

RiverWatch

THE NORTH AND SOUTH RIVERS WATERSHED ASSOCIATION

Protecting our Waters Since 1970







Vision 2020 - Protecting Our Waters

Imagine it is the year 2020 and consider these outcomes from NSRWA programs:

You are a teen who participates in an NSRWA program in which you learn what is threatening your environment and how to take action to protect it. You campaign to pass a plastic bag ban. Or maybe you sell and install rain barrels. You feel empowered; you're part of the solution.

Searching online for something to do outdoors, you land on NSRWA.org. You join an NSRWA walk and are inspired to get more involved so you become a member and volunteer. Now well-informed, you vote to remove a dam and volunteer to be on your town's water resources committee where you propose new water conservation policies.

This is what our Vision 2020 Strategic Plan is all about: Educate + Engage =

Healthy Rivers! The next chapter in the NSRWA story is the need to grow to more effectively protect our waters and better serve South Shore communities.

The Need

The need for our services continues to grow. We are sought out more and more by towns, schools, community groups, and the public as a trusted leader and reliable resource to provide education and engagement programs:

- Schools ask us to deliver more water programs
- Water departments ask us for help with water conservation measures
- Demand is increasing for our on-thewater education and citizen science programs

Environmental Challenges

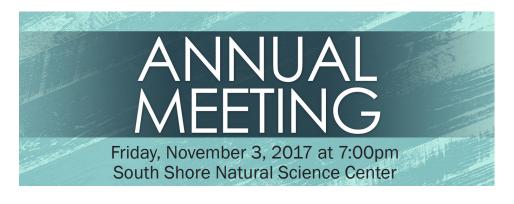
While measurable progress has been made in restoring river habitat, improving water quality, and conserving water, much work remains. We must continue if we are to have a watershed that is clean, sustainable, and remains an ongoing resource for future generations.

- Our rivers are fragmented (63 dams remain)
- Poor water quality prevents shellfishing for 5 months of the year
- 75% of town water supplies are at their limits and draining our rivers dry
- Climate change is leaving people and wildlife vulnerable
- Local governments are strained for resources, putting our waters at risk

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- Healthy Rivers
- Advisory Council Formed



NORTH AND SOUTH RIVERS WATERSHED ASSOCIATION

Our purpose is to Protect Our Waters.

We believe that an educated and engaged citizenry will result in healthy rivers and watersheds, thus Educate + Engage = Healthy Rivers.

Our goals for 2020 are to:

EDUCATE; to serve as the primary source of watershed information in the region and to provide each student with at least one first-hand watershed experience.

ENGAGE; to strengthen our river based recreation and volunteer service programs to connect people to the rivers and watershed, and become a primary source of information for family outdoor activities.

HEALTHY RIVERS; to inspire a community of stewards dedicated to a healthy and vibrant watershed through our own on the ground restoration projects to show people what a healthy river system is and how it supports the health of their community.

OFFICERS

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Secretary: Barbara Carney

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Director of Marketing & Communications: Lori Wolfe

Administrative Assistant: Kate Hamill

Watershed Educator: Don Salvatore

Lead Pontoon Boat Captain: Willard Boulter

Yoga at the Rivers Edge and Columnist: Kezia Bacon

NSRWA P.O. Box 43/214 South Street Norwell, MA 02061 phone: 781-659-8168 www.nsrwa.org

Letter From Our President

It is a time of growth and reflection for the North and South Rivers Watershed Association. I am most proud that, as we look to expand our association, we have not lost sight of our history; our grassroots spirit continues. We always reach out to educate and engage our community on an intimate level. We are self-aware, and we carry the same passion to protect our waters as the small group that started our organization 47 years ago. There are just more of us now, and there is strength in numbers!

Our board of directors and our executive director recently assessed the organization and evaluated its overall effectiveness. In light of increasing demands on the association, we recognized the need to expand our organizational capacity in terms of staff, technology, and communications.

