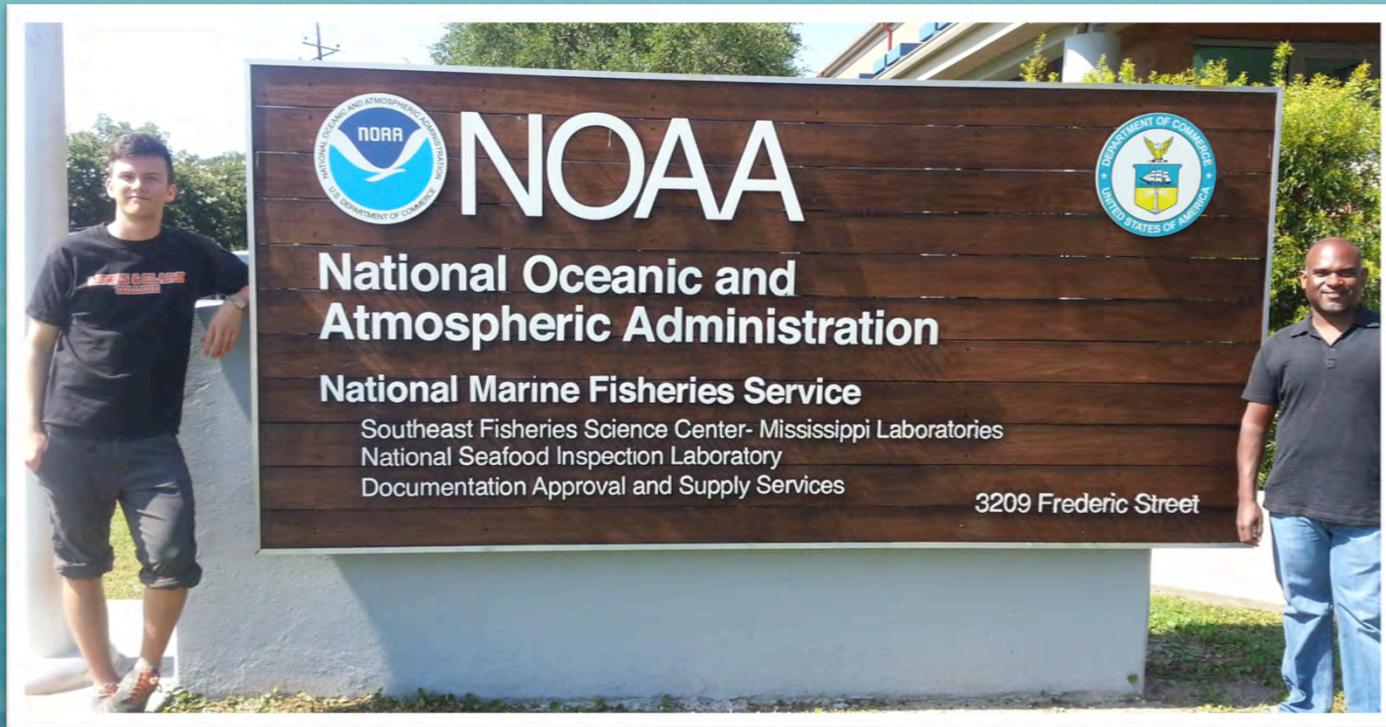


A SUMMER ON THE GULF OF MEXICO

WITH THE TRAWL, SHARK, AND PROTECTED RESOURCES UNITS AT
NOAA SOUTHEAST FISHERIES SCIENCE CENTER
PASCAGOULA, MS

ROBIN GROPP



BOTTLENOSE DOLPHIN REPRODUCTIVE OUTCOMES SURVEYING

PROTECTED RESOURCES UNIT

- **NRDA** POST- OIL SPILL RESEARCH
- PREGNANT FEMALES BRANDED SUMMER 2013
- SEARCHING FOR FEMALES THIS SUMMER TO
GAUGE CALF SURVIVORSHIP



<http://www.noaa.gov/deepwaterhorizon/data/nrda.html>

SEA TURTLE STRANDING AND SALVAGE NETWORK

PIER CAPTURE REPORTING

~200 REPORTED IN MS COAST SO FAR IN 2014

INSTITUTE FOR MARINE MAMMAL STUDIES

TAGGING, REHABILITATION, RELEASE

AT SEA:

MOST
COMMERCIAL
VESSELS REQUIRED
TO USE TURTLE
EXCLUDER
DEVICES (TEDs)

RESEARCH VESSELS
LIMITED TO 30
MIN. TRAWLS

MEASUREMENT/
TAGGING OF
INCIDENTAL
CAPTURES.

