



## NOAA Teacher at Sea Mike Lynch Onboard NOAA Ship DELAWARE II June 20 – July 1, 2005

### Daily Log Nine

Date 6/29/05

Latitude: 3938.834 N

Longitude: 07316.810 W

Wave Height: 2 foot

Swell Height: 3 Foot

Weather: cloudy

Visibility: eight miles

Wind Speed: 11 mph

### Scientific Log:

Today's Log will focus on the scientific work being

done on the stern deck. The Chief Scientist, Victor Nordahl, coordinates the 2005 Clam Survey aboard the DELAWARE II. One of Victor's many jobs is to oversee the collection work done by the two scientific crews aboard the vessel. Each crew works two six hour shifts, the scientific data collection and cataloguing goes on twenty four hours a day. Each crew is made up of a crew chief and five supporting workers. Our crew chief is Chad Keith. Chad is an engaging young man who has worked for NOAA for a number of



years and has just finished his Masters degree in Geography at the University of Oregon. Kris Ohleth is our Marine Biological Seagoing Technician. Kris is soon to start her graduate program on Marine Policy at the University of Rhode Island. Kris is in charge of data and the daunting task of training people, like myself, in the intricacies of the onboard FSCS and SCS computer systems. Richard Raynes is an equipment technician for NOAA, and a net maker by trade, he is the equipment guru of our crew. Erin Kapcha is also a NOAA employee, who coordinates the observer program that places observers on board commercial fishing vessels. Erin is stretching her legs and doing some work outside the office. Cindy Travers is

an energetic 20 year old, Senior Cadet from The United States Coast Guard Academy in New London Connecticut. Cindy is doing a summer practicum on board and will be following this cruise with another on board the ALABATROSS IV. I, Mike Lynch, am



the last member of the crew, and a participating member of the Teacher at Sea Program. I am a flatlander from Moses Lake Washington. I am here to learn more about the role NOAA plays in the formulation of policy and regulation. I am also here due to NOAA's commitment to education and outreach. Our mission, as we have accepted it, is to gather and input data on the Atlantic Surfclam and the Ocean Quahog. Today's journal will be a synopsis of the processes of data collection and the responsibilities of our crew.

In an earlier log, I outlined my duties on the Bridge. This was the process of reporting data for each station on the Shipboard Computer System. This is the step that monitors the location and duration of each tow of the dredge. The next step happens on the stern work deck and the wet lab.



Once the dredge is brought back to the surface, brought up on the crane carriage, and secured to the deck by the deck crew, it's show time for our science crew. Our first job is to inspect the dredge and determine if the contents need to be washed. If they do, we adhere a mesh gate to the front of the dredge and it is released by the work crew for a tow behind the boat. Once washed, the contents of the dredge are released on to a large worktable for sorting. One of our crewmembers, usually Richard, goes up into the dredge to clear it of all debris. The contents of the dredge are pulled with rakes down the length of the worktable. The crew sorts surfclams and quahogs and places each species into bushel baskets at the end of the table. Another bucket is in place for other species such as starfish, crabs, fish and other varieties of clams. Two other buckets are in place for broken clams and quahogs, and clappers. Clappers are clams or quahog shells that are still intact and connected, suggesting the animal is only recently deceased. The debris,



called shell hash, is also collected into bushel baskets. Once the table is cleared, it is time to clean the dredge area, count the baskets of shell hash, and catalogue the species data into the FSCS database. Ocean quahogs and surfclams are taken and weighed on electronic scales. The scales have been calibrated to zero for the weight of the bushel basket. The clams are then moved to one of three workstations. The stations are long stainless steel tables equipped with Limnos boards,

electronic scales and interactive FSCS computer monitors. The limnos boards are used to electronically measure the length of each specimen and catalogue the data into the database. The scales are used to measure the specimen weight in shell and the meat

weight of shucked specimens. The computer terminals are touch screens that are interactive consoles, which allow the recorder to select species and data categories. The console also notifies the worker of special instructions and requests for specimen samples that have been requested by the chief scientists. The species are catalogued by station, which has been programmed at the bridge to indicate exact location, time, depth, weather, etc.

For the purpose of data collection, the areas that we are investigating are divided into regions and strata. The Clam Survey is collecting data in five regions: Georges Bank, Southern New England, Long Island, New Jersey and the Delmarva Peninsula (an off shore area of Delaware, Maryland, and Virginia). We are participating on the third leg of the survey, and have spent most our time, thus far, off the coast of Virginia. These large geographical regions are subdivided into smaller areas called strata, and the specific areas of each tow are called stations. In each of the strata, we are asked to collect age data and meat weights as well as numbers and weight volumes. For Ocean Quahogs, we are asked to collect meat weights and samples of ten specimens for each 10 mm. class in length measurement. These samples are shucked weighed, catalogued for the location of their capture, bagged, labeled

and frozen. These will go to Jim Weinberg, who is the Principle Investigator for this survey. Essentially these samples are to be analyzed in the NEFSC labs in Woods Hole. Atlantic Surfclams receive far greater scrutiny. Samples of meat weights must be kept for specimens within 10mm. classes on every



tow. The requests for these samples are preprogrammed into the computer base, and as the “cutter” enters the length on the Limnos board into the computer, the recorder will be told which specimens must be kept for meat weight collection. The NEFSC division of Age and Growth also requests Surf Clams. The computer will alert the recorder that an age tag is requested. In this scenario, The cutter will take a meat sample, but the actual clam shells will be marked by station number, strata, and ID number. These shells are bagged, tagged and frozen for the A&G lab. Age samples are one clam within a 10 mm class at every site. How’s that for confusing. Between our crew chief Chad, our Sea going Technician Chris, and the demanding FSCS computer terminal, mere mortals like myself can participate in scientific data collection.

Aside from the data collected for the Northeast Fisheries Science Center, we are collecting surf clam samples for a member of our other crew. Adriana Picariello is

collecting samples as part of research for her Masters Thesis at the University of Virginia Marine Science department. Her research will be comparing growth rates in different regions. It's interesting what you can learn from clams, about the environment and possible changes in the environment such as global warming. Cool Stuff!

Personal Log:

The weather has become hot and humid. Yesterday we did part of a depletion survey where we did repeated tows non stop for the entire shift. It was a real marathon, I could have been part of a research on the sweat capacity of a human being. There was no time for interviews, logs or breathing. I slept well! Go figure. Still having fun, and have I mentioned the food?

Signing out, Mike, dad, aka. Mr. Lynch