



**NOAA Teacher at Sea  
Philip J. Hertzog  
Onboard NOAA Ship RAINIER  
July 24 - August 13, 2005**

**Log 12**

Day 12: August 5, 2005  
Time: 1600 hours  
Latitude: 55° 49.3'N  
Longitude: 158° 51.4' W  
Visibility: 10 nm  
Wind Direction: 221 °  
Wind Speed: 14 kts  
Sea Wave Height: 0 feet  
Sea Water Temperature: 13.3° C  
Sea Level Pressure: 1019.5 mb  
Cloud Cover: 6, altostratus

**Science and Technology Log**

I went out on launch RA 5 today to help survey more transect lines near the east entrance to Sosbee Bay and over by Spitz Island. Ensign Andrew Halbach led our survey with Greg King as the Survey Technician and Steve Foye as our coxswain.

Greg King, in his late twenties, has been on board the RAINIER for about a year and graduated from Pacific Lutheran University in Tacoma with a degree in geology. Prior to NOAA, Greg worked for consulting firms conducting a variety of work including environmental assessment, mining geology and hazardous waste site investigations. Greg and I know a lot of the same people from my own professional experiences prior to teaching.

Greg became disillusioned with consulting and wanted to have a career where he could make a difference, help the environment and feel good about his work. A friend told Greg about NOAA so he applied, got hired, and has been happy with the work he does. Greg plans to make a career with NOAA and the federal government. Greg says most of the Survey Technicians tend to stay on the ships for a few years and then advance up into other jobs with NOAA onshore. Greg will become a father in October and NOAA will grant him several weeks of leave to spend with his new child and wife.

Greg's duties on the RAINIER include running the sonar and data recording equipment on the launches. He also puts data



into the mainframe computer on board the RAINIER and looks for errors that need correction. The Survey Technicians tend to spend a few days in on the launches and then work on board the ship for a day or two processing data before going out on the water again. Above is a photo of Greg at work on the RA 5 launch.

Steve Foye, our coxswain, has been on the RAINIER for about 15 years and on NOAA ships for a total of twenty years. Mr. Foye is a crusty sailor with an earthy sense of humor. Foye served in the Navy and became a meat cutter in south Seattle after finishing military service and getting married. However, Mr. Foye missed the sea and the



outdoors. NOAA gave him the opportunity to travel and see Alaska. Foye particularly enjoys driving a launch all day and watching the scenery while the technicians run the sonar. All of the crewmembers speak highly of Mr. Foye and he mentors the younger deck hands.

Steve Foye serves as the RAINIER's Boatswain's Group Leader and is responsible for ensuring the proper handling and maintenance of all the

launches. Foye has a merchant marine seaman's card, which he renews every five years. Steve takes classes and documents his sea time to renew his card. Even sailors need to continually educate themselves and keep current on the latest technologies. Many of my middle school students don't realize that the skills they learn in school will serve them for a lifetime and they must continue to educate themselves. Above is a photo of Mr. Foye handling launch RA 5.

After getting underway, Mr. Foye threw a buoy overboard and yelled "man overboard." Ensign Andrew Halbach quickly took over the helm and Greg grabbed a boat hook while I pointed at and kept my eyes on the buoy to make sure we don't lose site of it in the rolling waves. The Ensign skillfully brought the launch around and as he approached the "victim," turned the launch a hard left and reversed the engine. The stern of the launch swerved to the right and the starboard side ended up next to the buoy where Greg scooped it out of the water with the boat hook.

Mr. Foye repeated the "man overboard" two more times with Greg and I taking a turn at the helm. Mr. Foye guided me in maneuvering the launch to the buoy, though it took me more than one try to reach our "victim." Everyone on board the RAINIER needs these important rescue skills to ensure the safety of all crewmembers. Even the coxswain can fall over board and one needs to be prepared to take over the helm in an emergency.

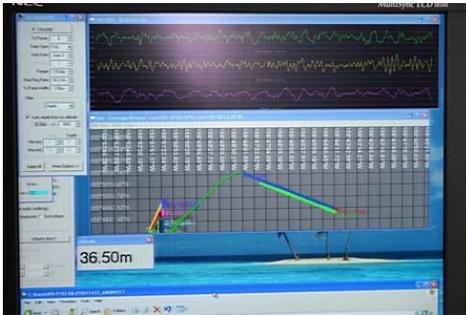
After the over board drill, I practiced putting on my bright orange survival suit. I had donned it once on board the steady Rainier, but it proved challenging while rocking back and forth on the launch in the open ocean. Though the survival suit won't keep me dry, it

will allow me to live for many hours instead of a few minutes if we abandoned ship in the 50-degree waters of the Gulf of Alaska. To the right is a photo of me in my survival suit on the launch.

We spent a productive day running transects and collecting bottom depth data. Ensign Halbach and Survey Tech Greg King showed me how the equipment works. They even let me run the two computers. I selected lines (transects) that we followed and then hit control “S” (for start) on the key board to write the sonar data to a computer file. When we finished a transect, I hit control “E” for end and the computer stopped logging (writing) information. We then repeated the process and the computer generated a separate file for each transect.



The Ensign and Greg also showed me how to control and fine-tune the sonar. A master window on the computer controls the sonar and allows you to set power, gain and depth. The power controls the strength of the sound wave sent to the bottom. The deeper the bottom, the stronger the signal required. The gain controls how sensitive the sonar receiver picks up the sound waves bounced off the bottom. It’s like a volume control on your radio. You want to set it so you eliminate static and “hear” the music at the right loudness and quality. The depth control determines how far down the signal will go. The survey technician adjusts all three controls to account for bottom type (sandy, rocky, hard) and other factors that affect the quality of the sonar signal. To the left is a photo of the control screen on the computer.



After a long day, the swell of the ocean increased and our ride on the launch became bumpy. The RAINIER has moved a few miles to the west in Sosbee Bay to seek protection from the increasing north winds. We returned to the RAINIER in time for supper and I fished out on the fantail (stern) without any luck. The steady wind from the north made it one of the coldest evenings of the trip and I put on a jacket. Around 9:30 pm a group of crewmembers returned from fishing in the launch with a catch of lingcod and rockfish (red snapper) to finish the evening. Matt Boles, survey tech, lands the big fish of the day as seen in these photos:



### **Personal Log**

I really enjoyed today. Steve Foye gave me a great education on how to operate the launch. I also appreciated the way Ensign Andrew Halbach and Greg King patiently taught me how to run the sonar. Using the technology gave me greater understanding about how all this works.

For supper, we had a cookout on the fantail. The stewards (cooks) had the propane barbeque grills fired up and made ribs, chicken, corn and an assortment of salads. We all sat out on the deck, talked and ate.

### **Question of the Day**

If I wanted to pick an object out of the water to the right side of my boat, why would I turn the launch a hard left and put the motor in reverse? Explain your answer in words and include a diagram.