

## Center for Fisheries Research & Development - Gulf Coast Research Laboratory

### SEAMAP Fall Shrimp/Groundfish Survey, *R/V Tommy Munro* Cruise 0906 – East Delta Stations

**Introduction** - The East Delta Fall Shrimp/Groundfish Survey cruise was conducted from October 2, 2009, through October 5, 2009. A total of 16 day and 11 night trawl stations were sampled, with tow times ranging from 10 to 30 minutes depending on depth strata coverage. Two SEAMAP plankton stations (B178 & B179) were also sampled during the cruise.

#### **Objectives**

- Conduct fall trawl survey in East Delta region at randomly-selected stations (locations of which are provided by NMFS) with standard SEAMAP 40-ft trawls to collect information on shrimp and groundfish abundance and distribution.
- Process all species (identified to the species level) collected by 40-ft trawl using the FSCS software for total number and total weight. Process individual lengths and weights, sampled (or sub-sampled) by species, using FSCS software according to the SEAMAP Operations Manual.
- Collect information on physical-chemical and environmental parameters in conjunction with trawl sampling and process those using SCS software.
- Submit data to the Gulf States Marine Fisheries commission/NMFS Data Manager.

**Methods** - All trawl samples were collected aboard the *R/V Tommy Munro*. A 40 ft. trawl with 1.58 inch stretched mesh was lowered into position at selected stations, and the towline was set at a 3.5:1 cable length to water depth ratio. Trawling was conducted at or near 3 knots for a period of 10 to 30 minutes after lockdown in order to sample the appropriate depth stratum. Sample and data processing was conducted in accordance with the SEAMAP Operations Manual. Data were entered using the Fisheries Scientific Computer System. Environmental data were collected in conjunction with each trawl. Temperature, dissolved oxygen, and salinity values were measured and recorded, along with meteorological conditions.

**Results** – An expanded total of 35,509 organisms were collected in 27 trawl samples. Time, location, depth and hydrology data are presented in Tables 1 and 2; catch data are given in Table 3.

**Deviations** - There were no deviations from standard SEAMAP protocol. However, for SEAMAP Station ED11 (Station 17024), total catch weight had to be estimated by the scientific and deck crews due to a loss of a large amount of biomass which spilled out of the trawl mouth before the net could be hauled aboard. According to the shift leader, the initial trawl catch extended forward of the 'lazy line' used for hauling the trawl on board. When the crew attempted to haul the net aboard in the rough seas associated with that particular station, a large portion of the trawl catch was lost to the sea. The estimated total catch weight was used as an expansion index to obtain total estimated species-specific weights and numbers, extrapolated from the assumedly representative portion of the trawl that was processed on board.

**Cruise participants - USM/GCRL/CFRD**

Submitted By:

*Read Hendon*

Read Hendon, Principal Investigator

**Table 1. Time, location and depth data for 40-ft trawl samples collected aboard *R/V Tommy Munro*, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

SEAMAP Station No.	Trawl Start Time (GMT)	Start Latitude	Start Longitude	Stop Latitude	Stop Longitude	Start Depth (fm)	Stop Depth (fm)	Tow Time
ED18	10/2/09 12:31	2918.66	8849.47	2917.26	8848.69	27.0	31.0	30.18
ED08	10/2/09 15:45	2923.16	8851.21	2922.59	8851.05	12.0	13.0	12.63
ED19	10/2/09 17:58	2922.59	8835.91	2921.12	8835.35	31.0	32.0	30.03
ED15	10/2/09 20:39	2929.62	8837.87	2929.09	8837.68	20.0	21.0	10.02
ED16	10/2/09 22:17	2928.92	8838.09	2927.84	8838.25	21.0	23.0	27.25
ED12	10/2/09 23:44	2928.89	8840.45	2928.78	8840.06	15.0	17.0	10.88
EN09	10/3/09 2:02	2926.78	8845.77	2926.46	8845.30	13.0	14.0	11.28
EN08	10/3/09 3:41	2931.80	8839.58	2931.51	8839.11	12.0	14.0	10.17
EN26	10/3/09 6:10	2946.01	8851.53	2945.84	8850.91	2.9	4.0	11.00
EN06	10/3/09 7:54	2950.44	8840.66	2951.00	8839.01	10.3	11.0	30.00
ED26	10/3/09 12:00	2936.53	8858.93	2936.15	8858.34	3.1	4.2	13.40
ED03	10/3/09 13:58	2938.15	8847.74	2937.34	8846.34	7.3	8.0	29.97
ED13	10/3/09 16:48	2936.92	8833.33	2936.89	8832.80	9.5	9.5	10.00
ED17	10/3/09 19:56	2937.80	8827.36	2936.51	8826.91	22.0	22.0	30.08
ED14	10/3/09 21:35	2941.66	8831.06	2941.02	8830.13	18.0	19.0	20.02
ED10	10/3/09 22:57	2944.37	8835.42	2943.88	8834.00	14.0	15.0	27.25
EN11	10/4/09 1:01	2948.13	8832.90	2947.56	8831.65	15.0	16.0	25.52
EN03	10/4/09 3:46	2957.88	8845.94	2957.87	8844.80	7.1	8.0	22.10
EN01	10/4/09 5:12	2958.12	8847.89	2958.25	8847.26	4.9	5.9	11.42
EN02	10/4/09 6:29	3004.44	8849.08	3004.80	8847.34	6.6	7.3	30.08
EN10	10/4/09 9:05	2958.89	8831.51	2958.17	8830.01	13.0	10.6	30.07
ED07	10/4/09 12:05	2950.83	8839.36	2951.08	8838.14	11.0	11.0	22.45
ED11	10/4/09 14:16	2957.75	8829.88	2957.04	8828.52	4.2	15.0	30.18
ED09	10/4/09 17:31	3001.70	8825.76	3000.90	8825.62	12.0	14.0	15.12
ED04	10/4/09 19:25	3006.95	8833.95	3006.06	8834.60	8.0	8.7	23.13
EN04	10/4/09 23:57	3007.44	8837.38	3006.37	8837.04	7.8	8.4	21.88
EN05	10/5/09 2:01	3006.33	8829.85	3005.47	8830.12	8.5	9.4	19.77

