



WaterWatch

THE NORTH AND SOUTH RIVERS WATERSHED ASSOCIATION
Protecting our Waters Since 1970



North and South Rivers
Watershed Association

EVENTS MEDIA JOIN CONTACT



WHAT WE CARE ABOUT

PROTECT OUR WATERS

GET OUTDOORS

GET INVOLVED

GET WATERSMART

GIVE TODAY!



Homepage of new NSRWA website/Photo: August Afternoon, South River Marsh by Mike Sleeper

Check Out ExploreSouthShore.org!

Spring is here, and it's time to get outdoors! Dust off your kayak, pull your hiking boots out of the closet, locate that fishing gear you stowed in the garage last fall. Whether it's in the woods or on the water, spending time in nature will make you feel good.

Benefits of Being Outdoors

Nature enthusiasts know on an instinctual level that being active outdoors makes us feel good. Scientists know it too. Numerous studies have tracked how outdoor activity improves mood and sleep quality, lessens anxiety, and combats depression. When we spend time in nature, lots of great things happen. We become less reactive and more empathetic, our resilience and focus improve, and we become more grounded and present. The setting matters too. One study compared subjects who walked in the

forest to those who walked in the city. The forest group shared an average 1.4% decrease in blood pressure, 6% decrease in heart rate, significantly lower levels of cortisol (the stress hormone), and stronger positive emotions. Plus, spending time in nature helps us become more invested in the place we call home. According to NSRWA Executive Director Samantha Woods, "When we connect with nature by experiencing it, conserving nature becomes personally relevant. We only protect what we love, and we only love what we know."

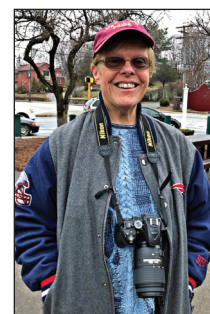
How Much is Enough?

In "The Nature Fix: Why Nature Makes Us Happier, Healthier, and More Creative," Florence Williams investigates how and why being outdoors makes us

See Explore, Continued on Page 9

Photographers Lend Their Talent

Weymouth native, Lisa Irwin became passionate about photography after a career shift in 2013. "It makes me truly happy!" she says. Her favorite subjects



are birds and critters of all kinds, as well as landscapes. After she won our 2018 Explore South Shore Photo Contest, we asked Lisa to create images for our new website. The project returned her to favorite locations like North River and Daniel Webster

See Photos, Continued on Page 9

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.

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Community Outreach Coordinator -
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Boulter

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Kezia Bacon

NSRWA

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Norwell, MA 02061
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nsrwa.org/exploresouthshore.org

Letter From Our President

Years ago, I spent summers at a camp in Maine. We took two week long trips over the summer in what was remote back country: The Allagash and the St. Croix in 20-foot Grumman canoes and then weeks on foot in the back woods of Mt. Katahdin. We carried all our supplies. No cell phones, no walkmen, no ipods, no radios. We got our water from natural springs. If something went wrong, we figured out where we were and then hiked out to the nearest logging road, hoping it would lead to a phone and help.

It was in these back corners of this wilderness that I learned important things: being focused and determined, careful with axes, and patience; getting some grit along the way. Faced with a 20-mile paddle into a strong headwind on Chesuncook Lake meant a long and hard pull all day. No place to stop, no tows available and it didn't matter if it was pouring rain and difficult. We were in nature and heard the sound of water on the canoe, the squawk of hawks and eagles, the mournful wail of loons and felt the eyes of bears through the brush at the campfire; these moments when your own breath and effort would stop and you'd connect in a profound way with your surroundings. I learned too to get along, work together, trust and depend on myself and others through glorious days and terrible, wet storms.

And then, I left my youth behind, went off to school, married, got a job, had a family, not sure if I'd ever connect with nature and myself again. We left the city and moved to Norwell in the 1980's. I found the North River and long paddles, fishing, collecting wild rice in the fall along the Indian Head with my son, watching wood ducks lift through the fall mist.

