SEAMAP Summer 2012 Shrimp/Groundfish Survey Cruise Report

Prepared by
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R/V Alabama Discovery, Cruise 1201

Introduction

Southeast Area Monitoring and Assessment Program (SEAMAP) Summer Shrimp/Groundfish cruises are annually conducted during June and July of each year. The goal of SEAMAP Shrimp and Groundfish cruise is to produce fishery-independent monitoring and assessment data as well as to estimate penaeid shrimp abundance and distribution which are essential for management of Alabama and nearshore FMZ Gulf of Mexico fisheries resources. State and federal agencies collaboratively coordinate the scheduling of cruise dates and the selection of stations to be sampled by each agency, which results in a coordinated and cost-efficient program.

Objectives

1. Conduct a summer trawl survey to generate shrimp, groundfish, and miscellaneous demersal invertebrate abundance and distribution data with a standard SEAMAP 40-ft trawl.
2. Sample at stations located east of the Mississippi River that are randomly selected from NMFS generated charts of SEAMAP station locations. Identify, enumerate, and determine taxon-specific weight of all organisms collected during trawl sampling as well as determine length and weight of selected individuals according to NMFS SEAMAP Operations Manual.
3. Collect information on environmental parameters (salinity, temperature, dissolved oxygen, wind speed, wind direction, and barometric pressure) in conjunction with trawl sampling.
4. Code all data according to approved NMFS SEAMAP Operations Manual guidelines, and enter data through the NMFS SEAMAP data entry system.
5. Submit data to the Gulf States Marine Fisheries Commission.

Methods

Nine stations were sampled in gulf statistical zones 9 and 10 aboard R/V Alabama Discovery on June 29 and 30, 2012. A 40-foot trawl with 1.63 inch stretched mesh was lowered to depth at each site and the towline was set at a 5:1 cable length water depth ratio. Desired vessel speed while towing was 2.0 – 2.5 knots, and the trawl was towed for 30 minutes at each station.

Sample and data processing was conducted in accordance with the NMFS SEAMAP

Operations Manual guidelines, and data were entered and checked with the NMFS SEAMAP Data Entry Database. Atmospheric and hydrologic data were collected prior to each trawl.

Results

Alabama Marine Resources Division collected samples at nine Shrimp/Groundfish stations in Alabama's and Florida's territorial sea and the adjacent EEZ. Stations located north of 29° 46.85' latitude, south of 30° 11.44' latitude, east of -86° 51.59' longitude, and west of -87° 54.58' longitude were sampled according to SEAMAP Groundfish protocols (Table 1). Stations E1003 and E1007 were sampled between 21:09 GMT on 29 June, 2012 and 00:20 GMT on 30 June, 2012 during daylight hours. Stations E1008, E1005, E0903, E0902, E1002, and E1001 were sampled between 1:48 GMT and 10:52 GMT on 30 June, 2012 during night time hours. Environmental variables, effort, station locations and catch by station are summarized (Table 1).

A hang was encountered with the shrimp trawl at Station E1003 (Pascagoula station 77001). The snag resulted in a broken cork line, tickler chain, and a broken longitudinal brace on the starboard door. Pascagoula Station Number 77001 was initialized in the FSCS 1.6 Control Panel v.11 after entering the required fields in Manual_trawl_Version3.exe and ingested into CR771201-55.mdb with Operational Code "Z". The net was replaced and the sample was collected 1.39 nm north-east of the original trawl start coordinates to prevent potentially damaging the last trawl aboard the vessel. The second attempt of collecting the sample was logged into Manual_trawl_Version3.exe as Pascagoula Station Number 77002 and collection/biological data were ingested in CR771201-55.mdb accordingly.
The CTD cast associated with E1003 was made immediately prior to the first attempt of collecting the sample (i.e. Pascagoula Station Number 77001), and was injested into Station 001 of CR771201-55.mdb.

Deviations

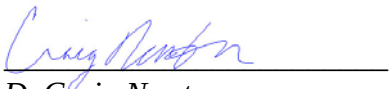
Samples were placed in coolers with ice, labeled, and returned to AMRD laboratory for sample processing in order to collect all samples during a single cruise. The extreme distribution of sample sites, increased vessel speed required to reach sample site location, and the inability to use the Marel M-1100 scales at vessel speeds greater than 15 knots resulted in limited time to process samples while at sea. The logistical strategy of storing samples in coolers and processing at AMRD laboratory reduced vessel usage by approximately 16 hours, which effectively decreased at sea costs of the SEAMAP Summer Shrimp/Groundfish Program. If future SEAMAP sample locations are distributed similar to the 2012 SEAMAP Summer Shrimp/Groundfish sample locations (i.e 60-plus nm east southeast of home port of Dauphin Island, Alabama) a similar strategy will likely be employed to save costs of the SEAMAP program.

