



Winter 2024

## 2024 New Jersey Coastal and Climate Resilience Conference Attracted Enthusiastic Participants

In the realm of coastal readiness, resilience isn't just a buzzword; it's a constant drive towards progress and problem-solving in sea level rise. The recently concluded 2024 New Jersey Coastal and Climate Resilience Conference provided a platform for researchers, industry experts, municipalities, and enthusiasts to delve into the latest developments, challenges, and breakthroughs in the field of resiliency. Held at Monmouth University, this conference has become a focal point for the exchange of ideas, fostering collaboration, and showing what's possible in the future of coastal collaborative work.

The New Jersey Coastal Resilience Collaborative (NJCRC) and the New Jersey Department of Environmental Protection hosted the 2024 New Jersey Coastal & Climate Resilience Conference on March 12-14. The NJCRC is spearheaded by Laura Kerr, NJS GC Coastal Resilience Specialist and Dr. Tom Herrington, NJS GC Coastal Community Resilience Specialist. The NJCRC is partially funded by Coastal Climate Resilience funding from NJS GC. Samantha Kreisler, NJS GC's Communications Specialist, aids in facilitating the NJCRC Coffee Chat Program and communications. Many of the presentation slides from the 2024 New Jersey Coastal and Climate Resilience Conference are now available on the conference [webpage](#). Learn more about the NJCRC including their Coffee Chat Program, how to become a partner, and other resources visit their website at [bit.ly/3TWYmjx](http://bit.ly/3TWYmjx)

The conference kicked off with an inspiring keynote address from New Jersey Department of Environmental Protection Commissioner Shawn LaTourette, where he touched on policy successes and issues, and the importance of coastal readiness in preparing New Jersey for climate change and sea level rise.

The heart of the conference lay in its presentations and workshops, where participants had the opportunity to delve into various facets of coastal resilience. Topics ranged from innovative research, modern natural solutions, and municipality resources, reflecting the multifaceted nature of the field. The atmosphere of the conference was further enhanced by its social events, including riveting presentations on a multitude of topics, networking opportunities, and a hands-on field trip. These formal and informal settings provided attendees with the chance to connect on a personal level, strengthening relationships and laying the groundwork for future collaborations.

As the curtains drew to a close on the 2024 New Jersey Coastal and Climate Resilience Conference, the almost 300 participants departed with a renewed sense of enthusiasm, knowledge, and purpose. The event had not only provided a platform for sharing ideas but had also sparked new avenues for

partnerships and projects. Reflecting on the insights gained and connections made at the conference, one thing becomes abundantly clear: the journey towards resilience is a collaborative endeavor, and events like the 2024 New Jersey Coastal and Climate Resilience Conference serve as platforms to guide us towards a stronger, more climate ready coast.



Dr. Tom Herrington welcomed the attendees to Monmouth University.



Dr. Jon Miller was one of the presenters.



NJS GC Knauss Fellow Janine Barr presented at the Conference.

# NJSGC EXTENSION

## New Jersey Sea Grant Consortium Presents Award to Top High School Student Researchers

Michael Danko, NJSGC's Marine Recreation Agent, continues to represent the Consortium on New Jersey Southern Junior Science and Humanities Symposium's (NJSJSHS) Executive Board. The Seventh annual NJSJSHS was held at Lakehurst Naval Air Station Base on February 9, 2024 and was hosted by Ocean County College. NJSGC provided awards for the Top Environmental Paper to Maya Abdelaal, Marine Academy of Technology and Environmental Science, Stafford Township, for her paper presentation on Assessing Airborne Bacteria Abundance in Sea Foam Aerosol.

The award for Top Environmental Poster went to Anthony Bilotti, Marine Academy of Technology and Environmental Science, Stafford Township, for his poster on Developing an IOS application to determine whether a marine species is the appropriate size to be harvested. Overall NJSJSHS winner, Shloka Shriram, from Princeton High School will be presenting on her work on



Novel Quantum Materials for Low Power Electronics at the 62nd National Junior Science and Humanities Symposium to be held on May 1-4, 2024, in Albuquerque, New Mexico.

