

# SEAMAP Summer 2010 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 2010 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 1<sup>st</sup> and 15<sup>th</sup> of the month and 8 between the 16<sup>th</sup> 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° 58' and 29° 41' and longitudes -93° 35' and -97° 08') (Table 1). Samples were collected between June 1, 2010 and June 21, 2010 (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:

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

**Table 1. TPWD SEAMAP 2010 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	06/07/2010	803	2605.25	-9708.52	21	11.1	5.2	4.0	3.3	35.0	35.4	35.5	25.8	22.5	22.5	8.127	0.284	0.017	10	14	87
31002	06/07/2010	852	2609.83	-9706.47	21	18.7	5.7	5.2	4.6	35.0	35.4	35.6	26.8	23.8	22.4	0.904	0.109	0.587	10	20	72
31003	06/07/2010	928	2610.28	-9708.48	21	15.5	5.3	4.9	4.4	35.4	35.3	31.3	26.0	25.3	22.7	1.728	0.037	0.385	10	17	61
31004	06/07/2010	1010	2613.85	-9706.47	21	18.6	5.7	5.4	5.3	35.1	35.5	35.4	27.0	26.2	23.1	0.246	0.091	0.269	10	14	76
31005	06/07/2010	1044	2613.30	-9704.48	21	18.5	5.6	5.7	4.9	35.3	35.8	35.1	27.1	25.0	23.2	0.016	0	0.044	10	5	8
31006	06/07/2010	1125	2616.80	-9706.50	21	18.2	5.6	5.2	5.0	34.9	35.8	35.2	27.2	23.4	23.4	0.273	0.283	1.640	10	17	62
31007	06/07/2010	1201	2618.28	-9705.45	21	19.4	5.6	5.8	4.7	35.5	36.3	35.2	27.5	23.9	22.8	0.266	0.011	0.249	10	11	57
31008	06/07/2010	1232	2620.87	-9706.62	21	18.6	5.7	5.1	4.8	35.0	35.5	35.4	27.3	22.7	22.6	0.117	0.024	0.473	10	15	38
31009	06/21/2010	747	2603.77	-9708.45	21	12.4	5.9	6.0	6.2	34.0	35.9	35.8	26.2	23.2	22.5	3.430	0.026	0.161	10	16	106
31010	06/21/2010	822	2603.28	-9706.43	21	18.2	5.9	6.2	6.0	35.8	35.9	35.9	25.5	22.8	22.3	0.210	0	0.154	10	9	24
31011	06/21/2010	917	2559.85	-9702.48	21	24.7	5.7	6.0	4.1	36.0	35.9	35.9	26.5	22.4	21.8	1.025	0.041	0.293	10	16	71
31012	06/21/2010	955	2558.32	-9700.40	21	27.4	5.7	5.9	5.0	35.8	35.9	35.8	26.6	22.2	21.7	1.844	0.170	0.467	10	19	109
31013	06/21/2010	1055	2604.77	-9659.52	21	28.6	5.9	6.1	6.3	36.2	35.9	35.9	27.0	22.0	21.8	1.664	0.294	0.326	10	20	108
31014	06/21/2010	1147	2609.40	-9700.47	21	27.9	5.7	6.3	6.3	35.9	35.9	35.9	27.3	25.4	22.1	2.006	0.319	0.219	10	24	114
31015	06/21/2010	1224	2608.68	-9702.52	21	23.4	6.0	6.4	5.8	35.8	36.1	35.9	27.4	22.6	22.3	1.131	0.097	0.351	10	20	66
31016	06/21/2010	1259	2607.30	-9703.55	21	22.1	6.0	6.2	6.3	35.9	35.9	35.9	27.3	22.3	22.3	0.759	0.056	0.219	10	17	66
32 MATAGORDA BAY																					