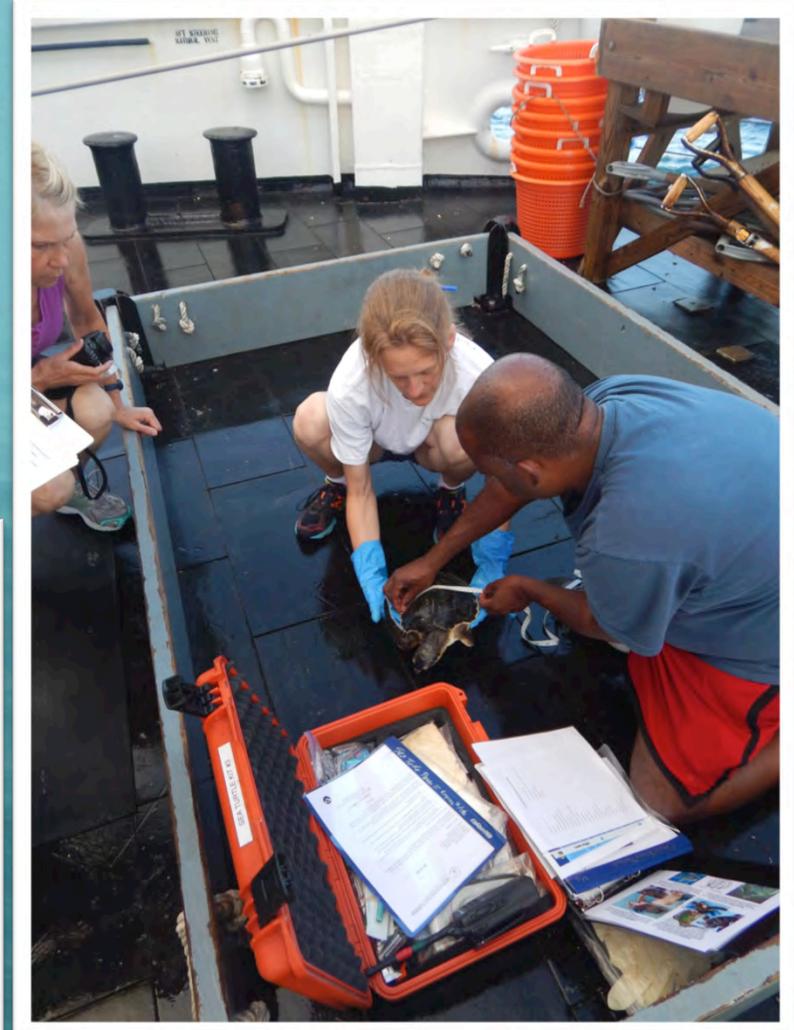


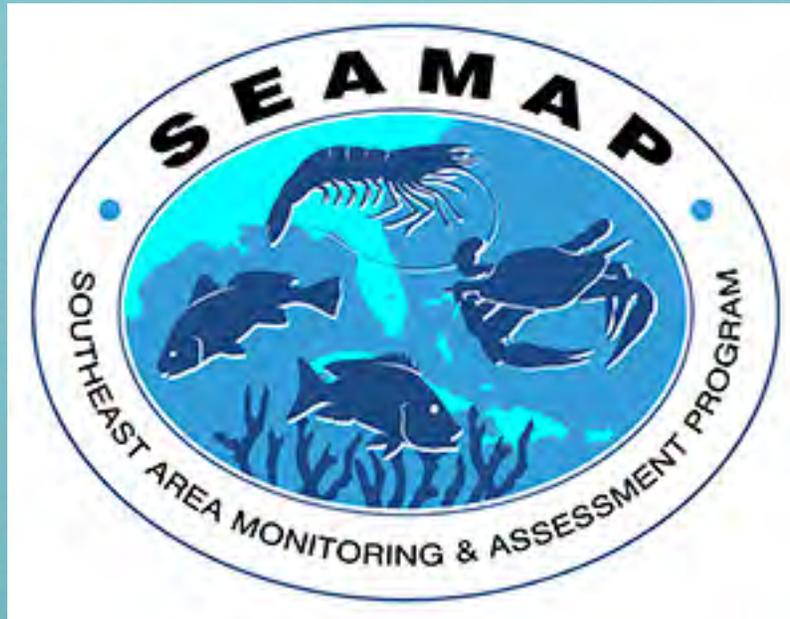
PHOTO CREDIT: NOAA



SUMMER GROUND FISH TRAWL SURVEY ON THE *OREGON II*