## Marine Fisheries Regulations Finalized for 2024

NJSGC has continued its partnership with the New Jersey Department of Environmental Protection (NJDEP) Fish and Wildlife to produce and distribute the marine recreational fishing regulation cards and posters for 2024. The cards and posters are distributed to marine recreational businesses throughout the state, and it is anticipated they will be available for pick up at local marine business by mid to late April. The free cards are provided by NJSGC, NJDEP Fish and Wildlife, and the National Oceanic and Atmospheric Administration. The NJDEP has produced a Marine Fisheries

Summary Sheet that is available now and a copy can be downloaded at <https://dep.nj.gov/njfw/wp-content/uploads/njfw/attention-anglers-2024.pdf>

The water-resistant cards provide information on the correct minimum size, possession limits, and season of catch. The cards are convenient to bring on any fishing outing, complete with built-in ruler to measure the catch and determine that it complies with the minimum size requirement. Fish are measured from tip of snout to tip of tail, with the exception of black sea bass and sharks. No species of fish with a minimum size limit listed on the card can be fileted or cleaned at sea.

The cards also serve as a reminder to register to fish. It is free and can be done at [SaltwaterRegistry.nj.gov](http://SaltwaterRegistry.nj.gov)

For more information on what catch is safe to eat, one can visit [FishSmartEatSmartNJ.org](http://FishSmartEatSmartNJ.org) Please visit the websites, [NJBoating.org](http://NJBoating.org) and [NJFishandWildlife.com](http://NJFishandWildlife.com) for more resources.

2024 NJ Recreational Minimum Size, Possession Limits & Seasons			
SPECIES	OPEN SEASON	MINIMUM	POSSESSION LIMIT <small>(per person unless noted)</small>
American Eel	No Closed Season	9"	25
Black Drum	No Closed Season	16"	3
Black Sea Bass	May 17-June 19	12.5" exc. tail filaments	10
	July 1-August 31	12.5" exc. tail filaments	1
	October 1-October 31	12.5" exc. tail filaments	10
	November 1-December 31	12.5" exc. tail filaments	15
Blue Crab - Peeler or Shedder	Crab Pot/Trot line Seasons:	3"	Recreational limit -
Soft	Delaware Bay & Tributaries: April 6-December 4	3.5"	1 Bushel
Hard	All Other Waters: March 15-November 30	4.5"	
Bluefish - Private/Shore Angler	No Closed Season	No minimum	3
For Hire Vessel	No Closed Season		5
Cobia	No Closed Season	37"	1 per vessel
Cod	January 1-May 31 & September 1-December 31	23"	5
Hard Clam	See Marine Digest for additional regulations and Sunday restrictions	1.5"	150 in aggregate
Pollock	No Closed Season	19"	No Limit

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**Remember to register before fishing. IT'S FREE and REQUIRED!** [SaltwaterRegistry.nj.gov](http://SaltwaterRegistry.nj.gov)

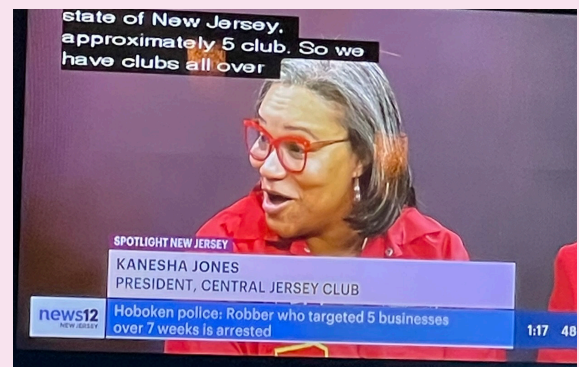
For complete regulatory information see [njfishandwildlife.com](http://njfishandwildlife.com). This publication is a summary of the New Jersey recreational fishing regulations at the time of publication. It is not the full law.