Similar inconsistencies occurred in the hydrographic data collected at stations E1007, E1008, and E1005 (Pascagoula Station Numbers 77003, 77004, and 77005 respectively). Depth recorded from sonar was significantly deeper than the maximum depth derived from SBEDataProcessing-Win32. Maximum depth derived while processing CTD data from Station E1007 indicated maximum depth achieved by the CTD was 67% of the depth recorded by the vessel's sonar, 43% of the depth recorded by the vessel's sonar at Station E1008, and 53% of the depth recorded by the vessel's sonar at Station E1005. Deployment of the CTD was consistent at each station, and cable was paid out until slack was observed. Therefore, it is unlikely the CTD did not reach the seabed. Another inconsistency occurred in the hydrographic data collected at stations E0903 and E1002 (Pascagoula Station Numbers 77006 and 77008, respectively). Hydrographic data from depths less than 7-m at Pascagoula Station Number 77006 and depths less than 2-m at Pascagoula Station Number 77008 were not injested into CR771201-55.mdb. Hydrographic cast data from Pascagoula Station Number 77006 and 77008 were recorded during the pre-cast soak, and the derivation of downcast scans began at Pressure, Strain Gauge (db) = $4.312e^{-13}$ and 0.021, respectively, once pre-soak scans were excluded from processing. Therefore, scans less than 7-m and 2-m for the respective casts were likely "marked as bad scans" and rejected from further processing and subsequent ingest.

Cruise participants:

Alabama Marine Resources Division personnel.

Submitted By:



D. Craig Newton
SEAMAP *Field Party Chief*

Table 1. AMRD SEAMAP 2011 summer shrimp/groundfish cruise report summary.

77 R/V Alabama Discovery

STA#	DATE MM/DD/YY	TIME	LAT	LONG	STAT ZONE	MAX DEPTH	D.O.			SALINITY			TEMPERATURE			FIN CATCH	CRUS CATCH	OTHER CATCH	TOW SPEED	MINUTES FISHED	TAXON COUNT
							SUR	MID	MAX	SUR	MID	MAX	SUR	MID	MAX						
77001	6/29/2012	21:09	29 59.05	87 54.58	10	14.8	6.2	6.2	5.8	33.38	33.86	34.99	29.05	28.09	26.20	-	-	-	2.50	7	-
77002	6/29/2012	21:52	30 00.24	87 53.76	10	15.5	-	-	-	-	-	-	-	-	-	24.09	0.00	0.07	2.70	30	19
77003	6/29/2012	23:50	29 47.10	87 46.90	10	21.8	6.2	6.3	6.1	33.98	34.34	35.21	28.46	27.78	27.63	10.37	0.03	0.08	2.80	30	29
77004	6/30/2012	1:48	29 46.85	87 27.02	10	22.4	6.1	6.1	6.2	35.50	35.59	35.71	27.68	27.27	26.69	5.48	0.53	2.40	2.52	30	28
77005	6/30/2012	3:34	29 54.81	87 14.99	10	29.5	6.1	6.2	6.1	35.93	35.94	35.94	27.09	26.54	26.42	6.86	0.66	1.19	2.54	30	35
77006	6/30/2012	6:23	30 08.79	86 51.59	9	21.3	-	6.2	6.1	-	35.70	35.90	-	26.97	26.22	19.77	1.20	0.47	2.68	30	39
77007	6/30/2012	7:52	30 10.50	86 57.93	9	15.2	6.2	6.1	6.1	33.70	35.48	35.75	28.04	27.50	26.59	2.56	0.90	0.18	1.96	30	27
77008	6/30/2012	8:52	30 10.11	87 01.26	10	16.4	-	6.1	6.3	-	35.51	35.66	-	27.48	26.92	2.76	0.77	0.63	2.20	30	30
77009	6/30/2012	10:22	30 11.44	87 13.25	10	14.9	6.3	6.1	5.9	33.20	35.32	35.55	28.26	27.50	27.14	3.51	0.01	0.40	2.62	30	18

Submitted by: **D. Craig Newton**
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