelict buildings and making the grounds safe was our first priority—but how to do it with a low budget? Enter Irving Crandall and Lloyd Cooke: Irving, part of the Crandall fam- ily dating back to 1637, ran a junk yard on Ross Hill Rd. and was well known for moving buildings using simple jacks and levers. Lloyd, our state representative at the time, ran a used furniture & antiques business and was interested in salvaging some of the buildings. My job for several weeks was to collect the copper wiring, gutters, and other scrap metal. Irving offered to move two buildings for us in exchange for the scrap metal—talk about Yankee horse-trading! This led George to on his property overlooking the ocean. He had Irving move two large sheds for rebuild and use in his business. Once all the hazards were removed we invited the public to tour the site and provide us a list of what they wanted in the park. The two remaining houses were next. We decided that park security would be an issue. We decided to move one house to the gate, renovate it and rent it to a lo- cal policeman who would act as security. Irving dug the foundation, Ken Simmons (one of our new pondwatchers!) donated his masonry skills to build the block foun- dation and eventually Irving moved the house before a small crowd of on-lookers. Many volunteers renovated the house and its first tenant, a young Tom Sharkey and his family moved it. Tom just retired as Police Chief a couple of years ago. The next building became the Frosty Drew Nature Center. Frosty, son of the renowned big band leader Ed Drew, suf- fered from polio and died very young. His mother donated his trust fund to form the Frosty Drew Foundation. The Nature Center would be designed in conjunction with the wildlife refuge, with a focus on providing a nature experience to handi- capped children and local school children. Again, Irving and Ken donated their ser- vices along with the volunteers. Ron Donahue professionally finished the interior. Bill Bishop, a committee member, was an avid bicyclist. He and George devel- oped the criterion bike track using the ex- isting black-top. One of the base control towers became the judges’ stand. What to do with all that asphalt? There were acres of runways, taxiways, and roads—and all that impervious surface is detrimental to water quality. A friend at DEM told me that the R.I. National Guard (RING) could remove a lot of the pavement and do necessary grading at no charge on their training weekends. George and I went out with tape measures and spray paint to determine where our roads should go, where parking was needed, and where pavement could be removed. With the agreement of the RING Brass, a convoy of huge trucks, dozers, excavators—more Tonka trucks than a kid could dream of—arrived and removed the excess black-top. Ernie Anderson and his wife had children in the military. Each day the Guard was there, so were the Andersons with their Subaru full of cookies, cakes and drinks for the troops. So it went, and Ninigret Park had begun. Community spirit, generous dona- tions, Yankee horse-trading, skilled vol- unteers, and the vision and dedication of the late George F. Bliven Jr. all played a part in the success of this huge undertak- ing. During the first official park event, the first Charlestown Seafood Festival, the leader of the pro-nuclear faction and our biggest opponent came up to George and said “This is the greatest thing that has happened to Charlestown.” More improvements have been completed since those early days: tennis courts, athletic fields, an observa- tory (Ninigret is one of the darkest spots on the New England coast), a dog park, nature trails, and thousands of people enjoying the beauty of our salt pond watershed. So next time you are enjoying Ninigret Park or the Ninigret National Wildlife Refuge, perhaps close your eyes for a moment and imagine the appalling alternative that AL- MOST happened but didn’t, thanks to the vigilance, hard work, fortitude, and dedication of the folks of CCRI—ordi- nary citizens fighting for public safety and the environment and winning.
The Tidal Page  Spring 2014

Salt Ponds Coalition’s report *Status and Trends: Water Quality in the Southern Rhode Island Coastal Lagoons, 2008 - 2012* is finished and available as a PDF on our website, www.saltpondscoalition.org. If you would like a printed copy, please let us know at 401-322-3068 or saltpondscoalition@gmail.com. This 32-page full-color document is the product of a compilation and analysis of five years of Aquatic Health Index (AHI) scores for our current monitoring locations in the six major southern RI coastal lagoons: Winnapaug, Quonochontaug, Ninigret, Green Hill, Potter, and Point Judith Ponds.

