



**NOAA Teacher at Sea
Roy Arezzo
Onboard NOAA Ship OSCAR DYSON
July 11 – 29, 2007**

NOAA Teacher at Sea: Roy Arezzo
NOAA ship OSCAR DYSON
Mission: Summer Pollock Survey
Day 3: Friday, July 13, 2007
Log Entry 1

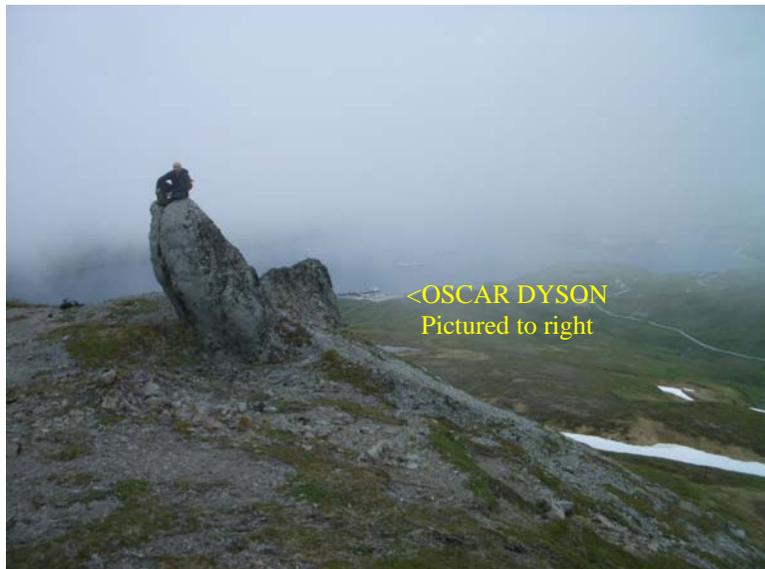


Weather Data from Bridge

Visibility:	2 nm (nautical miles)
Wind direction:	227° (SW)
Wind speed:	4 knots
Sea wave height:	<1 foot
Swell wave height:	4 feet
Seawater temperature:	8°C
Sea level pressure:	1010.3 mb (millibars)
Air Temperature:	5.8°C
Cloud cover:	8/8, stratus

**Science and Technology
Log: Introduction to the
Pollock Survey**

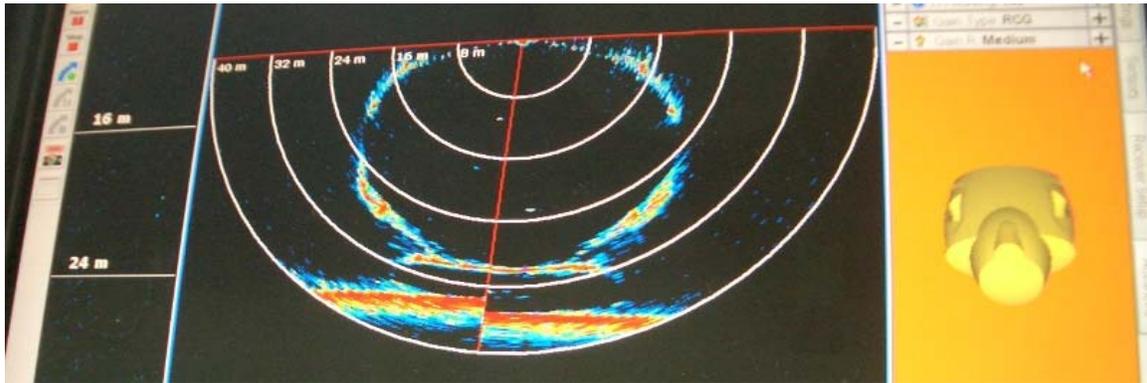
Where does one start?
Monday, July 9, 2007, I left my apartment in NYC at 6:30 AM and by the time I was making a descent to Seattle I started to realize I was going far away. I was half way there I then flew to Anchorage and finally took a small prop plane to Dutch Harbor. At 12 AM Eastern Standard time I was stepping out on the Tundra of Unalaska, my bag didn't arrive until the next day. I had come a long way to fish, like many others, but this is the place to do it. The global fish market seems to just keep increasing and someone needs to be looking at the fish populations. That is where NOAA comes in. NOAA's Teacher At Sea program sent me here and I ate some fresh



Roy Arezzo, Teacher at Sea, on land before his sail, low visibility but great view.

salmon, some crab, hiked the tundra and soaked up the views in town before boarding for my expedition.