32001	06/01/2010	858	2825.58	-9618.55	19	5.3	7.2	4.6	1.1	30.7	32.2	32.4	26.2	23.9	23.2	0.434	0.036	0.276	10	9	46
32002	06/01/2010	1005	2823.75	-9605.25	19	18.3	6.1	3.7	2.6	30.1	33.7	34.0	27.2	23.0	22.3	0.779	0.077	0.516	10	12	53
32003	06/01/2010	1059	2825.42	-9607.50	19	16.2	6.2	3.9	2.5	30.5	32.7	33.4	27.1	24.2	23.1	0.366	0.019	0.801	10	13	40
32004	06/01/2010	1135	2827.55	-9609.55	19	13.0	6.1	2.9	1.6	31.0	32.9	32.5	27.0	23.3	23.3	3.075	0.016	0.426	10	14	69
32005	06/01/2010	1247	2827.48	-9608.50	19	13.5	6.3	6.5	2.0	30.8	31.3	33.1	27.3	25.8	22.8	1.750	0	0.367	10	10	68
32006	06/01/2010	1316	2828.50	-9607.52	19	12.7	6.3	6.9	1.8	30.8	31.2	32.5	28.0	26.0	23.3	5.094	0.069	0.354	10	16	79
32007	06/01/2010	1342	2829.48	-9607.42	19	11.7	7.5	5.0	1.4	30.9	32.6	32.5	27.9	23.3	23.3	1.117	0.01	0.340	10	7	40
32008	06/01/2010	1409	2830.58	-9606.50	19	10.5	7.1	4.5	1.4	31.0	32.4	32.2	28.0	24.0	23.4	0.836	0.008	0.263	10	8	40
32009	06/16/2010	859	2821.50	-9617.57	19	15.1	6.1	6.2	4.6	31.2	32.2	33.5	29.7	29.6	28.3	7.459	1.02	0.586	10	21	161
32010	06/16/2010	1016	2820.67	-9614.52	19	17.9	6.3	6.4	6.3	32.3	33.4	33.8	29.3	28.7	28.5	3.864	0.216	0.767	10	19	84
32011	06/16/2010	1055	2821.58	-9620.60	19	10.1	6.3	6.4	6.5	31.4	32.0	33.1	30.0	29.6	29.2	3.559	0.296	0.078	10	17	97
32012	06/16/2010	1139	2819.55	-9622.50	19	11.8	6.2	6.7	6.7	33.5	30.0	34.0	29.4	28.9	28.9	3.446	0.117	0.789	10	17	95
32013	06/16/2010	1234	2815.55	-9621.52	19	19.0	6.3	7.0	6.4	33.5	34.6	34.5	29.5	28.9	28.6	0.944	0.231	0.849	10	17	62
32014	06/16/2010	1309	2814.55	-9622.55	19	19.6	6.4	6.7	6.0	33.4	34.6	34.5	29.5	28.9	28.5	0.581	0.062	0.027	10	11	22
32015	06/16/2010	1404	2811.57	-9625.53	19	20.0	6.4	6.8	5.8	33.3	34.6	34.6	29.5	28.7	28.5	3.898	0.358	0.067	10	15	88
32016	06/16/2010	1457	2811.65	-9621.50	19	22.2	6.3	7.0	1.3	34.4	34.7	35.2	29.3	28.7	24.4	0.088	0.007	0.013	10	8	14

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	06/02/2010	804	2935.55	-9348.22	17	11.5	6.1	5.8	1.6	26.3	26.5	27.8	28.1	28.3	26.5	0	0	0.054	10	2	0
40002	06/02/2010	849	2936.52	-9352.83	17	7.0	5.8	4.3	1.8	27.2	27.2	28.3	28.3	28.2	27.6	0.188	0.006	0.003	10	4	6
40003	06/02/2010	932	2935.53	-9354.12	17	7.9	5.8	5.0	1.2	27.2	27.3	28.5	28.5	28.2	26.4	0.060	0.003	0.010	10	6	10
40004	06/02/2010	1001	2935.50	-9355.83	17	8.2	5.8	5.7	1.4	27.3	27.5	28.5	28.7	28.3	26.6	0.670	0.001	0.020	10	8	28
40005	06/02/2010	1035	2937.50	-9355.12	17	6.1	6.1	5.7	4.9	27.7	28.1	28.5	28.8	28.1	27.8	5.512	0.54	0.152	10	9	110
