2018 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: 6/19/2018 – 6/21/2018

AREA OF OPERATION: Gulf of Mexico (latitudes 28.4°- 29.1°, longitudes 89.4°-92.0°, depths 5-100m)

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 according to the NMFS SEAMAP Operations Manual guidelines and entered into the LDWF SEAMAP data entry system. 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 1801
6/19/2018 – 6/21/2018
Vessel: R/V *Pelican*

Louisiana sampled 20 shrimp/groundfish stations (Table 1) in Louisiana's territorial sea and the adjacent EEZ (latitudes 28.4°- 29.1°, longitudes 89.4°-92.0°, depths 5-100m)(Figure 1) aboard the R/V *Point Sur*. Biological and environmental data were entered into the SEAMAP data system.

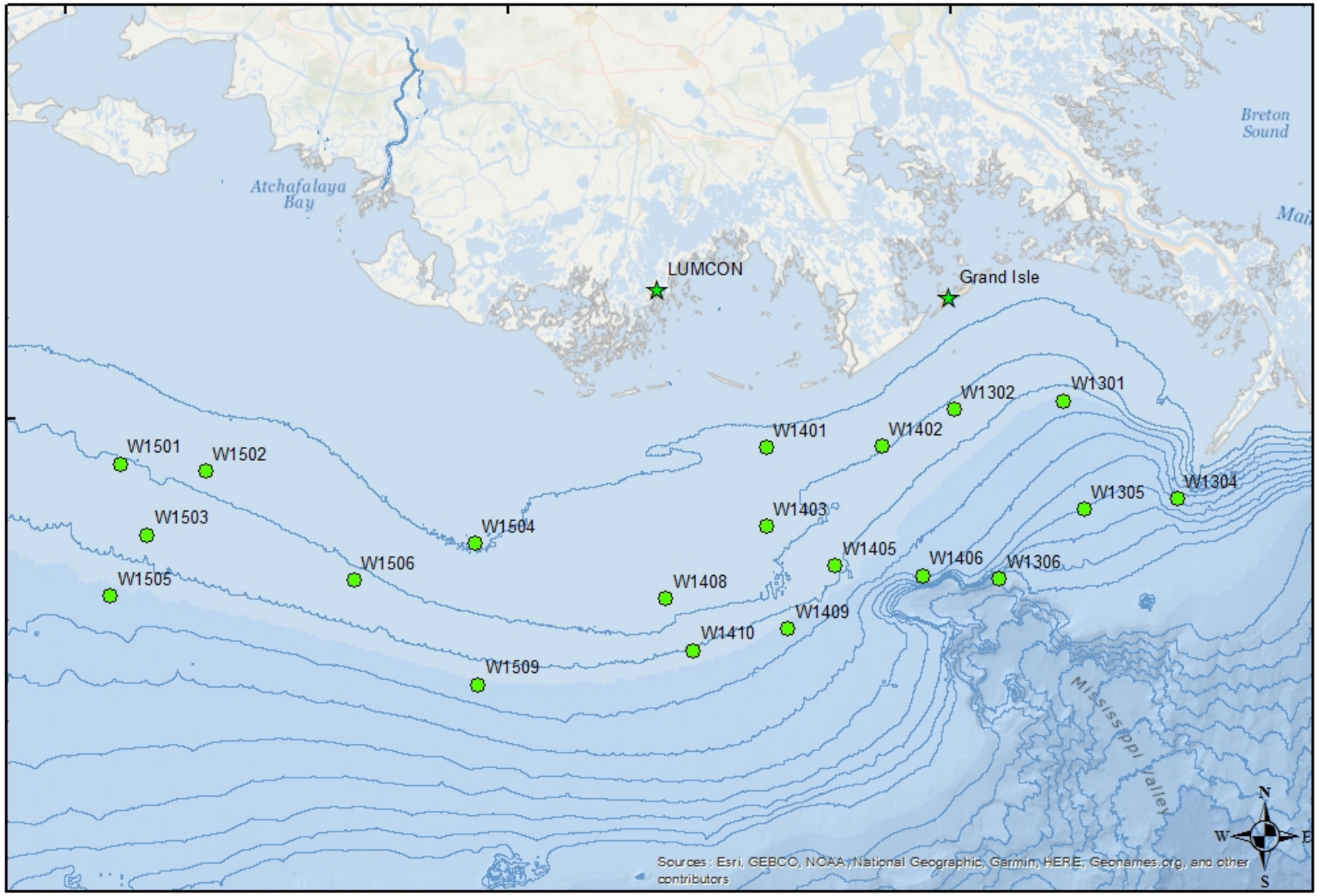
DEVIATIONS

Site W1404 not sampled due to excessive vessel traffic in the area.

