



**NOAA Teacher at Sea  
Duane Sanders  
Onboard Research Vessel *Hugh R. Sharp*  
June 8 – 19, 2009**

**NOAA Teacher at Sea: Duane Sanders**

Ship: R/V *Hugh R. Sharp*

Mission: Sea Scallop Survey, Leg Two

Geographical Area: New England Coast

Date: Monday, June 8, 2009

**Weather Data from the Bridge**

Wind: Speed 16.1 KTS, Direction 50.5 degrees

Barometer: 1014 millibars

Air temperature: 16.8 °C

Seas: 1-3 ft.

**Science and Technology Log**

I have been assigned to participate in the annual scallop survey in the New England fisheries area. Our ship, the *Hugh R. Sharp*, is two years old and designed specifically for ocean research. The Sharp is owned by the University of Delaware and is under contract with NOAA for the scallop survey. It has laboratories, a workshop and specialized equipment for handling large or bulky devices. There is a continuous data stream gathered by the ship's instruments and posted on monitors on the bridge and in the lab. This includes some parameters related to ocean chemistry as well as the usual weather data. There are several other high-tech sensing systems to assist in a variety of research projects. The ship's flexible design allows for the science team to install computers, servers and ancillary equipment specific to the research project at hand. Also, modular labs outfitted for specific purposes can be secured to the fantail (rear deck) of the ship.



**The *Hugh R. Sharp* at dock in Delaware**

My favorite piece of technology is the diesel electric drive system. Diesel generators produce electricity that supply power to the drive motors all other electrical needs on the ship. Propulsion is provided by thrusters, which are capable of rotating in any direction as needed. There are two thrusters in the stern and one in the bow. These three acting together can keep the *Sharp* within six feet of a specified location. The ship's engineer can monitor all systems from his station on

the bridge. This system is very quiet and vibration is kept to a minimum. That means we can sleep much better than with a conventional diesel engine drive.

All in all, this vessel seems to me to be an ocean scientist's dream come true. It is designed for high-tech applications and configurations that change as the need arises.

### **Personal Log**

Today is our first day at sea. We spent the morning hours getting acquainted with each other and learning about safety, emergency procedures and shipboard etiquette. For example, the science team was divided into two watches, midnight to noon and noon to midnight. The rule is that people coming on watch need to take everything they want to use during watch hours with them. This allows those coming off watch to get some undisturbed rest. Living in close quarters requires everyone to be considerate and cooperative.

We all rely on each other to do their part to help make the cruise a safe and successful one. While there is always room for some fun, everybody takes their responsibilities quite seriously. Life and limb often depend on this careful approach to our work.



**Here I am practicing donning my emergency immersion suit.**