The addition of new staff and board members, a newly established 30 member advisory council, and a new strategic plan emerged from that evaluation. We rethought our staffing after two longtime employees retired. We hired a full-time director of development, a full-time director of marketing and communications, and a part-time administrative assistant. We now have more personnel, the guidance of community leaders, and the clarity of an updated strategic plan to help us meet the increasing needs of our watershed towns, our members, and the public.

I am grateful for a board and staff with the foresight to take the steps necessary



to protect and restore our waters and other natural resources within the watershed. It is fitting that our strategic plan takes us to 2020, the year of the association's 50th anniversary and a number that reflects our clear vision for the future.

A nonprofit, such as the North and South Rivers Watershed Association, is only as strong as the people who stand behind it. I thank you for your continued support of our association.

I look forward to seeing you on our rivers!

Jaely a. Canerly Sally Caverly President, NSRWA

Vision Continued from Page 1

To meet the needs of our communities, we need to grow our own capacity by investing in technology, communications, and staff. This will help us expand education and engagement programming. We need to reach more audiences, particularly youth, and help make our communities' water resources healthy, supportive of people and nature, and resilient to climate change.

Growing to meet the need

We set ambitious goals for our organization to grow to meet these needs. Including:

- Expanding educational programming to reach middle and high school age youth to help raise awareness in their own communities about protecting our water
- Doubling the number of people, from 3,000 to 6,000, who become members and participate in citizen science and outdoor programs
- Continuing our on-the-ground projects to restore fish passage, reduce stormwater pollution, and save water

The key over the next 3 years is to grow our numbers – including members and volunteers. Only through growing the number of people we reach through education and engagement programming can we hope to truly protect our waters.

Educate **Service**

Water All Around You Educates Kids and Parents

- 26 Elementary schools
- 11 South Shore towns
- 350 Parent volunteers

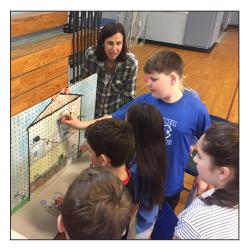
Using hands-on activities and local field trips, Water All Around You introduces 5th graders to where their water comes from, where it goes, and

Melinda Soliwada

how to be better stewards of it.

Does it work? You bet it does, according to North Pembroke Elementary teacher Melinda Soliwada. "All together, it tells a story, and the best part is that it's

so tied to the curriculum and leads to such wonderful conversations in the classroom afterwards," says Soliwada.



Students at Vinal Elementary in Norwell learn how many gallons of water it takes to do every day tasks

She emphasizes the value of the field trips (specific to each town) that enable the kids to see real world examples of the concepts they've learned in class.

"It's so valuable when kids can connect what they learn in science to their own

environment and their town. It has a deeper meaning."

"It's a one-two punch! We (parent volunteers) got to be educated along with the kids," says parent volunteer, and now River Guardian,



Rachel Wollam

Rachel Wollam of Norwell. While her family was already practicing water conservation, this program elevated her kids' awareness and inspired her to make some changes in managing pollution in her own backyard.

At the end of one program, a Norwell 5th grader raised his hand and asked: "So what can we do to help?"

Estuary Explorers Lets Kids Get Feet Wet in Environmental Science

Launched in summer 2016, our Estuary Explorers program brings local teens and pre-teens to the North River estuary to get a feel for what it would be like to be an environmental scientist.

For many of the kids, it's their first time on the North River. The Estuary Explorers program is intended to complement their school's STEM curriculum by facilitating environmental education in an accessible, meaningful and fun way.

It "works perfectly with our AP Environmental Science program," said Rockland High School E.S. teacher Angela Armstrong. "The kids get exposure to real field work... what scientists really do, the kind of data they collect and how to set up an experiment."

Rockland High School seniors Joe Naughton and Sean Fitzgerald give the program two thumbs-up. "It really adds life to learning it in the classroom... it's easier to go further in class when you see what it's really like," says Fitzgerald. Naughton, who plans to study environmental science in college, agrees that "it's a lot better to have hands-on."