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
Robert Booth	Biologist	FRL, Grand Isle, LA
Zack Zuckerman	Biologist	FRL, Grand Isle, LA
Charles Alexander	Biological Technician	FRL, Grand Isle, LA
Alexa Ballinger	Nichols Student volunteer	FRL, Grand Isle, LA

Figure 1. 2018 Summer Shrimp/Groundfish Survey sampling locations



Project	SEAMAP 2018 Summer Groundfish Survey 1801
Date	June 2018
Location	Gulf of Mexico
Comments	

N 0 5 10 20 30 Nautical Miles

GCS_WGS_1984
12/08/2014

Table 1. 2018 Summer Shrimp/Groundfish Survey Station Details

STA#	PASC#	DATE	GMT TIME	LAT	LONG	STAT ZONE	MAX DEPTH(m)	SALINITY			TEMPERATURE			DO			FLUORESCENCE			CATCH			MIN FISH
		MM/DD/YYY						TOP	MID	BOT	TOP	MID	BOT	TOP	MID	BOT	TOP	MID	BOT	FIN	CRUS	OTHER	
W1401	**35001**	**6/19/2018**	**810**	**28°56.52**	**90°24.91**	**14**	**15.5**	**24.54**	**24.53**	**24.7**	**28.88**	**28.88**	**28.9**	**6.31**	**6.31**	**6.23**	**6.96**	**6.95**	**6.82**	**1.489**	**0.013**	**0.002**	**30**
W1406	**35008**	**6/20/2018**	**553**	**28°41.32**	**90°03.73**	**14**	**50.8**	**26.9**	**36.38**	**36.47**	**28.92**	**23.92**	**21.9**	**6.63**	**6.76**	**4.91**	**4.75**	**1.44**	**2.24**	**57.925**	**3.9713**	**0.2371**	**30**
W1402	**35002**	**6/19/2018**	**1203**	**28°56.74**	**90°09.26**	**14**	**22.4**	**25.42**	**25.76**	**36.11**	**28.69**	**28.74**	**25.15**	**6.39**	**6.19**	**0.34**	**6.51**	**6.29**	**6.68**	**0.045**	**0.202**	**0**	**30**
W1302	**35003**	**6/19/2018**	**1408**	**29°1.08**	**89°59.38**	**13**	**24**	**26.33**	**27.49**	**36.31**	**28.73**	**28.49**	**25.63**	**6.12**	**5.79**	**1.38**	**5.61**	**5.27**	**4.52**	**146.935**	**0.3703**	**0.9056**	**30**
W1504	**35015**	**6/21/2018**	**211**	**28°45.17**	**91°04.56**	**15**	**10.6**	**27.38**	**27.37**	**27.37**	**28.59**	**28.57**	**28.57**	**6.53**	**6.53**	**6.53**	**4.64**	**4.56**	**4.65**	**48.897**	**1.9952**	**9.0906**	**30**
W1506	**35016**	**6/21/2018**	**458**	**28°40.73**	**91°20.96**	**15**	**23.4**	**30.76**	**32.08**	**35.83**	**28.33**	**28.32**	**23.62**	**6.51**	**6.48**	**0.23**	**2.85**	**2.63**	**3.57**	**2.182**	**0.004**	**0.862**	**30**
W1505	**35017**	**6/21/2018**	**928**	**28°38.93**	**91°54.03**	**15**	**38.7**	**31.77**	**36.36**	**36.4**	**28.14**	**24.44**	**22.83**	**6.41**	**6.95**	**5.4**	**2.56**	**1.44**	**2.27**	**11.256**	**18.34**	**0.2441**	**30**
W1503	**35018**	**6/21/2018**	**1137**	**28°46.19**	**91°49.03**	**15**	**29.8**	**29.29**	**35.13**	**36.13**	**28.39**	**25.69**	**22.98**	**6.53**	**5.59**	**2.34**	**3.37**	**2.6**	**3.57**	**17.055**	**1.908**	**3.191**	**30**