# NJSGC IN YOUR COMMUNITY

## NJSGC Board Member Kaneshia Jones

**Jones** appeared on News 12 Spotlight New Jersey: Central Jersey Club of the National Association of Negro Business and Professional Women's Club, Inc. The interview can be viewed at: <https://newjersey.news12.com/spotlight-new-jersey-central-jersey-club-of-nanbpwc-inc>



## Dr. Peter Rowe and Dr. Mike Acquafredda

attended the National Shellfisheries Association meeting in Charlotte, North Carolina. The National Shellfisheries Association (NSA) is an international organization of scientists, management officials and members of industry that is deeply concerned and dedicated to the formulation of ideas and promotion of knowledge pertinent to the biology, ecology, production, economics and management of shellfish resources. Dr. Peter Rowe was a co-author on several presentations in a session on Advancing the Regional Shellfish Seed Biosecurity Program (RSSBP), a project led by NJSGC through National Sea Grant funding. He presented on an NJSGC funded oyster exchange project in a session on aquaculture as a tool for restoration. Both attended Principal Investigator team meetings regarding current and future NJSGC aquaculture projects.



Dr. Peter Rowe of NJSGC

New Jersey attendees at the conference: (left to right back): Paul Coyne, Michael Acquafredda, Laura Steeves, Dave Bushek, Zhenwei Wang, Sam Ratcliff, and Taylor Dolan; (left to right front): Jillian Jamieson, Jenny Shinn, Ximing Guo, Lucia Safi, and Leah Scott.

## NJSGC Extension Agent and Coastal Processes Specialist Dr. Jon Miller

met with representatives from the New Jersey Department of Community Affairs as well as Assemblyman Kennedy, Senator Zwicker and Assembly Science Advisor Erin Reagan and discussed Stevens flood forecasting systems. Said Dr. Miller "Lots of great discussion about opportunities to expand to inland communities and help with flood forecasting and response. It was especially enjoyable chatting with my old mayor about some of the past and present issues in Rahway."



# RESEARCH SPOTLIGHT

## Civic Scientists and Students Collaborating to Protect Water Quality in the Lower Raritan

Funding from New Jersey Sea Grant Consortium made possible a research project built upon the civic science pathogen sampling that the Lower Raritan Watershed Partnership, Rutgers Cooperative Extension of Middlesex County, and Interstate Environmental Commission's civic science team has been performing. Public bathing beaches at lakes and at the New Jersey shore are regularly monitored for pathogen levels and the information posted on state websites. The Lower Raritan is actively used for fishing, boating, jet skiing and in some cases swimming at public access points, yet historically limited information was available about pathogen levels that have a direct effect on human health at these sites. Even though there are no public bathing beaches on the Lower Raritan, real-time, easily interpreted data is needed that can be accessed during the active recreation season.

Each week from May through September, the Lower Raritan team samples at six public access points from Piscataway to Perth Amboy. Data are made available each Friday in English and Spanish to help inform the public making decisions about when the water quality is safe for recreation. The bilingual, mobile friendly platform is available at <https://tessera.rutgers.edu/rrho/>.

The team's pathogen sampling measures the concentration of Enterococcus and fecal coliform, which are considered "indicator organisms." Finding indicator organisms in water at high concentrations is a sign of fecal pollution. Given that these organisms are present in the feces of humans and other animals whose feces could pollute our water, more advanced tests can help to identify the sources of the fecal pollution. Genevieve Ehasz, a master's student in Bioenvironmental Engineering in the Fahrenfeld Lab at Rutgers, is studying the microbiome of the water samples. She is using polymerase chain reaction (PCR) for human fecal marker genes and microbiome-techniques to compare the water sample to a library of fecal samples to determine what animal(s) feces were present. Genevieve's research also aims to test new methods that could improve our ability to identify fecal pollution sources.



Rutgers graduate student researcher Genevieve Ehasz collects water quality samples at the mouth of the Raritan River in South Amboy.

The project also provided research opportunities for three undergraduate Rutgers students who helped with



Members of the Summer 2024 Raritan River pathogens monitoring team are joined by the Interstate Environmental Commission for water quality testing at New Brunswick's Boyd Park.

sampling and laboratory analyses: Eesha Ali, Lylla Almosd, and Piash Ahamed, and the project's community outreach coordinator Jocelyn Palomino.

Last year was the civic science team's 5th year of pathogen monitoring – and showed the cleanest water yet! In 2023 over 10 trained volunteers and one Rutgers undergraduate and two graduate students helped with water sampling at the 6 sites for 20 weeks from May to October. In addition to water quality data, information was shared via weekly blog posts. There were 22 blog posts created by 2 volunteers on the project to educate the public about the relationship between urban development and other land use decisions and water quality. They engaged with 3 municipal representatives, including mayors or the chiefs of staff, and participated at VIP sampling events. In addition, in June they welcomed 20 elementary students from Perth Amboy elementary school who came out to the River to learn about water monitoring techniques in their community.

