

2019 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: 10/9/2019 – 10/10/2019

AREA OF OPERATION: Gulf of Mexico (latitudes 28.2° - 29.2°, longitudes 89.5°-90.4°, depths 10-105m)

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, and chlorophyll measurements at each shrimp/groundfish station.
3. Provide information on the occurrence, abundance, and geographical distribution of eggs, larvae, and juvenile fishes and invertebrates by sampling plankton stations historically sampled by Louisiana during groundfish cruises (summer cruise only).
4. Increase understanding of the environment associated with pelagic eggs, larvae, and juvenile fishes and invertebrates by collecting environmental data, water column profiles, and chlorophyll measurements with each plankton collection (summer cruise only).
5. Collect detailed observations (i.e. identification, number, volume, bell diameter) of net-caught jellyfish and ctenophores to assess these communities in relationship to plankton catches (summer cruise only).
6. Collect volumetric measurements of net caught *Sargassum* spp. to assess species living in and around *Sargassum* spp. habitats (summer cruise only).

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 1902

10/9/2019 – 10/10/2019

Vessel: R/V *Pelican*

Louisiana sampled 13 shrimp/groundfish stations (Table 1) in Louisiana's territorial sea and the adjacent EEZ (latitudes 28.2°- 29.2°, longitudes 89.5°-90.4°, depths 10-105m)(Figure 1) aboard the R/V *Pelican*. Biological and environmental data were entered into the SEAMAP data system.