It was these moments, I started to listen and watch again the natural world around me and joined NSRWA, coming on the Board in 2000. Threats to the river from sewage and trains prompted my



commitment, but what has kept me active and involved now: dam removal, returning the sea trout, herring, shad, and glorious stripers, insuring water quality and quantity, and finding ways to get more people on the rivers, in the marshes, and to increase access to these natural gifts.

Now I have grandchildren to share this beauty with and let them discover all the wonders of this natural world. I want our rivers and waters to be there for them and their children and be able to say to them we restored and preserved and continued to keep healthy rivers and adequate water.

It is a privilege to be Board President. Join me in celebrating the rivers, water, and our natural landscape. Join us as members and help us protect, restore, and preserve the health of our rivers, water, and natural world.

A handwritten signature of Peter C. Hainer in black ink.

Peter Hainer
Board President NSRWA

Visit us online at **nsrwa.org**
and **ExploreSouthShore.org**
And connect with us on:

- **Facebook**
- **Twitter** @nsrwa
- **Instagram** northsouthrivers





The River Herring Are Coming Home!

Spring is here! It's time for river herring to make their annual migration. While they spend much of their lives in the ocean, every year mature herring swim against river currents to return to their spawning grounds in the fresh water streams and ponds. These large migrations of fish are a sight to behold!

Why Herring Runs Matter

For centuries, herring have held an important position in the web of life on the South Shore. They are a keystone species: birds such as heron and osprey, and other fish like striped bass and bluefish, rely on them for nourishment. Herring may not make up much of our diet now, but in Colonial days, and for centuries prior, residents of our area looked forward to the annual herring migration and the sustenance that came along with it. Back then, herring were abundant. In his 1634 book, *New England's Prospect*, William Wood described alewives, a type of river herring, "in such multitudes as is almost incredible; pressing up in such shallow waters as will scarce permit them to swim."

Challenges Herring Face

Industry on the South Shore began in the 17th century, first with small grist mills, and later with larger mills and factories. The same dams that created the water power to fuel these enterprises also prevented fish like herring from getting upstream. In some cases, fish ladders provided an alternate route. But the fish ladders didn't always function well. The result: a significant drop in the herring population. In many of our local streams, where once there were thousands of fish,

now just a handful of herring return each spring. Overfishing by ocean trawlers also contributed to their decline.

How We're Helping Herring

For decades now, NSRWA has been actively working to restore local herring runs. It began with assessments of dams and fish ladders, plus springtime counts to identify active migration routes and document population declines. In 2012, we began our Citizen Science Program, tracking fish on the South River (Marshfield), First Herring Brook (Scituate), Herring Brook (Pembroke) and Third Herring Brook (Hanover/Norwell). The first dam removal in our watershed took place in 2014, at the YMCA's Mill Pond on Third Herring Brook. The next dam removal was in 2016 at Tack Factory Dam, farther downstream. NSRWA has worked closely with numerous federal, state and local partners, plus private landowners, to ensure the success of these projects. At locations where dams are still required, we are working to restore and improve the function of existing fish ladders. Projects on First Herring Brook in Scituate, at Luddam's Ford Park in Hanover, and at Veterans Memorial Park in Marshfield are ongoing.

What's Next?

Have herring now returned as an "incredible multitude" in our local waterways? Not yet. These changes take time. But we've seen herring swim past the former location of the Tack Factory dam, and Eastern native brook trout are now moving into the mainstem of Third Herring Brook. Our restoration work continues with another dam removal

on Third Herring Brook, to which the landowner, The Hanover Mall, recently committed \$75,000! A fish ladder on the Jacobs Pond Dam in Norwell is also in the works.

We're excited about all of these improvements! Restoring a fishery has its challenges, particularly when there are other threats we can't control. But by improving conditions for river herring, we're also restoring the habitat for all native fish (shad, brook trout, eels). And the benefit extends throughout the river system, leading to enhanced habitat corridor connectivity, better sediment transport to feed our salt marshes, increased ability to handle flooding, and cooler, more oxygenated waters. NSRWA Executive Director Samantha Woods explains, "We want to free our rivers, and the species that depend on them, and make them more resilient to the changing climate."

