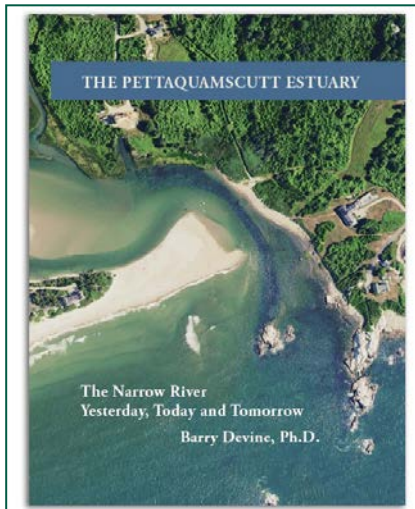


NARROW RIVER NOTES

Narrow River Preservation Association: Protecting, Preserving and Restoring the Narrow River Watershed Since 1970 / April 2021

Narrow River Book

Barry Devine's book, *The Pettaquamscutt Estuary: The Narrow River Yesterday, Today and Tomorrow* has now sold more than 330 copies!



The full-color, 180 page book contains 155 photographs and 15 full-color maps, articles, documents, and stories about all things Narrow River.

Books are \$40 to the public, \$30 for NRPA members. A Special Edition, signed by the author and sent with a 11" x 17" map is \$100.

Thanks to author Barry Devine, all proceeds from the book benefit NRPA.

What people are saying about *The Pettaquamscutt Estuary*:

"Fantastic read, amazing compilation of history, data and interesting facts about the river and the area. Well done!" ~ JH

"A beautifully illustrated tribute composed of different perspectives through the years on the incredible resources of the Pettaquamscutt Estuary. A must-have in the libraries and on the coffee tables of anyone who lives in the watershed - or who values it." ~ SG

\$30 for NRPA members
\$40 for non-members
\$100 Special Edition
order at narrowriver.org/NRbook

Changes at the Mouth of Narrow River

Many of you have witnessed the dramatic changes at the mouth of Narrow River following the Nor'easter on February 1-2.

During the storm, the sand spit at the mouth was overwashed by waves and a significant amount of sediment from the beach face was transported into the river.

The channel and sand spit are perpetually evolving in response to coastal storm events, waves, tides and currents, and sediment moving along Narragansett Town Beach. The tidal exchanges between the bay and the river continue and the spit is likely to return to a similar (pre-storm) configuration over time as a result of natural coastal processes.

Continued on page 6



The mouth of Narrow River at low tide February 7, 2021. Photo by Dale Denelle

Navigating the Narrow: A Guide to Boating on Narrow River

NRPA supports and encourages safe and responsible boating on the Narrow River.



NRPA supports and encourages safe and responsible boating on the Narrow River. See our guide for safe boating at narrowriver.org/boating.

Photo courtesy of Russ Godin

By Jim Vogel, NRPA Board Member

Many residents and visitors to the Narrow River enjoy kayaking, canoeing, paddle boarding and boating. These are some of the best ways to enjoy the watershed.

NRPA works to preserve, protect, and restore the natural environment and quality of life for all communities within the Narrow River (Pettaquamsc-

Continued on page 5

Narrow River Cleanup May 2, Volunteers needed

To minimize the risk of COVID transmission, we are inviting small groups of family and/or friends to clean up areas along the river. Please bring a mask to wear when appropriate.

Each small group will have its own location, so it will be easy to maintain social distance. We welcome you to clean up your own neighborhood or to clean the marshes by boat.

We're flexible! Although we have set a date for our cleanup, please choose the time and day that is most convenient for your small group. Our rain date is May 9.

NRPA will provide you with a kit including gloves, bucket, antibacterial wipes, trash bags and containers for sharp items.

Sign up today at narrowriver.org/cleanup or email nrpa@narrowriver.org.



The Richardson family, Fall 2020.

President's Cove

Dear friends,

The pandemic has been on everyone's mind these days and with the end possibly in sight, I am happy to say that NRPA is still thriving.

Times have not been easy with the cancellation of fundraising events, educational events and other gatherings. However, I can say that virtual meetings have saved the day. Our osprey education program, Annual Meeting, On Pettaquamscutt and more have all been held successfully online.

While the web has its merits, speaking face to face is hard to beat.

NRPA has been working under the guidelines of its new Strategic Plan to cut expenses and create new fundraising campaigns. This has had its rewards. Over the past few years, in order to meet the budget, NRPA has had to dip into its contingency fund, but I am happy to say that during this time of crisis some of the important strategic fund has been replaced. We want to continue that trend.

