2026 Doyle Fellowship Proposed Projects

See https://seagrant.unh.edu/fellowships/doyle-fellowship for more details and to apply.

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Using AI to determine molting readiness in European Green Crabs

Position overview: Work with NH Sea Grant and partners to assist in data collection to support creation of an AI tool that can aid in determining how close to molting invasive green crabs are and to test methods and gear to induce crabs to molt in support of building access to a growing soft-shell market.

Background: NH Sea Grant and other partners (Shell and Claw, LLC, Manomet, Greencrab.org) have been working on the expansion of soft-shell green crab markets and fisheries in New England for a decade and are at a point where in order to grow the process for soft-shell crab production needs to be optimized and made more time and labor efficient. We believe we can do this by incorporating AI technology to assist in identifying pre-molt crabs during the sorting process more quickly. Additionally, only about 10% of a harvester catch is comprised of pre-molt crabs so we are interested in testing methods of holding crabs that are the 'right size, wrong time' and inducing molting by storing them in different gear and providing ideal conditions, to increase production.

Fellow role: The student selected for this role will have the opportunity to work with NH Sea Grant and other partners to develop and ground truth an AI tool based on an image database that will be used to train the AI to recognize pre-molt morphologies in green grabs. This will aid in determining how close to molting invasive green crabs are in support of scaling a soft-shell crab fishery and market. The intern will also work with a local oyster farmer and soft-shell crab producer on their farm to collect the image data and assist in molt induction research that will take place on the farm. The intern will split their time between the shellfish farm in York, ME and the Jackson Lab in Durham, NH and will participate in research and extension work related to this project. The student will also participate in Green Crab Week and the Green Crab Working Summit in late June. The Fellow may also have the opportunity to work on other non-native crab monitoring efforts in Great Bay Estuary and surrounding waters.

Position requirements: Interest in field work, invasive species, aquaculture, technology, and outreach. Some experience in field research and boat handling preferred. Access to a vehicle is necessary as this work will require driving to York, ME and sites in the Durham, NH area.

Mentor: Dr. Gabriela Bradt
Co-mentor: Mike Masi

Primary position location: This position will be based at both the UNH Jackson Marine Lab and Shell & Claw, LLC, York, ME.

More information:
https://seagrant.unh.edu/our-work/invasive-species/nh-green-crab-project

Seafood Science Communications

Position overview: Work with the New Hampshire Sea Grant (NHSG) Science Communication team to develop, execute, and promote seafood recipe blogs and cooking videos.

Background: NHSG's communications team serves as a central hub for NHSG's work – helping to connect our research, extension, and education efforts with diverse audiences through rich, authentic, and visually-appealing stories, photos, videos, and online content. Short form videos are a great way to expand NHSG's reach online, and cooking videos have been pinpointed as a strategy that would allow NHSG to speak about our Aquaculture and Fisheries work in a way that is relatable to our target audiences. These videos can help drive traffic to an existing resource called the NH Seafood Finder.

Fellow role: The student selected for this role will have the opportunity to work with NH Sea Grant staff and partners to produce seafood related communications materials with a focus on blogs and videos. These videos will be part of a digital campaign designed to connect New Hampshire audiences with local seafood markets, and educational resources about fisheries and aquaculture research happening through New Hampshire Sea Grant. The first third of this fellowship will include researching and developing recipes that connect research happening at New Hampshire Sea Grant with local seafood options. This stage will also include developing a storyboard for the associated cooking videos.
The second third of this fellowship will involve scheduling video shoots at the University kitchen, where the fellow will assist in the video production process. During the final third of this fellowship, the fellow will edit blog posts and video content, and package all this content into both a web, and social media product to be shared across New Hampshire Sea Grant's accounts.

Position requirements: The Fellow should have a background in either environmental, marine, or food/nutrition science, and a desire to learn more about digital marketing. Access to transportation is required, and photography/videography gear will be provided by New Hampshire Sea Grant. Coursework or an interest in environmental/marine science, nutrition, education, or health is important, while experience in digital marketing and videography is not required but should be of interest to the candidate.

Mentor: Brian Yurasits

Primary position location: This position will be based out of the UNH main Durham campus (New England Center). The fellow can expect to spend one day each week traveling to different locations around the seacoast to learn about different fisheries/aquaculture practices and collect photo/video content.