Go See the Herring Run!

Don't delay, because the migration doesn't last more than a few weeks. If you'd like to catch a glimpse of river herring making their way upstream, try your luck at the following spots in our watershed, or visit nsrwa.org for additional sites nearby.

- Herring Run Park, Herring Brook, Pembroke
- Luddam's Ford Park Fish Run, Indian Head River, Hanover and Pembroke
- Veterans Memorial Park, South River, Marshfield
- Third Herring Brook, Norwell and Hanover
- Second Herring Brook, Norris Reservation, Norwell
- Old Oaken Bucket Pond Fish Ladder, First Herring Brook, Scituate



Scituate Second Graders Plant Beachgrass to Repair Dunes

This April our new Environmental Educator Brian Taylor visited the second graders of Cushing Elementary School in Scituate who were covering a unit on weathering and erosion. The students discussed the importance of dunes on our coastlines as natural barriers from waves and flooding.

An important part of the dune/beach ecosystem is the American beachgrass (*Ammophila breviligulata*). The students of Scituate learned how beachgrass plants prevent erosion by fortifying the dunes with their roots and capturing sand with their stems.

On Friday April 12th, Brian and Sara

Grady (NSRWA/MassBays) met the sixty second graders at Peggotty Beach to plant new Beachgrass in an area that was heavily damaged from last year's storms. The students showed up excited and ready to plant the grass. On Saturday, a group of citizens finished the job. And as the grass becomes established and spreads, the dunes of Peggotty Beach will be more resilient to substantial storms.

The students gained a sense of pride and ownership through the work. Now the students can go back every year and show their friends and family what they have done for their community!

The Power of Place Based Learning

NSRWA's Environmental Educator Brian Taylor is busy working with local middle schools on science based programs and field trips that integrate local watersheds into our local school's science curriculum. For example, Brian is collaborating with Pembroke Middle School's seventh grade Engineering Club to teach them about electronic herring counters, like the one in their

own Herring Brook. At the Duxbury Middle School, where the eighth grade is studying reproduction and adaptation, the science teachers are collaborating with Brian on a field trip for the entire class of 130 students to visit Herring Run Park in Pembroke. Our goal? To inspire interest in our local environment by integrating real world experiences with the school's curriculum.



Sara and Brian working on Stewardship Certificate program videos.

Stewardship Program for Teens in the Works

The NSRWA is working to expand our education and engagement to middle and high school aged youth. Similar to the program with Scituate's second graders, the NSRWA's Stewardship Certificate is a program geared towards educating youth about the many unique local South Shore habitats, and engaging them to create a "stewardship project" that has a positive impact on their communities. Students will explore their own interests and passions as they work with the NSRWA to put together a project that will be beneficial to their environment, and rewarding for their own development.

The Stewardship Program begins with a series of short videos produced by the NSRWA highlighting the valuable and diverse habitats to be found across the South Shore area. Topics include salt marshes, coastal dunes, estuaries, herring runs, tidal zones, and barrier beaches. After viewing the videos, students will work in collaboration with the NSRWA putting together a meaningful service project of their choice which benefits the watershed and community, as well as supporting their development.

The Stewardship Certificate will be a powerful addition to a resume or college application for a student interested and passionate about protecting the environment or exploring the possibilities within a coastal, marine, outdoor, or environmental career.



North and South Rivers Watershed Association 2018 Annual Report

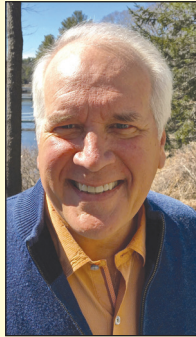
NSRWA's Investment in the Future

While 2017 was seen as a year of 'financial change' for NSRWA, 2018 was a year of unprecedented financial achievements, thanks to you!