So let me just mention two fundraising items that with your assistance will help to not only get us through the pandemic, it will help us expand NRPA's education, preservation and advocacy work.

The first and the most important fundraising item is MEMBERSHIP and the second is CREATING A LIVING LEGACY.

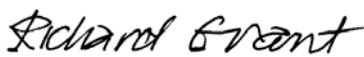
Please become a member of NRPA by sending a membership contribution to us at PO Box 8, Saunderstown, RI 02874 or joining online at narrowriver.org/join-donate.

Creating a living legacy ensures your secure support of NRPA after your passing.

We invite you to include a gift to NRPA in your estate plan. Gifts of any size are welcome. Gifts of \$10,000 or more can be used to establish an endowment fund in your name managed by the Rhode Island Foundation for NRPA. These endowments provide an annual grant to NRPA and grow each year depending on the market. For information, please contact us at nrpa@narrowriver.org.

We are hopeful that the end of the pandemic means that we can soon gather and celebrate Narrow River with you. Thank you for your continued support.

I wish you good health,



Richard Barker Grant, President, NRPA

MISSION STATEMENT

The Narrow River Preservation Association (NRPA) works to preserve, protect, and restore the natural environment and the quality of life of all communities within the Narrow (Pettaquamscutt Estuary) River and Watershed.

NARROW RIVER PRESERVATION ASSOCIATION

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United Way
of Rhode Island



You can give back to NRPA through your **United Way workplace campaign**. Simply write in Narrow River Preservation Association on your pledge form or search/write-in and add us via electronic pledging.

Join NRPA!

Membership is NRPA's largest source of support! Membership connects you with all of NRPA's activities, events and advocacy.

Join by sending a check to NRPA, PO Box 8, Saunderstown, RI 02874 or online at narrowriver.org/join-donate. Thank you!

Rhode Island Rivers Council



Rhode Island Rivers Council has designated NRPA as the official watershed council of Narrow River.

Save the Date!

14th Annual Pettaquamscutt Paddle Friday, July 23

Discounted kayak, canoe and stand up paddleboard rentals all day and guided sunset paddle in the evening!

Hosted by Narrow River Kayaks, all proceeds benefit NRPA.

NRPA Welcomes New Program Coordinator Rebecca Russell

Please join us in welcoming Rebecca Russell as NRPA's new Program Coordinator!

As a native to RI's South County and one who enjoys adventuring in and connecting with Nature; Rebecca is enthusiastic to join NRPA in their mission to protect and preserve the Narrow River estuary and watershed.

She brings to NRPA, her education in Conservation Biology and work experiences in non-profit administration, water resource protection & monitoring, low-impact community development, and community education & outreach.

Rebecca recognizes the intersections of environmental and social justice, and behavioral health practices (i.e., outdoor recreation, mindfulness, and yoga) with human health. As such, she especially looks forward to supporting NRPA's programs that offer individuals and families meaningful ways to connect to the natural world. Given NRPA's past success engaging locals in watershed stewardship and recreation, Rebecca endeavors to build on these program foundations and community partnerships while increasing the scope of rural and urban populations' access to and safe enjoyment of this coastal watershed.



Rebecca Russell, NRPA's new Program coordinator.

2021 Lesa Meng College Scholarships due 4/30

Since 1993, Narrow River Preservation Association (NRPA) has awarded scholarships to seniors graduating from high schools in the Narrow River Watershed as part of its Youth Environmental Education Program.

Up to four \$1,000 scholarships will be awarded this year.

Scholarship applications are available through the guidance departments at each of the eligible schools: Narragansett High School, North Kingstown High School, Prout School and South Kingstown High School.

Winning students are chosen based on the strength of their academic achievement in science and math, a recommendation from their science teacher, their environmentally oriented activities in and out of school and their answer to the question:

"Choose one environmental problem/issue relevant to the Narrow River and discuss what you as an individual could do to mitigate the problem".

Interested students should return the completed application package to their high school guidance department by Friday, April 30th, 2021.

Barry Devine retires from NRPA Board of Directors

The Board and members of Narrow River Preservation Association extend our heartfelt thanks to Barry Devine for his decades of volunteering with NRPA.

Serving on NRPA's Board of Directors in the 1980s and for the past three years, Barry can be relied up on to critically consider every issue with the ecology of the river in mind. He has volunteered at countless NRPA events and river cleanups, providing hands on help and support wherever needed.

In 1995, Barry was awarded NRPA's Friend of the River Award in recognition of his significant contributions to the organization and his founding of the Narrow River Road Race, which ran for 32 consecutive years.