40006	06/02/2010	1142	2937.45	-9400.83	17	6.7	6.2	5.7	3.2	27.8	28.8	28.6	29.1	28.2	27.1	11.493	0.309	0.095	10	12	114
40007	06/02/2010	1236	2939.52	-9403.17	17	4.0	5.4	3.8	2.9	27.2	27.7	27.8	29.3	29.2	27.9	5.625	0.12	0.068	10	8	63
40008	06/02/2010	1337	2935.52	-9401.77	17	8.5	6.3	6.2	2.8	27.7	27.9	29.8	29.6	28.5	26.5	3.560	0.063	0.051	10	9	27
40009	06/17/2010	748	2941.57	-9346.83	17	6.1	6.6	2.9	0.1	12.2	17.9	22.2	30.7	30.0	29.2	0.166	0	0.036	10	4	4
40010	06/17/2010	837	2939.52	-9341.27	17	9.7	7.3	3.9	2.6	11.5	22.3	27.6	31.0	29.9	29.1	4.181	0.014	0.11	10	11	63
40011	06/17/2010	929	2940.50	-9335.92	17	9.4	7.7	3.1	1.5	11.6	19.6	27.6	31.1	30.1	29.0	4.615	0.008	0.111	10	16	59
40012	06/17/2010	1008	2938.73	-9337.25	17	10.4	7.3	6.1	2.8	13.5	23.6	27.5	31.2	30.0	29.3	2.186	0.01	0.087	10	11	41
40013	06/17/2010	1101	2936.38	-9342.92	17	11.0	7.2	3.4	2.9	14.3	27.8	28.0	31.3	29.2	29.1	2.669	0.025	0.493	10	18	57
40014	06/17/2010	1206	2936.52	-9347.12	17	10.0	7.5	2.6	2.8	14.7	25.4	28.2	31.4	29.5	29.1	2.963	1.272	0.135	10	18	148
40015	06/17/2010	1312	2932.40	-9352.85	17	12.2	8.4	3.8	3.6	14.5	28.2	28.6	31.9	29.3	29.3	7.369	0.238	0.277	10	16	74
40016	06/17/2010	1357	2931.68	-9350.15	17	12.5	8.6	4.5	4.1	15.3	28.8	28.9	31.8	29.3	29.3	6.863	0.483	0.414	10	17	121
67 NUECES																					
67001	06/01/2010	833	2746.98	-9700.40	20	14.9	6.8	6.8	5.1	28.5	28.6	29.8	27.7	27.6	25.8	0.182	0.020	1.588	10	14	72
67002	06/01/2010	911	2745.17	-9659.52	20	18.7	7.2	7.0	6.5	28.4	28.7	29.7	27.5	27.4	26.2	3.504	0.114	0.567	10	17	106
67003	06/01/2010	955	2742.97	-9702.48	20	16.7	7.4	7.1	6.7	28.6	28.8	29.6	27.9	27.8	26.9	0.019	0.028	1.014	10	10	47
67004	06/01/2010	1040	2743.18	-9706.47	20	11.7	7.5	7.0	3.3	29.8	29.8	30.1	27.3	26.9	23.0	0.828	0.001	0.664	10	7	66
67005	06/01/2010	1136	2737.77	-9706.53	20	16.6	7.4	7.1	5.4	29.3	29.7	30.7	27.7	27.2	24.9	0.047	0.023	0.460	10	15	71
67006	06/01/2010	1212	2736.48	-9703.42	20	21.3	7.3	7.2	7.0	28.8	29.4	29.9	28.3	27.5	27.1	0.217	0.023	0.889	10	15	48
67007	06/01/2010	1251	2738.78	-9700.45	20	22.4	7.3	7.1	6.9	28.6	29.0	29.9	28.4	27.1	26.7	0.206	0.058	0.282	10	15	51
67008	06/01/2010	1321	2739.23	-9700.43	20	22.4	7.1	7.0	6.6	28.7	29.0	30.1	28.6	26.8	24.9	1.559	0.025	0.463	10	13	85
67009	06/21/2010	807	2747.83	-9701.58	20	11.6	6.6	6.6	6.8	33.1	33.1	33.2	29.2	29.2	29.2	0.300	0.001	0.116	10	4	31
67010	06/21/2010	853	2751.27	-9658.00	20	14.0	6.7	6.8	6.8	33.0	33.0	33.0	29.3	29.3	29.3	6.732	0.011	0.307	10	10	70
67011	06/21/2010	944	2755.88	-9654.48	20	13.6	6.7	6.8	6.7	32.7	32.7	32.9	29.7	29.7	29.4	0.131	0.021	0.267	10	9	38
