Grant Awards

Enrique Curchister “Vulnerability Assessment of California Current Food Webs and Economics to Ocean Acidification” UW $9,566

Scott Glenn “Towards a Comprehensive Mid-Atlantic Regional Association Coastal Ocean Observing System (MARACOOS)” NOAA $3,199,707

Kay Bidle “Collaborative Research: Elucidating algal host-virus dynamics in different nutrient regimes” NSF $481,873

Grace Saba “Indicators of habitat change affecting three key commercial species of the U.S. Northeast Shelf” NOAA $228,111

John Wilkin “Exploring how global climate change will affect the water quality of the New York City Harbor Estuary” Cornell $27,868

Scott Glenn “OOI Education and Public Engagement Implementing Organization/OOI EPE-Oper. & Maintenance Est.” COL $1,212,583

Oscar Schofield “Climate driven impacts on marine ecology, biogeochemistry, and carbon cycle of the WAP” WHOI $70,948

Haskin Happenings

A Good Year for Delaware Bay Oyster Fishery is a Good Problem

The Delaware Bay Oyster fishery is one of the best managed shellfisheries in North America and has provided a blueprint for other states to manage their oyster fisheries. It’s a point of pride for the Haskin Lab which has been quantitatively assessing the fishery since 1953. Annual quotas limit the harvest in Delaware Bay and carefully distribute it to ensure quotas remain stable and population rebuilding happens automatically during good years. This was, by all accounts, a good year with high oyster survival, good growth and good recruitment. Despite this good news, oyster fishermen in the Delaware Bay were upset. What was the hubbub about? The oystermen were distraught that they were catching their quota too quickly because there were so many oysters in the Bay. They wanted an increase in their quota. The current system is not designed to take advantage of good years from the perspective of increasing the harvest within the season, but rather to protect against large decreases in quota after a bad year. Thankfully, the Shellfish Council, made up of practicing oystermen appointed by the Governor, stood behind the science and told those who were calling for a mid-year quota increase that their efforts would be better spent participating in the annual stock assessment by the Haskin Lab, that invites industry participation.
World-Renowned Oyster Breeding Programs Continue to Thrive

Oyster breeding and production of fast-growing, disease-resistant lines of oyster remains a major activity of the Haskin Lab - a NJ Agricultural Experiment Station, and a Delaware Bay field station for DMCS. Outstanding survival and growth rates produced by the capable hands of our technical staff at the Cape Shore and the Aquaculture Innovation Center allowed an end of the year sale of excess ‘seed’ (juvenile oysters) to local NJ oyster farmers as well as the NY/NJ Baykeeper efforts in NY Harbor.

The second most productive oyster researcher in the world, Ximing Guo, recently received two new grants to continue his internationally renowned research program: Genetic improvement of tetraploids and triploids for eastern oyster aquaculture. USDA NIFA Aquaculture Program, $309,151 and Advancing eastern oyster aquaculture through marker-assisted Selection (yr2). NOAA NJ Sea Grant, $60,000. In recognition of his expertise, Ximing was also recently invited to serve on the International Advisory Board of Institute of Oceanology, Chinese Academy of Sciences (IOCAS). IOCAS is a major research institution in marine sciences, whose advisory board members are selected from leading oceanographic institutions of the world.

Shellfish Students Engage in Cooperative Research

This past season was a busy summer for graduate students at HSRL. Between cooperative research cruises, aquaculture hatchery and nursery work, and lab analysis, students’ schedules were jam-packed. Jason Morson, a third year PhD student in Daphne Munroe’s lab led a collaborative field effort working with fishing crews from Viking Village to design a specially engineered net to study incidental mortality in the federal scallop fishery. Current estimates of incidental mortality in the sea scallop fishery are highly uncertain. Jason’s research is part of a project funded through NOAA, headed by Senior Marine Scientist and Fisheries Cooperative Center Director Dr. Eleanor Bochenek, to obtain empirical estimates of incidental mortality in the sea scallop fishery. Joe Caracappa is also working with an important fishery species in New Jersey – the iconic blue crab. He worked with automated imaging microscopy to better understand phenotypic variability in larval development. MSc student Sean Martin, in cooperation with the Northeast Fishery Science Center, collected samples from throughout the MidAtlantic to examine spatial structure of whelk populations on the shelf - the source of a potential new federal fishery. The newest graduate student to join the Munroe lab, Mike Acquafredda, worked with a local oyster farmer to sample and analyze water flowing through the farmer’s experimental nursery. The nursery system is being tested at the Aquaculture Innovation Center, and Mike is providing data that will help understand how this system may provide cleaner food to young oysters.
Undergrad courses with a shellfish flavor

Aquaculture (11:628:317) taught by Drs. Ximing Guo and Dave Bushek take place during the first two weeks of January at the Haskin Lab and stresses the role of science in aquaculture. The course covers a wide swath of skills and expertise. Lectures and labs teach global aquaculture production methods, fish and shellfish growth and reproduction, nutrition, genetics, disease control, economics, environmental consequences of aquaculture and public policy issues. The course includes field trips to local aquaculture facilities, and gives students a unique opportunity to be immersed in the world of aquaculture.

Byrne Seminar: 11:090:101 Oysters Then and Now: Revolutionary Seafood Research at Rutgers – taught by Drs. Bushek and Munroe. Ever wonder where the shellfish on your plate comes from? If you are eating oysters, clams or scallops, the likely answer is New Jersey. Rutgers shellfish scientists have played a major role in the development and sustainability of the farms and fisheries that produce these delicious seafoods.

Project PORTS reaches out and builds a living shoreline

Promoting Oyster Restoration Through Schools (PORTS), is a community-based oyster restoration program that gives K-12 students an opportunity to experience stewardship first hand as they help enhance critical Delaware Bay oyster habitat. Students construct shell bags that will serve as settlement surfaces for juvenile oysters in the Bay. Developed by Lisa Calvo, Aquaculture Program Coordinator, the strategy of Project PORTS is to promote hands-on activities that present basic scientific concepts and emphasize local significance of the oyster resource. Since 2007, Project PORTS has been steadily building a 5 acre living oyster reef, made of shell bags created by students, in the upper Delaware Bay. The project has seeded more than 20 million oysters to date using shells that are recycled from two restaurants in Atlantic City and generously donated by a clam processing plant in Millville, NJ.

In 2015, Project PORTS partnered with 25 schools and 7 community groups to engage 2,500 students and 55 adults in building an impressive 9,965 shell bags. Project partners, The Nature Conservancy and U.S. Fish and Wildlife Service, will help deploy these bags in a special coastal resiliency project, a ‘living shoreline’, to determine their ability to attenuate waves and enhance diversity along eroding marsh edges of the Bay. The project is intended to help stabilize approximately 3,000 feet of beach and tidal marsh shoreline, while providing habitat for several important species.

Science guides summer/winter flounder management

Sex discrimination in summer flounder: Faculty and staff at the Haskin Shellfish Research Laboratory have been conducting cooperative research with the recreational and commercial fishing industries to understand how sexually dimorphic characteristics influence our understanding of population dynamics and fisheries management practices in the summer flounder fishery.

Too hot for winter flounder: Dr. Eleanor Bochenek and Sean Martin were recognized for providing the science to inform decisions for dredging regulations. Until now, habitat maps showed spawning of winter flounder occurred all the way south to Cape May Point that determined the Essential Fish Habitat (EFH). Thanks to their work the dredging regulations are being updated with understanding of today’s winter flounder EFH.
New Publications


