

SEAMAP Winter 2011 Shrimp/Groundfish Survey Cruise Report

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Introduction

SEAMAP Winter 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 winter 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, and 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 Winter Shrimp/Groundfish Survey were: R.J. Kemp (31), Matagorda Bay (32), Sabine (40), Nueces Bay (67), and San Jacinto (69). All Texas Territorial Seas was 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 winter Shrimp/Groundfish survey samples in Texas Territorial Seas (between latitudes 25° 58' and 29° 43' and longitudes -93° 36' and -97° 09'). Samples were collected between February 8 and February 23, 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
SEAMAP Coordinator

Table 1. TPWD SEAMAP 2011 Winter 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	02/12/2011	849	2613.27	-9705.52	21	20.1	11.2	10.9	11.1	33.0	33.1	33.0	14.2	14.2	14.1	0	0	0.069	10	1	2
31002	02/12/2011	921	2613.58	-9703.52	21	20.8	8.8	8.9	8.7	33.3	33.4	33.4	14.7	14.7	14.7	0.461	0.015	0.018	10	6	6
31003	02/12/2011	1017	2617.25	-9701.47	21	27.6	12.3	12.5	14.1	33.5	33.5	33.5	15.0	15.0	15.0	0.063	0.009	0.139	10	11	34
31004	02/12/2011	1054	2618.75	-9702.58	21	22.1	8.7	8.7	8.6	33.5	33.5	33.4	14.8	14.8	14.9	0.030	0.018	0.095	10	7	13
31005	02/12/2011	1142	2619.17	-9708.58	21	16.5	9.2	8.9	9.2	33.0	33.0	32.9	13.9	13.8	13.9	0.143	0	0.102	10	9	21
31006	02/12/2011	1209	2619.70	-9709.60	21	16.8	9.0	9.2	9.2	32.9	32.9	32.9	13.6	13.6	13.9	0.029	0	0.094	10	4	6
31007	02/12/2011	1237	2618.17	-9708.48	21	16.8	9.0	8.9	9.0	33.0	32.9	33.0	13.9	13.7	13.9	0.235	0	0.159	10	8	15
31008	02/12/2011	1310	2616.53	-9709.55	21	15.8	9.1	9.2	9.1	32.8	32.7	33.6	13.4	13.1	13.1	0.008	0	0.006	10	2	2
31009	02/23/2011	810	2559.22	-9707.45	21	13.7	9.8	9.8	9.4	33.1	33.8	34.2	18.5	17.8	17.4	0.563	0.059	0.036	10	12	45
31010	02/23/2011	855	2600.92	-9703.45	21	22.9	8.6	8.6	8.5	33.2	33.7	33.8	17.4	16.7	17.9	0.022	0	0.147	10	4	9
31011	02/23/2011	931	2558.23	-9701.45	21	25.7	8.5	8.7	8.4	32.8	33.2	34.2	17.0	16.7	17.3	0.496	0	0.145	10	7	28
31012	02/23/2011	1041	2609.85	-9702.57	21	23.7	8.4	8.4	8.1	33.2	33.4	33.8	17.2	17.2	17.2	0.109	0.017	0.373	10	11	18
31013	02/23/2011	1125	2612.22	-9701.38	21	25.5	8.4	8.6	8.3	34.7	33.3	34.1	17.3	17.0	17.3	0.106	0.013	0.309	10	10	21
31014	02/23/2011	1159	2611.88	-9703.53	21	20.9	8.5	8.3	8.3	33.6	34.0	34.1	17.6	17.2	17.8	0.211	0	0.234	10	6	6
31015	02/23/2011	1247	2608.27	-9706.47	21	18.9	8.4	7.5	7.4	34.0	34.5	34.6	18.6	17.7	18.1	0	0.035	0.695	10	4	6
