

## **SEAMAP 2008 Spring Plankton Survey Cruise Report (USM/GCRL)**

USM/GCRL participated in the Spring SEAMAP plankton survey (Cruise 0801) in May 2008. The focus of the cruise was to collect bluefin tuna larvae and accompanying hydrographic data in the vicinity of the Loop Current and associated eddies. General sampling protocols and locations were discussed with NMFS prior to the cruise, and all larval bluefin tuna data (and associated hydrographic information) will be made available to NMFS.

Sampling was conducted during May 20 - May 22 at the north-western edge of the Loop Current and at the eastern edge of a Loop Current ring. A total of 15 sub-surface (upper 2 m) plankton collections were taken with a 1x2 m neuston frame fitted with a 330 micron mesh net and a flowmeter. Collections were taken along three transects, each approximately 40 miles long. Two of the transects crossed the northwest edge of the Loop Current, and one of the transects crossed the eastern edge of a Loop Current ring. The location of the Loop Current and associated "spinoff" features was determined using satellite imagery of sea surface temperature. In addition, our sampling location with respect to the edge of the Loop Current was ground-truthed by monitoring the water temperature at a depth of 100 m. One designation defines the edge of the Loop Current as having a temperature of at 100 m. Other hydrographic measurements taken at each station included surface temperature, salinity and dissolved oxygen, and a measurement of water clarity using a secchi disc. In addition to the subsurface neuston collections, standard SEAMAP protocol was followed at six stations (at each end and in the middle of two transects). SEAMAP protocol included a 10 minute surface neuston (947  $\mu\text{m}$  mesh) collection and an oblique 60-cm bongo (333  $\mu\text{m}$  mesh) collection to a depth of 200 m. At these SEAMAP stations standard hydrographic data was recorded at the surface, 100 m, and 200 m. The sorting of these samples is currently underway at the Gulf Coast Research Laboratory (they will not be shipped to the Polish Sorting Center). All station information at SEAMAP stations was recorded on SEAMAP data sheets and will be sent to the SEAMAP-NMFS Data Manager.

**STATION DATA (\*\* = station sampled with SEAMAP protocol)**

<b>Date</b>	<b>Time (local)</b>	<b>Latitude</b>	<b>Longitude</b>
**5/20/08**	0706	2739.84	8659.93
5/20/08	0824	2739.84	8659.93
5/20/08	1004	2729.56	8659.88
**5/20/08**	1247	2718.20	8659.83
5/20/08	1324	2718.20	8659.83
5/20/08	1601	2708.24	8659.99
5/20/08	1906	2658.41	8700.07
**5/20/08**	1945	2658.41	8700.07
**5/21/08**	0652	2629.76	8750.16
5/21/08	0727	2630.03	8749.91
5/21/08	0951	2630.01	8800.03
5/21/08	1157	2630.30	8809.82
**5/21/08**	1508	2629.99	8820.09
5/21/08	1723	2629.91	8819.98
5/21/08	1851	2629.98	8828.91
**5/21/08**	2036	2630.31	8831.10
5/22/08	0705	2629.98	8929.97
5/22/08	0839	2630.01	8920.03
5/22/08	1011	2630.03	8909.92
5/22/08	1139	2630.00	8900.00
5/22/08	1342	2630.00	8844.99

**Deviations from standard SEAMAP protocol**

At the six stations at which SEAMAP standard protocol was followed, two deviations included:

- 1) Stations were not at the fixed grid "B" plankton locations because this station grid does not extend to the Loop Current.
- 2) Samples were not fixed in formaldehyde - they were preserved in 95% ethanol. This was done to preserve the otoliths of collected bluefin tuna larvae so that it will be possible to age these specimens and subsequently determine where they were spawned.