

# 2020 FALL CRUISE REPORT

SEAMAP Shrimp/Groundfish Survey

*Penaeid* Shrimp

Benthic Fauna

*R/V Pelican*

Louisiana Department of Wildlife and Fisheries

Fisheries Research Laboratory

195 Ludwig Annex

Grand Isle, LA 70358



**Chief Scientist  
Jeremy Miller**

SURVEY PERIOD: 12/6/2020 – 12/11/2020

AREA OF OPERATION: Gulf of Mexico (latitudes 28.2° - 29.2°, longitudes 89.9°-92.5°, depths 10-77m)

## INTRODUCTION

The Southeast Area Monitoring and Assessment Program (SEAMAP) Shrimp/Groundfish trawl surveys are conducted throughout the Gulf of Mexico to provide fishery-independent monitoring and assessment information on shrimp and groundfish assemblages associated with low relief soft-bottom habitats. These data are essential to the management of the fisheries resources in the Gulf of Mexico. Louisiana Department of Wildlife and Fisheries (LDWF), as well as SEAMAP state partners, sample in conjunction with the National Marine Fisheries Service (NMFS) to provide a Gulf-wide trawl survey each summer and fall.

## OBJECTIVES

1. Utilize the standard SEAMAP 42ft trawl to characterize shrimp and groundfish assemblages associated with low relief soft-bottom habitats.
2. Increase understanding of the environment associated with shrimp and groundfish assemblages by collecting environmental data, water column profiles, at each shrimp/groundfish station.

## METHODS

Environmental data were collected in conjunction with each station. A full water column profile was recorded with a Seabird CTD (SBE 9plus or SBE 19plus). Water parameters measured included temperature, dissolved oxygen (DO), salinity, and conductivity. In the event a DO reading fell below 2.0 Mg/L, the DO was verified with a YSI.

SEAMAP Shrimp/Groundfish trawl sampling consisted of pulling a 42ft, 1-5/8 inch stretched mesh, trawl at each selected station. The trawl towline was set at a 4:1 cable length/water depth ratio. Trawl towing was conducted at or near 2.5 knots for 30 minutes after the net was fully deployed. Trawling was conducted both day and night. For trawl catches less than 22.7 kilograms (kg), the total weight of the catch was processed. For collections greater than 22.7 kg, samples were subsampled by randomly removing a percentage of fishes from the total catch. The catch was processed following procedures per the SEAMAP Operations Manual guidelines.

Data were coded electronically according to the NMFS SEAMAP Operations Manual guidelines using the NOAA Fisheries Scientific Collection System (FSCS). Data were then submitted to the Gulf States Marine Fisheries Commission.

## SURVEY DESIGN

A probability based sample design is utilized to select groundfish trawling stations. All Gulf of Mexico waters from 6 to 60 fathoms ranging from Brownsville, TX to the Florida Keys are included in the groundfish sampling universe. NMFS has set the target for total number of stations sampled per survey at roughly 300 stations. Sampling stations are proportionally allocated among NMFS Gulf Coast Shrimp Statistical Zones. Each Zone has been divided into two strata based on water depth (<20 fathoms) and (>20 to 60 fathoms). The number of stations selected to sample in each of the Zones is proportional to the surface area within each

Zone/depth strata to the total surface area. Sampling stations within each stratum are randomly selected. This selection process ensures all areas within the sampling universe have equal probability of being selected.

Currently, SEAMAP partners, including Louisiana, participate in a summer and fall shrimp/groundfish trawl survey. NMFS provides GSMFC a list of sampling stations, who in turn, work with state SEAMAP partners to select stations that each state can complete. NMFS vessels sample remaining stations. Louisiana chooses inshore stations west of the Mississippi River to the Texas border for sampling. All data go to GSMFC for management and storage. These data are available to the scientific community upon request.

## RESULTS

Fall Shrimp/Groundfish Survey Cruise Number 2001

12/6/2020 – 12/11/2020

Vessel: R/V *Pelican*

Louisiana sampled 23 shrimp/groundfish stations (Table 1) in Louisiana’s territorial sea and the adjacent EEZ (latitudes 28.2°- 29.2°, longitudes 89.9°-92.5°, depths 10-77m)(Figure 1) aboard the R/V *Pelican*. Biological and environmental data were recorded using the Fisheries Scientific Collection System (FSCS).

## DEVIATIONS

Site W1506 not trawled due to time constraints and proximity to another completed site, site W1405 sampled twice on two separate days after cable snapped retrieving first attempt on 12/6. Minimal crew to allow for individual rooms for COVID prevention lead to only sampling during a single 14-15 hour shift.