More information:
https://seagrant.unh.edu/blog/2024/10/nh-seafood-finder-fresh-new-way-access-local-seafood
https://seagrant.unh.edu/blog,
https://www.instagram.com/nhseagrant/

Estuarine Aquaculture Research, Restoration, and Extension

Position Overview: Work with NH Sea Grant staff and their regional partners to support aquaculture research, restoration, and extension in the Great Bay estuary.

Background: Aquaculture has the potential to sustainably produce seafood while helping coastal communities build resilience to environmental and economic change. NH Sea Grant has been developing, educating, and training individuals in responsible aquaculture methods for decades for both food and restoration. The summer Doyle Fellow adds capacity to complete seasonal, industry engaged, field trials. Examples include optimizing gear types, growing new species, testing new equipment, and more. It also helps build and maintain "on the water" connections with state partners for evolving needs assessments which inform strategic planning.

Fellow role: The student selected for this role will have the opportunity to work with NH Sea Grant staff, shellfish farmers, and others to support a range of research, monitoring, and outreach projects. The 2026 summer project list includes optimizing gear and equipment types, on-farm trials growing clams and scallops, develop biofouling reduction strategies, expand marketing resources for farmers, conducting lab analyses on shellfish energy reserves, collaborating with other Doyle fellows, and more! Additionally, the fellow will work alongside different Sea Grant partner organizations and state agencies for a thorough understanding of how the NH shellfish network collaborates.

Position requirements: Access to a vehicle is necessary as this work will require driving to field sites and farms around Great Bay. Comfort on boats and working in the water (and mud) will be required.

Mentor: Dr. Linas Kenter

Primary position location: This position is based on the UNH campus in Durham, with significant field visits throughout Great Bay.

More information: https://seagrant.unh.edu/our-work/aquaculture or https://seagrant.unh.edu/our-work/aquaculture/oysters

Flood Ready Neighborhoods – Youth Engagement

Position overview: Work with NH Sea Grant staff and community partners to support youth engagement (primarily for elementary-middle school audiences) for a resident-engaged project building coastal resilience at a neighborhood scale in the NH Seacoast.

Background: The Flood Ready Neighborhoods program (FRN) seeks to bring residents together to increase their neighborhood's ability to prepare for and respond to worsening coastal and stormwater flooding. FRN staff support and collaborate with neighborhoods around the NH Seacoast to identify strategies for building resilience to flooding while protecting the natural resources that support and safeguard both human and natural systems. This program takes a holistic view toward resilience, including both preparing for physical risks and building social capacity, following a set of guiding principles. In one of our partner neighborhoods – a Seacoast public housing community – a desire for summer youth programming has emerged as a priority. Ideas for programming include nature-based exploration both on and off-site, environmental education, art activities, gardening-based programs at the on-site community garden, etc.

Fellow role: The FRN team is seeking two Fellows for summer 2026. The students selected for this role will work together to plan and implement youth engagement activities to build connections to nature and community. Fellows will have the opportunity to collaborate with NH Sea Grant staff, partners, and residents. Fellows will be responsible for identifying, creating, and delivering youth engagement programming (primarily for elementary-middle school audiences). This programming requires intentionality and will build off of 2025 summer programming. Fellows will be expected to develop programing that aligns with the FRN guiding principles, responds to youth interests, and remains flexible. This fellowship is an opportunity for students who are looking for experience designing and implementing thoughtful programming in a highly flexible yet supported space. There also may be opportunities to support programming in other FRN neighborhoods.

Position requirements: Experience in youth education/engagement is helpful. Requirements include: Openness to being part of a highly collaborative program that centers community voices and makes decisions according to a series of guiding principles, and willingness to take a training on trauma-informed care for educators and possibly other training to support responsive youth programming. Access to a vehicle is highly encouraged but can arrange carpooling with other staff and/or explore public transportation options.

Mentors: Lisa Wise, Dr. Alyson Eberhardt, Gracie Ballou

Primary position location: The interns will have the option of space available to work at the NH Sea Grant offices at the New England Center at the UNH Durham campus, and will have the option to work remotely as their typical work location. They will also be spending regular time in Portsmouth, NH, and potentially other coastal communities.