FROM BROWNSVILLE, TX TO PASCAGOULA, MS
JUNE 7-JULY 6





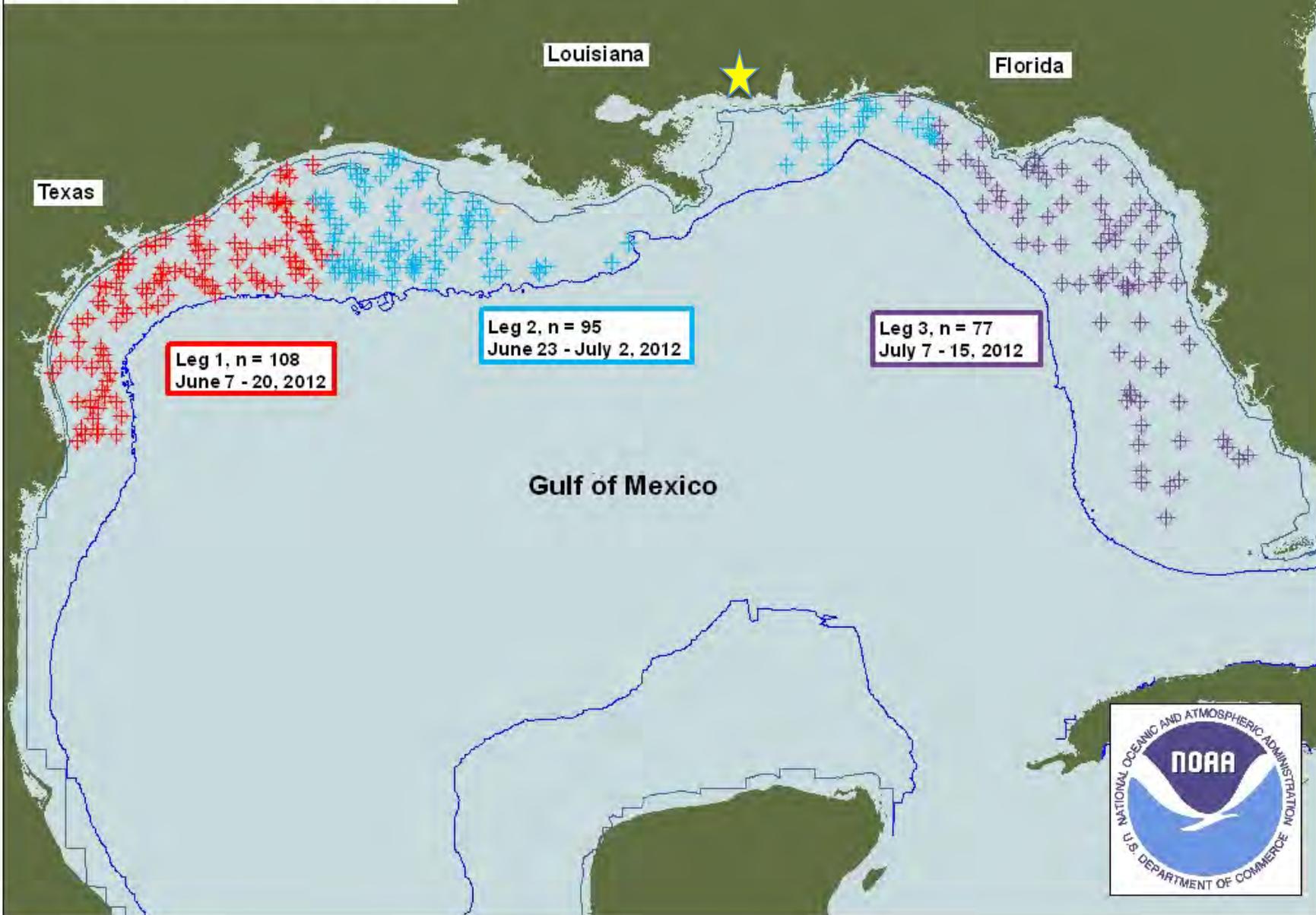
http://www.gsmfc.org/default.php?p=sm_ov.htm

