

2019 SUMMER 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: 6/30/2019 – 7/2/2019

AREA OF OPERATION: Gulf of Mexico (latitudes 28.4°- 29.0°, longitudes 89.0°-91.7°, depths 10-95m)

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

Summer Shrimp/Groundfish Survey Cruise Number 1901

6/30/2019 – 7/2/2019

Vessel: R/V *Pelican*

Louisiana sampled 22 shrimp/groundfish stations (Table 1) in Louisiana's territorial sea and the adjacent EEZ (latitudes 28.4°- 29.0°, longitudes 89.0°-91.7°, depths 10-95m)(Figure 1) aboard the R/V *Pelican*. Biological and environmental data were entered into the SEAMAP data system.

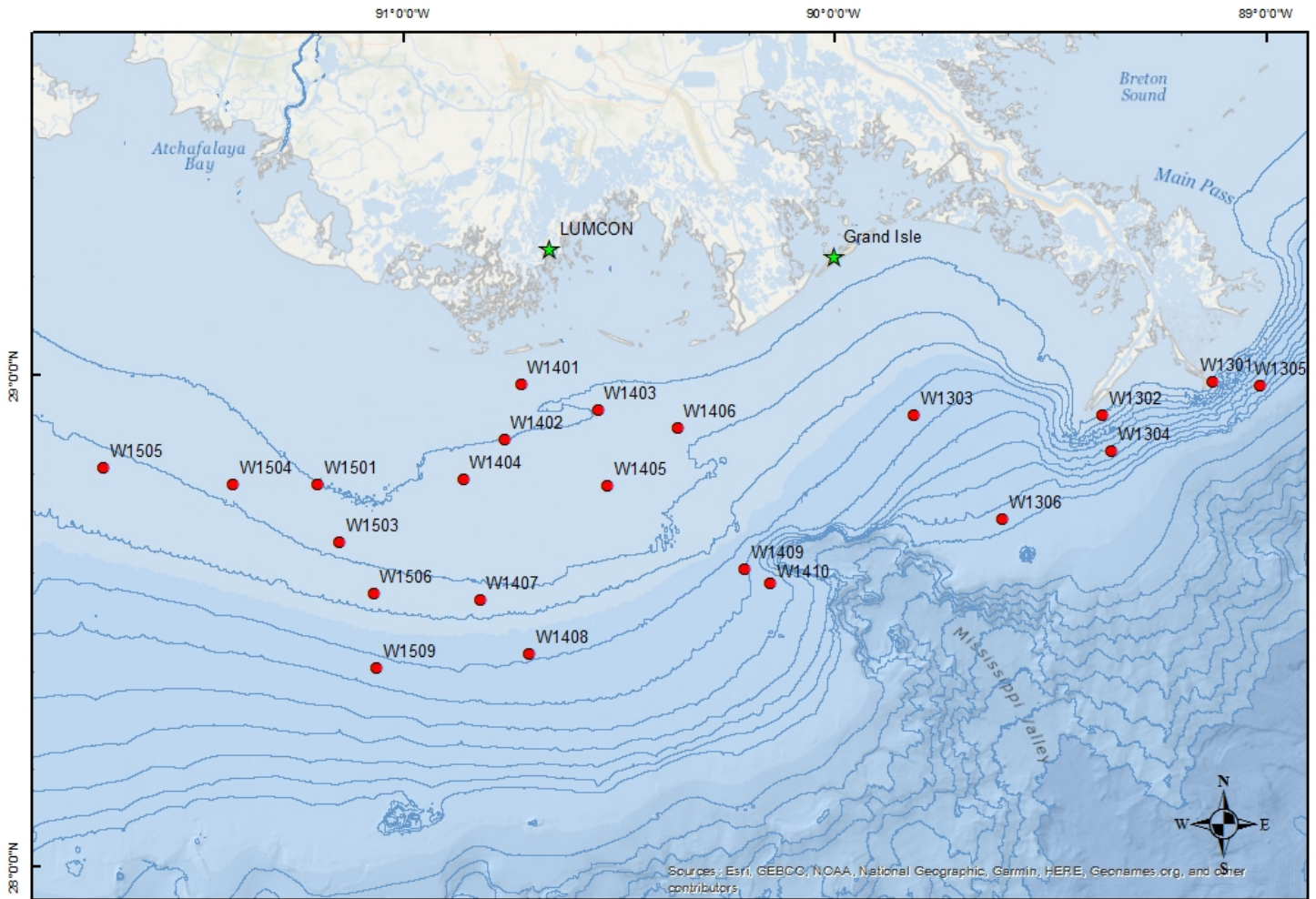
DEVIATIONS

None.

