



**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: Saturday, September 20, 2008

Weather Data from the Bridge

42.53 degrees N, 67.51 degrees W

Cloudy. Wind out of the E at 11 knots

Dry Bulb Temperature: 15.2 degrees Celsius

Wet Bulb Temperature: 14.0 degrees Celsius

Waves: 1 foot

Visibility: 10 miles

Sea Surface Temperature: 16.9 degrees Celsius

Science and Technology Log

We did a CTD with an attached water bottle and then deployed a net. We backtracked today and redid the sites we found yesterday which had good herring potential. About 10:30 in the morning we collected about 1/3 of a clothesbasket of fish. Most of that were herring and mackerel, with the usual small butterfish, goosefish or lumpfish, red hake fish, small jellyfish, and Ilex squid. The catch included an unknown two inch fish which Mike, the chief scientist, conjectured had gotten caught in a warm eddy off the Gulf Stream and ended in the wrong part of the ocean much like the jet stream blows birds off course. Part of sorting the fish



A goosefish, also called a lumpfish.

involved gutting one to three each of the different lengths of herring to determine their sex, age, and what they had been eating. With practice and much patience on Robert and Jacquie's part I learned to recognize the stomach and sex organs of the fish. None of the herring today had anything in their stomachs, while those of two days ago had lots, mostly krill. With two of us working it took about 45 minutes to measure the length and weight of each herring. They varied



To measure our fish we used the magnetized pointer in the upper right hand corner of the picture. It looks like a cigarette. We lined up the fish's head against the black backstop. Then we stretched the body straight out. When we pressed the pointer against the end of the fish's body an electrical circuit closed and the computer automatically recorded the fish's length. The fish are silver hake. (Photo courtesy Jacquie Ostram)

When we finally collected the net we had 3 basketsful of redfish, half a basket of silver hake, 4 herring, one large goosefish about a foot long, and a rare Atlantic Shad about 2 feet long.



We've sorted a smaller catch on the measuring board. We measured and weighed these fish, but never opened them to determine their sex. We did that only for herring. The scale is under the gray container on the right. We only had to press a button for the computer to record the weight. (Photo courtesy Jacquie Ostram)

from 19cm to 27 cm. We froze samples which we'd opened up for Mike and then one un-gutted sample from each of the nine categories for the University of Maine.

We did another CTD about 11:30 and deployed the net again. All did not go well this time. The sonar showed that the net was twisted and the opening blocked. The fishermen were called upon to bring it in and straighten it. The first thing they did was to take the two 400 pound chain weights off. Then they sent the net back out hoping it would straighten itself. Alas, they had to bring it in and send it out a couple more times as they manually untangled all the lines. It was very strenuous work and took them about 45 minutes. As a result we steamed about 3 miles past the point where we intended to fish.