SOUTHEAST AREA MONITORING AND ASSESSMENT PROGRAM (SEAMAP)
GULF OF MEXICO, SOUTH ATLANTIC, CARIBBEAN

GULF GROUND FISH SURVEYS COLLECT DATA ON:
DISTRIBUTION AND ABUNDANCE FOR VARIOUS STOCKS
PLANKTON SAMPLES
WATER PROFILE INFORMATION

KEY SPECIES:
PENAEID SHRIMPS
RED SNAPPER

CTD Station Locations
SEAMAP Summer Groundfish Survey
June 7 - July 15, 2012 NOAA Ship Oregon II



<http://www.ncddc.noaa.gov/hypoxia/products/>



FISH SAMPLING

30 MINUTE TRAWLS
SORTING
IDENTIFICATION
ENTERED IN COMPUTER
DATABASE



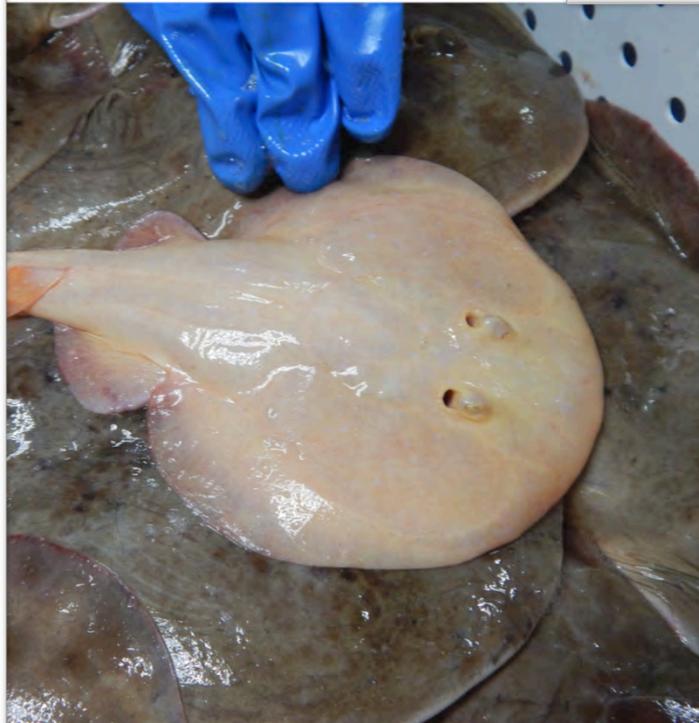
CTD DEPLOYMENT

DISSOLVED OXYGEN
TEMPERATURE
SALINITY
FLUORESCENCE

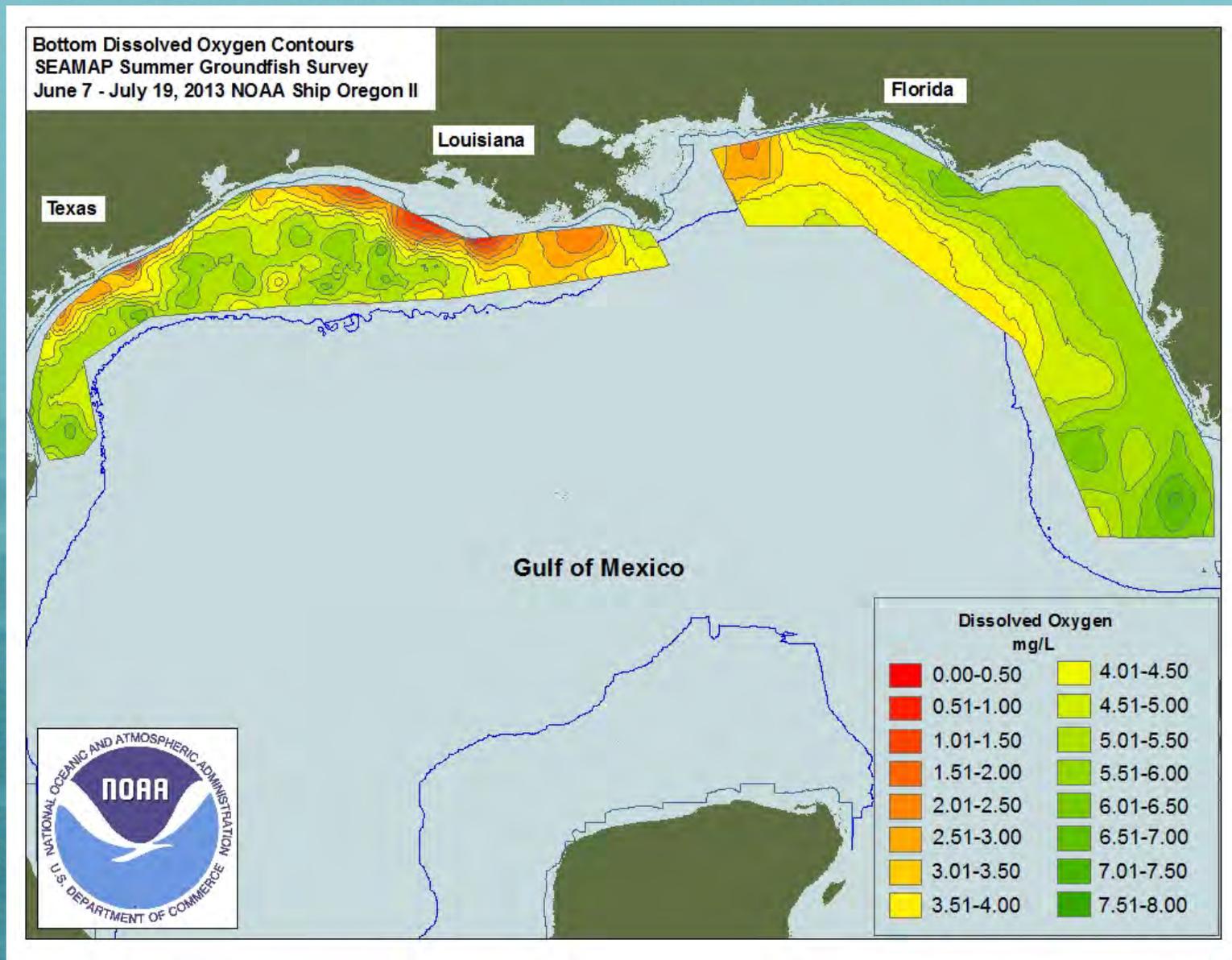


