



A Newsletter from the New Jersey Sea Grant Consortium

Winter 2023

It's time to “defrost” from the winter chill and see what this season was all about with New Jersey Sea Grant Consortium!

We hope that everyone enjoyed a wonderful holiday season, but now let's get ready for warmer weather and longer days!

Check out some highlights from this edition of the COASTodian:

- With summer less than 100 days away, New Jersey Sea Grant Consortium would like to remind all beachgoers about the importance of staying safe at the beach. Our Rip Current Awareness Program's “Ocean Hazards and Beach Safety: Sharks vs. Rip Currents” presentation educates learners of all ages about the perils of rip currents and how to stay safe when faced with one.
- The 20th annual Ocean Fun Days takes place May 20th-21st, so be sure to join our official Facebook event page for special highlights and updates.
- Interested in a job where you get to explore Sandy Hook while teaching children about marine science? NJSGC is hiring part-time field instructors. Are you interested in learning the ins and outs of science communications? NJSGC is also hiring a summer communications intern!
- Plus so much more!

And as always, be sure to connect with us on Facebook, Instagram, and Twitter.



Download free desktop calendars on our website njseagrant.org.

New this year: pick up your free printed copy of the calendar by emailing skreisler@njseagrant.org.

Fellowship Updates - Where are our 2022 Knauss Fellows Now?



**JANINE
BARR**

Janine Barr started a position with Rutgers University's Bloustein School of Planning and Public Policy as a Unit Administrator/Specialist for the Environmental Analysis and Communications Group. In this role, she collaborates with the Rutgers School of Environmental and Biological Sciences (SEBS), the New Jersey Department of Environmental Protection (NJDEP) and the Mid-Atlantic Coastal Acidification Network to advance efforts to address ocean

acidification as an element of state coastal climate resilience planning. She is also engaged in a partnership with SEBS and NJDEP to develop decision support tools to advance watershed planning efforts statewide.



**SCHUYLER
NARDELLI**

Schuyler Nardelli has taken a job as a Postdoctoral Research Biologist at the U.S. Geological Survey (U.S.G.S.) in Sacramento, California. She is working primarily on the San Francisco Bay Water Quality Project, which has time series data back to 1969. She is researching how phytoplankton productivity has changed over the course of this time series, including the rise in harmful algal blooms in the Bay.



**ASHLYN
SPECTOR**

Ashlyn Spector is working at Rutgers University in the Bloustein School of Planning and Public Policy in the Environmental Analysis Communications Group. Her role is to support the New Jersey Office of Emergency Management in the 2024 update of the State Hazard Mitigation Plan by incorporating climate resilience and equity concepts in the County and Municipal Guidance Documents and

conduct stakeholder engagement to integrate hazard planners' needs in web tools and datasets.



**LIZA
WRIGHT-
FAIRBANKS**

Liza Wright-Fairbanks has just begun a new position as Field Research Operations manager at NOAA's Ocean Acidification Program through University Corporation for Atmospheric Research. Liza works with scientists nationwide to coordinate successful field operations (cruises, buoy/mooring servicing, autonomous vehicle deployments, etc.) and provide logistics support for those operations internally at OAP. She is incredibly excited

that she will be able to go to sea at least once per year through this position!

Coastal Management Fellow Update



**MARAVILLA
CLEMENS**

Maravilla Clemens – Coastal Management Fellow

Backstory: Maravilla has a bachelor's degree from Colby College and a Master of Science degree from Rutgers University. She is working with the California State Coastal Conservancy.

Project Description: Most of my work takes place within the Southern California

Wetlands Recovery Project. My role is to support, implement, track, and evaluate the existing regional plan for Southern California wetlands. I manage the project's Community Wetlands Restoration Grant Program. And I lead the project's regional monitoring program, funded in part through the U.S. Environmental Protection Agency's Wetland Program Development Grant.

Benefits: The Southern California Wetlands Recovery Project strives for community inclusion. The project's Community Wetlands Restoration Grant Program was updated by the last NOAA fellow to emphasize equity in the "request for proposals" guidelines. I'm excited to be part of a team that continues to expand justice and equity across our projects.

Inspiration for pursuing the fellowship: As a geography graduate student at Rutgers University, my passion for science communication and community engagement was crystallized. I saw that we must foster local participation and include various forms of knowledge when developing management practices and adaptation plans. I could not be happier with my fellowship match, where I can continue to learn at the nexus of our coastal ecosystems and the people that call them home, with the support of an experienced team.

