NOAA Teacher at Sea
Rebecca Himschoot
Onboard NOAA Ship OSCAR DYSON
June 21 – July 10, 2007

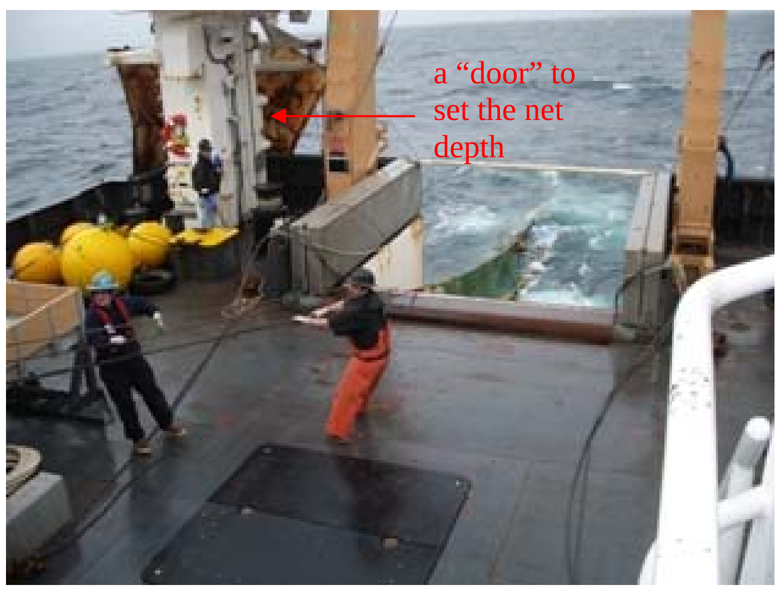
NOAA Teacher at Sea: Rebecca Himschoot
NOAA ship OSCAR DYSON
Mission: Summer Pollock Survey
Day 9: June 29, 2007

Weather Data from Bridge

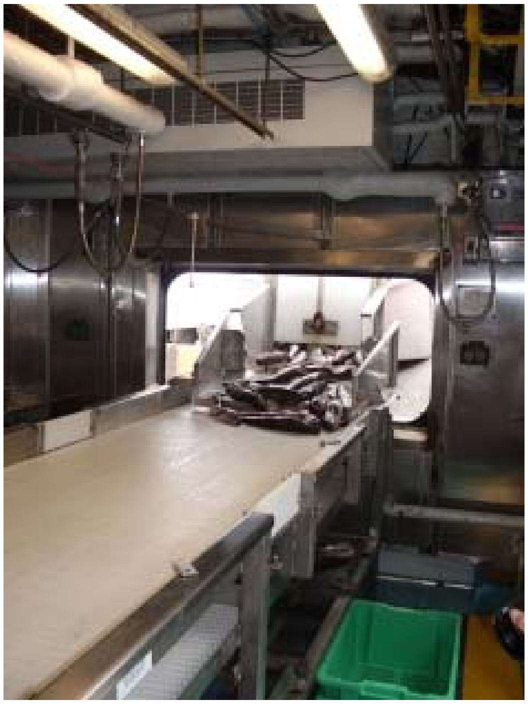
Visibility: 10 nm (nautical miles)
Wind direction: 307° (NW)
Wind speed: 23 knots
Sea wave height: 5 foot
Swell wave height: 1 feet
Seawater temperature: 5.6°C
Sea level pressure: 1014.7 mb (millibars)
Cloud cover: stratus

Science and Technology Log: Survey Techniques and Data

When the science team on the summer pollock survey "see" enough fish to warrant trawling, a net is cast and a sample is collected. The deck crew on the OSCAR DYSON fish the same way commercial fishermen do, just in smaller quantities. The net is placed in the water, and the front end is attached to a "door" on the port and starboard sides. These doors are released into the water and help to open the net. The net is lowered to the depth where the scientists are "seeing" the most fish. After the net has been dragged long enough it is brought back on board and the sample is processed.