Over the past 3 years of monitoring, Enterococci levels at the 6 sampling sites ranged from 10 to more than 6,000 colony forming units (cfu)- 110cfu is the standard that EPA considers safe for swimming. In 2023 all sites but one (South Amboy) had at least one exceedance of the standard with Riverside Park, Piscataway having the most (13, n= 20).

Raritan water quality data generated by this initiative is regularly shared with federal and state government agencies. This project has prompted additional monitoring by the Environmental Protection Agency and the New Jersey Department of Environmental Protection.

Those interested in joining the team can watch for volunteer opportunities at <https://lowerraritanwatershed.org/> and [middlesex.njaes.rutgers.edu](https://middlesex.njaes.rutgers.edu)



## Scout Class Creates Butterfly Puddlers to help Migrating Monarchs

The Scout program at NJSGC offers 19 badge classes for Girl Scouts, Cub Scouts, and Scouts BSA (formerly known as Boy Scouts). This year there's a new twist to the Brownie "Bugs" program as the scouts will make Butterfly Puddlers in class to help hydrate the butterflies, especially the Monarchs who are returning from their southern migration and often rest at Sandy Hook. The project also reuses old bottlecaps and plastic takeout containers, so it reinforces the goal of reducing plastic waste too.



Adult butterflies have different mouthparts than caterpillars because adults have a mostly liquid diet. Instead of munching on leaves to get moisture and food, they have a proboscis, which is a long tongue that can curl up. Butterflies drink through this proboscis "straw" to get the flower nectar, water, and liquid minerals they need.

But butterflies can't land on water to drink, so typically they drink from small puddles in muddy soil or other ground indentations. This is known as "puddling," and is most common on hot days. The dirt surrounding these puddles provides the salts and dissolved minerals needed by male butterflies to produce mating pheromones, and will also be passed along to females for egg production. Sometimes, however, puddles dry up, so it's hard for butterflies to hydrate. Monarchs don't like to drink at birdbaths, since they might be gobbled up by birds there. So where can they get a drink?

Enter the Girl Scouts who will make their own backyard Butterfly Puddlers from old takeout dishes lined with sand and smooth "perching stones." Old bottlecaps glued inside the dish provide the water reservoirs. The sand and stones add salt and minerals. The Puddlers are placed in a sunny area on the ground, anchored in small shallow-dug depressions.

Scouts ensure the caps always have water, although sometimes just the morning dew collecting on the rocks is enough of a drink for the butterflies. Adding an orange slice or two in the dish provides extra food for our delicate friends.

Scouts also learn how to keep their butterfly friends safe by avoiding backyard pesticide spraying, which might kill targeted mosquitoes but will also kill butterflies. And the girls are encouraged to cultivate native plant gardens to provide butterflies with food, shelter, and a place to lay eggs. Milkweed is the only place Monarchs will lay eggs, to ensure the hatching caterpillars will have the proper food immediately available. Girl Scouts are given packets of milkweed seeds to plant in patio pots. Learning how to co-exist and help wildlife is an important lesson for all.

To learn more about this program please contact Jody Sackett, Scout Coordinator at <https://njseagrant.org/education/scout-programs/>

## "Coffee & Peterson's" NJSGC's in-house professional development series

As spring field trip season approaches, NJSGC educators bolster their environmental knowledge through lectures by guests, funded researchers and extension specialists. In the quieter months, the Education Department hosts "Coffee & Peterson's," a series of in-house professional development workshops focused on current events in ocean and climate sciences as well as unique facets of the Sandy Hook ecosystem. Through these events, field instructors gain fresh content to enhance their field trip lessons and increase awareness of issues faced by the ecosystem in which they teach.