## SURVEY PARTICIPANTS

Jeremy Miller	Chief Scientist	FRL, Grand Isle, LA
Paul McLaughlin	Biologist	FRL, Grand Isle, LA
Clint Edds	Biologist	FRL, Grand Isle, LA
Suzy Delaune	Biologist	FRL, Grand Isle, LA
Rebecca Hillebrandt	Biologist	LDWF, Baton Rouge, LA

Figure 1. 2020 Fall Shrimp/Groundfish Survey sampling locations

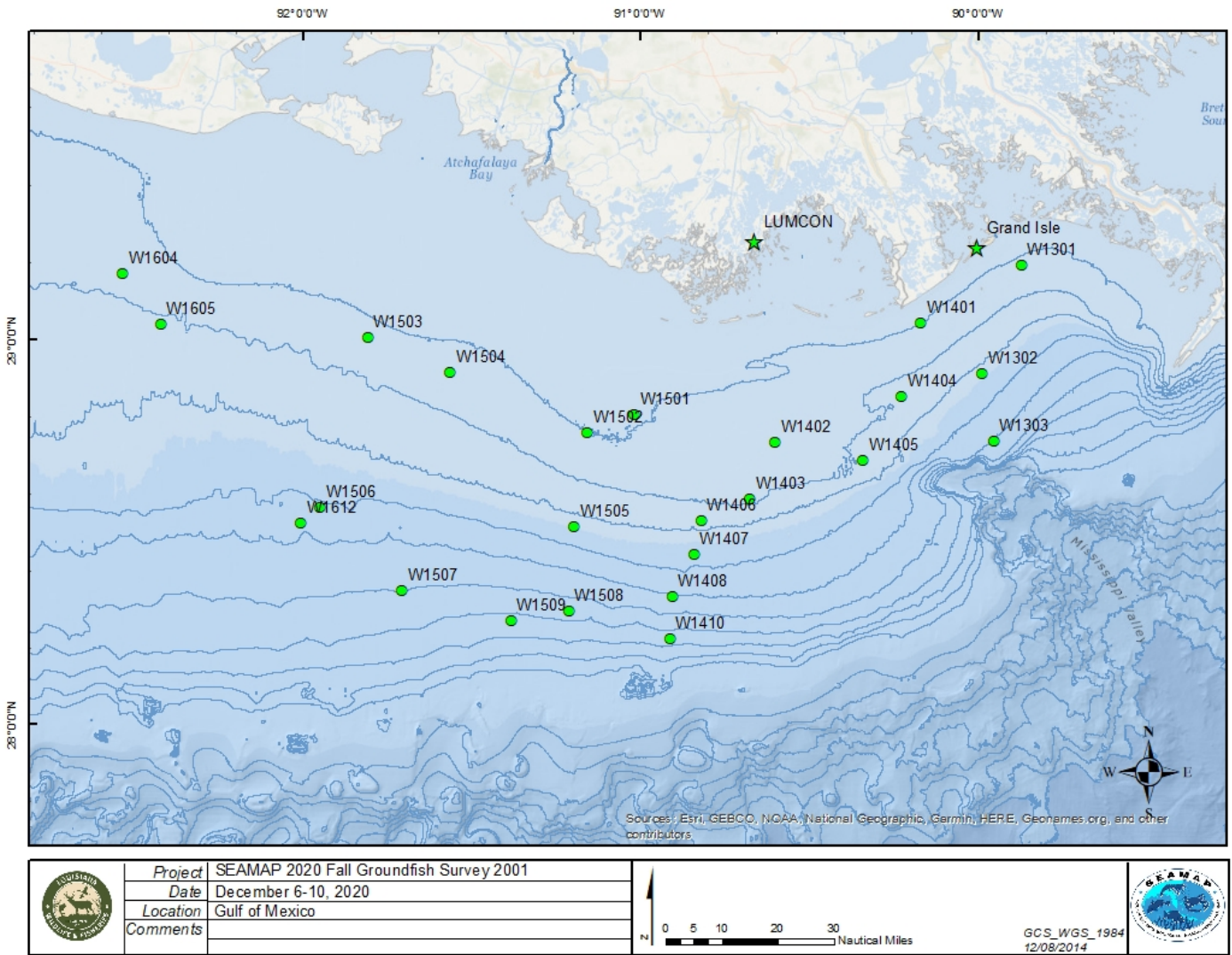


Table 1. 2020 Fall Shrimp/Groundfish Survey Station Details

STA#	PASC#	Date	GMT TIME	LAT	LON	STAT ZONE	MAX DEPTH (m)	SALINITY		TEMPERATURE		DO		FLUORESCENCE		CATCH TOTAL (kg)	MIN FISH
		MM/DD/YYYY						TOP	BOT	TOP	BOT	TOP	BOT	TOP	BOT		
W1302	35001	12/6/2020	12:41	28°55.15	-89°58.90	13	33.5	30.35	34.77	19.91	23.75	7.4	5.1	0.935	5.696	0.495	30
W1404	35002	12/6/2020	15:00	28°51.26	-90°13.46	14	24.3	32.11	32.38	20.74	21.07	7.0	6.8	1.741	3.513	0.109	30
W1405	35003	12/6/2020	17:04	28°41.18	-90°20.98	14	23.4	31.87	33.28	20.73	22.18	7.1	6.3	0.594	2.777	0.000	30
W1402	35004	12/6/2020	20:17	28°44.13	-90°35.83	14	17	33.56	33.58	21.29	21.33	7.2	7.2	1.014	1.013	5.536	30
W1501	35005	12/6/2020	23:46	28°48.24	-91°01.19	15	11	33.08	33.09	20.17	20.19	7.2	7.3	2.908	3.476	47.260	30
W1502	35006	12/7/2020	2:01	28°45.59	-91°09.56	15	12.9	33.46	33.53	20.14	20.20	7.2	7.1	3.493	4.552	65.471	30
W1504	35007	12/8/2020	14:13	28°54.83	-91°33.97	15	17.4	21.23	34.27	14.87	21.00	8.7	6.6	3.279	4.254	3.085	30
W1503	35008	12/8/2020	16:40	29°00.62	-91°48.42	15	16	25.36	33.73	15.35	20.64	8.7	6.7	3.639	4.214	2.034	30
W1605	35009	12/8/2020	21:08	29°02.55	-92°25.61	16	23.1	29.90	34.96	17.16	20.57	8.8	6.8	2.759	3.714	47.148	30