31016	02/23/2011	1319	2608.83	-9708.57	21	15.1	8.4	7.8	7.8	33.3	34.5	34.6	18.9	18.6	18.0	0.026	0.003	0.091	10	9	9
32 MATAGORDA BAY																					
32001	02/08/2011	1017	2822.67	-9612.47	19	16.1	7.8	7.4	7.4	31.9	31.4	33.0	12.9	13.2	14.6	0.951	0.044	0.110	10	14	32
32002	02/08/2011	1105	2820.33	-9611.42	19	19.2	7.5	7.5	7.2	32.3	32.1	33.3	13.5	13.5	13.6	0.364	0.002	0.214	10	9	24
32003	02/11/2011	947	2828.50	-9610.53	19	10.6	8.7	8.6	8.8	30.7	30.8	30.5	9.6	9.6	9.5	1.192	0.037	0.039	10	12	19
32004	02/11/2011	1025	2829.52	-9607.42	19	11.2	8.7	8.8	8.9	31.1	31.0	31.1	9.8	9.7	9.7	0.309	0.030	0.180	10	12	19
32005	02/11/2011	1059	2831.55	-9606.48	19	8.2	8.9	8.8	9.0	30.5	30.5	30.6	9.2	9.2	9.1	0.035	0.013	0.028	10	8	10
32006	02/11/2011	1141	2827.42	-9606.35	19	14.0	8.5	8.7	8.6	31.5	31.5	31.6	10.6	10.4	10.4	1.751	0.090	0.231	10	9	33
32007	02/11/2011	1220	2826.43	-9603.45	19	16.1	8.5	8.4	8.5	31.7	31.8	31.8	11.3	11.1	11.1	0.157	0.046	0.070	10	13	15
32008	02/11/2011	1257	2823.62	-9605.50	19	18.2	8.4	8.5	8.3	31.9	32.0	32.0	11.8	11.6	11.6	0.213	0.022	0.159	10	12	32
32009	02/17/2011	1007	2817.52	-9624.38	19	12.4	9.2	9.1	9.0	32.0	32.5	32.6	12.4	12.8	12.4	6.031	0.457	0.131	10	21	80
32010	02/17/2011	1108	2810.40	-9624.63	19	21.6	10.3	8.5	7.4	32.6	33.4	34.2	13.1	13.0	14.5	3.961	0.097	0.169	10	14	70
32011	02/17/2011	1218	2814.53	-9616.40	19	22.2	8.7	8.7	8.2	33.3	33.4	33.6	14.8	12.8	13.4	0.997	0.038	0.197	10	12	20
32012	02/17/2011	1251	2815.42	-9617.65	19	21.3	9.1	8.8	8.3	32.4	33.3	33.5	12.7	13.6	13.1	0.355	0.038	0.215	10	13	18
32013	02/17/2011	1329	2815.53	-9619.47	19	20.1	9.2	8.8	8.3	32.2	33.2	33.3	12.5	13.1	12.8	1.359	0.025	0.427	10	11	24
32014	02/17/2011	1403	2815.40	-9621.63	19	19.2	9.1	9.3	8.2	32.3	32.3	33.2	13.0	12.5	12.6	0.261	0.020	0.044	10	8	10
32015	02/17/2011	1434	2816.62	-9621.37	19	18.2	9.3	9.2	8.0	32.1	32.3	33.0	12.4	11.8	12.3	5.277	0.305	0.064	10	19	47
32016	02/17/2011	1506	2817.40	-9620.63	19	17.6	9.2	8.5	7.9	31.7	32.5	32.9	12.8	11.7	12.2	1.624	0.417	0.048	10	21	73

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	02/11/2011	1008	2935.22	-9350.85	17	9.4	9.7	9.5	9.2	26.7	27.4	28.2	7.7	8.0	8.5	0.278	0.230	0.130	10	12	69
40002	02/11/2011	1057	2932.62	-9348.40	17	12.5	9.2	9.2	9.0	29.8	29.6	30.2	8.9	9.0	9.3	0.167	0.156	0.110	10	5	22
40003	02/11/2011	1148	2934.48	-9354.75	17	9.4	9.3	9.4	9.1	28.0	28.7	28.8	8.4	8.1	7.9	0.218	0.117	0.056	10	10	60
40004	02/11/2011	1227	2932.42	-9356.20	17	11.8	9.3	9.2	9.1	28.0	29.1	29.5	8.6	8.7	8.9	7.635	0.512	0.043	10	10	42
