

SEAMAP Winter 2009 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 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 2009 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° 59' and 29° 42' and longitudes -93° 35' and -97° 10') (Table 1). Samples were collected between February 3, 2009 and February 24, 2009 (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 Dept.
SEAMAP Coordinator

Table 1. TPWD SEAMAP 2009 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	02/12/2009	827	2612.4	-9707.45	21	16.8	6.2	6.4	6.3	33.7	33.7	33.8	19.4	19.4	19.4	0.017	0.006	0.018	10	4	7
31002	02/12/2009	854	2612.78	-9706.45	21	17.7	6.6	6.5	6.4	33.6	33.6	33.8	19.4	19.4	19.4	0.687	0.358	0.107	10	19	66
31003	02/12/2009	947	2617.4	-9701.45	21	25.0	6.5	6.6	6.2	33.3	33.3	33.8	19.0	19.0	19.4	0.170	0.217	0.040	10	13	42
31004	02/12/2009	1024	2619.83	-9703.57	21	19.5	6.5	6.6	6.4	33.5	33.5	33.5	19.1	19.0	19.5	0.038	0.017	0.089	10	6	8
31005	02/12/2009	1057	2620.38	-9705.57	21	18.9	6.3	6.4	6.2	33.7	33.7	33.8	19.4	19.2	19.5	0.047	0.015	0.070	10	13	30
31006	02/12/2009	1124	2619.8	-9705.43	21	18.6	6.4	6.4	5.7	33.7	33.7	34.0	19.4	19.5	19.5	0.662	0.120	0.064	10	11	52
31007	02/12/2009	1211	2614.27	-9708.48	21	15.2	6.3	6.4	6.4	33.8	33.8	33.8	19.7	19.6	19.7	0.061	0.006	0.518	10	7	9
31008	02/12/2009	1239	2613.85	-9710.12	21	9.4	6.5	6.3	6.4	33.7	33.7	33.7	19.4	19.1	19.1	0.219	0.138	0.003	10	13	33
31009	02/23/2009	839	2559.12	-9707.42	21	12.5	8.0	8.1	8.3	34.4	34.3	34.0	18.3	18.3	18.2	0.006	0	0.009	10	3	3
31010	02/23/2009	928	2602.73	-9701.47	21	24.1	8.3	8.5	8.5	34.2	34.2	34.2	17.8	17.8	17.8	0.419	0.042	0.036	10	12	53
31011	02/23/2009	1005	2604.28	-9704.55	21	19.2	8.5	8.5	8.5	34.1	34.1	34.1	17.8	17.8	17.8	0.412	0.053	0.119	10	19	85
31012	02/23/2009	1036	2605.82	-9702.5	21	22.3	8.2	8.6	8.4	34.1	34.1	34.1	17.9	17.8	17.8	0.408	0.067	0.024	10	12	50
31013	02/23/2009	1110	2606.17	-9700.63	21	25.6	8.6	8.4	8.3	34.1	34.1	34.1	18.0	17.9	17.9	0.097	0.086	0.004	10	13	42
31014	02/23/2009	1126	2608.73	-9701.47	21	23.8	8.4	8.6	8.3	34.1	34.0	33.8	17.9	17.7	17.8	0.625	0.182	0.049	10	13	55
31015	02/23/2009	1220	2610.37	-9703.45	21	20.4	8.1	8.6	8.5	34.2	34.0	34.1	18.5	18.0	18.0	0.366	0.159	0.240	10	18	67
31016	02/23/2009	1258	2611.73	-9707.52	21	17.1	8.4	8.6	8.5	33.6	33.8	33.8	18.3	17.7	17.7	0.100	0.007	0.076	10	11	28
32 MATAGORDA BAY																					
32001	02/03/2009	926	2823.53	-9617.45	19	12.1	8.5	8.2	8.2	32.2	32.2	32.1	14.8	14.8	14.8	0.287	0.391	0.997	10	19	81
