



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

Daily Log Ten

Date 6/30/05

Latitude: 4043.985 N

Longitude: 07123.307 W

Wave Height: 2 foot

Swell Height: 3 Foot

Weather: cloudy

Visibility: obscured

Wind Speed: 14 mph



Science Log

The last couple of days aboard the DELAWARE II have been a constant buzz of activity. We have moved north to the New Jersey Coast. This is prime surfclam territory, and sure enough we are into them. Our chief scientist Victor Nordahl has selected this site for a depletion survey. A depletion survey is an event that starts with finding an area of heavy population density. For our purposes and equipment, this was an area that yielded five bushels of clams in a single tow. Once the location is found, the exact GPS coordinates of longitude and latitude are used as a locator for each successive tow. Using the information recorded by the Ship's Sensor Package (SSP), the exact trackline of the tow is ascertained and becomes the template for the depletion event. The concept of the depletion is to repeatedly cover the same track line for as many as 40 to 60 tows. With each tow, clams are counted and on every fifth tow, they are measured and samples are taken. The purpose of this event is to monitor how quickly the dredge reduces the population. Through this process, the scientists can calculate the effectiveness of the equipment in capturing the species. In essence we are calibrating the equipment. In fact, we are running non-stop stations in one of the muddiest areas we have seen. It is an exhausting process that goes on 24 hours a day and works the bridge, deck crew and science teams very hard. I have developed a real respect for how strenuously this crew works. Everyone pitches in, and works as a team.

The depletion event is rapidly coming to an end. It will be followed by our last duty at sea. Our next mission will take us off the coast of Massachusetts, where we capture clams and take samples to determine the levels of Red Tide infection. Closure of fisheries for red tide, is usually a job for state agencies, but it is also an opportunity for NOAA to do further scientific research. While steaming to our destination, we are working on swapping out the SSP package on the dredge. The second unit will be used on these final tows to ensure its reliability for future surveys. On our next watch, the DELAWARE II will be concluding the third and final leg of the Clam Survey. The ship will steam to its homeport of Woods Hole Massachusetts. The ship will be in port for four days. During

this time, much of the equipment that is used in the clam survey will be disassembled and moved into storage for three years, when the next clam survey will be once again conducted by the Northeast Fisheries Science Center. The three and a half ton dredge and the Crane carriage will be stored, but other technological devices will be used in an upcoming Cooperative Survey that will be conducted in late July and early August. The



DELAWARE II, however seems to never be at rest. In three days, the ship is scheduled to leave on a Marine Mammal Observation Cruise for the next two months. This survey will be conducted in order to measure and monitor marine mammals in the Georges Bank, Southern New England, Long Island, New Jersey and Delmarva Regions. An Autumn Trawl Survey will follow this. The trawl survey is a multi species finfish survey that collects biological data, such as

maturity stages, food habits, predator/prey relationships and migratory patterns. This same Trawl survey will also be conducted in the spring. The regions to be surveyed will be the Mid-Atlantic (inshore and offshore), the Georges Bank and the Gulf on Maine. This winter, the DELAWARE II will be conducting a Winter Trawl Survey that uses a modified net system that targets flatfish such as summer fluke and yellowtail flounder. The Winter Trawl Survey will focus on the Mid-Atlantic, Southern New England and the Georges Bank regions. The DELAWARE II will also participate in a Fishing Power Survey that are a series of experiments designed to yield a correction factor for changes in either survey equipment or vessels. This year the DELAWARE II will be conducting these tests with the HENRY BIGELOW, a new vessel being built in Mississippi, and scheduled to replace the DE II's sister ship, the ALABATROSS IV.

To find out where the DELAWARE II is, at any given time, NOAA provides a web site that includes a track line of all of its research vessels. Wherever these vessels are you can be assured that they are working diligently to accomplish the goals of the Northeast Fisheries Research Center. The goals start with research and monitoring fish stocks and their environments. The surveys endeavor to provide data that will assist in understanding and predicting changes in marine ecosystems, living marine resources, fisheries, habitats, ecosystem condition, and the generation of national benefits. The outcome of this research is the production and dissemination of scientific advice for management programs based on an ecosystem framework, and finally, you can be assured that NOAA will be endeavoring to engage stakeholders in the process of decision-making. NOAA is a team builder in stewardship. You can also be assured that NOAA will be involving educators in order to provide outreach to students and society at large.

In closing, I need to extend my thanks and appreciation for the opportunities that were afforded me aboard the DELAWARE II. True to NOAA's goals of education and outreach, the crew extended tremendous courtesy and patience while indoctrinating me into the area of marine science, research and life at sea. Without exception, all of the crew were helpful and willing to share their expertise and time. I must extend particular thanks to Charles Keith, Kris Ohleth, Richard Raynes, Erin Kapcha and Jeff Taylor. Each of these crewmembers extended themselves way beyond the call of duty in helping me to understand the shipboard policies, routines and the goals and objectives of our research. Also a special thanks to Cindy Travers, a Coast Guard Cadet who taught me a great deal about seamanship and positive attitude. Each of these people embodies a dedicated spirit that goes well beyond the parameters of their specific duties. Special thanks also goes to Dennis Carey, the Chief Steward who is the most important, and hardest working person on the vessel. I also wish to extend my thanks to all aboard the DELAWARE II, the crew believes in their mission and are sacrificing personal gain for public service. In short, they are an inspiration.

Life at sea is arduous. It is hard work, long hours, inclement conditions and deprivation of creature comforts. Life at sea is also a community, a brotherhood and a commitment. To NOAA, and the crew of the DELAWARE II, thank you, I learned a great deal and am deeply grateful.

Signing off, Mike, dad, AKA. Mr. Lynch