The OSCAR DYSON departed from the dock at 12 pm on Wednesday, July 11, 2007. I remained outside, above the bridge, watching land disappear for most of our transit past the sea buoy and into the Bering. Within two hours the U.S. Fish & Wildlife Service folks were camped out in the bridge collecting bird data. Knowing it would be some time before we reached our study area to fish, I spent most of my first two days up in the bridge absorbing ship operations, navigation technology, sea bird names and searching for marine mammals. Two hours into our trip we had spotted over a dozen Humpbacks', one breaching off the port beam about a half mile out. Some came a fair bit closer.



Acoustic Image of the trawl net from the Bridge: The red line at bottom indicates the sea bottom. The circle represents the net and the specs inside the circle represent fish going in the net.

Within 24 hours we had seen and recorded information on 5 different whale species, including, Humpback, Fin, Orca, Sei and a Beaked whale, the Fin whales being the largest. The pod of Orca's moved with a mission. Dall's Porpoises were cruising in our wake as Murres, Tufted Puffins, Northern Fulmar's, Black-legged Kittiwakes, Fork tailed Storm Petrels and some immature gulls, that I could not ID, circled above. It was a spectacular show to start our trip. Although the Ship has many projects going on at the same time the primary mission is to monitor Pollock.

Cruising at 12 knots for 2 days put us out on the first transect line. A transect line is a predetermined slice of ocean in a study area that we travel over in a straight line. Our mission is to spend 3 weeks monitoring the northern most region of a 9 week annual monitoring period (31 transects). We will travel northwest for most of the 3 weeks to cover all transects in this region. By 9 pm on Thursday we found ourselves on our first transect. When we pass over a transect line, which can be over a 200 miles long, we consistently send down sound waves from our center board several meters below any ship vibration. The reflection of sound waves from below can be interpreted as biomass data. Two science teams work 12 hour shifts to monitor the instruments and the data 24/7. The entire study covers the main area Pollock is found and fished in the Bering Sea. We can pick up small krill near the surface or schools hundreds of meters down depending on the frequency of the sound wave we use. On our monitors we get a visual

image of the school of fish below us. When we find a significant fish footprint that resembles Pollock we put out trawl nets to catch an appropriate sample size. The ship has completed over 90 trawls in this study. When the nets come in we separate and record “by catch”, which I am happy to report there has been very little of (2 cod and some jellyfish). We then weigh all the fish, record size and sex on a sample size of 300. In addition we remove ear bones (the otolith) from 50 fish each trawl to age them back at NOAA’s lab headquarters in Seattle, WA. We have fished three times today and landed 3.65 tons of fish. The day is not done.



Nate, a fisherman, works the trawl net.



Roy separates the boys from the girls.

Personal Log

I am excited at the opportunity to work along so many experienced and knowledgeable crew members from the science team to the deckhands and to observe how they work together to reach the objectives of the mission. Folks here have interesting backgrounds ranging from surfing to tall ships to commercial crab fishing. The Ship is very comfortable and quiet for her size and workload. I have yet to see the dark but I will be up late tonight as I switch over to the 4pm to 4am shift. Fortunately there is a proper cup of tea and left over clam chowder to keep me awake and warm.

I would like to thank Rebecca Himschoot, Teacher at Sea participant on the previous sail, for showing me around and providing invaluable insight into preparing for my trip. Thanks also to Amy and Forrest for a warm welcome to Alaska.

Question of the Day

Today's question: How does one tell a male fish from a female fish in Pollock?



The deck crew works a full net aboard NOAA Ship OSCAR DYSON.