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

Daily Log

Day 1: Monday, June 20, 2005

Science and Technology Log

We are preparing for a 2pm departure on the NOAA vessel DELAWARE II. We are departing from Woods Hole Ma. Woods Hole is a small maritime community in scenic Cape Cod. Apart from being a tourist Mecca, and a jump off point to Martha's Vineyard, Woods Hole is home to some of the World's foremost institutions in the area of Oceanography and Marine Science. A brief stroll down a picturesque cape-side street takes you by The Marine Biology Library, the Woods Hole Oceanographic Institute, the Northeast Fisheries Center, and the National Oceanic aerospace Administration. It short order it becomes quite apparent that Woods Hole is center of learning and scientific research.

Today we will be leaving on the DELAWARE II, which is a stern trawler that was built in 1963. The ship is 155ft. in length and has a displacement of 600 ton. This research vessel is operated by the National Ocean Service's (NOS) division of the National oceanic Atmospheric Administration (NOAA). NOAA is a government agency with a mandate to study the condition of the world's environments. As a steward, NOAA Fisheries has an obligation to conserve, protect and manage living marine resources in away that will ensure their continuation, while affording economic opportunities and enhancing the quality of life of the American public. Our specific mission will be a scientific survey to collect data on fishery stocks and demographics of exploited fish resources. More precisely our target stocks are to be Atlantic surf clams and ocean quahogs. In a brief orientation with our chief scientist, we were told that we would be conducting timed dredges on pre-selected stations to collect

data on species recruitment, the health, number and location of incoming classes of fish. We would also be monitoring data on the abundance, location and survival rates of harvestable size clams and quahogs. Our mission will also obtain data that monitors changes in the ecosystem as well as the biomass of the surveyed areas.

In order to gain the needed scientific data, the DELAWARE II will be using a hydraulic dredge to sample the stations of the ocean bottom. The last "clam survey' was conducted in 2002. This survey is conducted on a three-year basis due to the low exploitation rate of the fishery as well as the slow recruitment rate of the species. For this survey we will be using a five foot wide hydraulic dredge, fitted with water jets, and a submersible electric pump that loosens the substrate and animals in the path of the dredge. The equipment is a modification of that which is used in the commercial industry. The five-foot dredge looks more like mining equipment than fishing gear. It is fitted with a two inch aqua mesh that allows the capture of smaller species than are commercially profitable, in order to get a more accurate sampling of the stock. Clam debris and other associated invertebrates are collected and measured as well. Sensors and photographic equipment will also be attached to the dredge in order to measure bottom conditions and dredge performance. The state of the art sensor package placed on the dredge, gathers a continuous steam of data on dredge performance, bottom temperature, water depth and ship position. Data on catch and dredge performance; location, time and conditions will be catalogued into computer programs that will calculate stock, habitat and location.

Personal log

Day one of our journey has been a flurry of activity. We have received our berth assignments, met new people, gathered our foul weather gear and been introduced to the fantastic fare of the galley. The ship's crew is busy with a myriad of pre-departure activities, but everyone has gone out of their way to be friendly and accommodating. The weather is beautiful and everyone's spirits seem to be high. I have had the opportunity to informally interview several of the crew and was given a tour of the ALABATROSS IV as well as our ship, the DELAWARE II. The crew is busy with a cable replacement for the dredge. I and several of the volunteers had the opportunity to have a brief orientation with our chief scientist, and we are awaiting our scheduled 2 PM departure. I will be working two shifts both from 12 to 6. The shifts, along with the scientific work, the interviews and daily logs promise to keep me busy. I am learning a lot, staying out of the way and getting excited. We will be heading south to New Jersey rather than the Georges Bank. Time constraints and equipment repair may have been factors in the change of plan. Woods Hole is a beautiful and picturesque location but also a hotbed of scientific activity.