Financially, total income for the year was \$555,000 and expenses \$523,000. We finished the year with a net income of \$32,000 vs. a planned loss of (\$30,000). Total income had an increase in the % of donor driven income and a slight reduction in the % from grant writing which was a welcomed change from 2017.

The financial shining stars for 2018 were our Campaign for Growth, which launched in 2017, a 2018 spring new donor Matching Gift Challenge from anonymous donors, the \$200,000 Matching Gift Challenge from the Bloomwhistle Charitable Fund (BCF), and all the donors who helped us to meet these challenges. Thank you!

The Campaign for Growth has a targeted 2020 goal of \$600,000. Donations to date and pledged amounts at the end of 2018 were \$504,200 – we are well on our way to our financial goal. Our Campaign's other goals are to double our outreach to 80,000 people and double our engagement to 6,000 people. Accordingly, we have made investments in staff, technology, and marketing and communications. Recent investments include our new Education Coordinator, our new website (launch date is May 1st),



and new Outdoor Recreation Guide Map. A program car was also part of our growth plan and became a reality when Planet Subaru generously donated a Forester last year, allowing us to have a vehicle for staff to attend programs in and increase our visibility in our communities. Other smaller yet critical investments include technology to support the work of new and existing staff where upgrades were paramount to effectively carry out our work to further our mission to protect local waters.

In September of 2018, a long-time NSRWA supporter presented us with the Bloomwhistle Charitable Fund \$200,000 Matching Gift Challenge! This followed on the heels of a successful \$10,000 spring matching gift challenge that encouraged 70 new donors to give. The \$200,000 Challenge, targeted new membership growth and increased giving which, as of December 31, 2018, resulted in 405 donors giving \$117,346 which were matched by the BCF in the amount of \$147,838. We sincerely thank each of our donors for their tremendous support in 2018!

Looking back on my 2018 letter, I closed by saying that the Campaign for Growth, the New Donor Matching challenge, and a solid uptick in our new supporters would give us the revenue diversification to help us fulfill our mission as planned through 2020. Those milestones have clearly propelled us to a place that I believe has laid the foundation for the future.

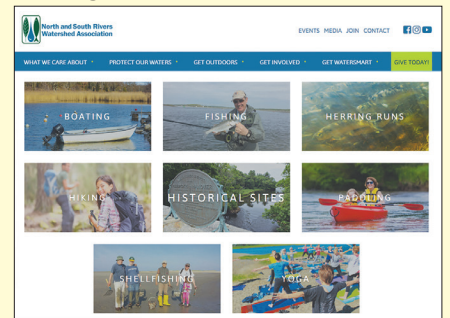
Rick Mayfield
NSRWA Treasurer



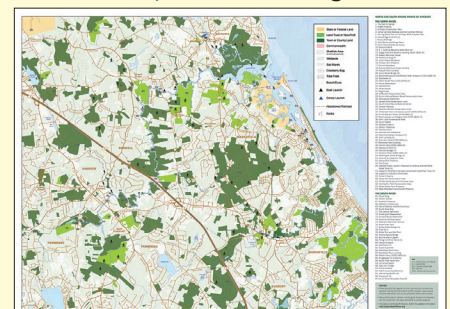
New education staff



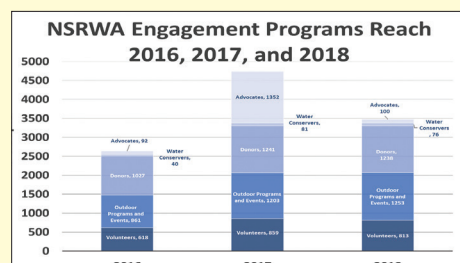
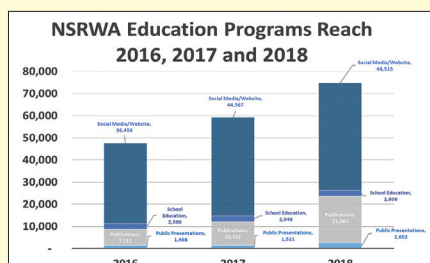
New program vehicle