Rewarding project experience: My favorite part of the fellowship, so far, is how it has introduced me to a network of people from myriad backgrounds and expertise. They include State Coastal Conservancy staff members, other NOAA fellows, interagency partners, and grantees. Working collaboratively with them to restore wetlands in the face of climate change has been exceptionally rewarding, and I look forward to working with many of the people I have met for the remainder of the fellowship and beyond.

Enjoying the setting: I live in Alameda with my partner and dog, and I feel incredibly spoiled to be able to go from the coast to the mountains in only a few hours. We have enjoyed going to public events like Oakland First Fridays and Alameda's first pride event.

20TH annual Ocean Fun Days! 2023



Save the Date!

**SATURDAY
MAY 20**

SEASIDE PARK

*Island Beach
State Park*

**SUNDAY
MAY 21**

SANDY HOOK

*NJSQC
Headquarters*

**11 AM - 3 PM, BOTH DAYS RAIN OR SHINE
FREE ADMISSION**

**LEARN ABOUT MARINE LIFE, ENERGY CONSERVATION AND WHAT
YOU CAN DO TO CARE FOR OUR COASTLINE**

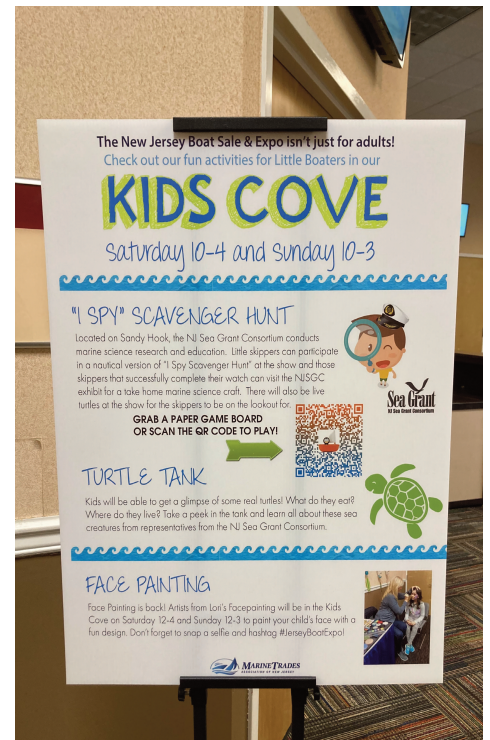
Presented by New Jersey Sea Grant Consortium,
New Jersey Natural Gas,
Gateway National Recreation Area,
Asbury Park Press, NOAA and
NJDEP Division of Parks and Forestry

NJSGC in Your Community

NEW JERSEY BOAT SALE & EXPO



Michael Danko, Assistant Director of Extension, exhibits at the New Jersey Sea Grant Consortium booth at the New Jersey Boat Sale and Expo. The annual event was held from February 16th to 19th at the New Jersey Convention and Exposition Center in Edison, New Jersey. Little skippers participated in a nautical version of "I Spy Scavenger Hunt" and got a glimpse of some real turtles!



107.1 FM The Boss brightened up our workday with a delicious delivery from Chocolate Carousel when we were awarded "Business of the Day" back in January. Thanks to Accounting Assistant Diane Desch for nominating us!



Dr. Peter Rowe, NJSGC's Executive Director, met in D.C. with Alexandra Swanson, our 2023 John A. Knauss Marine Policy Fellow who has been placed in the Office of Senator Edward J. Markey (D-MA).

New Jersey Salt Marsh Ponds as Harmful Algae Reservoirs

The objective of this project is to provide baseline documentation for salt marsh ponds (SMPs) as potential reservoirs of harmful algal blooms (HABs) in New Jersey coastal ecosystems under current climate change and sea level rise conditions. The project study area is the Tuckerton peninsula which offers a large expanse of unaltered salt marsh along the southern New Jersey coast.

The research team believes that tidal salt marsh ponds serve as inoculum for HAB species and potentially function as HABs reservoirs for New Jersey coastal water. They are investigating the temporal and spatial changes of HABs and associated algal communities in SMPs using field sampling, microscopy observations, and Next-generation DNA sequencing in three areas of the Tuckerton peninsula: unaltered marsh (reference), areas altered with parallel grid

ditching and open marsh water management (OMWM). This project is a first effort to focus on HABs presence in SMPs and will provide a novel documentation and reference database on the potential role and function of SMPs as reservoirs of toxic and harmful algae for coastal ecosystems. Field collections have been carried out since July 2022, and will continue through July this year.



