

Center Completes First NOAA Research Cruise

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NOAA FISHERIES SERVICE



Preparing for dogfish dissection



It began inauspiciously enough, Fisheries, like other aspects of biology, can be an unpredictable enterprise, even without the vagaries of winter New England weather. The severe drop in temperature across the northeast the day before the cruise team left UMES portended many of the challenges associated with open ocean fisheries sampling. So it was hardly a foregone conclusion that the cruise would be a reality as January 17 came and passed. Rough seas, followed by mechanical issues with, ironically, the refrigeration unit, kept the Albatross at the dock for 24 hours, though this was a minor delay by winter cruise standards.

An ambitious series of projects had been developed by Center scientists prior to the cruise in collaboration with NOAA Fisheries, in particular the Ecosystem Survey Branch. The study schedule set out by the research team would leave little room for additional delays, however, the unpredictability of the weather would continue to pose challenges. Though sampling had been planned from New York to South Carolina, a day of trawling in the rough seas of the Hudson River Canyon ended with a report of a strong Nor'easter, sending the ship south. Studies resumed in the warmer and calmer waters of South Carolina and continued north to the Chesapeake Bay over the ensuing week. Ending much as it began, the trip would end one day early off Delaware Bay. Reports of bad weather, which would eventually bring significant snowfall to the northeast, effectively terminated the cruise.

Despite the storms which punctuated both the beginning and the end of the cruise, deft navigation and planning by scientists and crew alike resulted in success for all but one of these projects.

Projects on marine fish diversity and composition, Hudson River fish assemblages, dietary habits of striped bass (*Morone saxatilis*) partitioning of polychlorinated biphenyls (PCBs) in fish tissues, migration of summer flounder (*Paralichthys dentatus*) and abundance, distribution and life history of spiny dogfish (*Squalus acanthias*) were completed though many of the northern-most sites could not be sampled due to the weather. Others were completed only in part. Studies had been planned to compare the physiological responses of spiny dogfish to hook and line and trawl sampling, however no dogfish were collected by hook and line. In spite of this, blood samples collected from dogfish caught by trawl will yield valuable physiological data. Another study on the distribution and life history of goosefish (*Lophius americanus*) had to be scrapped when not a single goosefish was caught.

While the results of many studies will not be available until further analyses are conducted, some data were available immediately. For the Marine Fish Diversity and Composition study, 74 species were collected of which only 3 were very abundant. The catch was mainly spiny dogfish, tomate (*Haemulon aurolineatum*) and scup (*Stenotomus chrysops*). Dogfish were only collected north of Cape Hatteras, while Scup was the most



(L to R) Brandon Fortt, William Gardner, Brandon Williams and Matt Rhodes sort spiny dogfish



Sunrise aboard the R/V Albatross



Vince Guida (NOAA Sandy Hook lab), Jonathan Stoltzfus (UMES), Meagan Cummings (NOAA Sandy Hook lab) and Branson Williams (UMES) sort cornetfish

Abundant at sites near South Carolina. A southern morphotype of Scup with an elongated dorsal spine was collected; more research into differences of morphometry and genetics between northern and southern demes is being conducted in collaboration with Peter Chase (NOAA Fisheries, Woods Hole) and George Sedberry (South Carolina Department of Natural Resources).

South Carolina tended to have high species diversity and a number of reef oriented specimens were collected, such as a young African pompano (*Alectis ciliaris*). Northern sites were mainly dominated by spiny dogfish, Atlantic mackerel (*Scomber scombrus*), butterfish (*Peprilus triacanthus*) and clear nose skates (*Raja eglanteria*). Summer flounder was collected mainly near the Chesapeake Bay.

In order to assess the movement of summer flounder south of Chesapeake Bay, a total of 73 fish deemed healthy by researchers at the time of capture were labeled with tags, with contact information for MD Department of Natural Resources, which maintains a database of the tag numbers. An angler catching a tagged fish is instructed to report to DNR the location of the catch, which will be transmitted to LMRCSC investigators to determine the extent of migration of each fish. Twenty seven of the tagged fish received two tags in order to determine tag loss.

The process of planning, equipping and carrying out these projects was a tremendous step in the Center's development, providing students and faculty alike with experience in NOAA's open water fisheries research techniques, further solidifying the Center's relationship with NOAA and establishing the basis for future studies. Indeed, cruises devoted to LMRCSC research are planned aboard the R/V Delaware II for January, 2006 and January, 2007, with additional dates currently under discussion.

Taking part in the cruise were the LMRCSC's Distinguished Research Scientist, Dr. Eric May, as well as UMES faculty Dr. Andrea Johnson and Dr. Joseph Love, technicians Jonathon Stoltzfus (UMES) and Meagan Cummings (NOAA Fisheries), graduate students Brandon Fortt, William Gardner, Lara Nagle and Sarah Wood, undergraduate students Matt Rhodes and Branson Williams, and NOAA Fisheries Scientists, Dr. Vincent Guida and Peter Chase. The LMRCSC graciously thanks the NOAA Fisheries personnel and the crew of the Albatross IV who so kindly assisted in making this a successful and valuable experience. We look forward to future collaboration!