On March 6, NJSGC educators were joined by National Park Service (NPS) Supervisory Park Ranger Jen Cox and NPS Community Volunteer Ambassador Sara Rodrigues, who presented on piping plover conservation efforts at Gateway National Recreation Areas. Their talk was followed by a presentation by NJSGC's K-12 Program Coordinator Alaina Perdon on using birds as accessible educational tools and included some methods for identifying common shorebirds found at Sandy Hook. Field instructors learned how to differentiate between common lookalike birds such as great



egrets which have yellow beaks and snowy egrets which have black beaks, as well as using spectrograms to study bird calls. In addition, the program included a presentation on coastal resilience by Dr. Tom Herrington, NJSGC's Coastal Community Resilience Specialist and Associate Director of the Urban Coast Institute at Monmouth University together with Meredith Comi, also of UCI. Future presentations will include a review of the Lenape & The Jersey Shore program by field instructor Al Avizius.



If you're looking for a shore way to enjoy the beach and local marine environment without shelling out a lot of money, mark your calendar for Ocean Fun Days, May 18 and 19. This free two-day education-oriented event is sponsored by New Jersey Natural Gas, in partnership with the New Jersey Sea Grant Consortium. The event offers dozens of learning and hands-on activities focused on the marine and coastal environment and energy savings tips with a scavenger hunt of exhibitors. Ocean Fun Days will be held on Saturday May 18 at Island Beach State Park, Seaside Park and Sunday May 19 at the NJSGC Headquarters at 22 Magruder Road in Sandy Hook. Admission to both events, including park entrance fees and on-site parking is free and both days will feature plenty of cost-free coastal activities for children, nature tours, educational displays and lots more. Event hours are 11 am to 3 pm, rain or shine.

Now in its twenty-first year, Ocean Fun Days has become one of the Jersey Shore's most popular spring ecotourism events. Visitors can enjoy hands-on marine and environmental programs and exhibits, eco-tours and activities all about the beaches and bays of New Jersey and learn firsthand from New Jersey scientists and researchers and environmental experts about the state's coastline and how to protect it for future generations.

On Sunday May 19, The National Park Service (NPS) will also host Coastal Defense Day at Sandy Hook, when most of its Historic Sites, including the Parade Ground, Battery Gunnison and History House will be open from noon to 4 pm with tours conducted courtesy of the NPS. The NOAA James J. Howard Marine Laboratory will be opening its doors for the day as well, with the public invited to visit their facility to learn more about their fisheries research.

All the favorite Ocean Fun Day special programs and activities will be back again at both locations this year. Grab a fishing rod and join the youth fishing clinic, learn to use a seine net to catch native marine animals, go on a hike with a shorebird expert or comb the beaches for natural treasures with an environmentalist or get the latest information from researchers about our coast just in time for summer. And don't miss the famous crab races. It's an ocean of free fun for the whole family!

Parking is free and both days will feature plenty of cost-free coastal activities for children, nature tours, educational displays and lots more. Event hours are 11 am to 3 pm, rain or shine.

## Coming soon! New field trip programs for high school students

To better suit the needs of high school classes participating in NJSGC's programs, NJSGC's Education Department is modifying the field trip offerings to bring the field trips up to the next level. They hope to enhance high school science lessons, support student learning standards, and engage students in interactive activities to reveal the beauty and complexity of New Jersey's coastal ecosystems. There will be three options for full day field trips, a Salt Marsh or Ocean Beach focused program with supporting activities in the classroom lab, or an outdoor only, combined Salt Marsh and Ocean Beach program. Teachers will be able to customize their field trips with an array of activities to choose from that best fits their needs.

Activities include, but are not limited to lessons focusing on coastal ecology, water chemistry, human impacts, coastal stewardship, and coastal management along with scientific inquiry, and data collection. With the new customizable field trip program for high school students they hope to provide an immersive, tailor-made experience that will ignite curiosity, foster an appreciation for New Jersey's coast, and deepen understanding of the delicate balance of life along the shorelines. They hope to roll out the new high school program in Fall 2024, when many high school teachers book field trips. Stay tuned and keep a look out for details on how to book a high school field trip to Sandy Hook soon!

## Marine Debris – Eco Ambassadors

Through the Bipartisan Infrastructure Law, our nation is investing in transformational projects in climate, energy and the environment, and as a result NOAA has tasked Sea Grant with working towards creating clean and safe water for all citizens through marine debris prevention and removal efforts. Plastic pollution is everywhere and microplastics in our waterways is a growing problem in the U.S. So to address this issue NJSGC is collaborating with Columbia University and New York Sea Grant (NYSG) to utilize community science activities to create awareness and help mitigate water-borne plastics in local urban watersheds.