Our funders; Battelle, the Cordelia Family Foundation, Eastern Bank Charitable Foundation, the Kellaway Family and other private donors, enabled kids from various local programs to experience the program this past summer, including the Marshfield Boys & Girls Club, the YMCA, the South Shore Natural Science Center, Rockland High School and the South Shore Vocational Technical School.



Rockland High School seniors Sean Fitzgerald and Joe Naughton check out some of the wildlife at the tidepools in the Estuary Explorers program.

Engage

Improving Access to South River Deepens Engagement

With the July opening of the South River launch site, kayakers and canoeists no longer have to risk poison ivy and steep inclines to launch on the South River. Walkers, bird watchers, and nature lovers now have easy access to the river.

Just weeks after its inauguration, the new launch has already increased

awareness and engagement with the river. Kezia Bacon, NSRWA columnist and Yoga at the River's Edge instructor tells us, "Personally, I have seen a significant increase



Kezia Bacon

in my amount of time on the water, having used the launch a dozen times



since it opened. The impact has gone viral – she has brought several friends, who have returned on their own, bringing more friends. She emphasizes the short 0.15 mile walk from the trailhead at CVS

which makes this beautiful natural site accessible to all. In addition to paddlers and kayakers, she has seen a noticeable increase in foot traffic along the paths to the river.

South River Park Offers Sights and Sounds of Nature

Need a serenity break? Nestled between two gas stations and across from a McDonald's on Marshfield's busy Rt. 139, the South River Park is a little gem of open space in this densely populated commercial area. Completed in 2012, the park is an ongoing collaboration between the Town of Marshfield and NSRWA and is now maintained by the Friends of the South River Park and Greenway (SRPG).



Susan Caron

Susan Caron, Friends of SRPG advisory board leader (of which NSRWA is a founding member), likens the 1.6-acre space to an urban pocket park "that gives

people, who don't have time or cannot get to larger parks and preserves, a beautiful, natural landscape they can enjoy." She has seen a slow, but steady increase in park use by workers on lunch break, baby and dog walkers, a tai chi practitioner, and folks just seeking a moment's peace. She says that "visitors are often surprised with what



they discover when visiting for the first time. The sounds and sights of nature offer a welcome contrast to the heavy traffic conditions abutting the park."

In the development of the park, river views that had previously been blocked by overgrown invasive plants were cleared and revealed. Additional improvements include an ADA-compliant boardwalk to the river's edge, a shaded picnic area, and pesticide free-plantings designed to attract butterflies, birds, and bees.

The park also includes a beautiful Veteran's Honor Roll monument with over 1,200 names of Marshfield residents who served in the Korean, Vietnam, and Persian Gulf Conflicts.



New Trails Connect to Nature of South River

"Cardinal flowers, Joe Pye weed, and swallowtail butterflies were just a sampling of the nature we saw" said an NSRWA member who recently visited the enhanced trails at the Pratt Conservation land along the South River. Accessing this area was made easier as a result of a project completed this spring to enhance the 37.5 acre Pratt Conservation Land in Marshfield with a new parking area off Willow Street, boardwalks over the wetlands that feed the South River, and new stairs connecting the adjacent Bridle Path.

"I think people who walk this area are now more connected to the South River as they can park at the Willow St. entrance to the Pratt Conservation area and walk through the property to the Rail Trail. They start to see how the South River is literally in the middle of downtown Marshfield and what an asset this natural treasure hiding in plain sight is!"

Engage **S**

Citizen Science Volunteers: Many Hands = Light Work

Much of the work done by the NSRWA depends on data collected by volunteers. Watershed Ecologist Sara Grady said, "I couldn't accomplish my work without the support of our volunteers. They are my eyes and hands, doing much more than I could alone."

Herring Counts

Herring count volunteer Patty Cuozzi said, "I can speak for both Stephanie



Cuozzi and Falvey

Falvey and myself when I say we totally enjoy the experience of the herring count each spring.

