



Summer 2020

“With all these lovely tokens of September days are here, with summers best of weather and the autumns best of cheer.” – Helen Hunt Jackson (American poet/writer)



*Photo: “Bliss,” Christopher Amabile
(download [here](#))*

BEach SAFELY Campaign

As the season extends into September, New Jersey Sea Grant Consortium ([NJSGC](https://www.njsgc.org/)) and New York Sea Grant ([NYSG](https://www.nysg.org/)) want everyone to continue enjoying the **BEach SAFELY**.

COVID-19 brings more considerations beyond the usual “beach safety and ocean hazards” [messaging](#). Throughout the summer, NJSGC and NYSG have debuted new social media graphics each week to remind beachgoers to stay safe while still having fun at the Jersey Shore (and beyond).



The campaign’s first initiative – “Stay Social, Be Distant” – was revealed on July 16th. Please visit the **BEach SAFELY** [website](#) to learn more and to download the official PDF images (available in both English and Spanish).

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As part of NJSGC’s “rapid response” to COVID-19, we can produce and distribute BEach SAFELY signage at no additional charge. Please contact our [Communications Specialist](#) for more information.

Get to Know Our 2021 Knauss Fellow

Arye Janoff, a PH.D candidate in Environmental Science and Management at Montclair State University, was named a finalist for the prestigious [John A. Knauss Marine Policy Fellowship](#) and will represent NJSGC as a Legislative Fellow starting in January 2021. Learn more about Janoff's journey as a Coastal Geomorphologist through his current [research website](#), and be sure to follow him on [Twitter](#) for more exciting updates.



Photo Credit: Jesi Halprin

1) Why did you decide to apply? What drove your interest in the Knauss program?

Throughout my career in academia, I have always been interested in how to harness the power of research to solve real-world problems. In recent years, I have envisioned a role in federal or state government that unites science with policy towards developing sustainable coastal management solutions in the face of rising sea levels and changing climate conditions. As a result, the Knauss Fellowship has always been on my radar. It was NJSGC's informational webinar in December 2019, however, that ultimately sealed my decision. I found myself energized by the possibility of working in either an executive agency or congressional office. From that moment, I knew that the Knauss program would be the next step on my career path.

2) How did your education and research experience help with the application process?

My undergraduate education in environmental science at Tulane University provided an interdisciplinary view of how humans interact with the natural world. Undergraduate courses in geomorphology (the study of landscape evolution) at my home institution and abroad at the University of Melbourne in Australia introduced me to the exciting dynamics of the earth's surface. These interests fueled my graduate research at Montclair State University focusing on the feedbacks between coastal management policies and shoreline processes, which then introduced me to new disciplines and interests in environmental economics, game theory, and public policy development.

Taken together, these educational experiences have not only driven me towards a career in science, but have taught me how to navigate the complexities of a novel and rapidly changing environment. COVID-19 became our everyday reality as the Knauss application process

unfolded, providing a new lens through which to view the impacts of my research and the experiences that lay ahead. The work in adapting to coastal climate change impacts, much like responses to a global pandemic, requires coordination across various levels of government and robust public participation. My education and research have taught me how to internalize and adapt to a diverse array of challenges, which helped guide me through the excitement and uncertainty of the application process, all while keeping me focused on my long-term career goals.

3) How are you preparing for this unique experience, given the current situation surrounding COVID-19?

I am preparing for the Knauss experience amid a pandemic with optimism but also with realism. I remain hopeful that we will get the chance to work in-person at some point during the Fellowship year, but know that regardless of the work environment, the opportunities and experiences afforded by the Fellowship will be rewarding and formative. Following the 2020 Fellows' lead, I'm rest assured that



the 2021 Knauss cohort will gain a valuable skill set in understanding how science informs public policies, especially during a century-scale event such as a global pandemic. These skills will be useful for my professional development, but also toward deploying knowledge gained from science contemporaneously for the public's benefit. There is no greater challenge, and no greater reward, than to learn from our lived COVID-19 experience to make scientific research more usable, digestible, and effective in addressing the issues at the forefront of marine policymaking in a changing climate.

