NOAA Teacher at Sea
Mary Ann Penning
Onboard NOAA Ship ALBATROSS IV
July 9 – July 20, 2007

NOAA Teacher at Sea: Mary Ann Penning
NOAA ship ALBATROSS IV
Mission: Sea Scallop Survey
July, 19 2007
North Atlantic Ocean

Weather Data from the Bridge
Visibility: 7 nautical miles (nm)
Wind direction: 166 degrees
Wind speed: 7 knots (kts)
Sea wave height: 1 foot
Swell wave height: 2 feet
Seawater temperature: 23.1 degrees C
Sea level pressure: 1010.0 millibars (mb)
Air Temperature: 24.0 degrees C
Cloud cover: partly cloudy; hazy

Scientific Log
This is our last full day on the ALBATROSS IV; it's hard to believe that we've reached this point. We were not far from New York City this afternoon, when we did our final two tows. In our last tow, found among the scallops that we caught, was a ten pound goose fish, the biggest caught on our watch. (I understand that their tails are good to eat.) Getting our picture taken with the goose fish for the "picture of the day", signaled the end of the towing operations for this trip. We then took time to clean our areas and equipment. We did the fantail, while the night shift did the interior wet room and the Chief Scientist's office. We scrubbed all the baskets and buckets, the measuring equipment and our foul weather gear. It was time consuming, but with a team approach, it didn't take long. The Chief Scientist and the skilled fishermen were repairing the netting in the dredge. I would never have guessed the amount of effort it takes to run a scientific survey such as this one, until I participated in one.

The only part of the ship I hadn't been to was the engine room. So this afternoon, when life was much slower, I asked if I could see it. It was certainly noisy in the lower bowels of the ship, even with protective "earmuffs." I learned that the ship took on 10,000 gallons of diesel fuel before we left Woods Hole. The ship can carry 30,000 gallons total. There are two big diesel Caterpillar engines that operate the ship. The ship generates its own electricity, too. Two diesel generators drive the generators that manufacture electricity. One diesel generator drives the hydraulic pumps for the winch operations. I had been curious about the fresh water on board the ship, when I first learned that the hoses we used to clean our equipment, used sea water. The ship can

carry 22,000 gallons of water. At the end of our two week trip, we had less than half of that left. The engineers said that the ship uses about 1000 gallons a day. If the ship goes out for three weeks, two desalinators, located below the ship, are used to turn sea water into fresh water. (They are not used exclusively for providing fresh water because of the slowing down and stopping process involved in towing the dredge. There is not enough heat from the engine for the system to be the primary source of fresh water. There are a series of filters that are used in the process.) Big vessels, it seems, can be self sustaining, floating cities.

Personal Log

I'm so glad that I had the opportunity to participate in this experience. Before I could even be considered a candidate for the NOAA Teacher at Sea Program, I had to be cleared medically. One lieutenant called me with a few questions and he cautioned me by saying, "You know this program is very competitive. A lot of teachers want to participate." I replied by saying that you never know until you try. And try I did! Both in the application process and now while on board the ALBATROSS IV. We actually measured and recorded electronically 53,077 scallops from the 210 various stations in the Mid-Atlantic that we surveyed. Expanding those numbers mathematically, the projected amount of scallops caught for these areas is – drumroll, please – 148,063 scallops. From my perspective, these amounts are astounding, just astounding! What more can I say. When these statistics are analyzed, the actual number of scallops in the resource will be determined. Then openings and closings of various scallop fishing areas will be decided; it is a complex process.

It was the people, ultimately, who helped make the trip enjoyable. I enjoyed talking to the young NOAA officers about the NOAA Corps and their program at the US Merchant Marine Academy at Kings Point, Long Island. Many of them have science backgrounds – meteorology, ecology, oceanography, and geography. One is going on to NOAA flight school soon. He might be responsible for monitoring whale migration for ships one day. Their commanding officer, Kurt Zegowitz, a very kind, patient, and personable man, welcomed me aboard and offered his help. His patience was certainly appreciated because he was instrumental in helping me get my logs published.

The other NOAA paid staff, with their varied interest and background in science, were wonderful to me. Jonathon, Laura, and Heath, responsible for the day watch, were very patient and helped me identify the various fish so that I could help sort and weigh them. When one fish couldn't be identified immediately, Laura looked at the gills to help her make the decision. Identification guides were available to help determine the identity of any specimens of which they were unsure. It was fun to hear their stories of the numerous and varied NOAA survey trips with which they've been involved. Dvora Hart and Victor Nordahl, whom I've mentioned throughout my logs, were dynamite individuals.

From the support staff - the computer techs, the cooks, the engineers, and the skilled fishermen - I heard interesting stories. Many of them have worked, fished, and sailed all over the world. Their team approach and camaraderie was evident and neat to see.

On board with us, too, have been five awesome college volunteers who are interested in science careers. There were three women and two men from various universities in the Northeast. One young woman was from the Coast Guard Academy; she'll be a senior next year. She's coming back for the second leg of the trip when the vessel and scallop survey head north to Georges Bank. Another young woman, working on her Master's Degree, has a dual major in Marine Biology and Marine Policy. They were impressive, young and energetic; it felt good to be able to keep up with them.

Tomorrow morning at 7:00 AM our young officers will back the ship into the dock at Woods Hole after our whirlwind 1,554.3 nautical miles' adventure into sampling sea scallops. The survey will continue for two more legs; each two week trips. Their fish and terrain will be somewhat different, but the scallops the same. I'm anxious to read the logs of the Teachers at Sea participating in those portions of the trip. Because of this trip, I have greater respect for the scientific community and survey work such as this and for fishermen who make scallop fishing their life work. Thanks to the NOAA Teacher at Sea program I have had a wonderful opportunity to participate in an amazing, once in a lifetime, learning adventure.