



**NOAA Teacher at Sea
Christopher Monsour
Onboard NOAA Ship OSCAR ELTON SETTE
June 12 – July 12, 2007**

NOAA Teacher at Sea: Chris Monsour
NOAA Ship OSCAR ELTON SETTE
Mission: Lobster Survey Western Hawaiian Islands
Log 5 Day 10, June 23rd

Science Log

Today was our last day at Maro Reef and now we are making the 36-hour trip to Necker Island 350 miles to the east southeast. We finished up trapping today early as the number of lobsters collected was greatly reduced by the time we got to the sets of 20's. I had the

job of assisting in the lab today. I would collect the lobsters from the buckets, identify the sex, and then hold in place so they could be measured. In the morning, we collected a lot of slipper lobsters, sometimes as many as 19 or 20 in a trap. There were some spiny, but not nearly as many as the

slipper. After lunch we collected the sets of 20 and found quite a

difference. Instead of lobsters, we were collecting hermit crabs, spider crabs, sea anemone, and other types of crabs. The differences may have to do with the sandy bottom or the greater deep of the traps. I have tomorrow off to do whatever, which may include finishing up the book I started 8 days ago.



NOAA Teacher at Sea Chris Monsour is all smiles as he pulls up two Ehu during bottom fishing. This was the first time Monsour ever bottom fished.

In this log I am going to talk about bottom fishing, which is one of the activities we get to do during the evening. Bottom fishing is the name given to line-fishing with baited hooks on or very close to the sea bottom. This is a fishing method, which catches predatory fish

that feed on bottom-living crustaceans, fish, etc. One or more hooks may be used. Deep-bottom fishing has been known for many years in the Pacific region, and has been practiced for generations in some of the remote island communities of the Pacific.



Teacher at Sea Chris Monsour holds up two examples of fish caught during bottom fishing on board OSCAR ELTON SETTE. The fish on the left is a Ehu and the fish on the right is a Uku.

In the old days fishing was carried out from paddling canoes using gear made from locally-available materials, and was a challenge to even the most experienced fisherman. We however have the luxury of modern bottom fishing gear such as a winch to help bring up our catch.

One of the reasons for the popularity in the fish that are caught by bottom fishing is the species caught never carry ciguatera fish poisoning. This is a type of natural toxicity, which originates from reef and lagoon fish that feed on toxic reef algae.

Ciguatera fish poisoning causes illness and makes the affected person unable to eat seafood for a long time. The possible presence of ciguatera is a major cause of concern for many consumers of reef and lagoon fish. The fact that it never occurs in deep-water fish, due to their diet, makes these fish all the more valuable.

Some of the fish we have caught include Ehu, Uku, Opakapaka, Kahala, Butaguchi and Gindai. (have fun pronouncing these).

Deep-bottom fishing gear can be made from a range of materials, but the basic structure is generally the same: • a **mainline**, several hundred meters long, to lower the hooks to the bottom.

- a **terminal rig**, usually 2–5 m in length, with attachment points for the mainline, several hooks, and a sinker. The terminal rig can be made of nylon, or steel cable to resist cutting by the sharp teeth of fish or rough rocks and corals on the sea floor. The attachment points may be loops made on the ends of the terminal rig and at intervals along its length, or may be swivels knotted or crimped into the rig.
- several **hooks**, each fixed to a short **trace**, **which** can be connected to or disconnected from the attachment points along the terminal rig. This allows the traces to be changed quickly and easily when damaged or when the size of the fish being caught calls for smaller or larger hooks.
- a heavy **sinker**, 0.5–2 kg in weight depending on the strength of the current, to get the

rig down to the bottom quickly.

I do enjoy the bottom fishing and to date I have caught 3 bottom fish, 1 Kahala and 2 Ehu. In fact I have the record on the boat for the largest Ehu at 54.6 centimeters!

Personal Log

I am glad to have tomorrow off so to speak. It will be good to sleep in and catch up on all the e-mails I have gotten. As mentioned before, Necker Island in the past has been slow because of its proximity to the inhabited islands. The bottom fish we are collecting are being used to get an idea of the health of the reefs. During the processing of the fish, we collect weight, length, gonads, liver, fin, and bones from the skull. Ryan is collecting these for his research. It is a very interesting process and bloody one too.

Animals Seen Today

Spiny lobster

Slipper lobster

Ridgeback lobster (type of spiny)

Sea anemone

Hermit Crab

Spider Crab

Questions of the Day

1. What can we learn from Hawaiian values and practices to guide our interactions with the land and sea today?
2. What can we do to help restore declining fish populations?

A hui hou,...

Chris