4) Can you give us any details on what you might be doing as a legislative cohort? What do you hope to learn and gain from this experience?

While my specific role and duties will become clearer after placement week, as a Legislative Fellow, I can expect to draft and review legislation; prepare talking points and opening remarks for Senators or House Representatives; meet with constituents, private industry, and NGOs; write memos for congressional committee hearings and markup bills for committee members; provide scientific context for coastal/marine policy decisions or other science-related issues at hand; and work in a collaborative, bipartisan, and fast-paced environment with policymakers, legislative staff, and other Knauss Fellows.

I hope to learn the ins and outs of public policy development; how science is implemented and used by different branches of government and agencies; how to garner support for legislation through coalition-building; how congressional offices interface with the public throughout the policymaking process; and more broadly, what a career in the federal government is like as a scientist.



5) Do you have any future plans or ambitions following the Knauss Fellowship?

I can envision a whole host of career paths that would be fulfilling, ranging from federal policy development to state-level coastal management planning to academia to NGO work. Every step of the way throughout my professional development, the doors that unexpectedly opened have dictated my career moves, and the process has been nothing short of enjoyable. What this signifies to me is that I will find gratification in any path that I follow.



I will adhere to the same principle after the Fellowship, allowing the opportunities that organically sprout from my time working in Congress to shape my direction. That said I would like to work in government at either the state or federal level, given my career goal of increasing science's utility and usability. In addition, I am currently involved at the local government level as the Secretary of the Bradley Beach Environmental Commission, so I know how rewarding public service can be. As we face new and indeterminate challenges associated with climate change from global to local scales, it will be important to include scientists at the decision-making table. I hope that my research experience will contribute to this process and that objective, evidence-based approaches will guide our coastal policy decisions now and in the future.

The staff at New Jersey Sea Grant Consortium is proud to welcome Janoff to the Knauss class of 2021. Placement week for Legislative Fellows is still "to be determined" – we will provide updates as more details develop.

'Virtual' Ocean Fun Days Coming Soon!

To celebrate 17 years of ocean discovery, coastal stewardship, and energy conservation, the Ocean Fun Days (OFD) virtual event for 2020 will span a total of 17 days throughout October.



With online fun and educational activities from more than 30 participating exhibitors, there's something to enjoy for everyone. So power-up your computer starting October 10th and get ready to:

- Observe and identify wildlife in the ocean
- Learn how to catch fish from the shore with a seine
- DIY arts and crafts and interactive games
- Boating safety
- And so much more!

Our youngest virtual visitors can also try their hand at our online Scavenger Hunt for a chance to win a cool prize pack. Plus, teachers can add some excitement to lesson plans with diverse resources and printouts. Please visit the official Ocean Fun Days [website](#) for more updates.

Given the current situation surrounding COVID-19, the OFD committee (along with its sponsors) ultimately decided to cancel public gatherings at Island Beach State Park and Sandy Hook for 2020. This ALL VIRTUAL event will now be held October 10-26th.

Shellfish Aquaculture vs. COVID-19

New Partnership Offers Funds to Oyster Farmers for Habitat Restoration

Contact: [Lisa Calvo](#), Marine Scientist, Haskin Shellfish Research Laboratory, Rutgers University / New Jersey Sea Grant Consortium, Aquaculture Program Coordinator
Phone: (609) 440-4560

The COVID-19 pandemic has had an unprecedented impact on the global economy. Like so many sectors, the shellfish aquaculture industry has suffered significant economic injury. Shellfish farmers rely on direct sales to restaurants or on wholesale markets that ultimately serve restaurants. As the pandemic shuttered restaurants across the nation, a critical link in the shellfish aquaculture supply chain was lost. The disrupted demand not only diminished farm revenues, but it also created a stock management issue as oysters that were originally bound for spring and summer harvests remained on the farm for a longer term than anticipated. As a consequence, farmers have been unable to cycle gear and free up space to accommodate the growth of next generation submarket oysters. Meanwhile, many of the oysters have outgrown the preferred raw bar cocktail size. While some farmers have had success establishing alternate markets through shucking houses, on-line sales, and other direct-to-consumer opportunities, sales have still not rebounded to pre-pandemic levels.