Dr. Ling Ren taking algae samples.



Fieldwork team: Drs. Mihaela Enache and Lee Lippincott (NJDEP), Dr. Thomas Grothues and Douglas Hood (RU)

During each field trip, two (2) water samples are collected from each sampling pond for microscopic examinations of the algal community, and DNA sequencing work. In addition, YSI measurements are taken for basic physical and water quality conditions (temperature, dissolved oxygen, salinity, conductivity) of each pond. Microscope observation revealed the presence of various harmful species reaching highest abundances during the 2022 summer season. The next step will be to assess species composition, seasonal variations, their toxicity, and the role of climate change and sea level rise on SMPs' potential function as HABs inoculants. The project final report is set for release in 2024.

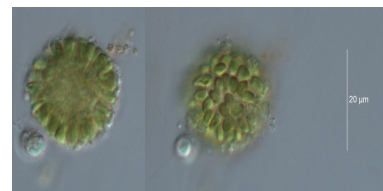
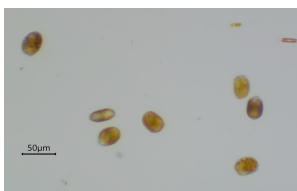
Research titled "New Jersey Salt Marsh Ponds as Harmful Algae Reservoirs" is conducted in coordination with the New Jersey Department of Environmental Protection, New Jersey Sea Grant Consortium, George Mason University Drs. Ling Ren and Patrick Gillevet, and Rutgers University, Dr. Thomas Grothues. This project was made possible through an EPA grant (CD 96246800-0) to Dr. Mihaela Enache at the NJDEP.



Planktothrix agardhii (Cyanophyte), can potentially produce microcystins. Toxicity: hepatotoxins; possible human carcinogen.



Prorocentrum lima (dinoflagellate), can potentially produce okadaic acid. Toxicity: diarrhetic shellfish poisoning (DSP); left image: close-up of a *P. lima* specimen.



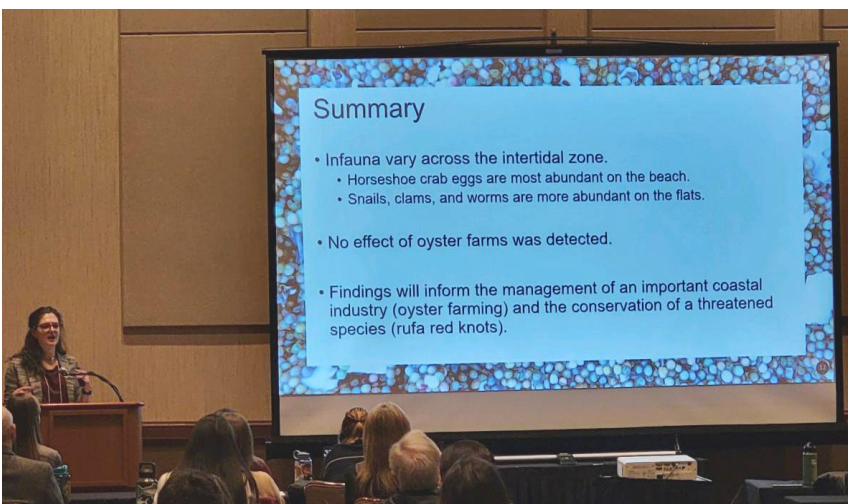
Chattonella subsalsa (Raphidophyte), can potentially produce brevetoxins and hemolytic substances. Toxicity: neurotoxic shellfish poisoning (NSP).

Research Updates

New Jersey Sea Grant Consortium's own Dr. Jon Miller Coastal Processes Specialist, and Laura Kerr Coastal Resilience Specialist, have teamed up to research and monitor our beaches. Since the 2020 Sandy Hook to Barnegat Inlet Beach Erosion Control Project beach replenishment in Long Branch, the Stevens Institute of Technology Coastal Engineering Research Group has been monitoring the area under the support of the New Jersey Coastal Protection Technical Assistance Service program.



Dr. Jon Miller and Laura Kerr's research team push the jet ski into the water to conduct sampling.



Elizabeth Bouchard presented at the 2023 Delaware Estuary Science and Environmental Summit, a biennial scientific meeting inviting scientists from the Delaware Estuary to share their research. Bouchard is a graduate student working on NJSGC funded research at the Rutgers Haskin Shellfish Research Laboratory. She is studying the "Effect of Oyster Farms on the Distribution of Horseshoe Crab Eggs and Other Foraging Resources of Rufa Red Knots."