More information:
Flood Ready Neighborhoods: https://seagrant.unh.edu/flood-ready-neighborhoods-project

Aquaculture Education

Position overview: Work with NH Sea Grant and UNH Marine School researchers and extension professionals to develop and implement educational opportunities in aquaculture, in collaboration with the Seacoast Science Center.

Background: NH Sea Grant and the UNH Marine School have been working with the Seacoast Science Center and oyster farmers to build educational opportunities focused on messaging sustainable aquaculture to a wide range of audiences from around the Gulf of Maine watershed and beyond.

Fellow role: The student selected for this role will have the opportunity to work with NH Sea Grant and UNH Marine School staff as well as education collaborators at the Seacoast Science Center to develop and implement educational resources focusing on aquaculture and aquaculture research. One major project in 2026 will be a continuation of a research and educational oyster farm site within Odiorne Point State Park, which will stand as a model for interactive aquaculture experiences for families, students, and other members of the community. Another goal will be for the Fellow to participate in aquaculture field research while developing and delivering educational programs to the public through the Seacoast Science Center.

Mentors: Michael Doherty, Michael Chambers

Position requirements: Interest in aquaculture and environmental education. Experience in informal education preferred. Works well in a public facing role. Comfortable with public speaking or hoping to gain more experience with public speaking. Access to a vehicle is helpful, but can arrange carpooling with others.

Primary position location: This position will be split between the Judd Gregg Marine Research Complex, New Castle NH and the Seacoast Science Center, Rye, NH.

More information: https://seagrant.unh.edu/our-work/aquaculture/

Human Dimensions of Coastal Communities

Position overview: Work with NH Sea Grant Community Engaged Graduate Research Fellow to advance research and analysis related to the human dimensions of coastal issues particularly related to perceptions of and connections to estuaries and water quality.

Background: While research often focuses on biological questions, management of coastal systems also requires an understanding of the human elements, including but not limited to demographics, community perceptions, trust in science and management, economics, and more. NH Sea Grant is working with several partners to expand the role of social science and human dimensions research to help inform work water quality management. This project focuses on understanding indicators of social change in coastal watershed communities, specifically the Great Bay Estuary.

Fellow Role: The Doyle Fellow will assist a graduate student with community engaged thesis research involving public perceptions of environmental actions in coastal communities as well as projects that support incorporating social science research into environmental conservation programs. Through hands-on experience, the Fellow will gain an understanding of the role social science can play in informing decision making and the skills involved in qualitative research development. The Fellow will work with a team to process qualitative data and expand/improve social science resources for partner organizations and community groups. Additional projects that the Fellow may be involved with include assisting with the development of a Seacoast Business Resilience Academy and observing community perceptions of aquaculture. The work is primarily office-based with some opportunities to visit partner organizations, participate in research interviews, or assist other Doyle fellows as needed.

Mentors: Katri Gurney and Dr. Lindsey Williams

Position requirements: Interest in understanding the human dimensions of coastal systems. Previous coursework in sociology, anthropology, or other social sciences encouraged but not required. Ability to comfortably interact with members of the public face-to-face and over the phone. Coursework and/or interest in statistics preferred.

Primary position location: NH Sea Grant Office in the New England Center on UNH's main campus, Durham, NH.

More Information:
https://nerrssciencecollaborative.org/project/Williams23
https://seagrant.unh.edu/fellowships/graduate-student-fellowships/nhsg-community-engaged-graduate-research-fellowship

Coastal Habitat Conservation

Position overview: Work with NH Sea Grant Community Engaged Graduate Research Fellow to conduct fieldwork to inform coastal habitat conservation and build community connections.

Background: Long-term monitoring efforts are incredibly useful for understanding ecosystems and how they change over time but can be resource intensive. Partnering with local organizations and implementing participatory science programs are some ways that research and outreach efforts can be expanded to inform long-term research goals. In this project, UNH is partnering with the Seabrook-Hamptons Estuary Alliance to increase participatory science and implement long-term monitoring strategies in the Hampton-Seabrook Estuary.