Fortunately, the oyster holds value beyond the raw bar. A collaborative partnership of scientists, extension specialist, state resource managers, environmental non-profits, and shellfish farmers will purchase these oversized farm-raised oysters for the purpose of restoring habitats. Oysters are tremendously beneficial to the environment, serving as habitat for a suite of commercially and recreationally important finfish, improving water quality, and sequestering nitrogen and carbon. These ecosystem services are essential to the health of bay environments and hence the reason that oyster habitat enhancement and restoration is a pressing goal worldwide.



With grant money from a special NOAA/Sea Grant COVID-19 Rapid Response Aquaculture Funding Opportunity, Rutgers University and New Jersey Sea Grant Consortium will work with project partners – New Jersey Department of Environmental Protection, Stockton University, Barnegat Bay Partnership, Partnership for the Delaware Estuary, The Pew Charitable Trust, and the New Jersey Aquaculture Association – to purchase 76,000 of the overgrown oysters directly from oyster farmers. The participating growers are nearly evenly split between the Delaware Bay

and Atlantic Coast. The oysters will be transplanted from farms to targeted restoration sites in the Little Egg Harbor, Tuckerton Reef, and Mullica River this September. The large oysters will provide an ecological jumpstart that might otherwise take years to achieve using traditional oyster restoration practices, which primarily rely on shell recycling and natural recruitment of oysters.

READ MORE: [Rutgers Leads New Partnership that Supports Oyster Farmers and Promotes Habitat Restoration](#)

Project Lead [Lisa Calvo](#) hopes that the project will serve as a model for future efforts and set in place a shellfish exchange that will serve as a broker to link shellfish farmers and restoration practitioners. This approach not only benefits the environment, but provides an opportunity for shellfish farmers to diversify their businesses supporting a sustainable and healthy future for Bayshore ecosystems and economies. According to Calvo, such collaboration will make an already green aquaculture industry all the more environmentally beneficial.



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Shellfish Aquaculture vs. COVID-19

Just When you Thought NJ's Aquacultured Shellfish Couldn't Get Better

Contact: [Lisa Calvo](#), Marine Scientist, Haskin Shellfish Research Laboratory, Rutgers University / New Jersey Sea Grant Consortium, Aquaculture Program Coordinator
Phone: (609) 440-4560



Shellfish aquaculture is one of the most important aquaculture industries in the U.S. and around the world. Among the most environmentally friendly food production systems on earth, shellfish farming boosts both socioeconomic and ecological benefits. New Jersey's farm-raised shellfish are highly sought after, appreciated for their high quality and unique flavor. Presently, there are about sixty shellfish farms in the state's Atlantic coastal and Delaware Bays. The sector has slowly been growing as consumer demand for sustainably-produced local seafood rises. To date, only two species – hard clams and oysters – are commercially cultured in the Garden State. But that is about to change! As a result of recent research funded by NOAA/Sea Grant, Rutgers University scientists have placed thousands of hatchery-reared bay scallops and surf clams in the hands of a dozen shellfish farmers.

Led by [Dr. Ximing Guo](#), the Rutgers team is working hard to breed stocks of the new culture candidates that grow well in New Jersey's coastal bays, particularly in the face of changing

climate. Both species are native to the state, but wild populations (which were once abundant) have experienced significant declines. Through natural selective breeding, researchers are working to produce fast growing bay scallops and heat tolerant surf clams that are able to adapt to rising water temperatures. Dr. Guo anticipates that the team's breeding efforts will lead to stocks that survive well and grow from seed to market in about a year, a much faster production cycle than that of oysters and clams. The novel aquaculture species will enable New Jersey's shellfish farms to diversify their product lines and strengthen their businesses.

Co-investigator [Dr. Daphne Munroe](#) says partnering shellfish farms are excited about growing the new culture species. Preliminary data show that the bay scallop seed, when deployed in Barnegat Bay in July, can reach a marketable size of 50 mm by December with minimal mortality. Surf clam seed planted in early September may become harvestable clams (45mm) by June or July the following year. These fast turn-around culture cycles will certainly attract interests from shellfish farmers in New Jersey and beyond. As bivalves go, these two species are pretty charismatic. Bay scallops have beautiful, vibrantly colored shells and surf clams, with a propensity for movement, are amusing to watch. No doubt that with their sweet and delicate flavor, and the fact that they are locally and sustainably grown, they are sure to become instant consumer favorites.