PLANKTON SAMPLING

BONGOS AT DEPTH
NEUSTON AT SURFACE



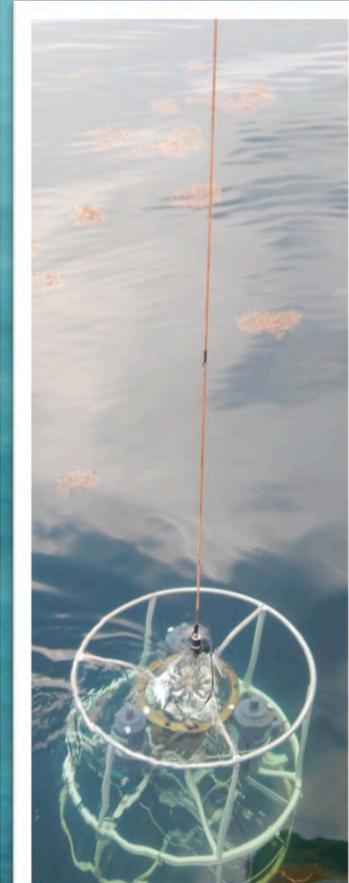
ANNUAL HYPOXIA MAPPING



<http://www.ncddc.noaa.gov/hypoxia/products/>

WINKLER TITRATION

DAILY DOUBLE CHECK ON DISSOLVED OXYGEN SENSORS



SPECIMEN PRESERVATION AT SEA
FORMALDEHYDE, BLEACH, AND WARM AIR DRYING
SPECIMENS FOR THE NOAA OUTREACH PROGRAM
AND TEACHER AT SEA



MUSTELUS SPP.

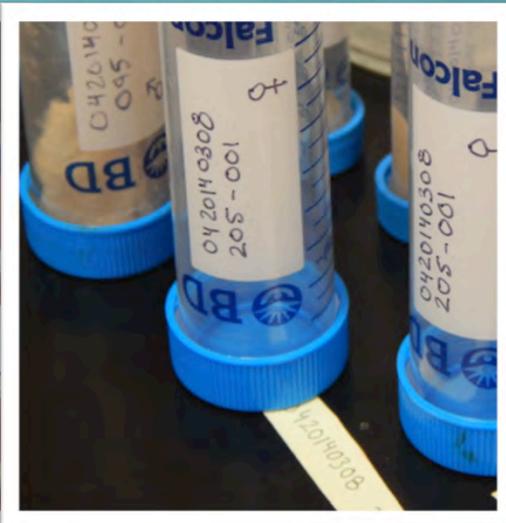
LIFE HISTORY WORK WITH LISA JONES

SEARCHING FOR RELIABLE
ID CHARACTERISTICS

LABIAL FURROWS

CAUDAL FIN SHAPE

RELATIVE VERTEBRAE SIZE



SHARK IDENTIFICATION PROJECT



PHOTO DOCUMENTATION

COMMUNICATION WITH SHARK UNIT AT LAB

MUSTELUS SPP.