32002	02/03/2009	1000	2825.62	-9616.52	19	10.0	8.4	8.2	8.2	32.1	32.1	32.1	14.7	14.6	14.7	0.358	0.935	0.798	10	13	106
32003	02/03/2009	1030	2824.43	-9615.43	19	12.9	8.4	8.1	8.4	32.2	32.2	32.2	14.7	14.6	14.7	0.435	0.427	0.164	10	16	105
32004	02/03/2009	1105	2825.55	-9611.42	19	14.2	8.2	8.4	8.2	32.5	32.4	32.3	15.1	14.8	14.9	0.184	0.253	2.114	10	12	87
32005	02/03/2009	1144	2825.58	-9607.42	19	16.0	8.4	8.1	8.2	32.6	32.6	32.6	15.3	14.9	14.9	0.206	0.247	1.984	10	16	87
32006	02/03/2009	1215	2824.55	-9604.42	19	17.6	8.2	8.2	8.1	32.9	32.8	32.8	15.6	15.2	15.3	0.430	0.048	0.372	10	18	68
32007	02/03/2009	1246	2826.55	-9605.47	19	16.0	8.1	8.0	8.2	32.6	32.5	32.5	15.7	14.9	15.0	0.217	0.167	1.302	10	13	84
32008	02/03/2009	1325	2831.38	-9608.18	19	5.5	8.1	8.0	8.0	32.5	32.3	32.1	15.8	14.9	14.6	0.146	0.197	0.875	10	18	109
32009	02/23/2009	923	2821.57	-9613.4	19	17.2	7.2	7.2	7.1	30.9	31.8	32.3	16.0	16.2	16.4	0.505	0.334	0.398	10	14	101
32010	02/23/2009	1000	2820.35	-9611.33	19	19.0	7.1	7.2	7.1	32.9	32.9	33.0	16.4	16.3	16.4	0.389	0.029	0.238	10	11	81
32011	02/23/2009	1043	2821.52	-9608.5	19	18.9	7.2	7.1	7.2	32.5	32.5	33.1	16.3	16.3	16.5	0.239	0.005	0.171	10	13	59
32012	02/23/2009	1128	2819.45	-9613.5	19	19.4	7.1	7.1	7.1	32.8	32.9	33.0	16.5	16.3	16.4	0.155	0	0.422	10	5	70
32013	02/23/2009	1207	2818.5	-9615.57	19	19.8	7.1	7.1	7.0	30.8	30.8	33.3	16.2	16.1	16.5	0.353	0.041	0.259	10	13	76
32014	02/23/2009	1304	2814.5	-9625.45	19	16.9	7.0	7.0	7.0	30.4	30.6	31.4	16.2	16.0	16.2	0.265	0.156	0.389	10	14	85
32015	02/23/2009	1342	2815.52	-9624.5	19	16.6	7.2	7.2	6.9	29.9	29.9	30.9	16.2	16.1	16.1	0.232	0.307	0.168	10	13	83
32016	02/23/2009	1417	2816.58	-9625.47	19	13.3	7.2	7.2	6.9	29.9	29.9	30.6	16.2	16.1	16.0	0.177	1.110	0.056	10	14	116

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	02/03/2009	1003	2942.57	-9346.77	17	3.4	9.4	9.2	8.9	25.7	25.6	25.6	13.2	13.3	13.3	0.230	0.176	0.106	10	10	72
40002	02/03/2009	1051	2940.72	-9341.3	17	7.9	9.7	9.6	8.6	27.4	27.4	27.5	13.8	13.7	13.8	0.022	0.037	0.036	10	7	22
40003	02/03/2009	1124	2941.4	-9340.58	17	7.6	9.4	9.3	8.9	27.3	27.4	27.4	13.8	13.7	13.7	8.389	0.018	0.055	10	11	19
40004	02/03/2009	1206	2941.83	-9335.13	17	7.6	10.6	10.3	8.1	27.3	27.3	29.0	14.0	13.8	14.2	0.093	0.001	0.100	10	9	20
40005	02/03/2009	1313	2937.58	-9345.82	17	8.8	10.0	10.1	9.2	27.6	27.7	27.9	13.9	13.9	13.7	0.336	0.052	0.057	10	7	29
40006	02/03/2009	1356	2934.38	-9344.22	17	11.3	9.9	9.8	8.8	28.6	29.0	29.7	14.2	14.3	14.3	0.019	0.023	0.942	10	8	12