After following his career to the U.S. Virgin Islands, Barry returned to Rhode Island and rejoined NRPA's Board of Directors in 2017. Again he invigorated the Board by reviving a research bibliography of research about Narrow River, developing a Geographical Information System (GIS) of the Narrow River watershed, and writing and editing ***The Pettaquamscutt Estuary: The Narrow River Yesterday, Today and Tomorrow***. Barry has donated all of the proceeds from the book to NRPA.

Barry is a person of many talents. A biologist and cartographer by trade, he is also an accomplished woodworker, artist, gardener and writer. Barry has authored three non-fiction books and two novels.

We are delighted that Barry will stay on as an Advisory Board Member, helping guide NRPA in our next 50 years.



Above, Barry Devine with his grandson.

FOCF offers invasive plant booklet

The Friends of Canonchet Farm (FOCF) have been fighting the rising infestations of knotweed, phragmites, privet, bittersweet and porcelain berry along the lakes across from Narragansett Town Beach and along the 1.3 mile nature trail that links the beach and the Narragansett Senior Center since its' founding in 2007.

Over the years, the organization has also sponsored numerous educational walking tours with notable authors and naturalists to reach out to those who are passionate about fighting threats to our environment and involve more South County residents in the battle. Due to Covid-19 these efforts have had to be suspended but we are proud to announce the printing of a 16-page, four-color illustrated booklet identifying 13 of the most invasive vines and shrubs infesting the forests, fields and yards of South County.

This booklet is intended for homeowners and students who are concerned about the degradation of our environment by these plants and the damaging effects these invasive plants have on our native plant community and the insects, birds and animals that are dependent upon them.

Each page details identifiable characteristics of the invasive plant such as their growth habits, their favored growing conditions, how they spread in our fields and forests and most importantly, how to eradicate them.

The booklet is available for all interested residents at libraries, town halls, parks and recreation offices in South County. View and download it at narrowriver.org/howtohelp.

For more information, visit Canonchet.org or facebook.com/friendsofcanonchetfarm



Three Sisters sculpture to be dedicated at Casey Farm in June

By Jane M. Hennedy, Site Manager, Historic New England

At this 300-acre working farm on Boston Neck, we naturally think about people connected to the land and water. Casey Farm was founded in 1702 on the homeland of the Narragansett people and made successful through past oppression and violence toward them. Progress has been made in acknowledging this past with our partners at the Tomaquag Museum, Rhode Island's museum sharing history from the Indigenous perspective. In our farm house museum gallery in 2018, we added displays with cultural objects ranging from ancient stone tools to twentieth-century porcelain to teach about the lifeways of the Narragansett people, farm workers, and farm owners. Modern commissioned works made by Tomaquag artists complete the view.

Now we have new ways to reach people through the land and water. On

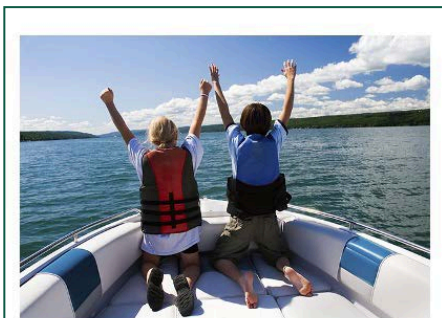
June 25 we will honor Indigenous people and their ecological worldview with a modern sculpture in our garden that is also a rain barrel titled "Three Sisters." It will nurture our garden and become a focus for programs. Allison Newsome and Deborah Spears Moorehead, the artists who created the sculpture, will speak at the dedication about its creation. Deborah, who is a Native American, will tell the Eastern Woodland story of the gifts of the Three Sisters—corn, beans, and squash—who sustained life.

The many facets of the farm are available online in a virtual tour, Casey Farm, that we keep updating. It features several compelling videos by the Tomaquag Museum's director, Lorén Spears. Veronica Berounsky contributed an excellent essay on the Pettaquamscutt Estuary's ecosystem, and we invite you to explore whether virtually or in person.

Casey Farm is located at 2325 Boston Neck Rd in Saunterstown.



"Three Sisters" sculpture to be dedicated at Casey Farm on June 25. Created by Allison Newsome and Deborah Spears, the work honors the gifts of the Three Sisters - corn, beans, and squash - and is a working rain barrel.



It is easy to boat safely by following these simple rules:

1. *Be prepared - Plan for your trip!*
2. *Life jackets are essential!*
3. *Know the river.*
4. *Follow boating rules.*
5. *Do not drink and boat!*
6. *Educate and train yourself.*
7. *Exercise good judgment!*

cutt Estuary) and Watershed. This includes those who utilize the watershed in boats and paddlecraft.

