

RiverWatch

THE NORTH AND SOUTH RIVERS WATERSHED ASSOCIATION

Protecting our Waters Since 1970

Third Herring Brook Restored After 342 Years

Dam Removal Means Fresh Start for the Fish

- 8.4 miles of stream now running freely
- 86% of habitat now open to migrating fish
- 15 years of planning and fundraising

Imagine that you've time-traveled back to about 1640 – America's first century. You've landed in a village not unlike that currently replicated in Plimoth Plantation. A very different world, and that's the last time you could have seen migrating fish swimming freely up what is now Third Herring Brook. That is, until December 2016.

The removal of the Tack Factory dam off the Third Herring Brook in Norwell is a huge milestone for NSRWA. The dam removal represents the culmination of 15 years of planning, negotiating and fundraising that led us to ~\$450,000 in grant funding and the actual implementation of the dam removal last fall. 8.4 miles of the brook are now open to migrating fish populations for the first time in 342 years.

Located on private property behind the Cardinal Cushing Centers in Hanover, Tack Factory dam, the second dam in the watershed to be removed, was the keystone, opening 86% of the habitat for migration and restoring a landscape that can now function as originally intended. The remnant fish population that has persevered despite barriers can now prosper. We look forward to monitoring and measuring the return of the herring this spring.





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2017 NSRWA Kayak Raffle

3 Ways to Enter! Join • Renew • Donate

Old Town Loon 111 Kayak - Valued at \$599.99 Donated by Billington Sea Kayak



Enter online at nsrwa.org

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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NSRWA

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

Letter From Our President

As the new President of the North and South Rivers Watershed Association. I want to introduce myself and thank you for your support. My story is probably a lot like yours. I was drawn to our organization because of its impact on the quality of my life.

I grew up on a New Hampshire lake and, until recently, always considered myself a lake person. It was my experience living on a farm in Marshfield by the North River that converted me into a river person and connected me to the NSRWA.

As a child, I found my independence on the water and in the woods by the lake. The 25 acres of trailed conservation land behind the Marshfield farmhouse drew me in, as did the subsequently protected 75 acres that connected my back door to a pier on the North River. While living in Marshfield, I found my head turning to the sight and sound of geese and ducks flying over the fields toward the water. I was mesmerized by fireflies and walked the woods daily. Once again, I turned to the water.

My initial support of the NSRWA certainly made economic sense. It would have been shortsighted of me not to give my time and money to an organization that advocated for the conservation of over 100 acres and for the protection of a beautiful river, both of which were literally in my back yard. As my enjoyment of the river deepened so did my commitment to the NSRWA. The river became my go to place. Some people practice a formal religion, some take long runs, and some do yoga to find solace. I go to the river, and I preferably go alone. At the river, I enjoy the meditative effects of nature and water in their finest forms. It is not surprising that the North River is a National Natural Landmark. It makes no difference if I am enjoying the river from the seat of a kayak, from a bench on the pier, or from the Association's pontoon



boat; it always gives me peace.

Friends tease me when I refer to the river as mine. I do not mean that it is mine exclusively. I share with you the enjoyment and the ownership of all the public natural resources within the watershed that the NSRWA works to protect, particularly our waters. As a supporter of the NSRWA, I know you understand the responsibility that comes with that shared ownership.

I have recently had the opportunity to work with NSRWA board members and staff on a new strategic plan and purpose statement. Our newly worded purpose is to "PROTECT OUR WATERS." Whatever your personal story, the decision to support the NSRWA is as simple and as important as that.

I thank you for your past and continued support, and I look forward to seeing you on the rivers!

Sally Caverly President, NSRWA

Lacky a. Canerly



Connect with us on Facebook, Twitter @nsrwa and on Instagram - northandsouthrivers

Moving Upstream 😂



New Mall Ownership Agrees to First Step in Dam Removal

Now that we've opened 86% of the Third Herring Brook for migrating fish habitat, we're ready to focus attention on the removal of the third dam that sits behind and is owned by the Hanover Mall. And the timing couldn't be better.