"Why? The Hils Mill Rd. location where we count is gorgeous... serene and peaceful and the bird watching is amazing... waiting for the resident swan couple to set up a nest and hatch their baby swannies is always a treat.

"It's knowing we are helping out and contributing to the greater good, and being the nature lovers that we are it makes total sense... We have been doing it for a while now and will continue as long as we are needed!"

2017 Herring Count Data

- 87 herring counters at 5 sites
- 13 training sessions to teach citizens our official protocol
- 154 volunteer hours (ten minutes at a time)
- Over 11,000 river herring counted
- · We saw the most herring at Herring Brook in Pembroke - 7,649
- Population estimate of 114,350 +/- 22,688 river herring
- 6 river herring observed passing the Tack Factory dam removal site for the first time
- 2018 Herring Count trainings will start in early March
- 2018 Counts will occurr in April and May

Horseshoe Crab Surveys

Volunteer Adrienne Murphy helps the NSRWA gather data on horseshoe crabs.

"I have always been inquisitive, especially about nature, and was at a small aquarium once and they had an exhibit and a very enthusiastic person talking

about horseshoe crabs. I had many questions for him but especially how and when to see them when they come to the surface and was directed to the web. Research brought me to the NSRWA website Adrienne Murphy



and not only could I go see these amazing creatures, but actually help out, and now I have been happily helping out for about 4 years."

2017 Horseshoe Crabs

- 10th year for these surveys
- 21 surveys completed more than any other year
- 28 volunteers, including attendees at our "Crabs and Coffee" event
- 769 crabs were counted
- The average count was 45.2 crabs per survey
- 2018 Horseshoe crab survey trainings will start in April
- 2018 surveys will be in late April, May, and June

RiverWatch Water Quality Monitoring

Clara Yampanis, age 15, and her brother Robby Yampanis, age 17, both

helped with the RiverWatch sampling this year. Clara says she participates because she wants to be a good steward of the environment and that includes making sure that we have the data to monitor the health of that environment.



Clara Yampanis

Robby joined his sister for the first time this summer after he did an environmental engineering internship for Northeastern's PROTECT project and worked on electro-chemical remediation



Robby Yampanis

of groundwater. His internship project, he explained, focused on water pollution in Puerto Rico but made him aware of how scary pollution can be. In Puerto Rico there is evidence tying it to very high

rate of low birth weight babies. He was curious to see what is happening in the rivers around here.

Their mom, Wendy Prentiss, is happy to see them enjoying a lot of outdoor and wilderness activities, but also taking a role in environmental protection.

2017 RiverWatch Data

- 24th year of testing the North and South Rivers every summer
- 14 volunteers helped us collect samples
- 10 sites sampled for six parameters temperature, dissolved oxygen, conductivity, salinity, and two types of bacteria
- 2016 and 2017 had the lowest concentrations of bacteria in shellfishing areas within the past decade
- Best water quality site is usually the mouth of the rivers; the poorest is usually at the Washington Street Bridge
- 2018 RiverWatch training will occur in early June
- 2018 surveys will be in June, July, and August

Healthy Rivers

Scituate: Saving Drinking Water and Fish

- 9 acres and 0.88 miles restored (70 acres more to go!)
- Saved 300,000 gallons per day
- Leveraged over \$250,000

You wouldn't think that saving water would also help to save river herring and build resilience to drought, but in Scituate that is exactly what's being done, and further measures are being proposed.

Scituate Special Projects Manager and current Interim Town Administrator Al Bangert says, "Our partnership with the NSRWA and the state and federal government partners they bring has allowed our town to access hundreds of thousands of dollars to plan and make changes to our water supply that save water for people and restore fish passage for river herring.

Their interests originated with saving fish but the benefits for our drinking wa-



Al Rangert

ter supply are even more important as we found out in last year's drought."

Over the last decade and a half the NSRWA has worked in partnership with the town of Scituate

to restore herring and streamflow to the First Herring Brook, which also happens to be the town's drinking water source. This work led to an irrigation restriction that saved over 300,000 gallons per day, restoring minimum streamflows, upgrading the Old Oaken Bucket fish ladder and finally seeing small numbers

of herring return to the lower part of the brook for the first time in decades.

