



NOAA Teacher at Sea
Elise Olivieri
Onboard Research Vessel *Hugh R. Sharp*
May 9 – 20, 2009

NOAA Teacher at Sea: Elise Olivieri
Research Vessel *Hugh R. Sharp*
Mission: Sea Scallop Survey
Geographical area of Cruise: Mid-Atlantic
Date: Tuesday, May 12, 2009

Weather Data from the Bridge
Air Temperature: 11.56 Degrees Celsius
Barometric Pressure: 1019 mb
Humidity: 88%

Science and Technology Log

Sea Scallops are found in western North Atlantic continental shelf waters from Newfoundland to North Carolina in waters cooler than 20 Degrees Celsius. Commercial fishing is conducted in waters off the Gulf of Maine, on Georges Bank, and in the Mid-Atlantic offshore region.

Scallops grow rapidly during the first several years of life.

Scallops increase 50-80% and quadruple their meat weight between the ages 3 to 5. Sea Scallops become sexually mature at age 2, but scallops younger than 4 contribute little to the overall egg population studies explain. Spawning occurs in late summer and early autumn. Eggs become buoyant after fertilization, and larvae remain in the water column for 4 to 8 weeks before settling to the bottom of the sea floor.



The dredge

Communication between all the people on board is key to successful sea scallop tows. Operational procedures must be put in place to ensure all parties know exactly what is expected of them and when. The bridge has a list of all station numbers which is provided by the Chief

Scientist. The bridge announces over radio “10 minutes to station” and the science team lets the bridge know if more time is needed to prepare for the tow. Every third tow and twice per day a water sample is taken. These samples are collected before the dredge enters the water. One technician ensures the inclinometer has been offloaded in time before the dredge is emptied and sorted. The bridge makes sure the tow passes through the middle of the station and retains 75% of the catch. If there is a problem the bridge notifies the science team. The science team then checks the Knudsen Depth Display to determine the designated wire out or scope that is needed for the station. The bridge will then come up to speed of about 4 knots. At this time the bridge will announce to begin deployment of the dredge and the winch operator (dredge operator) will set the dredge over the stern. The winch operator will stream enough cable to reach the “0” mark in the wire and then set the winch metering to zero. The dredge is then deployed as quickly as the winches can spool which is approximately 60-65 m/sec. When the winch man has achieved the desired scope and locked the brakes, they should observe the trawl tension. Start tow begins once this occurs. The scientist will then start the countdown for the 15 minute tow. The bridge sets the speed over bottom at 3.8 knots. The scientist in the lab running the event will give several warnings; 1 minute warning, 10 second warning, and then finally haul back. The winch operator will start hauling back at maximum allowable speed to pull the dredge off the bottom. Once the dredge is on deck, inclinometer should be offloaded, the catch is dumped, and the dredge is secured. The vessel then heads to the next station on the Chief Scientist’s list. These standard operational procedures discourage any errors that might occur if procedures were not in place.

After the catch is on the table it is sorted and sampled by using a FSCS computer database. The Fisheries Scientific Computer System is a collection of integrated electronic devices used to gather and store station and biological data. FSCS uses touch screen monitors and motion compensation scales with electronic measuring boards. This helps reduce human error and is a very sophisticated instrument.

Personal Log

We started out the night shift with two medium sized clean tows. There was very little sand and clay which helps the sorting process go very quickly. I personally counted 236 cancer crabs and over 300 sea scallops. The nature of sorting is becoming very familiar to me, and I enjoy learning new things everyday. I spoke with the Chief Scientist Vic Nordahl for a while and discussed various ways of incorporating all the data being collected into the classroom. Vic is extremely busy but makes time to discuss and plan out activities for the Teachers at Sea to bring back to the classroom. Lollie Garay is the other Teacher at Sea aboard the *Sharp*. She is a middle school teacher from Houston, Texas. We both enjoy learning how research is collected out at sea. There are 22 people total aboard the Research Vessel *Hugh R. Sharp* and everyone communicates and is friendly with one another. I really learned a lot about protocol today and now I completely understand how everything runs so smoothly. I can’t wait to get some sleep. Fisheries work is not easy!