NJSGC Employment Opportunities

New Jersey Sea Grant Consortium is hiring part-time field instructors for their K-12 Education and Scout Programs

Become a marine science field instructor and enjoy:

- Flexible part-time scheduling on weekdays, weekends or after-school
- Work at the beach on Sandy Hook
- Teach students about the marine environment

Following paid training a field instructor leads school or scout groups through Sandy Hook's salt marsh and beach environments and facilitates lab experiments. Experience is not necessary, however a background in marine science, knowledge of Sandy Hook is helpful. Work begins in April.

Join a great group of people that love the beach, the outdoors and sharing their knowledge with students to promote environmental literacy and stewardship. Gain hands-on educational experience and work in one of the most unique natural "classroom" environments in New Jersey, Gateway National Recreation Area-Sandy Hook Unit. Do you already have education experience? There are no grades or test administration required here! Just fun, non-formal instruction delivering pre-developed STEM-based curricula!

Visit <https://njseagrant.org/education/ocean-hazards-beach-safety-sharks-vs-rip-currents/>



NJSGC Intern Position is open to applicants

New Jersey Sea Grant Consortium is currently seeking a summer intern to work in the communications department and assist staff with all relevant tasks including (but not limited to): social media campaigns, video production, event coverage/promotion, and programmatic outreach.

This position is ideal for undergraduates (preferably third or fourth year) interested in pursuing a career in the digital

communications field, with a unique emphasis on marine, coastal, and STEM initiatives. The intern will report directly to NJSGC's Communications Specialist and work throughout the busy 2023 summer season (May-August) at the Jersey Shore.

Click here to view the full job description.
<https://njseagrant.org/wp-content/uploads/2023/03/Job-Description.pdf>

Ocean Hazards & Beach Safety: Sharks vs. Rip Currents Program is now available

Attention schools, libraries, and community groups in Monmouth and Ocean County: FREE Ocean Hazards & Beach Safety programming is available!

With summer less than 100 days away, New Jersey Sea Grant Consortium would like to remind all beachgoers about the importance of staying safe at the beach. Our Rip Current Awareness Program's "Ocean Hazards and Beach Safety: Sharks vs. Rip Currents" presentation educates learners of all ages about the perils of rip currents and how to stay safe when faced with one.

We all know rip currents can be dangerous, but are they more dangerous than SHARKS? With a lively presentation and interactive "Jeopardy"-style game that compares rip current mechanics and safe practices to shark biology and ecology,



participants will walk away with knowledge and insight that will keep them safe no matter which of the two they might find at the Jersey Shore.

Keep your community out of harm's way with the "Ocean Hazards and Beach

Safety: Sharks vs. Rip Currents" program. Suitable for children in grades 3-12 and accessible by all, these free, hour-long programs are available for a limited time so reserve yours today. For more information scan the QR code or visit our website (webpage link) or contact Mindy Voss, Education Specialist, mvoss@njseagrant.org or 732-872-1300, extension 30.



NJSGC Summer Field Trip Programs at Sandy Hook

Our Summer Field Trip Programs give your group the unique opportunity to spend a fun AND educational day learning about the beach and other marine environments. We have a variety of marine and coastal science offerings to choose from, all aligning with NJSLS and NGSS. Participants will explore the shore with a combination of hands-on activities, laboratory experiments, field work, and maybe even a craft. Learning about the shore is a fun way to spend the Summer! For help with selecting a program that best suits your group's needs, contact our K-12 Program Coordinator Julie Lang at 732-872-1300 x13.

Marine Science Day Camp 2023



NJSGC's marine science summer day camp is back for another exciting season! Held in Fort Hancock Historic District of Gateway National Recreation Area – Sandy Hook, camp weeks are filled with outdoor explorations of the ocean beach and bay using scientific methods, observation of live animals, and laboratory experiments together with fun, educational games and crafts.



Session 1: July 10-14 Sea Creatures of the Jersey Shore
For 3rd, 4th, 5th graders

Session 2: July 17-21 Ocean Exploration
For 6th, 7th, 8th graders

Session 3: July 24-28 The Science of Sandy Hook
For 4th, 5th, 6th graders

Session 4: July 31 - August 4th Introduction to Oceanography
For 7th, 8th, 9th graders

Please visit our website or contact NJSGC's College and Special Programs Coordinator Rosemary Higgins at 732-872-1300 x19.