Through the Eco Ambassadors program, middle and high school students from areas disproportionately impacted by pollution will learn more about the science behind plastic waste and will develop solutions for mitigating plastic use. Youths volunteer to collect neighborhood water samples and analyze them with researchers from Columbia University's Lamont Doherty Earth Observatory to determine the presence of micro- and nano-plastics. Participants will then share their findings with others by creating StoryMaps to tell their community's story in the scheme of the plastic pollution narrative around New York City along the Hackensack River and Hudson River watersheds, as well as parts of Long Island Sound. For more information visit the Eco Ambassadors website: [https://sanctuaries.noaa.gov/education/ocean\\_guardian/youth-ambassador.html](https://sanctuaries.noaa.gov/education/ocean_guardian/youth-ambassador.html)



# New Jersey Sea Grant Consortium Mourns the Loss of Two Pivotal Members

**Howard “Howie” Parish**, a dedicated member of the Board of Trustees for New Jersey Sea Grant Consortium passed away on January 2, 2024, leaving behind a legacy of unwavering commitment to education and community service. Howie’s contributions spanned over four decades, leaving an indelible mark on the Consortium and the lives of those he touched.

Howie began his journey with the Consortium in October 1977 when he joined as a Member Representative, New Jersey City University (NJCU), eager to make a difference in the higher education landscape of New Jersey. His passion and dedication soon saw him ascend to the role of State College Representative of the Board of Trustees in October 1994, where he served tirelessly for a three-year term, advocating for the interests of students and faculty alike. Recognized for his exceptional leadership qualities and steadfast dedication, Howie was appointed Vice Chairman of the Board of Trustees in October 1998, a position he held with distinction until his passing. As Vice Chairman, Howie played a pivotal role in shaping the strategic direction of the Consortium and NJCU.

Throughout his tenure, Howie’s wisdom, integrity, and compassion earned him the respect and admiration of his colleagues, students, and faculty members at NJCU and his colleagues at NJS GC. His unwavering commitment to our mission and vision served as an inspiration to all who had the privilege of working alongside him.

Howie Parish will be remembered not only for his remarkable achievements but also for the warmth and sincerity with



**Howard Parish (at left)** participated in the ribbon cutting for the restoration of NJS GC’s Barricks Building 22 in July 2010. From left: **Dr. Howard Parish (NJS GC Board of Trustees)**, **Pete McCarthy (Unit Coordinator; NPS)**, **Sean T. Kean (former State Senator; 2008-2012)**, **Claire Antonucci (Former Executive Director of NJS GC)** cutting the ribbon, **Guy Hembling (Charles B. Hembling and Son, construction firm)**, and **Deborah Quinn (NJS GC Director of Human Resources and Administration)**.

*Photo - Marsha Samuel, former NJS GC Communications Specialist*

which he approached every interaction. His presence will be sorely missed, but his legacy will endure as a testament to the power of dedication, compassion, and service to others.



**Louise on a trip with her husband and in her academic gown for a graduation at Georgian Court University.**

*Photo - David Willians/Patch.com*

It is with heavy hearts that we bid farewell to **Dr. Louise Wootton**, a beloved member of the NJS GC community. Dr. Wootton’s passing leaves a profound void in the hearts of all who knew her. She joined Georgian Court University in 1997 as an assistant professor in the Biology Department and became an associate professor, professor, and chair of the department. In 1988, Dr. Wootton became a member representative of NJS GC for Georgian Court University from 1998 to 2023 and served on the Board of Trustees from 2021 to 2023.

Her dedication to her profession and compassionate nature touched countless lives, leaving an indelible mark on our community. In addition to her many accolades and research projects with NJS GC, Dr. Wootton also participated in many other causes including cat rescues and Mercy Garden. As we mourn her loss, let us also celebrate her remarkable life and the legacy of kindness and service she leaves behind. Our thoughts and prayers are with her family and loved ones during this difficult time. Dr. Louise Wootton will be deeply missed but never forgotten.