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
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Taylor Allgood	Biologist	FRL, Grand Isle, LA
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Charles Alexander	Biological Technician	FRL, Grand Isle, LA
Anthea Fredrickson	Nichols Student volunteer	FRL, Grand Isle, LA

Figure 1. 2019 Summer Shrimp/Groundfish Survey sampling locations




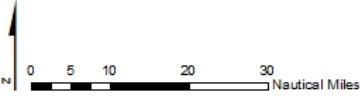

	<i>Project</i>	SEAMAP 2019 Groundfish Survey 1901		
	<i>Date</i>	June 30 - July 2, 2019		
	<i>Location</i>	Gulf of Mexico		
	<i>Comments</i>			
		GCS_WGS_1984 12/08/2014		

Table 1. 2019 Summer 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	35002	06/30/019	555	28°46.692	-90°31.638	14	20	28.7	35.2	29.9	27.1	6.6	1.1	1.7323	1.9702	0.000	30
W1406	35003	06/30/019	756	28°53.64	-90°21.888	14	19	28.8	35.7	29.9	24.7	6.4	0.1	2.8263	0.6957	13.970	31
W1303	35004	06/30/019	1221	28°55.212	-89°48.912	13	48	14.1	36.4	29.7	21.6	9.2	2.5	3.9868	0.2269	16.604	31
W1302	35005	06/30/019	1609	28°55.242	-89°22.668	13	18	18.1	35.4	29.5	28.5	8.6	6.1	5.7425	0.4522	2.122	28
W1301	35070	06/30/019	2031	28°59.352	-89°07.38	13	20	24.6	34.9	29.1	23.9	8	2.8	5.5097	0.395	6.124	30
W1410	35010	07/01/019	943	28°34.758	-90°08.91	14	59	34.8	36.4	29.4	21.2	6.4	4.8	0.1539	0.4361	2.707	30
W1408	35012	07/01/019	1556	28°26.16	-90°42.468	14	41	31.5	36.3	29.9	22.5	6.9	2.9	0.8011	2.3722	71.106	30
W1407	35013	07/01/019	2005	28°32.718	-90°49.368	14	27	29.8	36	29.9	24.4	7.4	3.3	1.1009	2.0753	8.233	31
W1506	35015	07/01/019	2259	28°33.51	-91°04.17	15	30	29.2	36.1	29.7	24	7.4	1.8	2.8156	1.8998	24.444	30
W1503	35016	07/02/019	46	28°39.738	-91°08.892	15	18	28.4	35.5	30.1	26.2	7.7	0.9	1.4591	1.9445	17.813	31
W1505	35017	07/02/019	516	28°48.858	-91°41.7	15	24	26.3	35.8	29.6	25.3	6.9	0.5	1.8254	0.8352	11.800	30
W1504	35018	07/02/019	747	28°46.782	-91°23.67	15	18	27.2	35.4	30	26.5	7.4	2.8	2.4891	1.2463	0.612	30
W1501	35019	07/02/019	953	28°46.722	-91°11.85	15	13	22.9	33.7	30	27.5	6.3	0.1	2.3229	1.2945	0.030	30
W1404	35020	07/02/019	1330	28°47.49	-90°51.63	14	18	27	34.2	29.8	28.2	6.9	4.9	1.7212	1.9614	6.923	30
W1402	35021	07/02/019	1512	28°52.248	-90°45.978	14	15	30.5	33.5	29.9	29.2	6.7	6.1	3.2437	2.2626	21.350	30
W1401	35022	07/02/019	1745	28°58.938	-90°43.632	14	10	20.9	29	30.2	29.4	7.9	1.6	3.6924	1.8935	0.035	30
W1403	35023	07/02/019	1939	28°55.56	-90°32.982	14	16	16.9	35.2	30	25.5	8.1	0.1	2.7936	0.6663	0.003	30