Fellow Role: The Doyle Fellow selected will assist a graduate student with community-engaged thesis research involving fieldwork in a variety of coastal habitat ecosystems focused on the development and sustainability of long-term monitoring methods in coastal systems. The work is primarily field based with some opportunities for remote work. The Fellow will gain an understanding of why long-term monitoring is useful and how partner engagement is critical to implementation; this is related to the Seabrook-Hamptons Estuary Alliance goal focused on increasing participatory science in the estuary communities. Additionally, the Fellow may have opportunities to work with NH Sea Grant staff, other graduate students, assist other Doyle Fellows, and others as needed to support a range of research, monitoring, and outreach projects.

Mentors: Suzannah Buzzell and Dr. Alyson Eberhardt

Position requirements: Access to a vehicle is highly encouraged; fieldwork locations will vary, and carpooling opportunities will be limited. Field work will occur over varied terrain (beaches, dunes, salt marshes), in potentially buggy conditions. Interest in participatory science, field work, and community outreach is encouraged. Some experience in field research is also encouraged but not required.

Primary position location: NH Sea Grant Office in the New England Center on UNH's main campus, Durham, NH, Jackson Estuarine Laboratory on Adams Point, Durham, NH, and various field locations.

More Information:
https://shea4nh.org/our-work
https://seagrant.unh.edu/volunteer/coastal-research-volunteers/current-projects
https://seagrant.unh.edu/fellowships/graduate-student-fellowships/nhsg-community-engaged-graduate-research-fellowship

Microbial Aspects of Seafood Aquaculture

Position overview: Work with NH Sea Grant staff and partners in a field and lab-intensive fellowship opportunity addressing the research plans for several projects focused on microbial problems and beneficial processes associated with local seafood aquaculture.

Background: Long-term research at UNH continues to seek to understand trends in coastal and estuarine ecosystem health. This year's focus brings together understanding of microbial systems and aquaculture for improved ecosystem and human health. In this project, the team will work with oyster farmers, state shellfish management agencies, and community groups.

Fellow role: Working with the project mentor and partners, the fellow will conduct field sampling for oysters, sediment and water to determine levels of Vibrio species and strains that may cause human illnesses for seafood consumers. They will also help with a study of the microbial community of an offshore finfish-seaweed-mussel aquaculture system to track potential pathogens (humans and fish) and nitrogen-cycling species. Other projects include determining causes and sources of water contamination in the Lamprey River watershed and the Great Bay estuary. The fellow will conduct sampling from a boat, process and prepare samples for analysis in the lab, interpret results and analyze data to inform current water quality conditions in relation to earlier studies and to State water quality standards.

Position requirements: Access to a vehicle is highly encouraged but may be able to arrange carpooling with other students.

Mentor: Dr. Steve Jones

Primary position location: At the Jackson Estuarine Lab, on the UNH main campus in Rudman Hall, and at several field sites in the NH Seacoast including Great Bay and Portsmouth Harbor at the UNH Aquafort site.

High School Coastal and Marine Science Needs Assessment

Position overview: Work with NH Sea Grant staff and partners to conduct background research and needs assessment planning around developing coastal and marine science opportunities for high school aged students for example through summer programming and extended learning opportunities.

Background: Sea Grant is committed to environmental literacy and workforce development for all residents and has historically focused on K-8 and adult programming. NH Sea Grant is looking to explore opportunities to expand engagement to more comprehensively include high school aged students in more intensive learning experiences to build marine and coastal science skills and awareness. NH Sea Grant has received inquiries from schools, parents, and partners looking to partner with us in facilitating such opportunities. This has created a need to better understand the landscape of existing opportunities through research and data collection to inform future program decisions.

Fellow role: Working with mentors and partners, the fellow will gather information on existing high school and career technical school programming focused on coastal and marine related topics in the state of New Hampshire and surrounding areas. The Fellow will also help to gather information on schools in New Hampshire that are building out Extended Learning Opportunities and other experiential education approaches. The Fellow may also develop case studies of model programs that NH Sea Grant and partners might consider while determining capacity and opportunities to partner or build new programming in this space.

Position requirements: Interest in science education and experiential learning.

Mentors: Nicole French-Wollen (primary), Dari Christensen, Erik Froburg

Primary position location: NH Sea Grant Office in the New England Center on UNH's main campus, Durham, NH.

More information:
www.education.nh.gov/partners/education-outside-classroom/extended-learning-opportunities
https://beyondclassroom.org/elo-examples/
https://beyondclassroom.org/nh-elo-network-elon/