W1604	35010	12/8/2020	22:56	29°10.21	-92°32.55	16	19.4	29.20	34.06	16.45	20.68	8.7	6.6	2.753	4.209	13.177	30
W1612	35011	12/9/2020	12:38	28°31.42	-92°00.10	16	46	35.79	35.79	22.76	22.76	6.6	6.7	1.061	1.197	0.000	30
W1507	35012	12/9/2020	15:49	28°21.25	-91°43.14	15	63.5	35.86	35.87	23.31	23.31	6.6	6.6	0.646	0.660	0.000	30
W1509	35013	12/9/2020	19:26	28°16.35	-91°22.75	15	75	35.89	36.33	23.65	22.91	6.6	5.2	0.430	3.520	9.972	30
W1508	35014	12/9/2020	21:35	28°17.48	-91°12.71	15	70.6	35.77	36.17	23.51	23.14	5.8	5.6	0.745	1.698	49.440	30
W1410	35015	12/10/2020	0:52	28°13.70	-90°54.18	14	78	35.89	36.58	23.54	21.32	6.6	4.2	0.439	6.166	61.204	30
W1505	35016	12/10/2020	12:01	28°31.05	-91°12.25	15	36	34.44	35.31	20.26	21.92	7.3	6.7	1.755	1.926	9.595	30
W1406	35017	12/10/2020	15:21	28°31.87	-90°48.86	14	29	34.40	35.15	21.06	21.63	7.3	6.7	0.713	2.231	1.086	30
W1407	35018	12/10/2020	16:53	28°26.57	-90°50.01	14	38.6	34.92	35.39	21.32	22.06	7.1	6.7	1.225	2.585	9.313	30
W1408	35019	12/10/2020	18:50	28°19.90	-90°54.97	14	55	33.98	34.94	21.31	22.04	7.9	6.5	0.886	2.021	0.000	30
W1403	35020	12/10/2020	22:03	28°35.50	-90°40.27	14	20.7	31.87	33.28	20.73	22.18	7.1	6.3	0.594	2.777	1.306	30
W1405	35021	12/11/2020	0:47	28°41.27	-90°20.76	14	24.8	32.52	33.69	20.66	20.92	8.6	7.3	0.960	0.978	6.715	30
W1303	35022	12/11/2020	11:49	28°44.71	-89°56.88	13	50.8	29.01	36.38	18.82	23.44	9.6	5.9	1.595	0.992	128.310	30
W1301	35023	12/11/2020	15:42	29°11.76	-89°51.96	13	13.9	30.17	32.13	18.74	18.83	8.8	7.0	2.280	5.483	6.775	30
W1401	35024	12/11/2020	18:58	29°02.85	-90°10.74	14	14.3	32.10	32.23	19.43	19.37	7.9	7.0	2.699	4.125	4.635	30