Understanding Barnegat Bay. In an effort to highlight work occurring within the Department, I will occasionally examine some of focused efforts of groups of faculty that provide our Rutgers community clusters of “strength”. We take a local New Jersey focus this month highlighting some of the research efforts being conducted in Barnegat Bay. Future months will highlight fisheries, energy, microbial dynamics. Within Barnegat Bay some, not all, of the efforts include:

Ken Able’s group has a long-term effort on determining how major components of the macrofauna (fishes and crabs) respond to urbanization by comparing the temporal (annual, seasonal) and spatial (along the north-south gradient of urbanization) variation in the bay and across multiple habitats (marsh creeks, submerged aquatic vegetation, open bay). To date, the extensive sampling has determined that the bay shares many components of the macrofauna with relatively undisturbed estuaries but there may be differences in the abundance and species composition in the northern portion of the bay. A range of efforts are focused on improving our understanding of this complex processes. For those interested in Barnegat Bay some of the research efforts include:

Michael Kennish, Benjamin Fertig, postdoctoral research associate, and Richard Lathrop, (Ecology and Evolution) have been conducting an ecosystem-based assessment of the Barnegat Bay-Little Egg Harbor estuary and watershed using more than two decades of physical, chemical, and biological data on the system. This investigation is part of a multi-year, interdisciplinary effort to characterize and quantify the estuary with regard to watershed nutrient inputs, physical and water quality properties, and biological indicators and responses to stressors.

Olaf Jensen and Heidi Fuchs, are leading an effort to develop ecosystem models to guide management of Barneget Bay. His work is focused collecting quantitative census information and assess to what degree the benthic species can be used as indicators of the health of the Bay. This work may provide the State another critical tool in the future to better manage and sustain the Bay.

New Grants in February:

Ken Able. Responses of March Fishes to Petroleum Pollution. Subcontract from LSU ($150,851)

John Wilkin Analysis of coastal ocean circulation and coastal altimeter observing systems using variational methods. NASA ($206,270)

Mike DeLuca. Development and Implementation of Shoreline Monitoring Protocols, USFWS Coastal Refuges. Dept. of Interior ($30,000)

Ken Able. Assessment of Fish and Crab Responses to Human Alteration in Bargenat Bay. NJ-DEP ($250,000)

Gary Taghon. Benthic Invertebrate Community Monitoring and Indicator Development for Barnegat Bay. NJ-DEP ($171,640)

Elizabeth Sikes. Collaborative Research (OSU, USC, RU): Continental Shelf Diagenesis II. NSF ($71,194)

Welcome Grace Saba to the Rutgers faculty. Grace Saba joins the Rutgers team as an Assistant Research Professor and she will continue her ongoing
research in both laboratory and field (West Antarctic Peninsula). She has been studying what triggers changes in algal abundance, composition, physiology, and overall quality, and how this affects higher trophic levels (zooplankton, fish) and nutrient feedback processes. Specifically, she has conducted a combination of laboratory experiments and field research to determine the effects of increased carbon dioxide (CO$_2$) on krill physiology, phytoplankton communities and biogeochemical cycling in the WAP region.

Grace setting up mesocosm experiments onboard the Research Vessel Laurence Gould during a cruise in Antarctica.

**Congratulations to Josh Kohut!** Josh Kohut was awarded the School of Environmental and Biological Sciences Excellence Award for Outreach. This well deserved award recognizes his efforts to develop new approaches to better manage fisheries and the water quality of the Mid-Atlantic. The award is part of "A Celebration of Excellence" effort, now in its 20th year, that honors the individuals and teams who have advanced the mission and vision of the School of Environmental and Biological Sciences and the New Jersey Agricultural Experiment Station. Plan to join Executive Dean Bob Goodman and this year's award recipients at 5:30 p.m. on Thursday, April 25, at the Cook Campus Center's Multipurpose Rooms.

**Recent Publications**


Able, K. W., Grothues, T. M., Kemp, I. M. 2013. Fine-scale distribution of pelagic sishes relative to a large urban pier . Marine Ecology Progress Series. 476: 185-198. doi: 1-.3354/meps10151