40007	02/03/2009	1441	2935.23	-9348.67	17	10.4	9.7	9.6	9.3	27.1	27.8	28.1	14.1	13.8	13.8	0.120	0.006	0.155	10	7	42
40008	02/03/2009	1519	2932.53	-9350.17	17	12.2	9.5	9.2	8.3	28.4	28.1	30.2	14.0	13.9	14.2	0.119	0.034	0.100	10	10	31
40009	02/24/2009	1209	2933.72	-9400.78	17	9.8	8.9	8.9	8.9	27.3	27.3	27.4	16.0	15.8	15.7	0.179	0.140	0.165	10	8	65
40010	02/24/2009	1244	2933.67	-9358.3	17	9.8	8.9	8.8	8.7	27.0	27.1	27.3	16.1	15.7	15.7	0.613	0.642	0.006	10	15	102
40011	02/24/2009	1328	2933.52	-9355.83	17	10.1	9.5	9.3	9.3	26.4	26.9	27.1	15.9	15.6	15.6	0.189	0.101	0.270	10	12	65
40012	02/24/2009	1419	2936.7	-9350.32	17	7.3	8.9	8.7	8.4	25.5	25.5	25.5	15.9	15.7	15.5	0.034	0.261	0.058	10	12	76
40013	02/24/2009	1453	2936.68	-9352.8	17	6.1	9.0	8.8	8.6	25.1	25.2	25.4	15.6	15.4	15.3	0.202	0.674	0.148	10	12	116
40014	02/24/2009	1541	2940.47	-9355.5	17	2.4	9.2	9.2	9.2	24.9	24.9	24.9	16.0	16.0	16.0	0.255	3.301	0.002	10	11	98
40015	02/24/2009	1614	2939.68	-9354.7	17	4.0	9.0	9.1	9.1	25.0	25.0	25.1	15.5	15.5	15.5	0.158	0.747	0.043	10	12	107
40016	02/24/2009	1647	2940.3	-9353.18	17	2.1	9.5	9.4	9.3	24.8	24.9	24.9	16.0	16.0	15.9	0.094	2.541	0.003	10	7	92
67 NUECES																					
67001	02/03/2009	850	2745.82	-9705.3	20	9.1	6.7	6.8	6.9	32.3	32.3	32.3	15.5	15.5	15.5	0.113	0.042	0	10	8	20
67002	02/03/2009	929	2742.13	-9705.12	20	14.3	6.9	6.8	6.9	32.3	32.3	32.3	15.8	15.8	15.7	0.043	0.024	0.074	10	9	41
67003	02/03/2009	1012	2739.68	-9701.52	20	20.1	6.8	6.8	6.8	32.4	32.4	32.4	15.8	15.8	15.8	0.040	0.009	0.028	10	10	21
67004	02/03/2009	1054	2742.28	-9701.47	20	18.3	6.9	6.9	6.8	32.3	32.3	32.2	15.8	15.6	15.6	0.077	0.089	3.478	10	9	27
67005	02/03/2009	1134	2743.77	-9657.32	20	21.3	6.7	6.9	6.8	32.5	32.6	32.6	16.2	16.0	16.0	0.067	0	0.008	10	2	4
67006	02/03/2009	1205	2744.2	-9657.38	20	21.0	6.6	6.9	6.8	32.5	32.5	32.5	16.3	16.0	16.1	0.030	0.007	0.302	10	10	14
67007	02/03/2009	1244	2744.68	-9700.67	20	17.1	6.8	7.0	7.0	32.3	32.2	32.2	16.1	15.5	15.6	0.172	0.044	0.066	10	13	41
67008	02/03/2009	1313	2745.22	-9701.65	20	15.2	6.9	7.0	6.9	32.3	32.2	32.2	16.2	15.5	15.6	0.741	0.015	6.302	10	13	66
67009	02/23/2009	834	2757.17	-9651.6	20	14.2	6.9	6.9	6.9	30.3	30.3	30.3	16.1	16.1	16.0	0.027	0.007	0.023	10	5	7
67010	02/23/2009	902	2755.53	-9651.43	20	16.3	6.9	7.0	6.9	30.4	30.4	30.4	16.0	16.0	16.0	0.077	0.119	0.040	10	12	20
67011	02/23/2009	940	2752.15	-9653.47	20	18.0	6.9	6.9	6.8	31.1	31.1	31.2	16.1	16.1	16.1	0.035	0.011	0.055	10	7	11
