The Haskin Lab and related facilities along the Delaware Bay from Port Norris to Cape May are in full summer gear generating research, producing shellfish and other marine organisms, and providing outreach and extension. We’ve got more going on than can be conveyed in a brief newsletter, but here are a few highlights.

**OMDA and DMCS Grad student field trips:** Before the semester ended, the Oceanographic Methods & Data Analysis course came down for their annual trip where students learned about methods for capturing and assessing populations of zooplankton, finfish and shellfish from local tidal channels, the scenic Maurice River and the Delaware Bay aboard the HSRL R/V Veliger and the NJ DEP R/V James R Joseph.

Not to be outdone by DMCS undergrads, Jacqueline McSweeney worked with Daphne Munroe to arrange an overnight trip for DMCS grad students. They toured the lab, hatchery, nursery and experimental facilities and even had a chance to tour processing facilities owned by our clam and oyster industry neighbors.

Shellfish technician Jennifer Gius provided an expert tutorial on the Haskin Dock demonstrating how to shuck an oyster, and the students got up close and personal with rack and bag oyster culture and spawning horseshoe crabs at the tidal flats at the Cape Shore facility. Matt Neuman of the Aquaculture Innovation Center showed them the oyster nursery and introduced them to the numerous other research projects ongoing there. They ended the day at the Cape Shore Laboratory eating oysters from the growing oyster aquaculture industry on the Cape Shore flats. Thanks to Drs. Wilkin and Schofield for helping to make this happen.

**New DMCS faculty member Daphne Munroe begins settling in.** Daphne has been actively publishing her research findings and working closely with offshore clam stock assessments as she develops new programs and begins to get involved in teaching. This Fall, she’ll co-teach the online course “Exploring and Understanding the Worlds Oceans” with Oscar Schofield and in the Spring semester she and Dave Bushek will teach a Byrne Seminar called “Green Cuisine: Exploring NJ’s shellfish resources”. Daphne and Dale Haidvogel, along with NOAA scientists Dvora Hart and Burton Shanks, recently received support from the NOAA Fisheries and the Environment (FATE) program for the ‘Evaluation of Larval Sources and Population Connectivity in Atlantic Sea scallop (Placopecten magellanicus)’. The U.S. sea scallop fishery is the most valuable fishery in the U.S. and has shown a remarkable recovery from a severely overfished state in early 1990s. The project will examine the linkage between increased spawning biomass and potential increased downstream recruitment by coupling the ROMS circulation model (ROMS) to a scallop larval development model. Simulations will specifically examine the trajectories of larval dispersal from closed areas to determine general connectivity patterns and test whether area closures facilitate improved fertilization and recruitment success. Results will directly impact sea scallop management by identifying larval source-sink dynamics to optimize management strategies for maximal recruitment resulting from area closures.

**Welcome Tal Ben-Horin!** Tal joined the HSRL team as an IMCS post-doc in Dave Bushek’s lab jointly funded by our collaborative NSF EEID project on ‘Development of a Theoretical Basis for Modeling Disease Processes in Marine Invertebrates’. Tal joins us from UCSB where he studied the interactions between
diseases in abalone and the abalone fishery among other things. Learn more about Tal here: http://hsrl.rutgers.edu/people/faculty/tbenhorin.htm

**New Grants in June:**

- **Bidle, K.** Marine Microbiology Initiative Investigator Award. Gordon and Betty Moore Foundation. ($525,854)
- **Grobunov, M.** Assessing and Monitoring of DOD Coral Reef Communities Using Advanced Fluorescence Techniques. DOD-DON Space and Naval Warfare Systems Command. ($225,000).
- **Francis, J.** Collaborative Proposal: Connecting Arctic Amplification to Extreme Weather in Mid-Latitudes. National Science Foundation ($295,807)
- **DeLuca, M.** Derelict Crab Trap Identification and Removal in Barnegat Bay. Richard Stockton College of New Jersey. ($2,500)
- **Curchister, E.** Predicting Trophic Interactions and Habitat Utilization in the California Current Ecosystem. Office of Naval Research. ($4,967)
- **Calvo, M.** Project PORTS: Community-Based Oyster Restoration and Habitat Valuation. E.I. DuPont de Nemours and Company. ($12,500)
- **Glenn, S.** OOI Education and Public Engagement Implementing Organization/OOI EPE- Operation and Maintenance. ($269,937)