The Narrow River is a beautifully unique tidal estuary that flows from its headwaters in North Kingstown to the Atlantic Ocean.

Despite the serene and calm environment, the dynamic nature of the waterway presents many risks to boaters. Wind direction, travel direction, and tide height need to be considered every time you go out on the water.

Navigating the Narrow River is under the jurisdiction of the United States Coast Guard (USCG), Rhode Island Department of Environmental Management (DEM), and three local municipalities of Narragansett, North Kingstown, and South Kingstown. Each municipality has their own harbor master who is responsible for rule enforcement. Safe and responsible boating requires the proper attention and education of boaters.

Navigating the Narrow: Safe & Responsible Boating

1. Be Prepared -- Plan for your trip!

- Plan: Create a Float Plan and stick to it.
- Boat: Perform a Safety Check and verify the boat is in good working order.
- Weather: Watch for inclement

Navigating the Narrow, continued from front page

weather and be aware of changing conditions.

- Passengers: Verify your passengers know the proper safety procedures in the event of an emergency.

2. Life jackets are essential!

- Always wear a life jacket and make sure it fits properly.
- BY LAW kayaks, canoes and paddle boards require life jackets.
- Children under 13 must always wear a life jacket on motorboats.

3. Know the River. Make sure you know where you are going and how you are getting there. The Narrow River changes season to season and with significant weather events.

- Tides: High tide or low tide, time your trip accordingly. Be aware of low tide obstructions such as sandbars. A Middlebridge tide chart is available at narrowriver.org/tides.
- Know where the No Wake Zones are and obey speed restrictions.
- When traveling under a bridge, check the direction of the current and adjust your speed so you can control your boat in the tight area.
- When beaching your boat, always go against the current so you have steerage at low speed and have a stern anchor to keep the boat aligned.

4. Follow the Boating Rules:

- Be courteous to others on the water (people, waterfowl, and animals).
- Power driven vessels ALWAYS give way to non-powered vessels (sail boats and paddlecraft)
- Don't overload the boat with people or equipment.
- Treat your fueling operations with care.
- Practice proper boat propeller safety.
- Check for harmful fumes.
- Follow proper anchoring procedures (do not anchor in protected areas or in the navigable channel).
- Follow proper docking procedures.
- Follow proper lighting for night

navigation.

- Know your boat's maximum passenger capacity.
- Ensure your boat is properly maintained and serviced.

5. DO NOT DRINK AND BOAT. In Rhode Island, it's illegal to operate or drive any watercraft while under the influences of drugs or alcohol.

6. Education and Training: The RIDEM and USCG websites have many resources to reference.

7. Exercise good judgment and use common sense on the water.

Visit narrowriver.org/boating for general guidance to boaters on the Narrow River including responses to frequently asked questions and references for more information.

NRPA will do its best to add more useful information to the website. Please send us your boating questions at: nrpa@narrowriver.org.



Narrow River Land Trust (NRLT) needs your help with **Trail Improvement and Invasive Plant Species Removal** at the many properties they protect in the watershed.

The first cleanup will be in concert with the "South County Cleanup" the week of April 22 in honor of Earth Day.

From May through November, workdays will be every second Saturday of the season 9am-12pm.

Email office@narrowriverlandtrust.org with "Workday" in the subject line to sign up and receive updates.

Please bring gloves, hand clippers, loppers, water, snacks, sunscreen, bug spray, and a mask.

The work can be grubby, but many hands make light work. Join us!

Narrow River: An Outdoor Classroom

By Erin Chille

Each Spring and Fall, URI marine biology undergraduates excitedly cram into a twelve-person van, packing the trunk to the brim with ID guides, 5-gallon buckets, seine nets, waders, quadrats, and transects. They're on their way to the Narrow River for their Marine Biology lab. The General Marine Biology course (BIO360) and the associated lab is required for all Marine Biology students at the University of Rhode Island. Each semester, the students travel to a handful of marine ecosystems in Rhode Island to learn the techniques that scientists use to study them. Narrow River, specifically Sprague Bridge, is where these students go to learn about the Salt Marsh.

Once on-site, the students and teaching assistants stream out of the vans, unpack their gear, and carefully cross Route 1A to the small patch of marshland on the west side of the bridge. Here, the students lay out their transects (very long measuring tapes) along the marsh and set down their quadrats (squares made of PVC pipe) at regular intervals along the transects.

