



**NOAA Teacher at Sea
Sue White
Onboard NOAA Ship DAVID STARR JORDAN
May 27 – June 7, 2008**

NOAA Teacher at Sea: Sue White
NOAA Ship DAVID STARR JORDAN
Mission: Juvenile Rockfish Assessment
Date: Sunday, June 1, 2008
Geographical area of cruise: Central Coast of California

Weather Data from the Bridge for Sun. 06-01-08 04:00 GMT

Latitude	37.88
Longitude	-123.51
Speed	0.90 kts
Course	311.00
Wind Speed	33.22 kts
Wind Direction	313.00 °
Surface Water Temperature	11.08 °C
Surface Water Salinity	32.84 PSU
Air Temperature	11.10 °C
Relative Humidity	87.90 %
Barometric Pressure	1019.00 mb

Science and Technology Log

It's shrimp night! We continue on up the coast of California. The transect schedule for tonight is off Point Reyes, north of San Francisco. The catch tonight surprised us (again) by being completely unique from earlier trawls. Usually the largest part of what we sort is krill. The first night it was very strange to see all of those eyes, but now the krill just seem like background to look past as you see other colors and textures. When we spread the catch out on our trays tonight, it was an orange pink instead of the typical brownish color. The nets were loaded with market shrimp! Joao took off with some after we sorted and came back later with boiled shrimp and cocktail sauce. This was the second time he had acted as a seafood chef for everyone. Friday night Joao brought down the squid



Figure 1. Joao Alves treats us to squid and salsa, Brazilian style.

he had saved from Tuesday and Wednesday night. He had been marinating it in his special recipe and spent the time before his shift sautéing squid strips for us. He had also made some



Figure 2. Vlad Zgutnitski, Sam Brandal, and Jose' Coito ready to do a trawl

salsa that was perfect with it . . . and the saltine crackers some of us were needing tonight due to the waves. It brought to mind this passage from John Steinbeck's introduction to *The Log from the Sea of Cortez*: "...we could see the fish alive and swimming, feel it plunge against the lines, drag it thrashing over the rail, and even finally eat it."

We have a pattern down for the nights now. The scientists, deck crew and bridge are seamless in their coordination of a trawl. Everyone knows their job now and down to who turns the deck lights off once the nets are in the water seems to be done intuitively. As soon as the nets are brought in, the sorting starts. Big

fish, or worse the big jellyfish, are caught as the nets are being rolled up. Some fish and the jellies are measured and added to a database by location. Jellyfish are especially hard on the nets because of their weight. If they become too plentiful, trawls can be cancelled to keep the nets from being destroyed.

Here is my count from one tray of catch tonight:

- 38 Myctophid (fish)
- 22 Californian Headlight (fish)
- 8 Sergestid (tiny red dot shrimp)
- 5 Black Smelt (fish)
- 3 Black-tip (squid)
- 1 Blue Lantern (fish)
- 1 Gonatus (squid)

The fish are more familiar by now. The Myctophid and Headlight fish looked so similar at first, but now I can see the two bioluminescent dots between the eyes on the Headlight fish. With more experience, it became even more obvious that there were many differences

between these fish that are both dark in color. The rockfish (Fig. 4) also have to be identified as separate from other fish also similar in size and color. Side by side it is easy to see the



Figure 3. Looking for rockfish - Gabe, Ben, Keith, Bill, and Robert (left to right)

differences, but harder when they are hidden behind the more generic krill, or in the case of tonight's haul, the pinkish shrimp.



Figure 4. Juvenile Rockfish *Sebastes saxicola*



Figure 5. Juvenile Pacific Sand Dab *Citharichthys sordidus*



Figure 6. Unsorted catch (krill, Sergestid shrimp, fish, squid)

Personal Log

The waves just keep getting rougher as the cruise progresses. The motion onboard varies with different activities. The bars to grasp in the shower and at various places around the ship are very practical, to say the least. Sleep is an interesting process where you can wake up with tired muscles from trying to keep yourself in place! Those with more experience have said that it is physically tiring to be onboard and that we should expect to need more sleep. It is amazing how I have adjusted to sleeping during the day now.

The volunteers have been great to work with. They are now bringing their music down to play as we sort the catch from each trawl. It is fun to hear the eclectic playlists they have. I have also been impressed with how well-read they are. We have been able to talk about books that range from Steinbeck to environmental awareness. They also enjoy the oddities we find on our sorting trays... anything with suckers must be stuck on your finger to see how long it will hold on (little squid or octopi require peeling off!) One night we had double tailed fish. Somehow several of the fish that night managed to get one head caught in the other's to the point that it looked like the head was in the center with a tail going off each side.

Challenge Yourself

- Look at Figure 6 above. How many different types of animals do you see? (Hint: Different colors are easy to spot, but also look for different eyes since some of the animals we found were transparent!)
- Can you find any animals that are not fish? We found tiny squid and octopi most nights. Squid tended to have really big eyes for their overall size. Most of what you see in Figure 2 is krill.
- Describe what makes the juvenile rockfish different from the sand dab shown above.

“We can only sense that in the deep and turbulent recesses of the sea are hidden mysteries far greater than any we have solved.”

~Rachel Carson

What mysteries will I see next?

Sue