Our intended audience for this report is anyone who is interested in the health of the salt ponds, from curious local residents to scientists.

For six months each year, SPC’s dedicated pondwatchers go out and collect their samples every two weeks. The bacteria, nutrient, and chlorophyll-a samples are analyzed at URI’s Watershed Watch laboratory, then months later a bunch of data files arrive in our SPC email inbox. SPC processes these data and produces dozens of detailed and summary reports, all of which are available on our website.

But why, you may ask, do we measure the water quality parameters that we do, and what do all of these data tables and charts mean? There is a helpful table in the Status and Trends report that clearly explains, jargon-free, WHAT we measure, WHY we measure it, and THRESHOLDS for good and poor AHI scores.

Without some compilation and interpretation, all of these valuable data do not add up to useful information. That’s why thousands of data points for SPC’s 23 active monitoring sites were integrated into AHI scores. How the AHI scores are calculated and what the scores mean for each parameter and overall for a monitoring site are explained in detail in the report. Then, the AHI scores for each site over the last five years were plotted in order to look for any apparent trends in water quality (getting better, getting worse, or staying about the same). We use the AHI scores and trend plots to simply and symbolically present the 2012 water quality status and trends at each site.

The Status and Trends report is organized so that the results for each pond are presented in a 2-page spread. So, there are six 2-page spreads,
are presented using symbols on an aerial photograph of each pond (the imagery is from the RI Environmental Data Center’s Geographic Information Systems (RIGIS) data portal). Also included on these maps are submerged aquatic vegetation (SAV) locations, also from RIGIS data. The locations of SAV, which in the salt ponds is mostly eelgrass (there’s some widgeon grass in Green Hill Pond), was measured in 2009 and 2012 as part of a state-wide ongoing project by the RI Eelgrass Task Force. SAV is so important to the ecological health of the ponds that we felt it important to include it on our maps as a useful compliment to our water quality data. All of the status and trends results, plus the SAV data, are described in a detailed narrative for each pond.

Along with the maps on each 2-page spread are five plots showing the AHI scores and trendlines for each sampling site—overall and for dissolved oxygen, chlorophyll-a, dissolved inorganic nitrogen, and total organic nitrogen (don’t worry, these parameters are all explained in the report!). An example of a plot is shown in the upper right corner of this page.

Bacteria data are not part of the AHI, but are included in their own section the report. The bacteria data collected by SPC are sent to the state but are not used for official public health purposes. The state, with chain of custody of samples, certifies the waters for swimming and shellfishing. However, SPC’s bacteria data are important for identifying trouble spots and for tracking improvements or declines over time.

The report wraps up with a two-page spread describing what we all can do to help improve water quality in the ponds, including capturing storm water runoff, cleaning up after pets, discouraging geese, and maintaining lawns and gardens in a pond-friendly way.

So please pay a visit to our website and have a look at the Status and Trends report—we hope you find it interesting and informative.
Ninigret Cove Pilot Groundwater Study

Last summer, SPC Vice President Edward Callender, PhD conducted a pilot study of nutrients in groundwater in Ninigret Cove on the north shore of Quonochontaug Pond. The two overall reasons for this study were: to learn more about groundwater in the southern county area adjacent to and under the salt ponds; and to explore the impact of wastewater management on nutrient levels in the ponds. Dr. Callender hopes his results will refine the understanding of the contribution of nutrients (nitrate, ammonium, and phosphate) via groundwater to Quonochontaug Pond, and ultimately to all of the southern RI salt ponds.

Poor wastewater management can be a significant factor in increased nitrate levels in groundwater, particularly in areas of high housing density. The RI Department of Environmental Management (RI DEM) has focused on groundwater as the primary source of nitrate inputs to the salt ponds. While the conventional scientific wisdom states that dissolved inorganic nitrogen (DIN) is the main cause of nutrient enrichment, nitrate is only one of the two forms of inorganic nitrogen that constitute DIN—the other form is ammonium. In fact, ammonium is theoretically more available to algae than nitrate. However, in our ponds, it appears that nitrate is the preferred inorganic form of nitrogen for phytoplankton (microalgae) growth during the summer months. Dr. Callender's analyses of inputs of nitrate to Quonochontaug Pond have shown that large amounts enter each year from multiple sources, along with much lesser amounts of ammonium. However, measured nitrate concentrations in the pond are low, and ammonium concentrations are substantially higher. So, where has all of this nitrate that entered the pond gone? It was taken up by phytoplankton and algae which then die and sink, depositing organic nitrogen to the bottom sediments.