**Table 2. Surface and bottom hydrology data for SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

<b>SEAMAP Station No.</b>	<b>Surface Temp (°C)</b>	<b>Surface Salinity (ppt)</b>	<b>Surface DO (mg/L)</b>	<b>Bottom Temp (°C)</b>	<b>Bottom Salinity (ppt)</b>	<b>Bottom DO (mg/L)</b>
ED18	26.2	22.8	6.8	22.8	35.3	5.3
ED08	26.4	26.6	6.4	26.8	35.7	4.3
ED19	27.5	32.5	7.1	22.6	35.9	3.5
ED15	27.2	29.4	6.0	24.3	35.9	3.7
ED16	27.4	29.8	6.0	23.9	36.8	3.6
ED12	27.4	29.2	7.2	28.0	34.5	5.7
EN09	27.0	29.5	7.6	28.0	34.2	6.2
EN08	26.9	30.6	6.6	28.1	33.3	5.4
EN26	26.3	27.5	6.1	27.2	29.6	4.6
EN06	26.7	29.2	6.4	28.1	32.8	4.2
ED26	26.3	25.7	7.1	26.5	28.5	6.7
ED03	27.2	29.5	6.3	28.0	32.4	3.9
ED13	28.2	33.4	6.4	24.4	36.3	4.1
ED17	28.1	32.9	6.1	23.9	36.8	4.2
ED14	28.0	32.6	6.3	24.4	32.5	4.7
ED10	27.6	32.5	5.7	27.1	34.6	4.2
EN11	27.9	33.9	7.9	26.8	36.2	4.9
EN03	27.2	30.3	7.3	27.9	33.0	4.6
EN01	27.2	29.8	5.8	27.3	30.8	4.4
EN02	27.0	30.3	6.8	27.6	32.5	2.2
EN10	27.6	32.6	6.4	28.4	35.1	6.0
ED07	27.1	30.7	6.6	28.1	34.0	5.0
ED11	27.2	33.0	6.4	28.4	35.4	6.1
ED09	27.3	33.0	6.4	27.7	33.7	6.2
ED04	26.7	30.3	6.4	27.6	32.2	3.3
EN04	26.7	30.9	6.7	27.1	31.6	5.8
EN05	27.0	31.1	6.1	28.1	33.6	5.5

**Table 3. Species collected by station in 40-ft trawls aboard *R/V Tommy Munro*, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number ED18**

<b>Species</b>	<b>Total No.</b>
<i>CALLINECTES SIMILIS</i>	15
<i>CENTROPRISTIS PHILADELPHICUS</i>	22
<i>CYNOSCION ARENARIUS</i>	4
<i>LOLIGO PEALEII</i>	2
<i>LOLLIGUNCULA BREVIS</i>	5
<i>MICROPOGONIAS UNDULATUS</i>	6
<i>PEPRILUS BURTI</i>	10
<i>PEPRILUS PARU</i>	4
<i>PORTUNUS SPINICARPUS</i>	2
<i>PRIONOTUS LONGISPINOSUS</i>	6
<i>RHIZOPRIONODON TERRAENOVAE</i>	2
<i>SAURIDA BRASILIENSIS</i>	28
<i>SERRANUS ATROBRANCHUS</i>	136
<i>SHRIMP-PENAEUS AZTECUS</i>	213
<i>SICYONIA DORSALIS</i>	3
<i>SYACIUM GUNTERI</i>	1
<i>SYNODUS FOETENS</i>	14
<i>TRACHURUS LATHAMI</i>	2
<i>TRACHYPENEUS SIMILIS</i>	1
<i>TRICHIURUS LEPTURUS [Large]</i>	10
<i>TRICHIURUS LEPTURUS [Small]</i>	107
<b>STATION TOTAL</b>	<b>593</b>

*Table 3 continued on next page*

**Table 3 - continued. Species collected by station in 40-ft trawls aboard *R/V Tommy Munro*, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number ED08**

<b>Species</b>	<b>Total No.</b>
<i>AURELIA AURITA</i>	4
<i>CENTROPRISTIS PHILADELPHICUS</i>	1
<i>CHLOROSCOMBRUS CHRYSURUS</i>	10
<i>DIPLECTRUM BIVITTATUM</i>	1
<i>HALIEUTICHTHYS ACULEATUS</i>	1
<i>LOLIGO PEALEII</i>	4
<i>LOLLIGUNCULA BREVIS</i>	2
<i>LUTJANUS CAMPECHANUS</i>	13
<i>LUTJANUS SYNAGRIS</i>	2
<i>RENILLA MULLERI</i>	4
<i>SELENE SETAPINNIS</i>	4
<i>SPHYRAENA GUACHANCHO</i>	1
<i>SYNODUS FOETENS</i>	1
<b>STATION TOTAL</b>	<b>48</b>

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**Table 3 - continued. Species collected by station in 40-ft trawls aboard *R/V Tommy Munro*, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number ED19**