New website ExploreSouthShore.org



New guide map



Empowering People to Protect the Water in Your Town



Plastic Bag Bans

"We now have a core of experienced activists in every town who not only have the expertise to bring good environmental legislation forward, but also the experience and confidence that comes with having done so..." ~ Ken Stone, Plymouth Plastic Bag Ban

Engagement

- Citizen Science Volunteers
- Estuary Explorers
- River Tours
- Paddles
- Walks

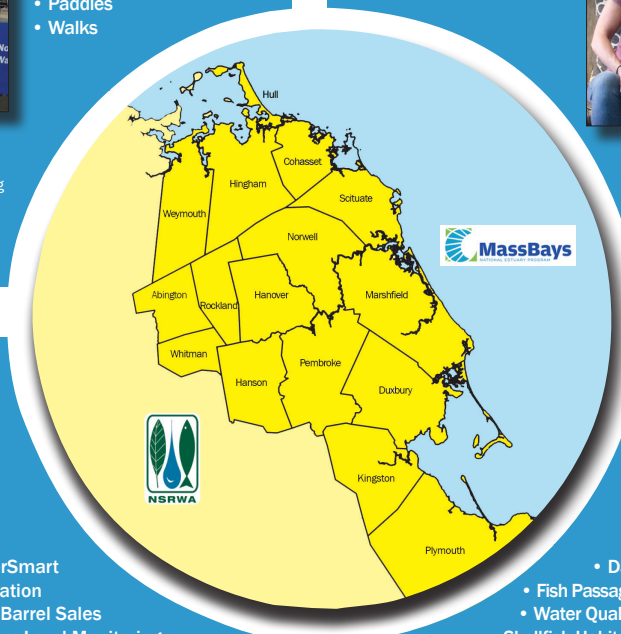
Education

- Full-Time Educator
- New Podcasts
- Growing Audience



"Letting the Rivers Flow" Movie

"We wish we saw more fish and animals. It's sad to see their populations decreasing... We're very hopeful that we can bring back the numbers of fish."
~ Jennifer, Anna and Lucca Ruffini



Conservation



Rain Barrel Public Art Project

"The Teen Art Squad was so excited to help paint a rain barrel! I believe this project really empowered them, and focused their creativity towards a higher purpose." ~ Liz Boston

- WaterSmart Education
- Rain Barrel Sales
- Stream Level Monitoring
- Streamflow Restoration

Healthy Rivers



Green Crab Study

"We are studying invasive green crabs and how we might mitigate their impact on our estuaries, as well as looking for potential markets for green crabs."
~ Calli Bianchi, NSRWA Intern

- Dam Removals
- Fish Passage Restoration
- Water Quality Monitoring
- Shellfish Habitat Restoration
- Monitoring Salt Marsh Health

Thank You for Your Support!

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NSRWA's Legacy Circle

Our Legacy Circle recognizes those who provide for the NSRWA in their wills:

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

*founding members

Scott Weber Restoration • Thornton Landscape • Woodland Contracting Corp. • Tad Beagley, CFPA Merrill Lynch • Charles River Recreation • Glynn Tree Service • Ivas Environmental • Plymouth 400 Bass & Blue Tournament • Goodwin Graphics • Legit Lacrosse

Harvest Moon Feast Vendors

Mill Wharf Restaurant • Mullaney's Fish Markets • The Chef's Table • Cooking with Abby • Ellen MacKenzie • French Memories Bakery • Galley Kitchen & Bar • Hola Flatbread & Tapas • Hook & Harvest • Jonathan Dunn • Leena's Kitchen • Pangea Shellfish Company • Riva Restaurant • Rivershed • SALT Raw Bar + Fine Cuisine • The Silent Chef • Classic Wines • Tinker's Son • Bia Bistro • Trident • L. Knife & Son • Commonwealth Wines • The Lance Van Lenten Jazz Quartet

For a complete list of 2018 members, volunteers, and supporters please visit our website at nsrwa.org.