40005	02/11/2011	1311	2932.45	-9359.83	17	11.5	9.5	9.4	8.9	27.2	28.9	29.1	8.8	8.9	9.1	0.296	0.335	0.264	10	13	61
40006	02/11/2011	1347	2933.48	-9358.35	17	10.6	9.7	9.2	9.2	27.6	29.1	29.1	8.4	8.5	8.5	10.684	0.264	0.037	10	16	95
40007	02/11/2011	1440	2937.53	-9358.88	17	6.4	9.3	9.2	9.1	28.7	28.8	28.8	9.0	8.3	8.3	0.042	0.002	0.116	10	8	6
40008	02/11/2011	1530	2939.58	-9404.13	17	3.0	9.7	9.5	9.4	28.6	28.6	28.7	8.4	8.2	7.6	0.003	0.004	0.097	10	6	16
40009	02/19/2011	852	2938.37	-9347.80	17	7.6	8.7	9.0	8.6	27.5	27.8	28.7	12.5	12.2	11.8	0.215	0.083	0.067	10	9	25
40010	02/19/2011	928	2937.55	-9346.10	17	8.8	9.4	9.5	8.2	28.7	28.8	29.3	11.8	11.6	11.3	0.119	0.044	0.073	10	8	20
40011	02/19/2011	1036	2936.37	-9336.87	17	11.0	9.2	9.2	7.7	28.3	28.9	29.8	12.7	11.9	10.4	0.100	0.016	0.225	10	7	6
40012	02/19/2011	1138	2943.57	-9338.28	17	5.8	9.3	9.0	8.7	27.4	27.5	27.6	13.3	12.8	12.6	0.474	0.025	0.014	10	14	46
40013	02/19/2011	1212	2942.58	-9340.90	17	6.7	9.1	9.1	8.7	27.7	27.8	28.0	13.6	12.7	12.3	0.214	0.106	0.063	10	11	39
40014	02/19/2011	1253	2940.52	-9342.23	17	8.2	9.2	9.5	7.8	28.0	28.5	28.5	13.3	12.3	11.8	0.088	0.210	0.057	10	10	38
40015	02/19/2011	1335	2942.43	-9344.93	17	5.8	8.4	8.2	8.1	27.4	27.6	27.6	14.7	13.0	12.8	0.258	0.178	0.052	10	11	73
40016	02/19/2011	1411	2942.65	-9347.17	17	3.0	8.3	8.4	7.9	27.2	27.4	27.2	15.2	15.0	13.7	0.272	0.552	0.042	10	14	107
67 NUECES																					
67001	02/08/2011	830	2749.27	-9658.48	20	15.5	9.2	9.2	9.0	32.2	32.2	32.2	13.5	13.4	13.7	0.508	0.009	0.056	10	10	37
67002	02/08/2011	910	2753.07	-9657.38	20	12.5	10.5	10.5	10.2	32.4	32.5	32.9	12.6	12.7	13.1	0.186	0	0.084	10	5	11
67003	02/08/2011	946	2756.48	-9655.53	20	12.5	10.7	10.7	10.7	33.0	33.0	33.0	13.0	13.0	13.2	1.035	0	0.164	10	12	59
67004	02/12/2011	821	2757.88	-9650.42	20	14.8	12.9	12.9	12.9	31.7	31.8	31.9	11.2	11.3	11.5	0.869	0.037	0.290	10	14	55
67005	02/12/2011	906	2752.08	-9649.43	20	21.1	12.3	11.9	10.3	32.7	32.7	32.8	13.1	13.1	13.3	0.249	0.064	0.263	10	15	45
67006	02/12/2011	950	2753.78	-9653.50	20	16.7	10.1	10.7	10.1	32.5	32.4	32.4	12.4	12.4	12.4	0.529	0.042	0.115	10	12	52
67007	02/12/2011	1044	2745.07	-9656.47	20	21.3	10.4	10.4	11.1	32.7	32.6	32.6	13.2	13.2	13.2	0.482	0.027	0.219	10	9	28
67008	02/12/2011	1113	2746.85	-9657.40	20	19.2	9.9	10.1	10.2	32.4	32.3	32.2	12.8	12.6	12.7	0.162	0.012	0.149	10	14	40
67009	02/16/2011	738	2747.58	-9700.83	20	13.3	9.1	9.1	9.0	32.5	33.0	33.0	13.0	12.2	13.4	4.281	0.299	0.023	10	20	87
67010	02/16/2011	827	2742.05	-9700.45	20	19.5	10.4	9.7	9.4	32.8	33.8	34.0	12.5	13.6	13.9	0.750	0.045	0.122	10	12	64