<b>Species</b>	<b>Total No.</b>
<i>AMUSIUM PAPYRACEUM</i>	2
<i>CALLINECTES SIMILIS</i>	1
<i>CENTROPRISTIS PHILADELPHICUS</i>	7
<i>CHLOROSCOMBRUS CHRYSURUS</i>	4
<i>CYCLOPSETTA CHITTENDENI</i>	1
<i>CYNOSCION ARENARIUS</i>	4
<i>DASYATIS AMERICANA</i>	1
<i>LAGODON RHOMBOIDES</i>	4
<i>LOLIGO PLEII</i>	4
<i>LUTJANUS CAMPECHANUS</i>	1
<i>MICROPOGONIAS UNDULATUS</i>	33
<i>PEPRILUS BURTI</i>	40
<i>PEPRILUS PARU</i>	1
<i>PRIONOTUS LONGISPINOSUS</i>	1
<i>PRISTIPOMOIDES AQUILONARIS</i>	3
<i>RENILLA MULLERI</i>	2
<i>RHIZOPRIONODON TERRAENOVAE</i>	1
<i>SAURIDA BRASILIENSIS</i>	6
<i>SELENE SETAPINNIS</i>	1
<i>SERRANUS ATROBRANCHUS</i>	8
<i>SHRIMP-PENAEUS AZTECUS</i>	27
<i>STENOTOMUS CAPRINUS</i>	5
<i>SYACIUM GUNTERI</i>	1
<i>SYNODUS FOETENS</i>	4
<i>TRACHURUS LATHAMI</i>	5
<i>TRICHIURUS LEPTURUS [Large]</i>	112
<i>TRICHIURUS LEPTURUS [Small]</i>	88
<b>STATION TOTAL</b>	<b>367</b>

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**Table 3 - continued. Species collected by station in 40-ft trawls aboard R/V Tommy Munro, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number ED15**

<b>Species</b>	<b>Total No.</b>
<i>CYNOSCION ARENARIUS</i>	1
<i>CYNOSCION NOTHUS [Large]</i>	11
<i>CYNOSCION NOTHUS [Small]</i>	10
<i>HARENGULA JAGUANA</i>	16
<i>LOLIGO PLEII</i>	2
<i>LOLLIGUNCULA BREVIS</i>	5
<i>LUTJANUS CAMPECHANUS</i>	5
<i>LUTJANUS SYNAGRIS</i>	6
<i>MICROPOGONIAS UNDULATUS</i>	50
<i>PORTUNUS GIBBESII</i>	4
<i>PRIONOTUS LONGISPINOSUS</i>	2
<i>SELENE SETAPINNIS</i>	3
<i>SHRIMP-PENAEUS AZTECUS</i>	8
<i>SYNODUS FOETENS</i>	4
<i>TRICHIURUS LEPTURUS [Large]</i>	19
<i>TRICHIURUS LEPTURUS [Small]</i>	148
<b>STATION TOTAL</b>	<b>294</b>

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**Table 3 - continued. Species collected by station in 40-ft trawls aboard R/V Tommy Munro, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number ED16**

<b>Species</b>	<b>Total No.</b>
<i>CALLINECTES SIMILIS</i>	2
<i>CHLOROSCOMBRUS CHRYSURUS</i>	2
<i>CYNOSCION ARENARIUS</i>	18
<i>CYNOSCION NOTHUS [Large]</i>	17
<i>CYNOSCION NOTHUS [Small]</i>	134
<i>HARENGULA JAGUANA</i>	24
<i>LOLIGO PLEII</i>	4
<i>LOLLIGUNCULA BREVIS</i>	9
<i>LUTJANUS CAMPECHANUS</i>	48
<i>LUTJANUS SYNAGRIS</i>	15
<i>MICROPOGONIAS UNDULATUS</i>	296
<i>PEPRILUS PARU</i>	2
<i>PORTUNUS GIBBESII</i>	2
<i>PRIONOTUS LONGISPINOSUS</i>	7
<i>SELENE SETAPINNIS</i>	6
<i>SERRANUS ATROBRANCHUS</i>	26
<i>SHRIMP-PENAEUS AZTECUS</i>	38
<i>STENOTOMUS CAPRINUS</i>	4
<i>SYACIUM GUNTERI</i>	2
<i>SYNODUS FOETENS</i>	4
<i>TRICHIURUS LEPTURUS [Large]</i>	13
<i>TRICHIURUS LEPTURUS [Small]</i>	255
<b>STATION TOTAL</b>	<b>928</b>

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**Table 3 - continued. Species collected by station in 40-ft trawls aboard *R/V Tommy Munro*, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number ED12**

<b>Species</b>	<b>Total No.</b>
<i>CALLINECTES SIMILIS</i>	1
<i>CYNOSCION NOTHUS</i>	28
<i>ETROPUS CYCLOSQUAMUS</i>	3
<i>HARENGULA JAGUANA</i>	3
<i>LEIOSTOMUS XANTHURUS</i>	5
<i>LOLIGO PEALEII</i>	1
<i>LOLIGO PLEII</i>	4
<i>LUTJANUS CAMPECHANUS</i>	24
<i>LUTJANUS SYNAGRIS</i>	1
<i>MICROPOGONIAS UNDULATUS</i>	24
<i>PEPRILUS PARU</i>	2
<i>PORTUNUS GIBBESII</i>	2
<i>PRIONOTUS LONGISPINOSUS</i>	3
<i>SAURIDA BRASILIENSIS</i>	23
<i>SELENE SETAPINNIS</i>	1
<i>SERRANUS ATROBRANCHUS</i>	6
<i>SHRIMP-PENAEUS AZTECUS</i>	16
<i>SPHYRAENA GUACHANCHO</i>	1
<i>STENOTOMUS CAPRINUS</i>	4
<i>SYACIUM GUNTERI</i>	3
<i>SYNODUS FOETENS</i>	9
<i>TRICHIURUS LEPTURUS</i>	2
<b>STATION TOTAL</b>	<b>166</b>

*Table 3 continued on next page*

**Table 3 - continued. Species collected by station in 40-ft trawls aboard *R/V Tommy Munro*, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number EN09**

<b>Species</b>	<b>Total No.</b>
<i>AURELIA AURITA</i>	2
<i>CALLINECTES SIMILIS</i>	2
<i>CHLOROSCOMBRUS CHRYSURUS</i>	14
<i>CITHARICHTHYS MACROPS</i>	2
<i>CYNOSCION ARENARIUS</i>	1
<i>CYNOSCION NOTHUS</i>	28
<i>DIPLECTRUM BIVITTATUM</i>	4
<i>ETROPUS CROSSOTUS</i>	5
<i>EUCINOSTOMUS GULA</i>	20
<i>LEIOSTOMUS XANTHURUS</i>	1
<i>LOLIGO PLEII</i>	1
<i>LOLLIGUNCULA BREVIS</i>	1
<i>LUTJANUS CAMPECHANUS</i>	63
<i>LUTJANUS SYNAGRIS</i>	1
<i>MICROPOGONIAS UNDULATUS</i>	21
<i>OVALIPES FLORIDANUS</i>	1
<i>RENILLA MULLERI</i>	13
<i>SAURIDA BRASILIENSIS</i>	1
<i>SCORPAENA CALCARATA</i>	1
<i>SERRANUS ATROBRANCHUS</i>	1
<i>SHRIMP-PENAEUS AZTECUS</i>	250
<i>SICYONIA DORSALIS</i>	3
<i>SQUILLA EMPUSA</i>	1
<i>SYACIUM GUNTERI</i>	3
<i>SYNODUS FOETENS</i>	5
<i>TRACHYPENEUS SIMILIS</i>	1
<b>STATION TOTAL</b>	<b>446</b>

*Table 3 continued on next page*

**Table 3 - continued. Species collected by station in 40-ft trawls aboard *R/V Tommy Munro*, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number EN08**

<b>Species</b>	<b>Total No.</b>
<i>CALLINECTES SIMILIS</i>	3
<i>CYNOSCION ARENARIUS</i>	7
<i>CYNOSCION NOTHUS</i>	80
<i>ETROPUS CYCLOSQUAMUS</i>	3
<i>EUCINOSTOMUS GULA</i>	3
<i>LARIMUS FASCIATUS</i>	3
<i>LEIOSTOMUS XANTHURUS</i>	10
<i>LUTJANUS CAMPECHANUS</i>	32
<i>LUTJANUS SYNAGRIS</i>	10
<i>MICROPOGONIAS UNDULATUS</i>	445
<i>OPHIDION WELSHI</i>	1
<i>PRIONOTUS LONGISPINOSUS</i>	7
<i>SHRIMP-PENAEUS AZTECUS</i>	227
<i>SPHOEROIDES PARVUS</i>	3
<i>STENOTOMUS CAPRINUS</i>	3
<i>SYNODUS FOETENS</i>	7
<i>TRICHIURUS LEPTURUS</i>	3
<b>STATION TOTAL</b>	<b>847</b>

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**Table 3 - continued. Species collected by station in 40-ft trawls aboard *R/V Tommy Munro*, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number EN26**

<b>Species</b>	<b>Total No.</b>
<i>ANCHOA MITCHILLI</i>	3
<i>AURELIA AURITA</i>	39
<i>CHLOROSCOMBRUS CHRYSURUS</i>	14
<i>CHRYSAORA QUINQUECIRRHA</i>	27
<i>CITHARICHTHYS MACROPS</i>	1
<i>CYNOSCION ARENARIUS</i>	1
<i>ETROPUS CROSSOTUS</i>	1
<i>HARENGULA JAGUANA</i>	1
<i>HEPATUS EPHELITICUS</i>	1
<i>LEIOSTOMUS XANTHURUS</i>	4
<i>LOLIGO PLEII</i>	1
<i>LOLLIGUNCULA BREVIS</i>	1
<i>LUIDIA CLATHRATA</i>	14
<i>LUTJANUS CAMPECHANUS</i>	4
<i>LUTJANUS SYNAGRIS</i>	3
<i>MICROPOGONIAS UNDULATUS</i>	50
<i>NARCINE BRASILIENSIS</i>	2
<i>OPISTHONEMA OGLINUM</i>	3
<i>ORTHOPRISTIS CHRYSOPTERUS</i>	3
<i>PEPRILUS BURTI</i>	1
<i>PEPRILUS PARU</i>	2
<i>PORTUNUS GIBBESII</i>	1
<i>RENILLA MULLERI</i>	3
<i>SELENE SETAPINNIS</i>	9
<i>SHRIMP-PENAEUS SETIFERUS</i>	1
<b>STATION TOTAL</b>	<b>190</b>

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**Table 3 - continued. Species collected by station in 40-ft trawls aboard *R/V Tommy Munro*, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number EN06**

<b>Species</b>	<b>Total No.</b>
<i>AURELIA AURITA</i>	10
<i>BAIRDIELLA CHRYSOURA</i>	5
<i>CALLINECTES SIMILIS</i>	21
<i>CARANX HIPPOS</i>	5
<i>CHLOROSCOMBRUS CHRYSURUS</i>	15
<i>CYNOSCION NOTHUS</i>	31
<i>ETROPUS CROSSOTUS</i>	26
<i>LARIMUS FASCIATUS</i>	26
<i>LEIOSTOMUS XANTHURUS</i>	15
<i>LUTJANUS CAMPECHANUS</i>	6
<i>MICROPOGONIAS UNDULATUS</i>	1782
<i>PORTUNUS GIBBESII</i>	5
<i>PRIONOTUS LONGISPINOSUS</i>	10
<i>SELENE SETAPINNIS</i>	5
<i>SHRIMP-PENAEUS AZTECUS</i>	86
<i>SHRIMP-PENAEUS SETIFERUS</i>	60
<i>SYNODUS FOETENS</i>	15
<i>TRICHIURUS LEPTURUS</i>	10
<b>STATION TOTAL</b>	<b>2133</b>

**SEAMAP Station Number ED26**

<b>Species</b>	<b>Total No.</b>
<i>AURELIA AURITA</i>	37
<i>CALLINECTES SIMILIS</i>	1
<i>CARANX CRYOS</i>	3
<i>CHLOROSCOMBRUS CHRYSURUS</i>	129
<i>HEMICARANX AMBLYRHYNCHUS</i>	1
<i>LUIDIA CLATHRATA</i>	5
<i>LUTJANUS CAMPECHANUS</i>	2
<i>SYNODUS FOETENS</i>	1
<b>STATION TOTAL</b>	<b>179</b>

*Table 3 continued on next page*

**Table 3 - continued. Species collected by station in 40-ft trawls aboard *R/V Tommy Munro*, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number ED03**

<b>Species</b>	<b>Total No.</b>
<i>AURELIA AURITA</i>	37
<i>CALLINECTES SIMILIS</i>	1
<i>CARANX CRYOS</i>	1
<i>CHLOROSCOMBRUS CHRYSURUS</i>	322
<i>CHRYSAORA QUINQUECIRRHA</i>	2
<i>CYNOSCION NOTHUS</i>	1
<i>EUCINOSTOMUS GULA</i>	5
<i>LAGODON RHOMBOIDES</i>	1
<i>LOLIGO PLEII</i>	3
<i>LUIDIA CLATHRATA</i>	9
<i>LUTJANUS CAMPECHANUS</i>	63
<i>LUTJANUS SYNAGRIS</i>	14
<i>MICROPOGONIAS UNDULATUS</i>	1
<i>OPISTHONEMA OGLINUM</i>	5
<i>RHIZOPRIONODON TERRAENOVAE</i>	1
<i>SHRIMP-PENAEUS AZTECUS</i>	1
<i>SPHYRAENA GUACHANCHO</i>	1
<i>SYNODUS FOETENS</i>	4
<b>STATION TOTAL</b>	<b>472</b>

*Table 3 continued on next page*

**Table 3 - continued. Species collected by station in 40-ft trawls aboard R/V Tommy Munro, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number ED13**

<b>Species</b>	<b>Total No.</b>
<i>ANCHOA HEPSETUS</i>	12
<i>CALLINECTES SIMILIS</i>	6
<i>CHLOROSCOMBRUS CHRYSURUS</i>	12
<i>CYNOSCION ARENARIUS</i>	28
<i>CYNOSCION NOTHUS</i>	34
<i>HARENGULA JAGUANA</i>	34
<i>LARIMUS FASCIATUS</i>	3
<i>LUTJANUS CAMPECHANUS</i>	6
<i>MICROPOGONIAS UNDULATUS</i>	331
<i>PRIONOTUS LONGISPINOSUS</i>	3
<i>SELENE SETAPINNIS</i>	9
<i>SHRIMP-PENAEUS AZTECUS</i>	2
<i>SYNODUS FOETENS</i>	6
<i>TRICHIURUS LEPTURUS [Large]</i>	128
<i>TRICHIURUS LEPTURUS [Small]</i>	197
<b>STATION TOTAL</b>	<b>811</b>

*Table 3 continued on next page*

**Table 3 - continued. Species collected by station in 40-ft trawls aboard R/V Tommy Munro, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number ED17**

<b>Species</b>	<b>Total No.</b>
<i>ANCHOA HEPSETUS</i>	82
<i>BALISTES CAPRISCUS</i>	5
<i>CALLINECTES SIMILIS</i>	5
<i>CYNOSCIION ARENARIUS</i>	5
<i>CYNOSCIION NOTHUS</i>	10
<i>HARENGULA JAGUANA</i>	72
<i>LAGODON RHOMBOIDES</i>	125
<i>LARIMUS FASCIATUS</i>	19
<i>LEIOSTOMUS XANTHURUS</i>	53
<i>LOLIGO PLEII</i>	5
<i>LUTJANUS CAMPECHANUS</i>	8
<i>LUTJANUS SYNAGRIS</i>	5
<i>MICROPOGONIAS UNDULATUS</i>	159
<i>PEPRILUS BURTI</i>	135
<i>PEPRILUS PARU</i>	10
<i>PORTUNUS GIBBESII</i>	5
<i>PORTUNUS SPINIMANUS</i>	5
<i>SHRIMP-PENAEUS AZTECUS</i>	13
<i>STENOTOMUS CAPRINUS</i>	341
<i>SYNODUS FOETENS</i>	24
<i>TRACHURUS LATHAMI</i>	34
TRASH	5
<i>TRICHIURUS LEPTURUS</i>	101
<b>STATION TOTAL</b>	<b>1226</b>

*Table 3 continued on next page*

**Table 3 - continued. Species collected by station in 40-ft trawls aboard R/V Tommy Munro, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number ED14**

<b>Species</b>	<b>Total No.</b>
<i>ANCHOA HEPSETUS</i>	1
<i>CALLINECTES SIMILIS</i>	1
<i>HARENGULA JAGUANA</i>	6
<i>MICROPOGONIAS UNDULATUS</i>	26
<i>PEPRILUS PARU</i>	1
<i>PRIONOTUS LONGISPINOSUS</i>	1
<i>SAURIDA BRASILIENSIS</i>	1
<i>SERRANUS ATROBRANCHUS</i>	1
<i>SYNODUS FOETENS</i>	11
<i>LEIOSTOMUS XANTHURUS</i>	1
<i>PEPRILUS BURTI</i>	6
<i>SHRIMP-PENAEUS AZTECUS</i>	21
<i>TRICHIURUS LEPTURUS</i>	11
<b>STATION TOTAL</b>	<b>88</b>

*Table 3 continued on next page*

**Table 3 - continued. Species collected by station in 40-ft trawls aboard R/V Tommy Munro, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number ED10**

<b>Species</b>	<b>Total No.</b>
<i>ANCHOA HEPSETUS</i>	60
<i>ANCHOA MITCHILLI</i>	3
<i>CALLINECTES SIMILIS</i>	2
<i>CHLOROSCOMBRUS CHRYSURUS</i>	4
<i>CITHARICHTHYS SPILOPTERUS</i>	1
<i>CYNOSCION ARENARIUS</i>	2
<i>CYNOSCION NOTHUS</i>	41
<i>HARENGULA JAGUANA</i>	68
<i>LAGODON RHOMBOIDES</i>	1
<i>LOLLIGUNCULA BREVIS</i>	4
<i>MICROPOGONIAS UNDULATUS</i>	125
<i>PEPRILUS PARU</i>	2
<i>PORTUNUS GIBBESII</i>	1
<i>PRIONOTUS LONGISPINOSUS</i>	1
<i>SELENE SETAPINNIS</i>	1
<i>SELENE VOMER</i>	1
<i>SHRIMP-PENAEUS AZTECUS</i>	41
<i>SHRIMP-PENAEUS SETIFERUS</i>	4
<i>SYACIUM GUNTERI</i>	1
<i>SYNODUS FOETENS</i>	6
<i>TRICHIURUS LEPTURUS [Large]</i>	18
<i>TRICHIURUS LEPTURUS [Small]</i>	114
<b>STATION TOTAL</b>	<b>501</b>

*Table 3 continued on next page*

Table 3 - continued. Species collected by station in 40-ft trawls aboard *R/V Tommy Munro*, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.

**SEAMAP Station Number EN11**

<b>Species</b>	<b>Total No.</b>
<i>CALLINECTES SIMILIS</i>	52
<i>CHLOROSCOMBRUS CHRYSURUS</i>	13
<i>CITHARICHTHYS SPILOPTERUS</i>	26
<i>CYNOSCIION ARENARIUS</i>	13
<i>CYNOSCIION NOTHUS</i>	65
<i>HARENGULA JAGUANA</i>	26
<i>LAGODON RHOMBOIDES</i>	104
<i>MICROPOGONIAS UNDULATUS</i>	4297
<i>PEPRILUS BURTI</i>	13
<i>PORTUNUS GIBBESII</i>	39
<i>PRIONOTUS LONGISPINOSUS</i>	52
<i>SELENE SETAPINNIS</i>	13
<i>SHRIMP-PENAEUS AZTECUS</i>	150
<i>SHRIMP-PENAEUS SETIFERUS</i>	5
<i>SYACIUM GUNTERI</i>	13
<i>SYNODUS FOETENS</i>	13
<i>TRICHIURUS LEPTURUS</i>	13
<b>STATION TOTAL</b>	<b>4907</b>

**SEAMAP Station Number EN03**

<b>Species</b>	<b>Total No.</b>
<i>AURELIA AURITA</i>	453
<i>CHLOROSCOMBRUS CHRYSURUS</i>	94
<i>CYNOSCIION NOTHUS</i>	62
<i>LARIMUS FASCIATUS</i>	16
<i>LEIOSTOMUS XANTHURUS</i>	16
<i>LUTJANUS CAMPECHANUS</i>	9
<i>MICROPOGONIAS UNDULATUS</i>	1826
<i>PEPRILUS PARU</i>	62
<i>SELENE SETAPINNIS</i>	94
<i>SHRIMP-PENAEUS AZTECUS</i>	17
<i>SHRIMP-PENAEUS DUORARUM</i>	3
<b>STATION TOTAL</b>	<b>2652</b>

*Table 3 continued on next page*

**Table 3 - continued. Species collected by station in 40-ft trawls aboard R/V Tommy Munro, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number EN01**

<b>Species</b>	<b>Total No.</b>
AURELIA AURITA	50
CALLINECTES SIMILIS	1
CHLOROSCOMBRUS CHRYSURUS	6
CHRYSAORA QUINQUECIRRHA	1
CYNOSCION NOTHUS	5
HARENGULA JAGUANA	2
LARIMUS FASCIATUS	1
LUIDIA CLATHRATA	16
MICROPOGONIAS UNDULATUS	6
PEPRILUS BURTI	2
PEPRILUS PARU	2
SELENE SETAPINNIS	2
<b>STATION TOTAL</b>	<b>94</b>

**SEAMAP Station Number EN02**

<b>Species</b>	<b>Total No.</b>
ANCHOA HEPSETUS	1
AURELIA AURITA	29
CALLINECTES SIMILIS	4
CHLOROSCOMBRUS CHRYSURUS	6
CYNOSCION	1
CYNOSCION ARENARIUS	1
ETROPUS CYCLOSQUAMUS	1
HARENGULA JAGUANA	1
LOLLIGUNCULA BREVIS	4
LUIDIA CLATHRATA	49
LUTJANUS CAMPECHANUS	2
PORTUNUS GIBBESII	1
PRIONOTUS RUBIO	1
SHRIMP-PENAEUS AZTECUS	3
SQUILLA EMPUSA	4
TRACHYPENEUS SIMILIS	15
TRASH	1
<b>STATION TOTAL</b>	<b>124</b>

*Table 3 continued on next page*

**Table 3 - continued. Species collected by station in 40-ft trawls aboard *R/V Tommy Munro*, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number EN10**

<b>Species</b>	<b>Total No.</b>
<i>ANCHOA HEPSETUS</i>	38
<i>CALLINECTES SIMILIS</i>	13
<i>CHLOROSCOMBRUS CHRYSURUS</i>	13
<i>CYNOSCION ARENARIUS</i>	13
<i>CYNOSCION NOTHUS</i>	13
<i>HARENGULA JAGUANA</i>	88
<i>LUTJANUS CAMPECHANUS</i>	6
<i>MICROPOGONIAS UNDULATUS</i>	630
<i>PEPRILUS BURTI</i>	13
<i>PRIONOTUS LONGISPINOSUS</i>	13
<i>PRIONOTUS RUBIO</i>	13
<i>SHRIMP-PENAEUS AZTECUS</i>	49
<i>SHRIMP-PENAEUS SETIFERUS</i>	31
<i>TRICHIURUS LEPTURUS</i>	50
<b>STATION TOTAL</b>	<b>983</b>

*Table 3 continued on next page*

**Table 3 - continued. Species collected by station in 40-ft trawls aboard *R/V Tommy Munro*, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number ED07**

<b>Species</b>	<b>Total No.</b>
<i>ANCHOA HEPSETUS</i>	77
<i>CALLINECTES SIMILIS</i>	24
<i>CHLOROSCOMBRUS CHRYSURUS</i>	57
<i>CITHARICHTHYS SPILOPTERUS</i>	8
<i>CYCLOPSETTA CHITTENDENI</i>	4
<i>CYNOSCION ARENARIUS</i>	8
<i>CYNOSCION NOTHUS</i>	40
<i>ETROPUS CROSSOTUS</i>	16
<i>HARENGULA JAGUANA</i>	61
<i>LARIMUS FASCIATUS</i>	4
<i>MICROPOGONIAS UNDULATUS</i>	530
<i>PEPRILUS PARU</i>	12
<i>RENILLA MULLERI</i>	24
<i>SELENE SETAPINNIS</i>	8
<i>SHRIMP-PENAEUS AZTECUS</i>	51
<i>SHRIMP-PENAEUS SETIFERUS</i>	18
<i>SYNODUS FOETENS</i>	24
<i>TRICHIURUS LEPTURUS</i>	113
<b>STATION TOTAL</b>	<b>1079</b>

**SEAMAP Station Number ED11**

<b>Species</b>	<b>Total No.</b>
<i>CHLOROSCOMBRUS CHRYSURUS</i>	117
<i>CYCLOPSETTA CHITTENDENI</i>	39
<i>CYNOSCION ARENARIUS</i>	39
<i>CYNOSCION NOTHUS</i>	156
<i>HARENGULA JAGUANA</i>	350
<i>LAGODON RHOMBOIDES</i>	39
<i>LARIMUS FASCIATUS</i>	39
<i>MICROPOGONIAS UNDULATUS</i>	9253
<i>PEPRILUS BURTI</i>	156
<i>SHRIMP-PENAEUS SETIFERUS</i>	117
<i>TRICHIURUS LEPTURUS</i>	700
<b>STATION TOTAL</b>	<b>11002</b>

*Table 3 continued on next page*

**Table 3 - continued. Species collected by station in 40-ft trawls aboard *R/V Tommy Munro*, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number ED09**

<b>Species</b>	<b>Total No.</b>
<i>CANTHARUS CANCELLARIUS</i>	1
<i>CHLOROSCOMBRUS CHRYSURUS</i>	14
<i>ETROPUS CROSSOTUS</i>	2
<i>EUCINOSTOMUS GULA</i>	44
<i>LAGODON RHOMBOIDES</i>	1
<i>LOLIGO PLEII</i>	2
<i>LUTJANUS CAMPECHANUS</i>	19
<i>OPISTHONEMA OGLINUM</i>	1
<i>STENOTOMUS CAPRINUS</i>	238
<i>SYNODUS FOETENS</i>	6
<b>STATION TOTAL</b>	<b>328</b>

*Table 3 continued on next page*

**Table 3 - continued. Species collected by station in 40-ft trawls aboard R/V Tommy Munro, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number ED04**