Get Out and Explore the South Shore!

Outdoor Recreation Schedule - May and June

Get out and explore with the North and South Rivers Watershed Association! We have a wide variety of events to choose from including fishing, walks, paddling events and pontoon cruises. To find out more and to register, go to exploresouthshore.org. And stay up to date by signing up for our E-news!

Walks

Explore the Amazing World of Insects!
Crabby Kids at Duxbury Beach

Sunday, May 19
Saturday, June 1

Presentations

Timing the Tides – Hingham Library
Striped Bass 101 – The Basics & More – Scituate Library
Timing the Tides – Scituate Library

Wednesday, May 8
Wednesday, May 22
Wednesday, May 29

Pontoon Tours

Shorebird Migration Tour
History of the North River
History of the North River
History of the North River (Sunset)
Landscape & Wildlife Photography w/Kjeld Mahoney
History of the North River
Shipbuilding on the North River
Shorebird Migration Tour
History of the North River
History of the North River
Landscape & Wildlife Photography w/Kjeld Mahoney
History of the North River
A Tale of Two Rivers
A Tale of Two Rivers

Saturday, May 11
Sunday, May 12
Saturday, May 1
Saturday, May 25
Sunday, May 26
Saturday, June 1
Sunday, June 2
Saturday, June 8
Sunday, June 9
Saturday, June 15
Saturday, June 22
Sunday, June 23
Saturday, June 29
Sunday, June 30

Fishing

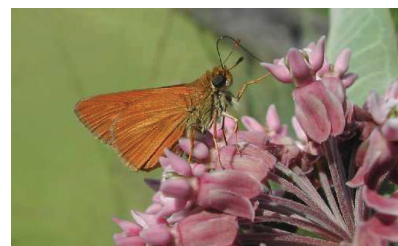
Fly Fishing Essentials Class
Mother's Day Family Fishing Workshop
Clamming the North River (2)
Guided Fly Fishing Expedition for Strippers

Saturday, May 11
Sunday, May 12
Sunday, May 19
Sunday, June 2

Paddles

Luddam's Ford Family Picnic, Fishing & Paddle
Father's Day Family Paddle
Solstice Sunset Paddle
Explore the South River Paddle

Saturday, June 15
Sunday, June 16
Friday, June 21
Sunday, June 23



Explore the Amazing World of Insects!

Sunday, May 19 – 10:00 am

Join Plymouth County Entomologist Blake Dinius and NSRWA's Brian Taylor as we explore the amazing world of insects! Program discussions will include insect identification, fun facts, pollinators, invasive species plus whatever we can find!



Striped Bass 101 – The Basics & More

Wednesday, May 22 – 7:00 pm

Want to join our South Shore Striper Tournament but feel like you could use some more tips on how to catch (and release) them? Two local South shore fishing enthusiasts, Mike Jones and Daniel Wells, will share their extensive experience, insight and tips to make your next fishing trip enjoyable for the whole family.

Photos

Continued from Page 1

sanctuaries, and also led to new discoveries. "I had never seen Pudding Hill before," Lisa says. "It's just beautiful! Also, the Herring River Trail in Scituate will now be one of my regular stops."

Mike Sleeper also contributed to our

new website. A Marshfield native, Mike first picked up a camera around age 12. His interests progressed from birds, to commercial photography, and eventually to landscapes (See pages 1 and 8). You can now see many of his gorgeous panoramic images on our website. Mike especially enjoys taking pictures of the places where the land meets the water.

He says, "I like how it changes with the tides and seasons. There's something to see 365 days a year." Some of his favorite spots include Duxbury Bay, World's End, and the ponds of Hanson where his father grew up.

Check out Mike and Lisa's work on ExploreSouthShore.org and Mike's online store at SleeperFineArt.com.