Excited shouts of "Look what I found!" and "Hey, look! Fiddler crabs!" echo the marsh as these enthusiastic young biologists use their guidebooks to meticulously identify and count each organism inside each quadrat. With this technique, used by ecologists globally, the students figure out the most common organisms in the habitat and where each organism is most likely to be found on the marsh. When they've completed their transects, the students pull on waders and learn how to use seine nets (long finely meshed nets with weights on the bottom) to find and count the animals living in the mud flats (On a side note, check

continued on page 7

Mouth of the River changes, continued from front page



1972, RIDEM GIS



April 2019, RIDEM GIS

Many thanks to Dale Denelle for the 2021 aerial images. All photos except the 1972 image available in full color at narrowriver.org/narrow-river-notes.



High tide, February 4, 2021



Low tide, February 7, 2021

Oyster research in Narrow (Pettaquamscutt) River

By Amy Zyck, PhD candidate

I am a PhD student at the University of Rhode Island, studying the effects of coastal stressors on oysters. My research is based in Narragansett Bay, where historically there have been large declines in wild oysters because of overharvesting and habitat exploitation.

Globally, substantial efforts are underway to restore oyster populations, including Narragansett Bay. For long term success with these efforts, we need to understand how factors like environmental conditions and disease have and will continue to impact oysters.

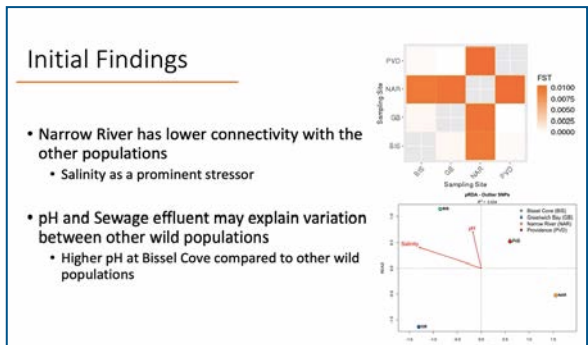
My research focuses on how coastal stressors, like acidified and hypoxic (low oxygen) waters, may limit larval

dispersal across wild oyster populations in Narragansett Bay.

Oysters are dependent on their embryonic and larval stages because these are the only free-swimming stages in an oyster's life cycle. Embryos and larvae can disperse throughout the Bay and mix with other populations. This process is important for helping oyster populations persist and recover from natural or man-made disturbances. However, embryos and larvae are sensitive to stressors, so more stressful areas within the Bay can have high larval die-off, limiting dispersal to other populations.

We collected wild oysters and environmental data (salinity, dissolved oxygen, etc.) from several locations throughout the Bay, including Narrow River. Using genotype data from the oysters, we will determine how oyster populations across the Bay are genetically related to each other. This information, along with environmental data, can reveal if coastal stressors are limiting larval dispersal to or from certain populations.

For example, Narrow River has decadal overturn events, producing hypoxic waters and multiple freshwater inputs which lower salinity. These stressful environmental conditions may limit larval dispersal, so oysters in Narrow River may be less genetically related to other populations in the Bay. This research can help determine where oyster restoration efforts should occur and if they will be successful long-term.



Top left: Small cove near URI boathouse dock in Narrow River where Amy collected oysters. Bottom left: One oyster collected from Narrow River. Oysters were measured and weighed before dissecting tissue for genomic analysis. Bottom right, slide from Amy Zyck's presentation noting findings.

Classroom, cont. from page 6

out the "What Lives in the River 2020" video on YouTube to see this in action!). Applying the knowledge gained in lecture with their observations in the field, the students hypothesize why certain plants and animals live where they do.

The Narrow River serves as a natural classroom for other URI courses and programs as well, including the Marine Invertebrates of Southern New England summer undergraduate course and the URI Inner Space Center Summer Oceanography Camp for middle schoolers. Unfortunately, however, the global pandemic has temporarily curtailed many field trips to the river. For safety concerns, the marine biology field trips this year have been transferred to a virtual format. Instead of going to the Narrow River, the students take a virtual tour of the salt marsh, learn about salt marsh conservation methods, and make fliers about existing or imaginary salt marsh conservation associations, including NRPA.

Erin Chille, an NRPA Board Member, is an alumni of the URI Marine Biology B.S. Program and is currently completing a Master of Science in Biological and Environmental Science at URI. She served as a Teaching Assistant for the BIO360 course during the Fall 2020 semester.



Transect (long measuring tape) and quadrat (square made of PVC pipe) set up by undergraduate students to study organisms along Narrow River.