W1501	**35019**	**6/21/2018**	**1343**	**28°54.62**	**91°52.73**	**15**	**23**	**27.58**	**29**	**35.13**	**28.44**	**28.41**	**24.01**	**6.56**	**6.31**	**0.84**	**3.78**	**3.56**	**4.58**	**18.826**	**0.043**	**4.181**	**30**
W1502	**35020**	**6/21/2018**	**1537**	**28°53.79**	**91°41.07**	**15**	**20.5**	**27.33**	**28.21**	**34.92**	**28.54**	**28.43**	**24.6**	**6.45**	**5.99**	**0.13**	**4.46**	**4.59**	**5.25**	**0.344**	**0.011**	**0.343**	**30**
W1301	**35004**	**6/19/2018**	**1714**	**29°2.1**	**89°44.5**	**13**	**37**	**20.84**	**36.22**	**36.44**	**29.05**	**26.1**	**23.32**	**6.32**	**5.04**	**1.18**	**9.32**	**1.68**	**4.59**	**123.393**	**8.0468**	**0.3324**	**30**
W1304	**35005**	**6/19/2018**	**2033**	**28°50.51**	**89°29.12**	**13**	**52.1**	**21.45**	**36.18**	**36.32**	**29.42**	**25.04**	**22.14**	**7.1**	**6.23**	**5.02**	**7.95**	**1.49**	**2.2**	**12.261**	**4.059**	**1.772**	**30**
W1403	**35010**	**6/20/2018**	**1149**	**28°47.13**	**90°24.95**	**14**	**19.4**	**28.8**	**28.8**	**35.51**	**28.5**	**28.5**	**25.09**	**6.42**	**6.39**	**0.99**	**3.97**	**4**	**4.24**	**1.632**	**0.443**	**1.096**	**30**
W1405	**35009**	**6/20/2018**	**932**	**28°42.49**	**90°15.51**	**14**	**30.7**	**27.75**	**35.32**	**36.37**	**28.69**	**27.59**	**24.5**	**6.46**	**5.32**	**3.54**	**4.78**	**2.44**	**2.79**	**15.347**	**4.906**	**0.25**	**30**
W1305	**35006**	**6/19/2018**	**2318**	**28°49.18**	**89°41.71**	**13**	**69.5**	**27.91**	**36.4**	**36.48**	**29.19**	**23.72**	**20.93**	**6.59**	**3.91**	**4.58**	**3.92**	**1.22**	**1.77**	**137.604**	**8.6075**	**0.4442**	**30**
W1306	**35007**	**6/20/2018**	**247**	**28°40.95**	**89°53.24**	**13**	**122**	**28.89**	**36.46**	**36.04**	**28.92**	**19.25**	**16.96**	**6.55**	**4.45**	**4.17**	**3.72**	**1.65**	**8.87**	**41.453**	**12.935**	**0.7728**	**30**
W1509	**35014**	**6/20/2018**	**2309**	**28°28.31**	**91°04.05**	**15**	**35.1**	**30.56**	**36.26**	**36.43**	**28.73**	**25.23**	**22.39**	**6.52**	**6.89**	**3.49**	**2.53**	**1.3**	**3.02**	**23.752**	**7.2399**	**1.3927**	**30**
W1408	**35012**	**6/20/2018**	**1712**	**28°38.58**	**90°38.56**	**14**	**20**	**29.47**	**31.01**	**36.03**	**28.72**	**28.68**	**25.24**	**6.55**	**6.18**	**1.53**	**3.08**	**2.62**	**5.19**	**78.19**	**2.5106**	**0.301**	**30**
W1410	**35013**	**6/20/2018**	**1901**	**28°32.37**	**90°34.79**	**14**	**32.6**	**30.04**	**36.11**	**36.43**	**28.82**	**25.45**	**23.66**	**6.5**	**4.04**	**2.15**	**2.57**	**2.15**	**4.48**	**47.964**	**8.4652**	**0.8786**	**30**
W1409	**35011**	**6/20/2018**	**1425**	**28°35.02**	**90°21.94**	**14**	**37**	**34.17**	**34.5**	**36.38**	**28.13**	**28.1**	**23.87**	**6.36**	**6.29**	**3.15**	**1.52**	**1.56**	**3.23**	**17.471**	**1.334**	**1.122**	**30**