So RI DEM has concentrated on the nitrate levels in the salt ponds since it is a major cause of nutrient enrichment. The question: what is the main source of nitrate? Is it groundwater? Previous studies have shown that groundwater nitrate input is an important factor that determines the aquatic health of the ponds. However, it appears that as more sophisticated techniques are used to determine groundwater nitrate discharge, the importance is diminishing. The purpose of this Ninigret Cove pilot study was to determine a) whether shallow submarine groundwater nutrient discharge can be sampled in sand and gravel deposits that border the west, north, and east shores of the ponds, and b) whether scientific and lay SPC volunteers can successfully conduct such a study.

Dr. Callender chose Ninigret Cove and its watershed because it was a manageable study area for constructing a hydrological and hydrochemical budget, and its benthic sediment substrate reasonably represents Quonochontaug Pond as a whole. The Cove's watershed is approximately 80 acres and is drained by one main brook which could be monitored for flow and nutrient chemistry. Rainfall was measured using a nearby rain gauge.

When it rains on the Ninigret Cove watershed, some water soaks into underlying sand and gravel deposits, where it discharges into the brook or enters groundwater; the remainder flows over land. Downslope, shallow groundwater enters Ninigret Cove. Groundwater flows through sand and gravel at rates of up to 350 feet/day, and this is the type of material underlying the land adjacent to the shoreline of the ponds. Very little groundwater makes it into the ponds by flowing up through their muddy pond bottoms.

For the study, Dr. Callender installed three wells in the sandy bottom of northern Ninigret Cove: one at the shoreline (MP-2), one 80 ft offshore (MP-3), and one 150 ft offshore (MP-4). The wells were sampled at 25, 38, and 44 inches below the pond bottom several times during June through December 2013. Ninigret Cove Brook was monitored for flow and nutrient content monthly from May to December 2013. The rain gauge was monitored daily from June to October, 2013. In early September, a sediment core was taken from the muds in Ninigret Cove and incubated for three days. The purpose of this was to determine how much ammonium and dissolved inorganic phosphorus (DIP) enter the overlying water from the bottom mud in the cove.

There was wide variation in the amount of rainfall during the study. Abundant rainfall in June resulted in fresh groundwater flow of nutrients through the sediments, especially at the shoreline well (MP-2). However, low rainfall throughout most of September and all of October resulted in salty groundwater flow of nutrients through the sediments, especially at the offshore wells (MP-3 and MP-4).

Dr. Callender found that for Ninigret Cove, the biggest contributors to DIN were input from the brook and ammonium from muddy bottom sediment. The vast majority of DIP entering the water was from muddy bottom sediment. Groundwater inputs of DIN and DIP to the Cove were very small compared to the total input. Dr. Callender recommends caution in applying the results of this pilot study to the entire Quonochontaug Pond system as surface water input of DIN (mostly nitrate) to the cove is probably not representative of all surface water inputs to the pond. Also, more study of the contributions of ammonium and DIP to the water from fine-grained bottom sediments (muds) is needed.
SPC Publishes Article in LakeLine Magazine

SPC, in collaboration with the U.S. Fish and Wildlife Service (US FWS), has published an article in LakeLine Magazine introducing the nation to our southern RI salt ponds. LakeLine is published quarterly by the North American Lake Management Society (NALMS) and focuses on topics affecting lakes, reservoirs, and watersheds.

The theme of LakeLine’s Winter 2013 issue was “Coastal Lakes.” Last August, LakeLine’s editor contacted our friend and colleague Linda Green at URI Watershed Watch looking for someone to write an article about coastal lakes in the eastern U.S. or Canada. Linda directed him to SPC, and Executive Director Elise Torello got right to work!