Hanover Mall, originally built in 1971, is under new ownership and will be completely redeveloped. There's a lot of talk about it in our local media: What are the anchor stores? How about new restaurants? How much parking? But what about: Where is the green space? Will the drinking water aquifer for Norwell and Hanover that sits beneath it be protected? Will the Peterson's Pond dam be removed to restore fish passage?

With the redevelopment of the Hanover Mall, the NSRWA and the region have a golden opportunity to work in partnership to incorporate the area surrounding the Third Herring Brook as a natural feature of the new mall — potentially making it an attraction with nature trails, green space, benches, and a free-running brook with migrating herring. Not just a relaxing respite for mall patrons, but the chance to engage and educate more people about the need for healthy rivers and protected greenspace.

Recent discussions with the new



New mall owners have before them an opportunity to create a healthier, environmentally sound resource including green space and an environmentally sensitive landscape.

mall ownership have resulted in a positive first step towards removing their dam and reconnecting the upper portion of the Third Herring Brook. The new mall owners, Peco Real Estate Partners, have committed a portion of the costs of the initial design and engineering for the project which will

match federal NOAA grant funding obtained by the NSRWA and the EPA's MassBays Program. We are very excited about this project with the new mall owners and looking forward to further discussions with them about making the Third Herring Brook an integrated part of the new development.



Photo courtesy of the Wild Turkey Paddlers.

New South River Canoe and Kayak Launch Opens this Spring!

We are so excited to announce that a new canoe and kayak launch will be ready for the public to use this spring! The launch is located at the Keville Footbridge in Marshfield – right behind the CVS and on the bridle path. In addition, the Pratt Conservation land will be more accessible with new trail work and parking areas completed this spring. We hope to have a celebratory inaugural paddle as soon as the launch is complete. Stay tuned to our e-news for the date!

Don't get our e-news?

Our e-newsletter is the best way to stay up-to-date on all the latest news, projects and events. Go online, email us or give us a call to be added to our bi-monthly email list.

Proposed EPA Cuts Impact Water Protection Programs

Combo of Federal EPA and State DEP Budget Challenges Resources of Non-profits

According to recent news reports, President Trump is proposing to cut 31% of the Environmental Protection Agency's budget, eliminating 20% of the EPA staff, and cutting dozens of programs and grants to states, including 30% cuts in clean air and water programs. Massachusetts has been dependent on the EPA for the enforcement of the Clean Water Act, regulating the discharge of stormwater, wastewater and industrial pollution into our waterways, as well as significant federal funding directed to nonprofits that support local environmental initiatives including funding that supports our own MassBays National Estuary Program scientist, Sara Grady. While we do not know yet if the EPA's proposed budget cuts will impact our staff directly, the recent news has made us concerned not only for staff but for other projects like dam removals and water infrastructure that also heavily rely on federal funding.

The impact of these major federal



cuts, combined with the possible shift of oversight responsibilities to the states, will bring into sharp relief the chronic staff and budget cuts that have been ongoing in the MassDEP for the past decade. We have seen a decline in the number of employees from 1,173 in 2000 to 455 today, resulting in a measurable decline in the

enforcement of air and water quality rules.

While we're looking at a political landscape that is still in motion, it is fair to assume the state and local agencies will be taking over the functions of permitting and enforcing the Clean Water Act. Recently Gov. Charlie Baker refiled legislation that would enable the state to take over enforcement of water pollution standards, currently still a federal responsibility, but has not provided enough funding to support an already diminished state agency to take on these new responsibilities.

None of this is good news for the rivers, streams, lakes and ocean. However it highlights the increased importance of local groups like the NSRWA that can help. Now that both federal and state resources are diminishing, our role as a watchdog of healthy rivers has never been more important. But we cannot do this without your ongoing volunteerism and generous financial support.