Aquaculture Extension Coordinator Lisa Calvo assists fledgling oyster farmers. In addition to coordinating the highly successful Project PORTS: Promoting Oyster Restoration Through Schools ([hsrl.rutgers.edu/~calvo/PORTS/Welcome.html](http://hsrl.rutgers.edu/~calvo/PORTS/Welcome.html)), Lisa has been working with the Delaware Bay oyster aquaculture industry to resolve a number of problems and promote growth of the industry. Major progress has been made in helping the growers unite to form a cooperative that has already attracted the attention of farm to table programs in Philadelphia and the region. Lisa created a shellfish growers forum that routinely meets at the Cape Shore lab where growers can communicate problems with each other and to scientists to help identify solutions. She and Rose Petrecca received USDA funding to work with Betsy Haskin (Doc Haskin’s daughter who runs a small oyster farm) to help resolve fouling by the polychaete worm Polydora cornuta.

Polydora fouling was identified through the forum as one of the major impediments to the industry. Mud produced by the worms encases the oyster bags suffocating the oysters within. Recently, Lisa hosted Dr. William Walton of Auburn University (a former RU graduate student under Fred Grassle) to share his extensive knowledge on oyster aquaculture and efforts to develop oyster culture in Alabama.

**DMCS grad students tour an oyster farm at Cape Shore**

**PhD candidate Amanda Wenczel selected for the Class of 2014 Eagleton Fellowship Program!** Congrats to Amanda who will receive the Eagleton Martin Fellowship that provides full tuition and a stipend of $6,000 for the upcoming year. Amanda’s research involves filter feeding interactions among dominant bivalve molluscs and how this relates to aquaculture, restoration and fishery management in systems where shellfish filter feeding can play important roles in ecosystem structure and function. Given Amanda’s interest in management policy, this fellowship fits well with her career goals. Last year Amanda won an equipment and travel grant from Fluid Imaging Technologies that allowed her to use a FlowCAM system for the summer. After working out her methods and conducting a number of preliminary experiments, HSRL has now purchased a FlowCAM that will be available for
“Bizarre Foods” to feature Rutgers triploid oysters. On June 4th, Andrew Zimmern from the Travel Channel's "Bizarre Foods" visited to shoot a piece on triploid oyster production that will feature work at the AIC and Cape Shore laboratories and Ximing Guo’s patented technology to produce triploid oysters. Rutgers oysters continue to be renowned for their disease resistance and high survival and triploidy adds a valuable new characteristic – sterility – that increases growth rates and brings oysters to market sooner. Haskin oysters were used the past two years to help Maine hatcheries recover from an unprecedented outbreak of MSX disease. Oyster seed production remains a dominant activity at the Cape Shore and the AIC with well over 10 million seed be produced annually, but work is now expanding to horseshoe crabs, ribbed mussels, and other species. New efforts are also underway with Jim Simons group in Plant Pathology to investigate nutraceutical properties from existing algal production used to feed shellfish.

Haskin Lab and scientists recognized at the Annual Bay Day Festival put on by the Bayshore Discovery Center on June 1st. Director Dave Bushek accepted a plaque honoring the support of the Haskin Lab and its researchers over the years and particularly following a series of major storms including Superstorm Sandy. In addition, three HSRL scientists received lifetime achievement awards for their contributions: Walter Canzonier, Susan Ford and John Kraeuter.

Living shorelines continue to be a hot topic as environmental groups push for their use over traditional shoreline protection methods. Dave Bushek’s lab at Haskin has been working with Dr. Danielle Kreeger and the Partnership for the Delaware Estuary to explore the potential of some living shoreline methods around Delaware Bay and in NJ. A highly successful installation at Matts Landing, upriver from the Laboratory has survived Hurricanes Irene and Sandy and is still going strong. A recent installation along Wildlife Drive at the Forsythe NWR survived Sandy and was planted with Spartina and ribbed mussels this June. A new demonstration was recently set up behind the Haskin Lab. While not a replacement for harder structures
necessary in many locations, these tactics can be useful in appropriate areas and may provide better habitat and more ecosystem services than harder structures such as bulkheads and rip-rap. This work was featured in the local news and should be in an article in the AC Press soon: More info is available here:  
http://www.delawareestuary.org/Living_Shorelines

There’s always a lot going on at Haskin and you’re always welcome to come see what’s happening, get involved, start new research or just enjoy shellfish.

New Publications in June:


