

SEAMAP Summer 2011 Shrimp/Groundfish Survey Cruise Report

Prepared by
Fernando Martinez-Andrade
Texas Parks and Wildlife Department
Coastal Fisheries Division
NRC Building, Suite 2500
6300 Ocean Drive, Unit 5845
Corpus Christi, Texas, 78412-5845

Introduction

SEAMAP Summer Shrimp/Groundfish cruises are conducted to provide fishery-independent monitoring and assessment information essential to management of Texas Gulf of Mexico fisheries resources in a coordinated and cost-efficient program. Fishery-independent information is that collected without direct reliance on statistics reported by commercial or recreational fishermen.

Objectives

1. Conduct a summer trawl survey to collect information on shrimp and groundfish abundance and distribution with standard TPWD 20-ft trawls.
2. Select 80 stations for random sampling. All species are identified, measured, weighed, and counted, and selected species are sexed with their maturity stage recorded according to the Texas SEAMAP Operations Manual.
3. Collect information on environmental parameters (salinity, temperature, dissolved oxygen, turbidity, wind speed, wind direction, barometric pressure, wave height, water color, cloud cover, etc.) in conjunction with trawl sampling.
4. Code all data according to approved Texas SEAMAP Operations Manual guidelines, and enter data on the Texas SEAMAP data entry system.
5. Submit data to the Gulf States Marine Fisheries Commission SEAMAP Coordinator.

Methods

Vessels that participated in the 2011 Texas Summer Shrimp/Groundfish Survey were: R.J. Kemp (31), Matagorda Bay (32), Sabine (40), Nueces Bay (67), and San Jacinto (69). All Texas Territorial Sea areas were sectioned into 1-minute latitude by 1-minute longitude grids. Grids within the Texas territorial sea with at least 1/3 of their area equal to or greater than 1.8 m (1 fm) deep and at least 1/3 of which is free from known obstructions, were selected at random by a computer program. Sampling was conducted in 16 grids from each one of the following five gulf areas: (Sabine Pass, Bolivar Pass, Matagorda Pass, Aransas Pass, and Brazos Santiago Pass). Eight trawls samples were collected in each gulf area between the 1st and 15th of the month and 8 between the 16th and the last day of the month. A

20 ft trawl with 1.5 inch (38 mm) stretched mesh was lowered into position at the selected site and towline was set at a 5:1 cable length water depth ratio. Trawl towing was conducted at or near 3 mph for 10 minutes after lockdown and towed parallel to fathom curve. Direction of first tow was randomly selected. Subsequent tows alternated tow direction.

Sample work and data processing was conducted in accordance with the Texas SEAMAP Operations Manual guidelines.

Environmental data were collected in conjunction with each trawl. Temperature and dissolved oxygen were measured with either a YSI 6600 meter (Aransas Pass) or a YSI 85 meter (all others) at each trawl station. Three water bottles samples (surface, mid, and bottom) were collected at each station for in lab salinity measurements using a YSI 610DM.

Results

Texas vessels collected 80 Summer Shrimp/Groundfish survey samples in Texas Territorial Seas (between latitudes 25° 57' and 29° 44' and longitudes -93° 37' and -97° 10') (Table 1). Samples were collected between June 1, 2011 and June 29, 2011 (Table 1).

Deviations

There were no significant deviations.

Cruise participants:

Texas Parks and Wildlife Department staff collected samples, processed catch and entered information on data sheets. Cruise report summary completed by Fernando Martinez-Andrade.

Submitted By:

Fernando Martinez-Andrade
Texas Parks & Wildlife Department
Texas SEAMAP Coordinator

Table 1. TPWD SEAMAP 2011 Summer Shrimp/Groundfish cruise report summary.

STA#	DATE	TIME	LAT	LONG	STAT	MAX	DO		SALINITY			TEMPERATURE			FIN	CRUS	OTHER	MIN	BIO	LENGTH	
					ZONE	DEPTH	SUR	MID	MAX	SUR	MID	MAX	SUR	MID	MAX	CATCH	CATCH	CATCH	FISHED	COUNT	COUNT
31 R.J. KEMP																					
31001	06/01/2011	822	2614.12	-9705.57	21	19.1	6.7	6.7	6.7	35.8	35.8	35.7	26.5	26.4	26.3	0.299	0.135	0.043	10	12	24
31002	06/01/2011	911	2614.87	-9701.53	21	24.7	6.7	6.7	7.0	35.6	35.6	35.4	26.3	26.3	24.0	0.207	0.244	0.043	10	13	39
31003	06/01/2011	1002	2619.02	-9702.37	21	22.9	6.7	6.7	7.3	34.7	35.1	35.1	27.0	26.5	23.5	0.052	0.204	0.013	10	6	14
31004	06/01/2011	1042	2620.82	-9705.47	21	19.1	6.7	6.7	6.9	34.7	34.9	35.3	27.0	26.7	24.7	0.119	0.296	0.001	10	14	40
31005	06/01/2011	1125	2619.13	-9710.48	21	14.1	6.7	6.6	6.6	34.8	35.4	35.6	26.7	26.7	26.7	4.103	0.492	0.061	10	18	76
31006	06/01/2011	1200	2618.83	-9709.48	21	15.8	6.7	6.7	6.6	34.8	34.9	35.8	26.8	26.6	27.0	2.408	1.587	0.114	10	21	106
31007	06/01/2011	1227	2617.18	-9709.52	21	15.1	6.7	6.7	6.6	34.9	35.0	35.9	26.8	26.8	27.1	0.959	0.989	0.114	10	19	75
31008	06/01/2011	1259	2617.48	-9707.55	21	17.8	6.7	6.7	6.9	34.7	35.0	35.2	27.1	26.2	26.1	0.105	0.079	0.022	10	8	21
31009	06/28/2011	743	2559.93	-9708.30	21	9.0	6.6	6.8	6.8	35.2	35.8	35.8	27.3	25.8	25.7	2.143	0.288	0.051	10	16	80
31010	06/28/2011	830	2557.13	-9705.42	21	19.1	6.7	6.8	7.1	36.8	36.4	36.0	26.5	25.0	24.1	2.819	3.064	0.046	10	15	117
31011	06/28/2011	932	2601.80	-9659.45	21	27.8	6.7	6.7	7.1	35.8	37.4	39.0	26.5	25.6	22.2	4.291	2.921	0.071	10	17	139
31012	06/28/2011	1125	2605.20	-9701.47	21	25.0	6.6	6.7	7.0	37.4	38.3	38.8	26.7	25.3	23.3	6.366	1.567	0.096	10	18	137
31013	06/28/2011	1217	2609.73	-9700.45	21	27.0	6.6	6.7	7.1	36.0	36.8	35.9	26.7	25.2	23.3	7.171	3.115	0.108	10	26	154
31014	06/28/2011	1303	2609.33	-9706.47	21	18.0	6.6	6.9	7.0	37.0	36.9	36.0	26.7	24.2	24.1	1.768	1.087	0.005	10	20	100
31015	06/28/2011	1336	2606.83	-9706.48	21	18.0	6.6	6.7	7.0	36.3	36.2	36.2	27.2	24.4	24.4	1.939	2.415	0.057	10	21	139
31016	06/28/2011	1436	2606.03	-9707.53	21	16.5	6.5	6.6	6.8	36.5	36.1	35.8	27.3	25.4	25.0	3.705	4.567	0.023	10	18	116
32 MATAGORDA BAY																					
32001	06/01/2011	913	2823.58	-9617.47	19	12.8	5.6	5.8	5.1	29.7	29.8	30.2	27.7	27.6	27.2	3.839	0.134	0.157	10	24	82
32002	06/01/2011	951	2823.55	-9614.50	19	15.2	5.7	5.9	5.9	29.1	29.2	29.3	27.4	27.3	27.3	11.013	0.157	0.444	10	17	80
32003	06/01/2011	1026	2825.58	-9616.52	19	10.9	5.9	5.9	6.0	29.5	29.5	29.5	27.6	27.5	27.5	2.442	0.082	0.154	10	13	47
32004	06/01/2011	1103	2826.53	-9613.50	19	12.4	5.9	5.3	5.3	29.1	29.2	29.5	28.5	28.0	27.8	8.599	0.372	0.189	10	15	73
32005	06/01/2011	1156	2829.57	-9608.52	19	11.5	5.8	5.7	5.6	29.5	29.5	29.5	28.2	27.6	27.6	2.646	0.185	0.014	10	15	49
32006	06/01/2011	1253	2824.48	-9604.45	19	18.5	5.9	5.9	4.9	29.1	29.0	29.6	27.8	27.3	27.1	4.672	0.429	0.430	10	20	96
32007	06/01/2011	1358	2819.48	-9613.53	19	20.7	5.7	5.6	5.1	29.0	29.0	29.9	27.7	27.3	27.2	2.579	1.088	0.462	10	23	110
32008	06/01/2011	1428	2819.50	-9614.52	19	20.4	5.8	5.7	4.5	29.0	29.0	29.7	27.7	27.3	27.2	4.648	0.638	0.316	10	21	79
32009	06/23/2011	959	2821.57	-9618.40	19	14.0	5.7	5.7	5.7	34.0	34.0	34.2	27.3	27.3	27.4	23.770	2.399	0.144	10	17	119
32010	06/23/2011	1049	2821.27	-9622.67	19	7.9	5.8	5.8	5.7	33.6	33.6	33.7	27.7	27.7	27.4	1.880	0.240	0.103	10	21	69
32011	06/27/2011	1034	2816.53	-9619.48	19	20.4	5.8	6.0	5.8	32.5	32.5	33.1	28.7	28.6	28.3	6.507	0.453	0.339	10	18	106
32012	06/27/2011	1117	2813.60	-9619.50	19	23.1	5.8	5.9	4.8	33.2	33.2	33.4	28.5	28.3	27.9	1.228	0.062	0.239	10	13	49
32013	06/27/2011	1212	2809.53	-9625.47	19	22.5	5.8	5.9	6.0	33.3	33.3	35.2	28.6	28.3	27.6	6.339	1.115	0.252	10	22	136
32014	06/27/2011	1304	2815.67	-9625.48	19	16.1	5.9	5.8	5.6	32.3	32.3	32.4	29.4	28.8	28.7	9.158	1.460	0.221	10	22	116
32015	06/27/2011	1330	2816.48	-9626.47	19	12.4	6.0	5.8	5.6	32.4	32.3	32.3	29.5	29.0	28.7	36.107	1.453	0.136	10	18	75
32016	06/27/2011	1408	2816.55	-9624.47	19	15.2	6.0	5.6	5.1	32.2	32.2	32.4	29.8	28.8	28.5	9.262	1.288	0.376	10	18	94

Table 1. (cont.)

STA#	DATE	TIME	LAT	LONG	STAT	MAX	DO			SALINITY			TEMPERATURE			FIN	CRUS	OTHER	MIN	BIO	LENGTH
					ZONE	DEPTH	SUR	MID	MAX	SUR	MID	MAX	SUR	MID	MAX	CATCH	CATCH	CATCH	FISHED	COUNT	COUNT
40 SABINE																					
40001	06/02/2011	757	2939.58	-9348.73	17	7.3	6.9	6.5	6.1	14.5	14.8	15.0	28.8	28.9	28.9	3.763	0.807	0.109	10	13	119
40002	06/02/2011	858	2939.47	-9352.18	17	4.3	6.5	6.3	5.9	15.7	15.6	15.7	29.0	28.9	28.8	1.548	0.116	0.605	10	15	61
40003	06/02/2011	935	2939.42	-9353.80	17	4.6	7.0	6.7	6.6	15.9	15.9	16.0	29.2	29.0	28.8	1.728	0.184	1.714	10	12	84
40004	06/02/2011	1014	2939.67	-9355.17	17	4.6	7.2	6.6	5.7	16.1	16.1	16.1	29.2	28.8	28.7	2.419	0.286	0.694	10	14	91
40005	06/02/2011	1106	2937.48	-9400.85	17	6.7	7.2	5.8	5.1	16.8	16.8	17.0	29.3	28.6	28.5	9.261	0.192	0.510	10	9	68
40006	06/02/2011	1148	2937.47	-9402.15	17	7.0	9.7	6.1	4.7	16.6	17.3	17.4	29.4	28.6	28.3	11.188	0.120	0.357	10	9	53
40007	06/02/2011	1237	2936.47	-9403.82	17	7.6	10.2	4.9	4.1	16.3	17.7	18.2	30.6	28.8	28.4	9.861	0.067	0.190	10	10	44
40008	06/02/2011	1754	2931.43	-9351.07	17	12.5	10.1	4.8	3.8	15.2	21.0	28.1	30.5	28.3	27.5	8.652	0.926	0.100	10	17	114
40009	06/29/2011	757	2940.47	-9348.75	17	5.5	7.9	7.9	7.6	10.8	11.1	11.3	30.0	30.0	30.1	3.137	0.542	0.122	10	15	126
40010	06/29/2011	907	2942.50	-9339.12	17	7.3	10.2	8.3	7.7	10.4	10.6	11.6	30.7	30.1	29.7	9.819	0.338	0.030	10	11	113
40011	06/29/2011	956	2944.38	-9337.82	17	5.2	7.5	8.4	6.8	8.7	9.3	10.1	30.9	30.6	30.7	5.887	0.359	0.032	10	13	121
40012	06/29/2011	1057	2938.47	-9339.18	17	10.0	13.6	3.3	1.7	10.2	21.9	26.6	31.4	29.3	28.8	2.745	0.270	0.082	10	10	108
40013	06/29/2011	1140	2936.45	-9338.90	17	11.3	12.6	4.3	2.7	9.9	14.1	26.2	31.0	29.8	29.1	5.862	0.194	0.017	10	13	94
40014	06/29/2011	1242	2936.33	-9343.38	17	11.0	9.0	5.6	5.8	10.7	19.7	26.8	30.9	29.8	29.3	4.392	0.342	0.069	10	15	114
40015	06/29/2011	1326	2936.50	-9346.90	17	10.4	10.1	5.8	6.0	11.8	16.9	19.1	32.5	30.0	30.0	3.669	0.291	0.129	10	11	124
40016	06/29/2011	1424	2933.15	-9345.50	17	11.8	10.6	6.6	5.8	10.0	21.7	26.9	31.4	30.5	29.7	12.010	0.942	0.142	10	15	129
67 NUECES																					
67001	06/07/2011	755	2747.90	-9703.15	20	8.2	6.7	6.9	7.1	30.1	31.1	31.1	28.3	27.7	27.8	0	0.030	0.260	10	5	22
67002	06/07/2011	840	2743.18	-9704.27	20	14.1	6.7	6.7	7.0	30.9	31.1	31.5	28.6	28.2	27.3	0	0.006	0.016	10	2	2
67003	06/07/2011	956	2740.90	-9708.48	20	11.4	6.7	6.8	6.8	31.0	31.3	31.2	28.6	27.9	27.8	0	0.010	0.079	10	6	7
67004	06/07/2011	1115	2736.20	-9704.28	20	20.8	6.6	6.6	6.7	31.4	31.4	31.0	28.8	28.6	27.3	0.086	0.168	0.217	10	13	56
67005	06/07/2011	1311	2743.90	-9702.42	20	15.5	6.6	6.7	6.7	30.9	31.3	31.0	29.1	28.4	27.5	0.061	0.032	0.562	10	11	38
67006	06/07/2011	1340	2744.33	-9701.38	20	16.8	6.6	6.6	6.7	30.9	30.7	31.4	29.3	29.2	28.0	40.232	0.176	0.338	10	19	151
67007	06/07/2011	1420	2745.83	-9659.43	20	17.6	6.6	6.7	6.7	30.8	31.3	31.4	29.3	28.3	27.9	0.232	0.026	0.568	10	14	45
67008	06/07/2011	1540	2746.30	-9657.43	20	20.0	6.5	6.7	6.7	30.8	31.1	31.2	29.3	28.8	28.0	0.198	0.052	0.935	10	14	67
67009	06/23/2011	745	2748.35	-9700.48	20	12.1	7.1	6.8	6.8	32.8	34.8	33.6	26.2	26.1	25.6	0.747	1.223	0.143	10	15	67
67010	06/23/2011	824	2750.80	-9658.53	20	13.4	6.8	6.9	6.9	33.8	34.8	33.6	26.0	26.0	25.8	6.885	2.109	0.095	10	19	126
67011	06/23/2011	905	2753.10	-9658.45	20	12.5	6.7	6.8	6.8	34.1	34.1	34.5	26.7	26.7	26.6	3.014	2.374	0.239	10	17	114
67012	06/23/2011	946	2752.62	-9655.50	20	15.5	6.8	6.8	7.1	35.6	24.9	34.9	26.0	26.0	25.1	3.674	0.779	0.193	10	19	113
67013	06/23/2011	1021	2754.15	-9655.55	20	13.8	6.9	6.8	6.9	34.9	34.9	34.9	26.7	26.3	25.9	5.623	1.277	0.058	10	15	110
67014	06/23/2011	1055	2754.73	-9653.47	20	15.2	6.7	6.7	6.9	35.6	35.7	35.7	26.1	26.0	25.6	6.643	1.286	0.148	10	21	107
67015	06/23/2011	1128	2754.45	-9651.42	20	18.0	6.7	6.7	7.2	35.8	35.8	35.9	26.4	26.1	24.7	3.241	2.157	0.024	10	20	123
67016	06/23/2011	1158	2755.58	-9649.50	20	17.6	6.6	6.8	6.7	35.6	35.7	35.7	27.1	26.8	26.7	3.177	1.411	0.062	10	19	136

Table 1. (cont.)

STA#	DATE	TIME	LAT	LONG	STAT	MAX	DO		SALINITY			TEMPERATURE			FIN	CRUS	OTHER	MIN	BIO	LENGTH	
					ZONE	DEPTH	SUR	MID	MAX	SUR	MID	MAX	SUR	MID	MAX	CATCH	CATCH	CATCH	FISHED	COUNT	COUNT
69 SAN JACINTO																					
69001	06/01/2011	934	2918.70	-9444.30	18	5.5	6.5	6.3	6.3	21.1	21.8	21.2	26.7	26.6	26.4	0.775	0.005	0.016	10	12	26
69002	06/01/2011	1012	2917.25	-9446.73	18	5.2	7.2	7.0	6.6	21.3	21.3	21.3	26.9	26.8	26.7	1.980	0.118	0.049	10	16	106
69003	06/01/2011	1058	2916.62	-9441.33	18	9.5	6.6	6.2	6.1	19.8	20.2	20.3	26.8	26.6	26.5	40.323	3.059	0.073	10	14	109
69004	06/01/2011	1202	2910.05	-9442.93	18	16.2	7.8	6.1	6.0	20.9	24.3	26.1	27.2	26.6	26.3	25.381	1.016	0.006	10	16	157
69005	06/02/2011	1028	2913.32	-9447.52	18	10.7	7.7	6.4	6.9	21.2	21.8	23.0	27.4	26.9	27.2	31.818	0.184	0.028	10	13	71
69006	06/02/2011	1118	2911.73	-9452.23	18	11.0	7.5	6.6	5.8	22.8	25.8	26.3	27.5	27.0	26.5	11.793	0.314	0.149	10	16	115
69007	06/02/2011	1147	2911.23	-9453.63	18	10.7	7.7	6.8	4.6	23.2	25.4	27.3	27.8	27.2	26.1	11.975	0.061	0.160	10	16	92
69008	06/02/2011	1244	2907.65	-9446.32	18	16.5	7.9	5.5	3.2	21.2	26.5	32.3	27.5	26.3	25.0	5.698	0.101	0.051	10	13	68
69009	06/23/2011	929	2921.15	-9440.80	18	9.1	5.6	5.6	5.7	32.5	32.5	32.5	27.1	27.1	27.0	18.371	0.317	0.001	10	3	14
69010	06/23/2011	1006	2923.90	-9442.17	18	3.4	6.0	6.0	5.9	33.2	33.3	33.3	26.7	26.6	26.5	6.626	0.455	0.050	10	1	1
69011	06/23/2011	1053	2923.35	-9438.88	18	8.5	5.3	5.2	5.1	32.2	32.2	32.2	27.1	27.1	27.0	7.923	0.116	0.001	10	14	99
69012	06/23/2011	1138	2926.95	-9435.32	18	6.7	5.5	5.4	5.3	31.8	31.8	31.8	27.1	27.1	27.0	9.826	0.127	0.095	10	18	152
69013	06/23/2011	1258	2921.45	-9430.97	18	12.2	5.7	5.6	5.4	32.2	32.2	32.2	27.4	27.3	27.0	8.757	0.232	0.008	10	8	42
69014	06/23/2011	1343	2922.92	-9435.33	18	9.8	5.8	5.6	5.2	32.6	32.5	32.5	27.4	27.2	26.9	12.239	0.070	0.037	10	15	56
69015	06/23/2011	1457	2919.88	-9436.55	18	11.9	6.0	5.6	5.2	32.6	32.6	32.6	27.7	27.2	26.9	8.289	0.123	0.017	10	15	88
69016	06/23/2011	1618	2912.10	-9442.92	18	11.3	6.0	5.6	5.3	32.7	32.7	32.7	27.8	27.3	27.0	7.782	0.038	0.021	10	12	61