Introducing

WaterSMART

The WaterSmart Program is the new rebranded and expanded former Greenscapes program. In conjunction with 10 towns on the South Shore, NSRWA provides education to children and adults on topics like water conservation, Greenscaping lawns, WaterSmart Business, stormwater, pet waste and more. NSRWA educates 2,500 school children a year in the Water All Aound You program, with the help of 350 parent volunteers. WaterSmart also sponsors the Gardening Green Expo and Rain Barrel Sale in the spring.

Being WaterSmart is a new way of

thinking about our water resources and helping to ensure that our water is clean and plentiful for generations to come. Water is a valuable resource, especially here on the South Shore, so it's important to use it wisely. Conserving water or using it efficiently, as well as controlling pollution, will help ensure it is available for people, plants and animals now and in the future.

Whether it is in our homes, our businesses or on our streets, we can all do our part to help keep our water clean and plentiful.

The following towns are partners in the WaterSmart program:

- Aguarion (Hingham and Hull)
- Duxbury
- Hanover
- Kingston
- Marshfield

- Norwell
- Pembroke
- Scituate
- Weymouth

STORMWATER - The #1 Source of Water Pollution in Our Rivers

Rain and snow doesn't just fall to earth and all make its way back to a natural water source. Once on the ground, it typically becomes stormwater that often travels across land or around structures — parking lots, roads, sidewalks, buildings, even densely compacted lawns — before it can be naturally absorbed into the soil where it can be filtered and cleansed by plant roots.

Stormwater will eventually end up in our water, and it can be really gross! 60-90% of rain and snow is not immediately absorbed and becomes runoff, ending up in our lakes, rivers and ocean, carrying with it pet waste, cigarette butts, pesticides, and more, plus LOTS of bacteria. Stormdrains are only minimally effective in capturing and cleansing this runoff. Steps you can take now to avoid runoff:

Install a rain barrel

- · Build a rain garden
- Use permeable pavers, porous asphalt or gravel in driveways and patios.
- Add compost to your soil and aerate your lawn
- Restore or create natural areas with native (and drought-resistant) trees and shrubs



North and South Rivers Watershed Association

2016 Annual Report

Investment in the Future

By Rick Mayfield, NSRWA Treasurer

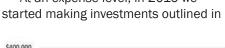
The NSRWA continues to have the strong financial foundation needed to carry out our mission across the watershed.

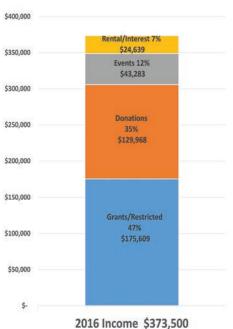


From an income perspective, grants

were 47% of our income for 2016. Our grant writing activities produced increased support of +12% which was an improvement over 2015. Membership and fundraising produced 35% of our income for the year and were up 4% over 2015 and exceeded our plan by almost 10%. The River Guardian category, those members who donate more than \$500 annually, was up over 13%. Without your continued strong support, we would not be able to accomplish the broad reach of programming that our team takes on each year.

At an expense level, in 2016 we

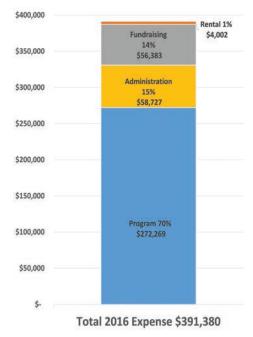




our new 2020 Strategic Plan. Our board agreed to change our staffing model after some recent retirements. These changes have increased our payroll expense but have also given us the capacity and talent to deliver on a much broader agenda as outlined in the 2020 Strategic Plan. In addition, we invested in a new technology platform to better manage our connections with you, our members, and to help us streamline a large majority of our fundraising processes and manage the business more efficiently. These investments were the primary contributors to a 17.4% increase in our expenses.

The Endowment fund we created in 2008 grew by nearly 7% in 2016. This fund provides us the financial backstop needed as we continue to raise the level of service to our communities in the coming years.