The article describes our southern RI salt ponds and their glacial origins. It goes on to explain the issues facing the ponds including coastal erosion, sea level rise, coastal development, nutrient enrichment, siltation via the breachways, and use conflicts. Finally, stewardship tips for pond-side property owners are shown in a colorful graphic.

Rhonda Smith from US FWS contributed a section of the paper about Trustom Pond. She described the history of the pond dating back to the 1600s, and then talks about how the pond has been managed for the benefit of migratory waterfowl and shorebirds by US FWS since 1974. Finally, she describes the dramatic breaching event during superstorm Sandy and its drastic (but not all negative) ongoing effects on the ecology of the pond.

You can download a PDF of the article from our website, www.saltpondscoalition.org, then click the “Hot Topics” button.

Recipients of 2013-2014 Aukerman Scholarship Announced

The University of Rhode Island (URI) Foundation has awarded Abby Aukerman & Steven Carr Memorial Scholarships to two students for the 2013-2014 academic year: Taylor Clement and Mark Joseph Chute. Taylor is a Marine Biology Major from North Kingstown, RI and Mark is a Marine Affairs Major from Exeter, RI. Congratulations to both students!

The Abby Aukerman Scholarship was created by the Aukerman family in loving memory of Abby, who was born and raised in South Kingstown and graduated from URI in 1998. Abby loved life on the shore of Point Judith Pond and spent summers on and its waters. She touched many lives and was admired for treating people with kindness and respect.

Abby’s love for the water and the environment was the inspiration for this scholarship, which is awarded annually to two URI undergraduates from south county studying marine-related science. SPC has been a proud sponsor of the Abby Aukerman Scholarship Fund since its creation in 2001. Please consider making a gift to this fund when renewing your SPC membership, and thank you!

We need YOU--to renew your SPC membership (if you have already renewed, THANK YOU!!!)

It’s the time of year to renew your membership in SPC. If you haven’t yet renewed, let me first sincerely thank you for your previous support, and ask you to please consider renewing again. The vast majority of our income is from membership donations—you truly are the lifeblood of our organization. Thanks to your support, we can continue advocating for our ponds on the state and local levels, add more years of valuable water quality monitoring data to our 28-year database, take dozens of children on fun and educational Salt Pond Safaris, lead kayak trips, and reach out to the public to educate everyone on how to be a good pond neighbor. Remember that with your renewal of $250 or more, you can choose a SPC hat: khaki (regular or long-bill), red (regular or long-bill), green, coral, pink, or white. Thank you!

We also have more 2.5’ x 4’ map banners for sale for $20 each, so please contact us at (401) 322-3068 or saltpondscoalition@gmail.com if you would like to stop by the Kettle Pond Visitor Center to pick one up.
Please Help Us to Help the Ponds

Please use this form or the card we sent to you in January to renew... and please ask your friends and neighbors to become members, too.

Please make checks payable to Salt Ponds Coalition. SPC memberships are for the current calendar year.

☐ $1000 + Benefactor
☐ $500 - $999 Steward
☐ $250 - $499 Advocate
☐ $150 - $249 Sustaining
☐ $75 - $149 Supporting
☐ $40 - $74 Contributing

Name: ____________________________
Permanent Address: ____________________________
Town: ____________________________ State: __________ Zip: __________
Summer Address: ____________________________
Town: ____________________________ State: __________ Zip: __________
Email: ____________________________
Phone: ____________________________

☐ Check if you would like a hat with your $250+ membership, and circle the color you’d like: khaki khaki long-bill red red long-bill green pink coral white

Our sampling stations cost $600 per season in lab fees alone. Please consider sponsoring a station or banding with a group of neighbors to sponsor a station.

Abby Aukerman Scholarship Fund

Please help us fund this worthwhile scholarship, which helps support a deserving undergraduate student in marine studies at URI. If you would like to make a contribution to the scholarship fund, please use the form above and fill in the amount of your gift at left.