67011	02/16/2011	857	2741.67	-9701.60	20	18.7	10.0	9.7	9.1	32.9	33.5	34.1	12.8	13.1	13.8	1.037	0.005	0.180	10	9	58
67012	02/16/2011	927	2740.07	-9703.50	20	17.7	9.5	9.9	9.2	32.9	33.5	34.1	13.5	13.0	14.0	0.276	0.015	0.997	10	12	49
67013	02/16/2011	1000	2739.73	-9705.65	20	14.9	9.7	9.6	9.2	32.9	32.9	33.9	13.4	13.1	13.6	1.253	0.003	0.170	10	10	34
67014	02/16/2011	1033	2738.07	-9708.60	20	13.7	9.3	9.4	9.1	33.3	33.3	34.0	13.6	13.0	13.5	0.645	0.036	0.046	10	12	48
67015	02/16/2011	1113	2737.67	-9704.38	20	19.0	9.8	9.6	9.0	33.0	33.9	34.3	13.6	13.8	14.4	0.424	0.006	0.640	10	11	42
67016	02/16/2011	1314	2737.63	-9701.02	20	22.4	9.2	9.5	9.5	33.2	34.1	34.5	15.1	14.4	14.5	0.098	0.002	0.250	10	8	20

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	02/12/2011	927	2922.20	-9437.57	18	9.4	9.6	9.0	9.4	31.9	32.0	32.1	7.4	7.5	7.6	0.070	0.032	0.005	10	7	36
69002	02/12/2011	1001	2923.60	-9436.33	18	9.4	9.3	9.3	9.0	31.6	31.8	32.6	6.3	7.4	8.2	1.216	0.032	0.001	10	4	8
69003	02/12/2011	1044	2922.23	-9430.70	18	12.2	8.8	8.8	8.8	33.1	33.3	33.1	8.6	8.5	8.5	0.053	0.024	0	10	4	20
69004	02/12/2011	1113	2923.65	-9430.23	18	11.6	9.0	9.0	8.8	32.5	32.9	33.0	8.5	8.4	8.4	0.123	0.055	0.007	10	7	26
69005	02/12/2011	1215	2925.27	-9435.80	18	8.5	9.6	9.3	9.1	31.1	32.4	32.2	7.5	7.9	8.0	0.041	0.063	0.025	10	8	32
69006	02/12/2011	1242	2924.77	-9436.35	18	8.5	9.9	9.7	9.4	31.1	31.9	32.3	7.7	7.7	8.0	0.091	0.086	0.008	10	9	18
69007	02/12/2011	1311	2925.33	-9438.82	18	6.1	9.7	9.5	9.3	31.2	31.8	31.8	7.8	7.8	7.8	0.420	0	0	10	3	32
69008	02/12/2011	1338	2924.82	-9440.32	18	5.2	9.7	9.7	9.5	30.9	31.3	31.4	8.6	7.7	7.6	0.390	0.001	0.006	10	8	44
69009	02/23/2011	1012	2918.68	-9436.28	18	13.2	8.8	9.0	9.2	30.3	30.7	30.9	13.8	12.8	11.7	0.094	0.021	0.005	10	11	35
69010	02/23/2011	1045	2918.23	-9434.80	18	13.7	9.3	8.9	8.7	30.5	30.6	31.2	12.8	12.2	11.3	1.389	0.092	0.047	10	14	47
69011	02/23/2011	1115	2917.80	-9435.20	18	14.0	9.2	9.0	8.6	30.5	30.6	31.3	13.0	12.3	11.3	0.977	0.441	0.017	10	16	74
69012	02/23/2011	1202	2913.02	-9437.87	18	15.8	9.3	9.4	8.7	30.9	31.3	31.9	12.7	11.2	11.4	0.275	0.025	0.016	10	14	48
69013	02/23/2011	1312	2909.80	-9450.37	18	13.7	9.2	9.2	9.0	31.6	31.9	31.9	12.9	12.0	11.3	0.131	0.052	0.047	10	10	43
69014	02/23/2011	1409	2916.08	-9446.93	18	7.6	8.8	8.9	8.9	31.1	31.1	31.1	14.3	13.9	13.4	0.647	0.017	0	10	10	50
69015	02/23/2011	1440	2917.17	-9444.98	18	7.6	9.0	9.0	8.9	30.6	30.8	31.0	14.0	13.5	13.6	0.203	0.021	0.010	10	10	35
69016	02/23/2011	1517	2916.08	-9441.97	18	9.8	9.0	9.2	9.3	30.5	30.8	31.1	14.0	13.2	12.7	0.334	0.048	0.006	10	9	29