I am really excited about 2017 and beyond. The changes to our mission as spelled out in the 2020 Strategic Plan will broaden our connections to our communities and constituents. With your help, I am confident that we will be able to navigate the financial needs to support this new agenda.



NSRWA by the **NUMBERS**

Accomplished with your support in 2016:

- 9 Miles of stream habitat opened
- 60 Water quality samples monitored
- 1,416 Blue Mussels transplanted
- **3,111** Spawning **Horseshoe Crabs** counted
- 8,999 River Herring counted
- 2,500 students educated in Water **All Around You**
- 5,700 Pet waste education cards distributed
- 2,942 E-news recipients
- 768 WaterWatch **Lecture Attendees**
- 1,100 NSRWA members
- 477 volunteers
- 1,093 Intern hours



2016 NSRWA Members



Members in bold have supported NSRWA for 15 years or more. Their long term commitment keeps our Association strong and we want to recognize their efforts.

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River Guardians \$5,000+

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Foundations, Businesses, & Partners River Guardians

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Legacy Circle recognizes those who provide for NSRWA in their estate plans. To help assure that NSRWA will be strong and effective into the future, a group of benefactors is leaving bequests to our Association in their wills:

- Herb & Pauline Emilson • Peter & Julie Kelly-Detwiler
- •Betsey & Robert Detwiler
- Peter & June Keny-Detwie • Richard & Jackie Leach
- Craig & Danny Hannafin • Michael & Susan Wolfe
- •Deborah Lenahan

We encourage other members to consider leaving bequests to NSRWA, please contact Gabriela Silva at 781-659-8168.



2016 NSRWA Members



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Family Level Members \$35 to \$49

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Why is Science Important?

By Sara P. Grady, NSRWA Ecologist/South Shore Regional Coordinator for MassBays Program

Science is important because it is the craft of asking questions and seeking answers. We all have questions about the world around us because we are all naturally curious, and fortunately, science is there to answer them. More importantly, science provides an answer that is supported by facts. Those facts can then provide the foundation for making decisions.

In my role as the "science department" for the NSRWA, I take the questions that I and others have, and try to find the answers. For example, I get a lot of questions about river herring. Some questions take a long time to answer-"Are herring populations increasing or decreasing?" We answer this by conducting volunteer herring counts. Each year we get a count, and over time (~ a decade) we will be able to start making statements about whether there has

been an increase or decrease. Other questions are a lot simpler – "Did the dam removal help the herring?" We can document herring upstream of our dam removal sites and say that yes, there is now more habitat for herring and they are using it.

On a personal level, science is important to me because it is all about discovery. I learn something new every week, and in some cases, I am learning something that nobody else has known before, not in that exact way. It may be snorkeling in the South River and seeing that the mussels we transplanted are still alive, or watching the plant community change and mature with each year after a dam was removed, or even pulling together massive amounts of water use data to distill it into a single statement about water conservation. Then I get to share my discovery with



you and get you excited about it too, and hopefully that plays a part in helping everyone understand, manage, and protect our watershed.

NSRWA/MassBays/EPA Projects



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Shellfish Surveys and Restoration	✓				✓				✓
Marine Invasive Species Monitoring		✓			✓			✓	✓
Salt Marsh Monitoring				✓	✓	√			✓
River Herring Monitoring			√		✓	✓	✓	✓	✓
Eelgrass Monitoring	✓	✓		✓				✓	✓
Flow Monitoring and Restoration			✓			✓			✓
Water Quality Monitoring	✓		✓		✓	✓	√		✓
Horseshoe Crab Spawning Surveys and Tagging		✓							
Dam Removal and Post- Restoration Monitoring	✓	✓	✓		✓	√		✓	✓
Stormwater Management	1	1	1	1	1	√		✓	1



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SSNSC, NSRWA and Hanover Middle Students Monitor Health of Third Herring Brook

Students from Hanover Middle School along with naturalists from the South Shore Natural Science Center (SSNSC) are helping to monitor the health of the Third Herring Brook. The program was developed by the SSNSC in collaboration with the North and South Rivers Watershed Association (NSRWA) and funded through a generous grant from Battelle in Norwell. The goal of the program was to engage youth in a local river restoration project – a dam removal completed 2 years ago on the Third Herring Brook by the NSRWA and the South Shore YMCA.

