



**NOAA Teacher at Sea
Thomas Nassif
Onboard NOAA Ship NANCY FOSTER
July 15 – 30, 2005**

Log 3

DAILY LOG – JULY 17

Day 3: Sunday, July 17, 2005
Latitude: 33°59'N
Longitude: 76°40'W
Visibility: 10 nautical miles (nm)
Wind direction: 200°
Wind speed: 11 kts
Sea wave height: 2-3'
Swell wave height: 3-5'
Sea water temperature: 28°C
Sea level pressure: 1020.5 mb
Cloud cover: 6/8, Cumulus,
Cirrostratus, Altocumulus



Early this morning at 0545 hours the NANCY FOSTER arrived at her next two dive locations (SEPAPNEW1 and SEPAPNEW2), 34 nautical miles due south of Beaufort Inlet. We are traveling along the Atlantic Continental Shelf, which runs along the Western boundary of the Gulf Stream. I asked the Chief Scientist, Paula Whitfield: “Why do all of our dive sites fall along the border rather than in the heart of the Gulf Stream? Since the water is much warmer in the Gulf Stream wouldn’t we be far more likely to see Lionfish since they are a tropical fish?” Paula informed me that further east of us the ocean depth drops to about 300 feet, beyond the maximum depth (150 feet) our SCUBA divers could reach. Furthermore the Gulf Stream currents would pose many risks to the divers – even a 1-2 knot current is enough to rip off a diver’s mask. Paula carefully chooses the dive locations using a bathymetric map of the ocean floor (similar to a topographic map for land).

Several things must happen before the SCUBA divers actually jump off the boat. First, drop buoys are deployed into the water to mark the exact location of each dive site. A drop buoy basically consists of bright orange buoy that floats on the ocean surface to let the ship know where the divers are located. To hold the orange buoy in the same location, it is attached to an anchor and a 10-lb weight by a 150-ft cord that sinks to the ocean floor. The drop buoy also helps the divers orient themselves during their descent to the ocean floor. By following the bright yellow cord during their descent, the divers can reach the exact dive location on the ocean floor.

The next step is to deploy two small boats, the RHIB (Rigid Hull Inflatable Boat) and the NF4. The RHIB holds the oxygen manifold, which supplies pure oxygen to the SCUBA

divers after they finish their dive and begin their gradual ascent to the ocean surface (divers must decompress or wait at 20 feet below the ocean surface after their dive to



ensure they acclimate to the change in pressure). The NF4 is a larger more sturdy boat used to recover the divers and bring them back safely to the ship.

Finally the divers are ready to jump off the ship, and this is no easy task. Imagine having to jump off the side of the ship with 200 pounds of SCUBA gear strapped to your back. Most of this weight is due to two enormous air tanks that deep-sea divers must carry to ensure they have enough air to

breath during their 130-foot dive!

Personal log: Today was an extremely busy day! Somehow the dive teams were able to squeeze in 4 different dive locations on the ocean floor in the same day - 2 dives in the morning and 2 dives in the afternoon. This time the divers were equipped with nets to capture live Lionfish and spear guns to collect dead Lionfish. The divers returned to the ship with 19 Lionfish! Amazingly, they collected 17 live Lionfish and stored them in the holding tank aboard the ship. The scientists performed a dissection on the remaining two Lionfish (that arrived to the ship already dead). Watching the dissection made me realize that the internal anatomy of the Lionfish is no different from any other fish (except for their venomous spines of course!)

Question of the day:

Are Lionfish edible?

Jose, I must admit that I answered your question incorrectly at the Carnegie Institute summer course... Yes (to my surprise) Lionfish can be eaten, and their venomous spines have no harmful affects when ingested. In fact, some members of the scientific team have tasted Lionfish, and described the white meat of the fish as chewy, not tender, and a bit fishy tasting. Hopefully I will have the opportunity develop a recipe for Lionfish curry before the cruise is over.

PICTURE CAPTIONS

DIVER: Deep-sea diver Christine Addison takes a leaping plunge into the ocean off the deck of the NANCY FOSTER. Photo taken by Thomas Nassif.

NF4 – RHIB: The NF4 (shown in front) is transporting divers back to the ship after a successful dive. The RHIB (shown behind) carries an oxygen manifold that delivered pure oxygen to the divers during their ascent from the ocean floor. Photo taken by Thomas Nassif.