



**NOAA Teacher at Sea
Marilyn Frydrych
Onboard NOAA Ship *Delaware II*
September 15 – 25, 2008**

NOAA Teacher at Sea: Marilyn Frydrych

NOAA Ship *Delaware II*

Mission: Atlantic Herring Hydroacoustic Survey

Geographical area of cruise: New England Coastal Waters

Date: Tuesday, September 23, 2008

Weather Data from the Bridge

42.42 degrees N, 67.39 degrees W

Cloudy. Wind out of the N at 32 knots

Dry Bulb Temperature: 15.5 degrees Celsius

Wet Bulb Temperature: 11.6 degrees Celsius

Waves: 6 feet

Visibility: 10 miles

Sea Surface Temperature: degrees Celsius

Science and Technology Log

Yesterday we were fairly busy doing CTD casts and trawls. Today we woke to find the night crew just starting to record the lengths and weights of their large catch. We grabbed some cereal and took over from them at 5:45 a.m. They had collected and sorted all the fish. Jacquie and I took about two hours measuring, weighing, and examining the innards of the half basket of herring they left us. Our chief scientist, Dr. Mike Jech, summarized his findings so far in a short report to everyone including those back at Woods Hole:

“Trawl catches in the deeper water near Georges Bank

have been nearly 100% herring with some silver hake. Trawl catches in shallow water (<75 m) have occasionally caught herring, but mostly small silver hake, redfish, butterfish, and red hake.



A night haul of herring. Notice the brilliant blue stripe on the top of the herring. The camera's flash is spotlighted in the reflective tape on the life vests. (Photo courtesy Jacquie Ostram)

Small being less than 5-6 cm in length. We caught one haddock this entire trip. Trawl catches north of Georges Bank have been a mix of redfish and silver hake, with a few herring mixed in.”

This afternoon the Officer of the Deck, LT(jg) Mark Frydrych, gave me a run down of many of the instruments on the bridge. I spotted a white blob on the northeastern horizon and pointed it out. He showed me where it was on the SIMRAD FS900, a specialized radar. The SIMRAD FS900 is often able to identify a ship and its name. This time it couldn't. Looking through binoculars we could see it was a large container vessel. Then we looked at a different radar and saw both the ship's absolute trajectory and its trajectory relative to the Delaware 2. It was on a path parallel to the Delaware 2 so Mark didn't worry about it intersecting our path. We also noticed another ship off to the west and north of us on the radar, but we couldn't yet see it on the horizon. It too was projected on a path parallel to us. Then Mark pointed out an area on the SIMRAD FS900 outlined in red. It's an area where ships can voluntarily slow to 10 knots in an effort to avoid collisions with whales. It seems that sleeping right whales don't respond to approaching noises made by ships. There are only about 350 to 500 of them left and they are often killed by passing ships. The Delaware 2 was steaming at about 7 knots because in the 6 ft waves it couldn't go any faster. However the container ship was steaming at 15.5 knots. Few ships slow down in the red zone.

Mark showed me how to fill out the weather report for that hour. I typed in all my info into a program on a monitor which assembled all my weather data into the format the weather service uses. I first recorded our position from an instrument displaying the latitude and longitude right there above the plotting table. I read the pressure, the wet bulb temperature and the dry bulb temperature from an instrument which had a readout in a room off to the starboard of the bridge. The ship has two anemometers so I averaged these to get the wind speed and direction. We looked at the waves and tried to imagine standing in the trough of one and looking up. I figured the wave would be over my head and so estimated about 6 feet. We also looked at the white foam from a breaking wave and counted the seconds from when it appeared until it rode the next wave. The period of the wave we watched was four seconds. Next we looked out the window to search out any clouds. It was clear in front of us but quite cloudy all behind us. I estimated the height of the clouds. I typed all this information into the appropriate boxes on the monitor. It was all so much easier than my college days when we had to gather the information manually then switch it by hand into the code appropriate for the weather service. The OOD sent this information to NOAA Weather Service on the hour, every hour operations permitting.

Personal Log

Though my son was instrumental in persuading me to apply for the Teacher-at-Sea position I haven't seen much of him thus far. He's standing the 1 to 4 shift both afternoon and night. When I'm free he seems to be sleeping. We don't even eat meals together. That's why I made a special trip to the bridge today to meet up with him during his watch.