67012	06/21/2010	1021	2759.12	-9653.63	20	11.4	6.7	6.4	5.3	32.7	32.7	32.7	29.9	29.6	28.6	2.694	0.008	0.764	10	5	58
67013	06/21/2010	1105	2755.88	-9650.48	20	16.7	6.8	6.8	6.9	32.7	32.7	33.4	29.4	29.3	29.1	0.149	0.047	0.203	10	7	41
67014	06/21/2010	1136	2754.10	-9651.48	20	17.8	7.7	6.9	7.1	32.9	32.9	33.5	29.4	28.6	27.4	1.410	0.096	0.204	10	12	61
67015	06/21/2010	1208	2752.92	-9652.42	20	18.0	6.6	6.9	7.3	33.0	33.1	32.8	29.5	29.0	27.6	0.218	0.077	0.382	10	11	56
67016	06/21/2010	1250	2748.00	-9652.53	20	21.9	6.8	6.8	6.4	33.2	33.2	33.5	29.5	29.0	25.9	0.540	0.050	0.254	10	12	53

**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	06/03/2010	917	2918.23	-9442.65	18	7.0	6.3	6.2	6.2	32.0	32.0	32.0	26.6	26.6	26.6	1.332	0	0.087	10	7	47
69002	06/03/2010	1006	2915.62	-9443.18	18	9.4	6.3	6.3	6.1	31.2	31.2	31.2	26.8	26.8	26.7	2.613	0.778	0.077	10	9	76
69003	06/03/2010	1103	2917.33	-9436.65	18	14.0	6.3	6.3	5.9	30.5	30.5	30.9	27.0	26.9	26.7	9.988	0.084	0.118	10	13	92
69004	06/03/2010	1156	2921.85	-9431.25	18	12.0	6.5	6.4	6.2	30.9	30.9	30.9	26.9	26.8	26.8	4.292	0.851	0.130	10	14	134
69005	06/03/2010	1301	2921.33	-9434.78	18	11.6	6.7	6.6	6.4	31.3	31.4	31.5	27.0	26.8	26.7	9.644	0.267	0.261	10	14	125
69006	06/03/2010	1334	2923.93	-9435.20	18	9.8	6.6	6.3	6.2	31.7	31.8	31.8	26.8	26.6	26.6	7.677	0.479	0.064	10	14	92
69007	06/03/2010	1410	2923.23	-9437.88	18	9.1	6.6	6.6	6.6	31.5	31.7	31.8	26.9	26.5	26.5	5.282	0.05	0.103	10	11	86
69008	06/03/2010	1501	2928.47	-9432.55	18	6.4	6.5	6.5	6.4	30.7	30.8	30.9	27.6	27.5	27.3	3.152	1.419	0.018	10	13	99
69009	06/21/2010	834	2917.95	-9445.13	18	6.0	5.5	4.9	1.3	31.3	32.3	33.5	30.0	29.5	26.1	0.403	0.035	0	10	5	19
69010	06/21/2010	904	2916.13	-9445.65	18	8.0	5.6	4.8	0.7	32.3	32.9	33.7	29.4	28.5	25.3	0	0.21	0.009	10	3	5
69011	06/21/2010	943	2913.97	-9446.20	18	10.0	5.9	5.8	5.4	31.9	32.1	33.1	29.9	29.6	28.5	0.026	0	0.006	10	2	2
69012	06/21/2010	1015	2915.23	-9448.73	18	7.6	4.9	2.7	0.3	32.4	33.1	33.6	29.7	27.8	25.5	0	0	0	10	8	29
69013	06/21/2010	1053	2914.80	-9451.20	18	3.2	3.9	2.1	1.0	32.3	32.7	33.1	30.2	28.9	27.6	31.819	0.006	0	10	10	53
69014	06/21/2010	1143	2910.12	-9452.90	18	12.2	5.8	4.4	1.7	32.5	33.5	34.0	30.1	28.1	25.0	7.337	0	0.246	10	9	38
69015	06/21/2010	1212	2910.88	-9451.15	18	12.0	6.0	5.6	1.4	32.3	33.3	33.9	30.4	29.0	25.3	0.946	0.018	0.201	10	7	29
69016	06/21/2010	1636	2912.30	-9438.72	18	15.8	6.2	6.6	0.9	32.9	33.1	33.8	31.6	28.8	24.7	0.035	0.016	0.040	10		