67012	02/23/2009	1012	2751.55	-9651.57	20	19.6	6.8	6.9	6.8	31.1	31.1	31.1	16.2	16.1	16.2	0.105	0.156	0.196	10	14	41
67013	02/23/2009	1043	2750.2	-9653.52	20	19.5	6.8	6.9	6.8	31.3	31.3	31.3	16.2	16.2	16.2	0.337	0.453	0.341	10	15	64
67014	02/23/2009	1126	2746.58	-9654.55	20	21.5	6.8	6.8	6.8	31.5	31.5	31.5	16.4	16.2	16.2	0.744	0.075	0.083	10	14	55
67015	02/23/2009	1202	2745.18	-9657.52	20	20.4	7.1	6.8	6.7	29.4	30.3	31.7	16.3	16.0	16.6	0.288	0.110	1.045	10	14	72
67016	02/23/2009	1247	2748.5	-9702.4	20	8.3	7.2	7.2	7.2	29.3	29.3	29.4	16.1	16.0	15.9	0.779	0.006	0.091	10	11	32

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	02/12/2009	925	2922.12	-9441.53	18	5.9	8.0	8.0	8.0	29.7	29.6	29.5	15.6	15.6	15.6	0.425	1.752	1.022	10	13	100
69002	02/12/2009	956	2923.95	-9439.38	18	7.7	7.7	7.7	7.7	31.0	31.1	31.3	15.6	15.5	15.7	1.267	2.737	0.945	10	16	110
69003	02/12/2009	1026	2923.22	-9441.83	18	4.4	7.9	7.9	7.7	30.1	30.2	30.2	15.7	15.6	15.5	0.702	3.347	3.100	10	17	103
69004	02/12/2009	1057	2924.48	-9441.18	18	3.5	7.9	7.9	8.0	30.4	30.4	30.4	15.7	15.7	15.7	0.097	0.301	2.021	10	12	74
69005	02/12/2009	1130	2925.35	-9440.33	18	2.7	7.9	7.9	8.0	30.6	30.6	30.5	15.8	15.8	15.7	0.039	0.570	0.023	10	10	82
69006	02/12/2009	1219	2927.23	-9434.9	18	6.0	8.3	8.3	8.4	30.7	30.7	30.7	15.7	15.6	15.6	0.253	0.682	0.014	10	11	91
69007	02/12/2009	1257	2928.78	-9431.38	18	6.0	8.3	8.3	7.4	30.9	30.9	31.7	15.7	15.6	15.4	0.244	3.580	0.019	10	14	106
69008	02/12/2009	1348	2923.18	-9433.98	18	9.7	8.4	7.9	7.6	31.5	31.8	32.8	16.0	15.7	15.6	0.066	0.690	0.132	10	14	69
69009	02/23/2009	953	2920.72	-9440.25	18	10.0	7.7	7.5	7.5	29.8	29.7	29.8	15.2	15.3	15.3	0.198	0.614	0.062	10	15	88
69010	02/23/2009	1029	2919.22	-9442.97	18	5.0	7.5	7.5	7.5	31.0	31.0	31.0	15.7	15.7	15.6	0.051	0.027	1.276	10	7	21
69011	02/23/2009	1107	2917.9	-9445.38	18	6.0	7.6	7.6	7.7	31.0	31.0	31.0	15.5	15.5	15.5	0.089	0.011	0.024	10	9	15
69012	02/23/2009	1153	2915.22	-9449.75	18	5.5	7.8	7.8	7.8	30.6	30.6	30.7	15.1	15.1	15.2	0.769	0.012	1.816	10	8	28
69013	02/23/2009	1252	2907.7	-9450.37	18	14.0	7.2	7.2	7.2	34.2	34.2	34.3	16.1	16.1	16.1	1.509	0.119	0.074	10	10	41
69014	02/23/2009	1345	2910.25	-9447.8	18	13.0	7.2	7.2	7.3	33.8	33.8	33.8	16.0	16.0	16.0	0.156	0.085	0.123	10	10	52
69015	02/23/2009	1418	2912.83	-9447.52	18	11.0	7.1	7.0	7.1	32.5	32.5	32.7	15.9	15.9	15.8	0.249	0.175	0.146	10	13	52
69016	02/23/2009	1519	2916.27	-9441.8	18	9.3	7.6	7.5	7.6	30.9	30.9	30.9	15.8	15.7	15.8	0.065	0.307	0.011	10	10	53