



**NOAA Teacher at Sea  
Allison Schaffer  
Onboard NOAA Ship GORDON GUNTER  
September 14 – 25, 2007**

**NOAA Teacher at Sea: Allison Schaffer**  
NOAA Ship GORDON GUNTER  
Mission: Ichthyoplankton Survey  
Day 11: Tuesday, September 25, 2007

**Science and Technology Log**

Today I took my first CUFES sample. CUFES stands for Continuous Underway Fish Egg Sampler. The purpose of this is to map the distributions of fish eggs along our cruise path and the samples are collected every 30 minutes. Basically what happens is there is an intake pump at the bow of the ship to collect water at the surface. From there the water pumped into a collector where the water is run over a sieve to catch any eggs. We preserve the eggs for ID back at the lab on land. This is something that usually just the lab scientist handles, but they allowed me the opportunity to try it out a few times. Along with collecting all the samples, all the information about latitude and longitude, time, and sample number must be input into the computer to collect all the information needed to map the distribution once the numbers have been collected.

Since I have been working as a deck scientist since we started stations, the FPC (Field Party Chief) offered me a chance to stay inside and to see what the lab scientist does while we are working out on deck. This way I would get to see both sides of the collection process. We got the 10 minute to station notice from the bridge, the lab scientist started filling in station information into the computer. She inputs longitude and latitude, time, sample number, and station number in databases for each of the different sample methods. For this station we were doing bongo, Neuston and CTD sample collections. Once we got the OK that the deck and bridge were ready, she sent out the OK that she was ready and the deck got started placing the bongo in the water. She let them know the final depth they were going to give them an idea of how long the collection will take. The sensor that goes in with the bongo relayed all the information about depth back to her. Once we hit maximum depth, she gave them the "all stop" and they started hauling it back in. The Neuston involves the same information being entered into the computer but all she needs to relay to the deck personnel is the 2 minute warning and so they could start hauling the net back in. The CTD seemed very complicated so I just sat quiet and tried not to ask too many questions and distract her. For this the graphs on the screen displayed everything that the CTD reads and as they lowered into the water column I watched as the graphs collected all the data. She let them know how deep to go, when to pull it back up and how long to leave the CTD at each depth. She also fired the three bottles to collect water for chlorophyll measurements. They brought it back on deck and that was it for this station up in the lab.

**Personal Log**

I am very thankful that I got put on a cruise with such a great team of people. Between the crew and scientists, everyone has been so helpful and accommodating. The FPC always goes out of his way to take pictures for me, explain things further and give me opportunities to experience everything the scientists do. Coming on as a volunteer I wasn't sure how much of the different tasks they would allow me to do, but they have been great explaining everything and showing me the different things. They have also been helpful showing me different techniques when rinsing samples and helping me out with the different ship terms and names.

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### **Addendum: Glossary of Terms**

- **Visibility** is how far ahead you can see from the ship. On a very foggy day you may only have a visibility of 10 ft whereas on a clear day you can see all the way to the horizon, or 12 nautical miles.
- **Wind** direction tells you which way the wind is blowing from: 0° is north, 90° is east, 180° is south, and 270° is west.
- **Sea wave height** is the height of the smaller ripples
- **Swell height** is the estimates larger waves
- **Sea level pressure (or Barometric Pressure)** indicates what the trend of the weather has been. High barometric pressure usually means sunny weather and rain can not build up in clouds if they are being squeezed together by high pressure. Low barometric pressure means rainy or stormy weather is on the way.
- **Present Weather** is a description of what the day's weather is.  
- Courtesy of Thomas Nassif, NOAA Teacher at Sea, 2005 Field Season
  
- **Field Party Chief** or FPC is in charge of the team of scientists on board the ship. This person oversees all activities having to do with collection of samples and is the go to person in case anything goes wrong that the scientists can't handle. They also act as an extra set of hands when needed.
- **Bongo Net** is two circular frames 60 cm in diameter sitting side by side with two 333 micron nets and a weight in the center to help it sink. At the base of each net is a plastic container used to collect all the plankton that can be easily removed so we can retrieve the samples
- **Lab Scientist** is the scientist that stays in the lab to work the computers recording the data on sample time, sample depth, station number, sample time and is the one that relays information to the deck personnel about when the nets have hit maximum depth. They are the eyes underwater.
- **Deck Scientist** is the scientist out on deck getting the nets ready, rinsing the nets, collecting and preserving samples. They are the eyes on deck in case anything goes wrong at the surface or on deck.
- **Neuston Net** is one net 1 X 2 meters with a 947 micron net. Neuston samples are done only at the surface and placed in the water for ten minutes.
- **CTD** stands for conductivity, temperature and depth. It is lowered into the water column to get salinity, chlorophyll, dissolved oxygen and turbidity readings at the stations. There are three bottles that are attached to the CTD to take water samples at the surface, mid layer and bottom of the water column at that station.

- **The Bridge** is the navigational hub of the ship. This is where the officers steer and navigate the ship and where all the equipment is located to help them to do so. It is usually the top deck on ships to give the crew the best visual of the water.