The fishing and deck crew of the OSCAR DYSON release the net for a trawl sample.

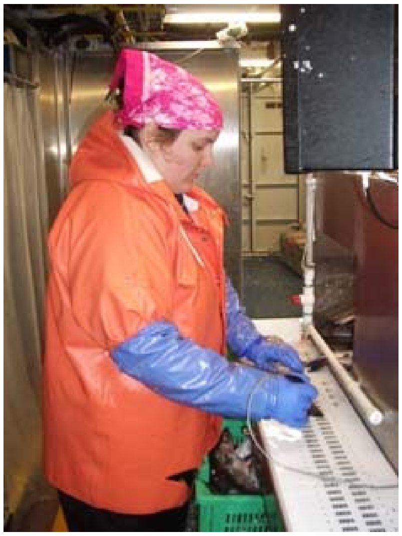


Pollock from a trawl sample

Once the net is on board, the fish are placed in a bin. The bin can be slowly emptied onto a conveyor belt, where the science team culls out the bycatch and sorts it by species. Each species is documented and weighed, then returned to the sea. Some of these bycatch fish will survive, most will not due to the trauma of the net and being moved so quickly from depth to the surface. Some common bycatch in the summer pollock survey are various flatfish, starfish, come cod and some crabs.

Scientist Sarah Stienessen weighs a sample.

The pollock are then also weighed and sorted by gender. Data are collected on gender and length for a large sample, and on a smaller sample more detailed information is collected, such as age.



Senior Survey Technician Colleen Peters measures a sample.

To weigh the fish, a large scale is used for the tubs of pollock, and a net weight can be obtained from the fishing crew. Individual fish are weighed on smaller scales. To know the gender of the fish, a slit is cut in the gut in order to see the gonads. For scientists to know the age of the fish, otolith, or ear bone, samples are taken for later analysis. Each bit of data is collected in the processing area using watertight touch screen computer equipment and scales. Rather than hand writing each fish weight, length and gender, the scientists use a barcode scanner to read each of these data points.

Personal Log
We have settled into a routine, and the night shift is getting easier. The trawl samples are still unpredictable, but we're doing more of them. Yesterday was a long shift in the lab, but it's more interesting to see what we catch than to sit around waiting to fish. There were some storm petrels today, as well, to add to my Bering Sea bird list. The seas are getting calmer again, and I'm hoping for a good night's sleep tonight!

Question of the Day
Answer to the last question: (Scientists use Latin names for each animal or plant they find even though Latin is no longer a living language. How do scientific (Latin) names get selected and why are they important?)

The scientific name for each organism is derived from two Latin names. The first name is the genus the organism belongs to, and the second is its species; these are the narrowest branches of scientific classification (kingdom, phylum, class, order, family, genus, species). In the case of the walleye pollock, it belongs to the genus *Theragra*, and within that genus it is the *chalcogramma* species. There could be many other fishes in the *Theragra* genus, but only one is the species *chalcogramma*.

A scientific name can be descriptive, or it may indicate a geographical location, or it may even be named for the individual who discovered the species. In the case of the walleye pollock, *Theragra* is from the Greek roots *ther* (beast) and *agra* (food – of fur seals) and *chalcos* (brass) and *gramma* (mark). The first word in the Latin name is capitalized, the second begins with lower case, and the whole thing is always written in italics.

The scientific name of an organism is important because it is distinctive, so that each organism has only one name (usually). This way a scientist from Russia can communicate clearly with a scientist from Alaska and know that they are speaking about the same organism. Common names can be confusing, and there can be many different names for the same organism (for example, there are many kinds of "salmon," but only the *Oncorhynchus tshawytscha* is the king, or chinook salmon). It is important to be aware that scientific names undergo changes as discoveries are made and classifications are refined.

Today's question: What is an "otolith" and why is it important?