The next step is restoring fish passage to the upper reservoir by raising the reservoir by 1.5 ft. This will make the town's water supply more drought resilient by allowing an additional 28 days of storage, upgrading the dam infrastructure to meet new flood prevention criteria and enabling a working fish ladder to pass river herring in and out of the reservoir. Just recently the town, with support from NSRWA, applied for state funding that would pay \$1.23 million dollars of the estimated \$1.86 million dollars needed to complete the project. A triple win situation for the town's water supply, the ratepayers, and for the fish!



This culvert on the Iron Mine Brook blocked fish from accessing colder water. The culvert was removed and a footbridge was built in a great team effort.

Hanover: Restoring Brook Trout Habitat

In the winter of 2016-17 the NSRWA worked with members of Trout Unlimited to remove a culvert in the middle of conservation land that was blocking fish (particularly the Eastern Native Brook Trout – a fish that needs cold water) from accessing a cold headwater stream. Brook trout occupy less than 50% of their original range due to habitat loss.

The NSRWA sought assistance from the town of Hanover's DPW Superintendent, Victor Diniak, who said "I will remove the culvert if the NSRWA gets the permits." The NSRWA then solicited the help of Ivas Wetland Consulting and Cavanaro Consulting, both of Norwell, to survey,

delineate the wetlands and get the needed permits. Both agreed to help pro bono!! Lastly, NSRWA and Trout Unlimited volunteers, with the support of a grant from the Sheehan Family Foundation, built a footbridge over the Iron Mine Brook to maintain the hiking trails in this beautiful conservation area. Voila – Eastern Native Brook Trout can now seek refuge upstream from the warmer waters of the Indian Head River.

Added benefit – we made some friends with the DPW staff who helped to remove the culvert – come to find out, they love to fish too and were thrilled to be part of this restoration project!

Duxbury: South River Restoration Proceeds

- 2 studies completed to examine removal of Chandler Pond and Temple Street dams
- 5.6 miles/6.5 acres potential habitat available

The Town of Duxbury, with technical support from the NSRWA and MassBays, recently received a \$10,000 grant from the Mass. Environmental Trust towards a \$25,000 study to review the feasibility of removing an unused dam at Temple St. in Duxbury. The grant will enable the town to hire an engineering firm to evaluate any floodplain changes that may occur as a result of the removal of the dam. This is one in a series of steps to restore fish passage to the South River.

Joe Grady, Duxbury's Conservation Agent said, "Without the support of Sara Grady, NSRWA Watershed Ecologist and MassBays South Shore Regional Coordinator, the town would not have been able to apply for this grant. Their technical support provides the capacity needed to move forward with these kinds of projects."

People of the Watershed

NSRWA Advisory Council Formed

NSRWA's Advisory Council was created to strengthen the organization and increase its impact across the South Shore. It is made up of 32 individuals who are recognized as leaders in their communities and bring expertise in science, business, and the nonprofit sector.

The Advisory Council is a great group of local leaders, who as ambassadors for the NSRWA, will help to increase the organization's reach and visibility to further its mission to protect our local waters. Andrew Sullivan of Protectowire is the council chair. At the council's inaugural meeting NSRWA was recognized as a high-performing and well-respected organization. Participants acknowledged there are some branding challenges with the NSRWA name and identified the need to connect people to local waters in fun and meaningful ways. Council members committed to the strategic vision for growth by educating and engaging

more people — all for healthy rivers. We thank the Advisory Council members for their many contributions to furthering our mission to protect our local waters.