South River Marsh at Fourth Cliff by Mike Sleeper

Measuring the Health of Our Salt Marshes

By George Humphrey
Scituate

Among the most beautiful and environmentally important features of the South Shore coastline are the salt marshes that form in the estuaries where the region's rivers meet the sea. These sensitive yet surprisingly resilient habitats mark the transition from sea to land, nurturing microorganisms, fish, birds and invertebrates; sequestering carbon; stabilizing sedimentation; and moderating the impact of coastal storms. While quietly going about their daily chores, the marshes also provide a uniquely peaceful setting for kayakers, bird watchers and nature photographers.

We have not always been kind to our marshes. During the Colonial period, trenches were dug so that cattle could graze on the marsh grass, which was also harvested for animal feed and thatched roofs. In the 19th century, approximately 80% of Boston's salt marshes were drained and filled to accommodate urban expansion. And during the Great Depression, additional ditches were created in a misguided attempt to control mosquito infestation. Ecologists have estimated that Massachusetts lost 41% of its tidal marsh between 1777 and 2005.

With the passage of the Wetlands Protection Act, such adverse practices have largely ceased and today's salt

marshes are much healthier than they once were. There are still some serious stressors, however: wastewater and fertilizer runoff, burrowing green crabs, and boat wake all contribute to marsh grass loss by weakening the underlying peat. But by far the most serious challenge is the increase in sea level, which has risen at an annual rate of 2.80mm since 1921 or almost 11 inches!

NSRWA's Watershed Ecologist and MassBays Regional Coordinator, Dr. Sara Grady, has been studying the region's salt marshes since 2001, when she led a major study of the marshes in the estuary formed by the confluence of the North, South, and Herring rivers. In 2014, she worked with Alex Mansfield of the Jones River Watershed Association to replicate and expand the study to include the Jones River in Kingston. The results show that, while the marshes along the North and South rivers are in reasonably good health, they experienced a significant loss of high marsh grass during the 13-year period between the two surveys due to increased salinity caused by more frequent tidal inundation.

As part of the Association's continuing effort to monitor the salt marshes within the watershed area, Sara has formed a team of "Salt Marsh Sentinels" who use their docks, located along the North and South rivers, as giant rulers to measure

vegetation bands at regular intervals. Data gathered by the Sentinels are used to document changes to the marshes over time and to promote scientifically informed policies and management decisions. Additional Sentinels are



Craig Hannafin, one of our Salt Marsh Sentinels.

always welcomed and are particularly needed in the Humarock area. If you own a dock on one of the rivers and are interested in this important project, please contact Sara Grady at sara@nsrwa.org.

Looking to the future, Sara is working on a study of the green crab population in order to assess its effect on the marshes and to use aerial photography to monitor changes over time. The more we know about these unique environments, the better able we are to protect and nourish them.

Forecasting to Allow Streamflow

How does Scituate know they will have enough water supply to allow for streamflow releases from the reservoir? The NSRWA and partners have done extensive modeling of the First Herring Brook (the water supply for the town of Scituate) and the current town water demands, and have determined that even during the worst droughts of record the recommended streamflow to be released will safely maintain the water supply under current demand. As a supplement to this modeling and to ensure that “real time” conditions are being used, the NSRWA has developed a water supply and streamflow release prediction tool.

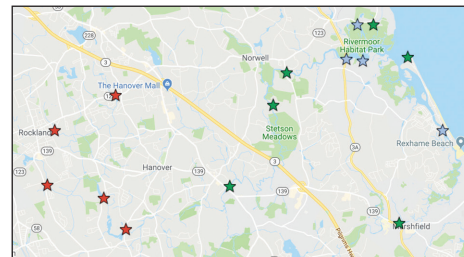
The tool uses current conditions to predict whether the reservoir will stay above 20% full by October 15th, which is when the reservoir typically starts to refill. This tool uses the volume of water in the reservoir to determine the number of days remaining until a water ban should be enacted and/or streamflow cut off. It requires weekly inputs of two pieces of information from Scituate’s Water Division - the previous week’s average surface water pumping rate and the reservoir level, plus any relevant changes to the baseline condition.