Learn more about the Haskin Shellfish Research Laboratory [here](#).

Virtual Learning with NJS GC

Let New Jersey Sea Grant Consortium make learning fun with our new virtual programs! Travel through the internet to the coast and learn in-depth about New Jersey's marine and coastal ecosystems in an intimate, small-group setting. Taught LIVE by our experienced environmental education staff, NJS GC offers a variety of opportunities to engage students, scouts, and learners of all ages! Lively presentations, demonstrations, experiments, and games encourage student interaction and spark their curiosity on topics that are designed to excite while meeting educator's curricular needs, scout leader's requirements, and/or families' interests.

K-12 PROGRAMS



Sharks vs. Rip Currents – Although sharks are often seen as the most dangerous and life-threatening inhabitants of the ocean, children really love learning about them! Rip currents are more common and actually can be more of a hazard to bathers. Students will learn about shark ecology and what makes them important apex predators in the marine environment. Rip

current mechanics are discussed as students learn how to spot them from the beach and safely escape if caught in one. Students test their knowledge as they work in teams in a Jeopardy-style game that compares the aspects of these two marine “inhabitants.” Suitable for children of all ages, this program is FREE for a limited time thanks to a generous donation by [Investor's Foundation](#).

Magnifying Plastics – Join NJS GC education staff for this fun, informative, and interactive learning experience that promotes awareness of plastics in the marine environment. Students will learn about worldwide issues concerning the use of plastic and what we can do to about it. Explore the densities of common household plastic items, and why it is important to recycle, reuse, repurpose, and refuse plastic items. Students will play a game to learn about the environmental degradation time of various household items that will surely surprise them, ultimately leading to increased awareness, responsibility, and stewardship for the environment and the ocean. ***Terrific Terrapins*** – Meet New Jersey's estuarine turtles, the Northern Diamondback Terrapin, in this fun program that teaches students why these animals are so unique and important to our coastal ecosystems. Students will participate in an interactive presentation with



a *LIVE* Northern Diamondback Terrapin to answer questions about and discover this reptile's adaptations, anatomy, habitat, and more. Students will also learn about the impacts humans currently have on terrapin populations, and what some local groups and scientists are doing to help protect this charming turtle.

And more coming soon!

Programs and prices vary. For more information, please contact NJSGC's Education Associate [Melanie Tarling](#) or Acting Director or Education [Diana Burich](#). All virtual K-12 programs support Next Generation Science Standards and New Jersey Student Learning Standards for Science.

SCOUT PROGRAMS

Hiker – Why just walk when you can hike and learn about the nature found all around you? This virtual program is designed for both Scouts and families alike who wish to explore nature, whether at a park, in the mountains, at the shore, or your own backyard. Hiking basics are covered such as safety, what to wear and bring on a hike, and what to do if you get lost. Beginner hikers will learn the code language of trail marking and how to mark a trail so others know where you have gone – or where you want them to go. We also explain how to be a “Nature Detective,” using clues animals leave behind such as paw prints or scat. A fun matching game teaches new hikers to identify the typical plants, trees, insects, and animals that might be encountered, and there is even a Jeopardy-style game as a fun way to test your nature knowledge. Printable handouts to take along will help you remember these hiking secrets. When combined with an actual hike, this program meets most Cub and Girl Scout “Hiking” badge requirements, and is an excellent primer for the Boy Scout “Hiking” badge. This program is offered with two options: pre-recorded narrated presentation plus printable materials OR an NJSGC instructor-led presentation with a Jeopardy-style game and printable materials.



And more coming soon!

ADULT EDUCATION, FAMILY LEARNING and PUBLIC PRESENTATIONS

Many of the virtual programs above can be modified for more mature audiences, families, and the general public. Sixty-minute presentations are available for a donation of \$200.

Visit the NJSGC [website](#) to learn more.