<b>Species</b>	<b>Total No.</b>
<i>ANCHOA HEPSETUS</i>	302
<i>ARIUS FELIS</i>	5
<i>AURELIA AURITA</i>	7
<i>CALLINECTES SIMILIS</i>	12
<i>CHLOROSCOMBRUS CHRYSURUS [Large]</i>	17
<i>CHLOROSCOMBRUS CHRYSURUS [Small]</i>	85
<i>CYNOSCION NOTHUS</i>	37
<i>DIPLECTRUM BIVITTATUM</i>	17
<i>ETROPUS CROSSOTUS</i>	5
<i>LAGODON RHOMBOIDES</i>	2
<i>LOLIGO PLEII</i>	30
<i>LOLLIGUNCULA BREVIS</i>	20
<i>LUIDIA CLATHRATA</i>	5
<i>LUTJANUS CAMPECHANUS</i>	21
<i>MICROPOGONIAS UNDULATUS</i>	248
<i>OPISTHONEMA OGLINUM</i>	229
<i>PEPRILUS BURTI [Large]</i>	125
<i>PEPRILUS BURTI [Small]</i>	15
<i>PEPRILUS PARU</i>	17
<i>PORTUNUS GIBBESII</i>	5
<i>PRIONOTUS LONGISPINOSUS</i>	5
<i>PRIONOTUS RUBIO</i>	5
<i>SARDINELLA AURITA</i>	7
<i>SELENE SETAPINNIS</i>	2
<i>SHRIMP-PENAEUS AZTECUS</i>	37
<i>SPHOEROIDES PARVUS</i>	2
<i>SPHYRAENA GUACHANCHO</i>	5
<i>SYNODUS FOETENS</i>	7
<i>TRICHIURUS LEPTURUS</i>	42
<b>STATION TOTAL</b>	<b>1316</b>

*Table 3 continued on next page*

Table 3 - continued. Species collected by station in 40-ft trawls aboard *R/V Tommy Munro*, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.

SEAMAP Station Number EN04

Species	Total No.
<i>ANCHOA HEPSETUS</i>	24
<i>CALLINECTES SIMILIS</i>	65
<i>CHLOROSCOMBRUS CHRYSURUS</i>	65
<i>CYCLOPSETTA CHITTENDENI</i>	6
<i>CYNOSCION ARENARIUS</i>	30
<i>CYNOSCION NOTHUS</i>	12
<i>ETROPUS CROSSOTUS</i>	12
<i>HARENGULA JAGUANA</i>	6
<i>LARIMUS FASCIATUS</i>	6
<i>LEIOSTOMUS XANTHURUS</i>	89
<i>LOLLIGUNCULA BREVIS</i>	6
<i>LUIDIA CLATHRATA</i>	6
<i>LUTJANUS CAMPECHANUS</i>	114
<i>MICROPOGONIAS UNDULATUS</i>	1811
<i>OPISTHONEMA OGLINUM</i>	12
<i>PEPRILUS BURTI</i>	89
<i>PEPRILUS PARU</i>	6
<i>PERSEPHONA CRINITA</i>	6
<i>PORTUNUS GIBBESII</i>	41
<i>PRIONOTUS LONGISPINOSUS</i>	71
<i>SHRIMP-PENAEUS AZTECUS</i>	214
<i>SHRIMP-PENAEUS DUORARUM</i>	40
<i>SHRIMP-PENAEUS SETIFERUS</i>	2
<i>SQUILLA EMPUSA</i>	30
<i>SYNODUS FOETENS</i>	6
<b>STATION TOTAL</b>	<b>2769</b>

Table 3 continued on next page

**Table 3 - continued. Species collected by station in 40-ft trawls aboard *R/V Tommy Munro*, SEAMAP Cruise Number 0906 – East Delta, Oct 2 - 5, 2009.**

**SEAMAP Station Number EN05**

<b>Species</b>	<b>Total No.</b>
<i>ANCHOA HEPSETUS</i>	11
<i>ARIUS FELIS</i>	23
<i>CALLINECTES SIMILIS</i>	30
<i>CENTROPRISTIS PHILADELPHICUS</i>	5
<i>CHAETODIPTERUS FABER</i>	7
<i>CHLOROSCOMBRUS CHRYSURUS</i>	20
<i>CITHARICHTHYS MACROPS</i>	2
<i>DIPLECTRUM BIVITTATUM</i>	36
<i>ETROPUS CROSSOTUS</i>	5
<i>ETROPUS CYCLOSQUAMUS</i>	2
<i>EUCINOSTOMUS GULA</i>	2
<i>LAGODON RHOMBOIDES</i>	2
<i>LOLIGO PLEII</i>	2
<i>LUIDIA CLATHRATA</i>	11
<i>LUTJANUS CAMPECHANUS</i>	156
<i>LUTJANUS SYNAGRIS</i>	2
<i>MICROPOGONIAS UNDULATUS</i>	264
<i>OVALIPES FLORIDANUS</i>	7
<i>PEPRILUS BURTI</i>	2
<i>PORTUNUS GIBBESII</i>	111
<i>PORTUNUS SPINIMANUS</i>	2
<i>PRIONOTUS LONGISPINOSUS</i>	5
<i>PRIONOTUS OPHRYAS</i>	2
<i>PRIONOTUS RUBIO</i>	77
<i>PRIONOTUS TRIBULUS</i>	2
<i>SCORPAENA CALCARATA</i>	11
<i>SHRIMP-PENAEUS AZTECUS</i>	25
<i>SHRIMP-PENAEUS DUORARUM</i>	44
<i>SOLENOCERA VIOSCAI</i>	2
<i>SPHOEROIDES PARVUS</i>	25
<i>SQUILLA EMPUSA</i>	34
<i>STENOTOMUS CAPRINUS</i>	2
<i>SYACIUM GUNTERI</i>	7
<i>SYNODUS FOETENS</i>	5
<i>TRACHYPENEUS CONSTRICTUS</i>	16
<i>TRACHYPENEUS SIMILIS</i>	7
<b>STATION TOTAL</b>	<b>966</b>