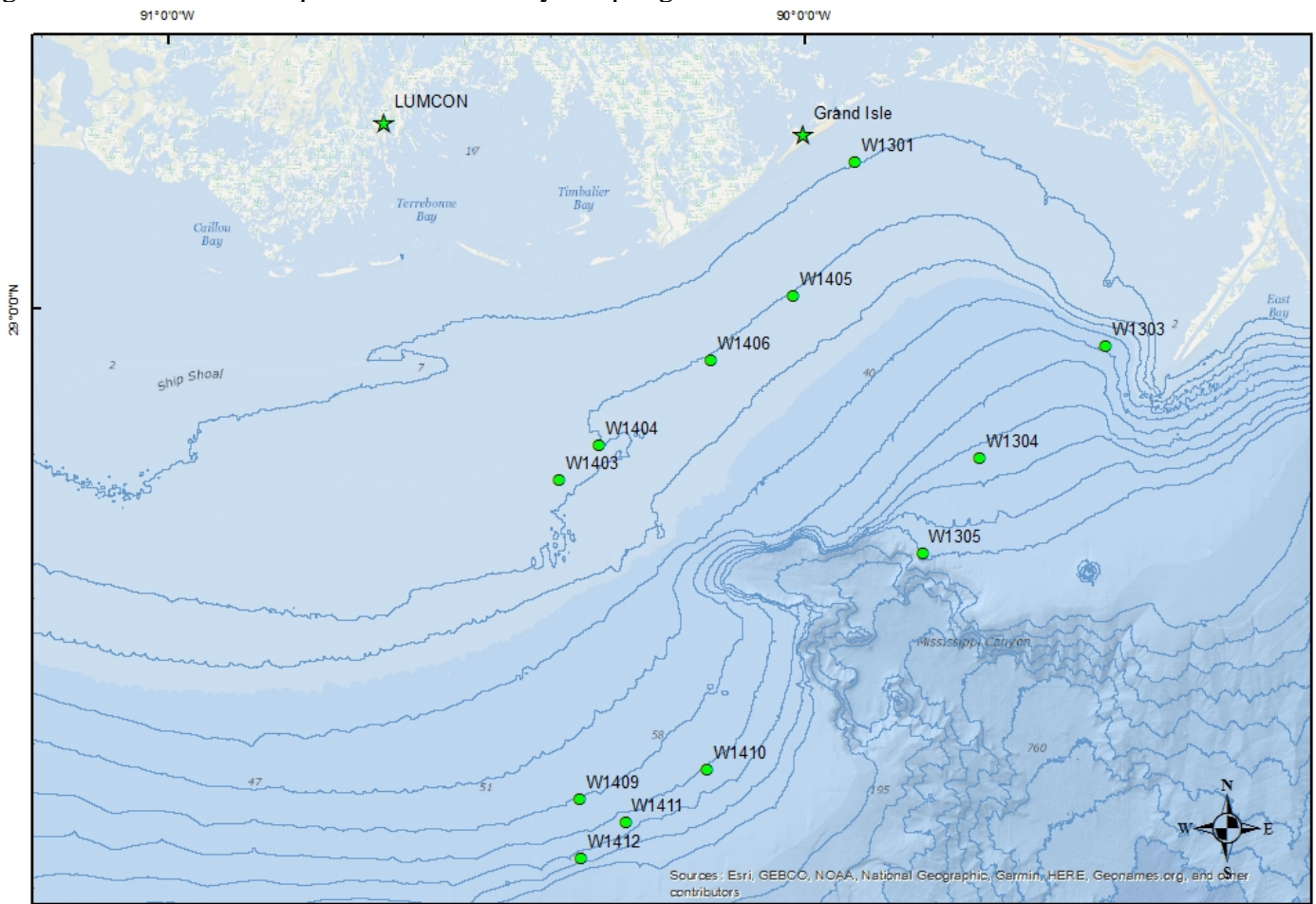
DEVIATIONS

Site W1401 not trawled due to high vessel traffic, sites W1409 and W1407 not sampled due to weather.

SURVEY PARTICIPANTS

Jeremy Miller	Chief Scientist	FRL, Grand Isle, LA
Paul McLaughlin	Biologist	FRL, Grand Isle, LA
Clint Edds	Biologist	FRL, Grand Isle, LA
Chris Levron	Biologist	FRL, Grand Isle, LA
Suzy Delaune	Biologist	FRL, Grand Isle, LA
Paige O'Malley	Biologist	FRL, Grand Isle, LA
Zack Zuckerman	Biologist	FRL, Grand Isle, LA
Cijii Marshall	Biologist	FRL, Grand Isle, LA
Jordan Frantz	Biologist	FRL, Grand Isle, LA
Charles Alexander	Biological Technician	FRL, Grand Isle, LA

Figure 1. 2019 Fall Shrimp/Groundfish Survey sampling locations







	<i>Project</i>	SEAMAP 2019 Groundfish Survey 1902	 	 GCS_WGS_1984 12/08/2014
	<i>Date</i>	October 9-10, 2019		
	<i>Location</i>	Gulf of Mexico		
	<i>Comments</i>			

Table 1. 2019 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		
W1405	35003	10/09/019	1444	29°01.02	-90°01.1	14	23.2	24.16	31	28.01	28.85	7.1	5.3	2.876	1.868	11.136	30
W1301	35004	10/09/019	1652	29°12.04	-89°55.27	13	10.3	22.35	27.42	28.34	28.64	7.2	5.2	3.456	3.659	12.145	30
W1406	35002	10/09/019	1228	28°55.71	-90°08.84	14	23.8	26.28	34.33	28.32	29.05	6.7	5.5	2.248	0.809	36.949	30
W1303	35005	10/09/019	2044	28°56.87	-89°31.63	13	46.9	22.67	35.43	28.94	27.97	6.3	4.7	3.63	1.156	78.041	30
W1304	35006	10/09/019	2333	28°47.63	-89°43.52	13	79.2	34.18	36.43	29.18	22.33	6.2	4.4	-0.097	0.782	24.353	30
W1305	35007	10/10/019	237	28°39.77	-89°48.90	13	93.0	34.7	36.51	28.94	18.78	6.3	4.1	-0.204	0.099	10.503	30
W1410	35008	10/10/019	709	28°21.84	-90°09.24	14	80.9	35.05	36.37	28.98	22.89	6.2	4.2	-0.227	0.362	0.000	30
W1411	35009	10/10/019	952	28°17.55	-90°16.83	14	77.0	34.97	36.42	28.96	22.29	6.2	4.6	-0.179	0.26	34.415	30
W1412	35010	10/10/019	1148	28°14.47	-90°21.08	14	96.8	35.11	36.27	28.96	21.88	6.1	4.9	-0.284	0.297	0.000	33
W1403	35012	10/10/019	1919	28°45.85	-90°23.15	14	18.4	32.56	34.03	28.61	28.9	6.3	5.7	0.278	0.506	0.417	30
W1404	35013	10/10/019	2033	28°48.73	-90°19.42	14	21.2	28.61	34.57	29.13	29.1	6.5	5.3	1.232	0.751	0.134	30