Members of the Advisory Council:

Andrew Sullivan Cindy Bayley Jeffrey Bilezikian Ann Buchanan Susan Caron Alex Clark Dick Cullen Krista Dirico Herb Emilson Peter Fairbanks Ralph Gordon Geoff Gordon **Bruce Graham** Patty Jackson Margaret Kearns Ken Kellaway

Richard Leach Alex Mansfield Melissa McKim Lauren Pavne Erich Roht Susan Setterland Fred St. Ours Randall Steele Peter Tedeschi Tim Timmerman **David Turner** Sally Turner Peter Tyack Paul Vercollone Michael Wolfe Susan Wolfe

Why We Support the River Guardian Circle



Mac, Joe, Calli, and L.J. Bianchi

Mark and Joell Bianchi are our River Guardian Circle Co-Chairs. "We care very deeply about the river and the watershed. The North River is part of our home. It's the reason we moved here 12 years ago to raise our family," said Mark.

"For me, it's all about the fishing, That's a great way to spend time with my kids! Our family has a few great traditions that are very much tied to the river. Every year we go to Blueberry Island with the kids - who, of course, love jumping into the river. Getting there is half the fun! The scenery along that stretch (of the river) is truly unparallelled with all the surrounding conservation

land. We also take the kids on a summer breakfast outing on The Spit - that's always a lot of fun, too! We're usually the only ones there so early in the morning and we get to take it all in! We support the NSRWA as River Guardians because the work you do is vital to maintaining the river, to have it clean for the fish and for everyone. Healthy rivers don't happen overnight! We are also appreciative of your leadership and want to support you any way we can."

Our River Guardian Circle members provide essential support to ensure the NSRWA remains a strong and effective advocate for our rivers and watershed. Join us as a River Guardian with your gift of at least \$500 annually. Your generosity will propel our efforts to protect our local waters.



Legacy Circle Gifts Live On

Our Legacy Circle recognizes those who provide for NSRWA in their estate plans. Legacy gifts help ensure NSRWA is a strong and effective organization into the future. We thank all of those benefactors who are leaving bequests to the NSRWA in their wills:

Herb and Pauline Emilson Peter and Julie Kelly-Detwiler Richard and Jackie Leach Betsey and Robert Detwiler Craig and Danny Hannafin Michael and Susan Wolfe Deb Lenahan David DeGhetto William and Susanne Bottiggi

Deb Lenahan said "I am leaving a bequest to the NSRWA because

we use water every day and often take it for granted, but it is the single most important resource we have, NSRWA has demonstrated it is a



Deb Lenahan

strong and effective organization that can help protect our waters well into the future."

Thank You to Our 2017 Corporate Sponsors!















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Save the Date: NSRWA Annual Meeting

Friday, Nov. 3 at 7:00pm South Shore Natural Science Center

Planet Subaru Shares the Love with NSRWA

Are you in the market for a new car?

Planet Subaru of Hanover has selected the North and South Rivers Watershed Association as one of two hometown charities to benefit from its annual Share the Love® event. The event is part of a national campaign run by Subaru of America, Inc., which donates \$250 for every new Subaru vehicle sold or leased from November 16, 2017 to January 2, 2018 to the customer's charity of choice.

Jeff Morrill, co-owner of Planet Subaru, said, "We joined the NSRWA in 2003 and share their passion for protecting the South Shore's ecological resources. We're proud to be associated with their members and their values."

"Being chosen as one of Planet Subaru's hometown charities is a real honor - and it couldn't have come at a better moment in our evolution! Our new strategic plan calls for a program vehicle to support our in-school education and community

outreach events. Each donation will help us be able to reach more people with our message to protect our waters. Partnering with Planet Subaru makes sense -- they share in our vision of engaging people outdoors so they will learn to love and protect it, " said NSRWA Executive Director Samantha Woods.

Planet Subaru will donate \$250 to NSRWA for every new Subaru vehicle sold or leased

from November 16 through January 2, 2018



New Year's Day Walk

Monday, January 1, 2018 at 1:00pm Pratt Conservation Land/South River, Marshfield

Park and meet at the public parking by Levitate off Rt. 139

WaterWatch Lecture Series

Wednesdays, January 10-March 7 FREE ADMISSION!

At the South Shore Natural Science Center