Since we cannot see a drought

coming, this tool will provide the town with up-to-date feedback on the system’s conditions and is being piloted this year. We have found that summertime water conservation (i.e.



not using water excessively outdoors) makes a large difference in how successfully water can be released for minimal flows and ensuring adequate supply during a drought; the best solution for maintaining a healthy drinking water supply is to reduce nonessential water use during the summertime.



Blue—Testing sites within shellfish beds; Green—Other testing sites; Red—North River headwater sites

Expanding Water Quality Monitoring

Thanks to funding from the Massachusetts Department of Environmental Protection (MassDEP) our volunteer River-Watch Water Quality Monitoring program will this year sample an additional five headwater tributaries in the upper North River watershed, and we will be able to sample sites within shellfish areas in the lower estuary 10 additional times this summer. The new headwater locations include Cushing Brook, Drinkwater River, French Stream, Indian Head River and Longwater Brook - all of which have been listed as impaired for bacteria.

Additional tributary sampling will provide MassDEP with updated bacterial data on impaired water bodies in the North River watershed and increase our understanding of pathogen contamination in the upper watershed. Want to volunteer to help us sample water quality this summer? Sign up at nsrwa.org or contact citizenscience@nsrwa.org.

Explore

Continued from Page 1

feel good. To answer this question of “How much we need,” Williams cites a study published in the Journal of Environmental Psychology that recommends a minimum of five hours of “nature time” per month. That’s about 30 minutes, twice a week, to elevate your mood and stave off depression. Double that, and the benefits expand further. Williams explains, “The more nature, the better you feel.”

What Are the Barriers?

You love spending time outdoors, but... What’s stopping you? Perhaps you don’t know where to go, or you don’t have anyone to go with. Maybe you’re tired of the same old places, or you don’t know where to park, or where

to find a trail map. Don’t dismay: NSRWA is here to help!

New Website and Guide Map

To help remove some of the barriers that prevent us from spending time outdoors on the South Shore, NSRWA has been working diligently this past year to create new resources.

- Our thoroughly updated and more user-friendly website offers extensive information about hiking places, boat and kayak launch sites, and historic points of interest, plus information about spots for fishing and shellfishing. Visit ExploreSouthShore.org to find a place to explore, download a trail map, and even learn about the property’s history and wildlife. You’ll also find details about fees, parking and other particulars.
- The new “Explore South Shore

Recreation Guide Map” is also coming out soon. This updated fifth edition of our map includes 97 historic and recreational points of interest. Whether you’re an angler, photographer, kayaker, or hiker, you’ll find it to be a valuable resource.

- In addition, we’ve expanded our events calendar with a wide variety of walks, workshops, guided paddling and fishing excursions, and pontoon boat tours, plus summer favorites like our Great River Race and Yoga at the River’s Edge program. Visit exploresouthshore.org to sign up for your next adventure!





WaterWatch

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- **The River Herring Are Coming Home!**
- **Measuring the Health of Our Salt Marshes**
- **Get Out and Explore the South Shore**
- **2018 Annual Report**

NSRWA 3rd Annual South Shore Striper Tournament

Friday-Sunday, June 7-9

**\$4,000 in CASH PRIZES
and New Fly Fishing Division!**

Details and registration online



Yoga at the River's Edge – June 8–September 7



2019 Great River Race Saturday, July 13 - Start Time 9:30am

Calling All Artists! Fish Painters Needed

With the overwhelming success of last year's painted rain barrel raffle, we've decided to do another public art project.

The campaign will be called "Fish Out of Water" and will highlight the importance of water conservation to protect streamflow and the wildlife that depend on it. Email lori@nsrwa.org if you'd like to lend a hand (or a brush) to paint



a wooden fish. The painted fish will be raffled off in each of our WaterSmart towns. For more information on the WaterSmart program, go to WaterSmartSouthShore.org.