The students measured different aspects of the health of the stream after the dam was removed. They measured water temperature and pH, dissolved oxygen, conductivity, salinity and turbidity, as well as collected macroinvertebrates at three sites along the brook. The students then graphed and analyzed their data before sharing it with the Town of Hanover's Conservation Commission.

This collaborative effort helps to monitor the restoration project, and introduce the students to environmental science.



Students from Hanover Middle School along with naturalists from the South Shore Natural Science Center use test kits to measure the dissolved oxygen in the Third Herring Brook behind the Emilson YMCA.

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Fish, Walk, Paddle and Cruise with NSRWA!

Outdoor Recreation Schedule - April through July

Get out and explore with North and South Rivers Watershed Association! We have a wide variety of events to choose from including fishing, walks, kayaking events and pontoon cruises. Details can be found on our website, nsrwa.org. August through October events will be online soon.

Fish

Saturday, May 13
Saturday, May 13
Guided Fly Fishing Expedition for Shad
Saturday, May 20
Saturday, May 20
Guided Fly Fishing Expedition for Stripers

Walk

Saturday, April 29
Saturday, May 6
Sunday, May 14
Saturday, June 3
Sunday, June 4
Friday, July 7

Brook Trout Walk
Willow Brook Farm Family Walk and Picnic
Herring on the Run Hike
Blossoms and Birds at the Tucker Preserve
Old Railway Bridge to the Herring Brook Salt Marsh
The Secret Lives of Fireflies Walk

Paddle

Saturday, June 10 Learn to Kayak (Basics)
Saturday, June 24 Kayak Scenic Tour
Saturday, July 8 Hanover Canoe Launch Beginner Family Paddle
Learn to Kayak (Basics)
Saturday, July 22 Kayak Scenic Tour

Cruise

Saturday, May 27 Bird Watching on the North River Pontoon Boat Tour Sunday, May 28 Maritime Archaeology of the North River Saturday, June 3 History of the North River Pontoon Tour (Sunset) Saturday, June 17 History of the North River Pontoon Tour (Sunset) Sunday, June 18 History of the North River Pontoon Tour (Sunset) Saturday, June 24 Nature Pontoon Tour to the Spit (Sunset Summer Solstice) Friday, June 30 Sunset Landscape & Wildlife Photography Workshop Saturday, July 8 Nature and History of the North River Sunday, July 9 Nature and History of the North River Saturday, July 15 Geology of the North and South Rivers Tuesday, July 18 Sunset Landscape & Wildlife Photography Workshop Saturday, July 29 Nature and History of the North River Sunday, July 30 Nature Pontoon Tour to the Spit (Sunset Full Moon)



Our pontoon boat is also available for chartered trips. Go to nsrwa.org for details.



Guided 4 hour fly fishing expedition

Guided 4-hour fly fishing expedition for Striped Bass at the Spit. Have the experience of a lifetime fly fishing at the mouth of the North River.



Herring on the Run Hike

Hike with us to the Third Herring Brook dam removal site and see the brook flowing free after 342 years. If our timing is right you might just get to see the herring run!



Sunset Landscape & Wildlife Photography Workshop

Join professional landscape and wildlife photographer Paul Nguyen on our pontoon boat to learn the art of landscape and wildlife photography on the state's only Scenic Protected River! You will be provided information on using the right lenses, techniques, and settings to get the best shots of nature.



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Inside This Issue:

- 2016 Annual Report
- Third Herring Brook Restoration
- Outdoor Recreation Schedule
- New South River Launch!





Yoga at the River's Edge - Starting June 17



Great River Race 2017Saturday, July 22

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