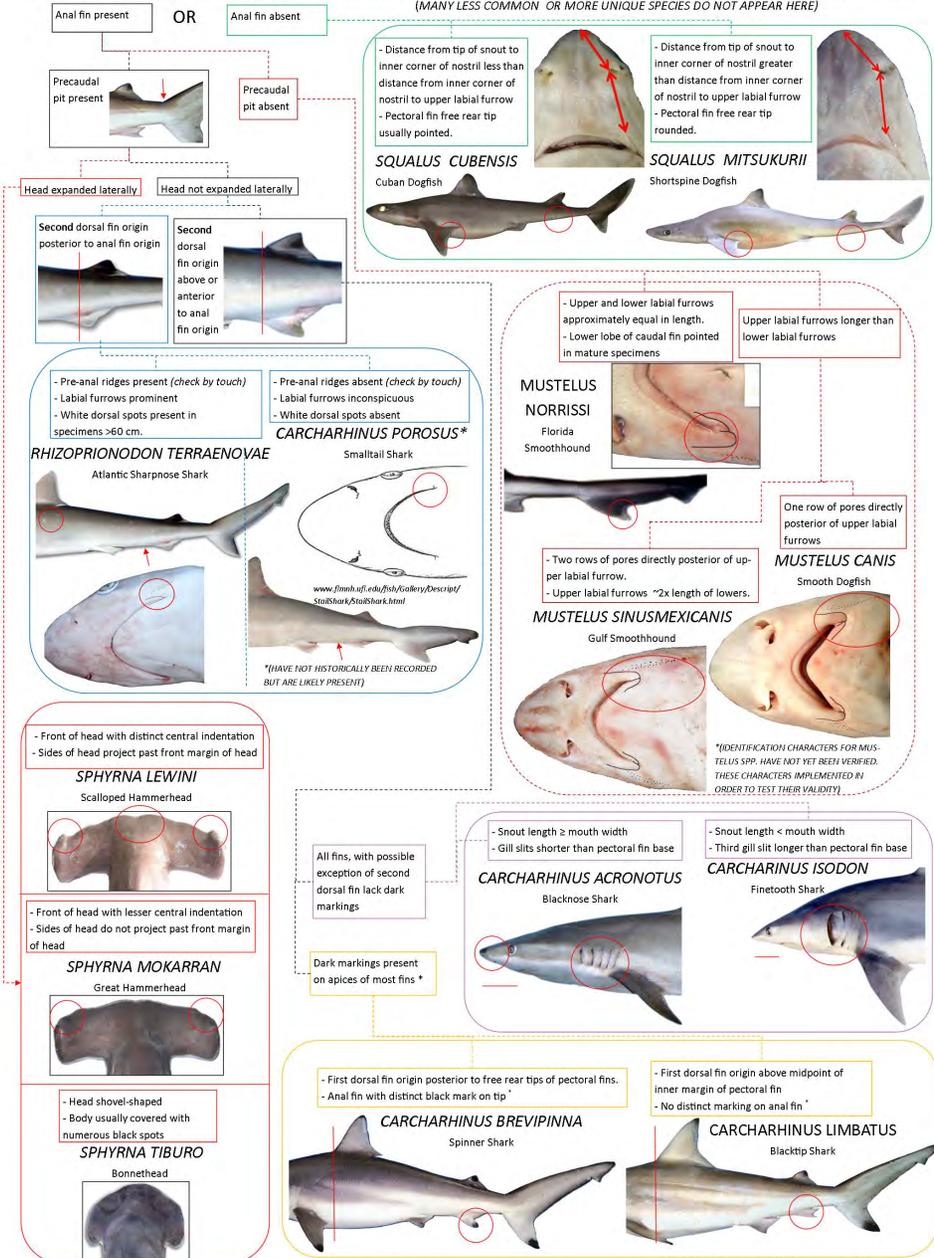
FIN CLIPS// FROZEN SAMPLES// BIOPSY PUNCHES

POSTER KEYS FOR SHARKS AND
BATOIDS



A GUIDE TO EASILY CONFUSED SHARK SPECIES COMMONLY CAUGHT ON GROUND FISH TRAWL.

(MANY LESS COMMON OR MORE UNIQUE SPECIES DO NOT APPEAR HERE)



* OTHER SPECIES, SUCH AS SHARPNOSE, CAN HAVE BLACK-TIPPED FINS AS JUVENILES. LOOK AT 2ND DORSAL ALIGNMENT FIRST.
 REMEMBER: ALWAYS MEASURE STRETCH TOTAL LENGTH.

CREATED BY: Robin Gropp, NCI Intern Summer 2014.
 PHOTO CREDIT: Dr. William Triggors, Dr. Eric Hoffmeyer, Lisa Jones, NOAA Mississippi Fisheries Laboratory.

MUSTELUS IDs CONTESTED
(*ESPECIALLY M. canis* AND
M. norrissi.)

**CHARACTERS IMPLEMENTED TO
TEST THEIR VALIDITY**

- Upper and lower labial furrows approximately equal in length.
- Lower lobe of caudal fin pointed in mature specimens

Upper labial furrows longer than lower labial furrows

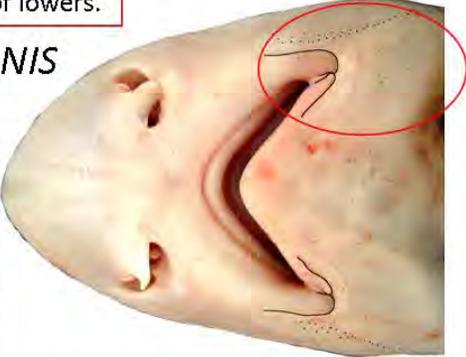
MUSTELUS NORRISSI
Florida Smoothhound



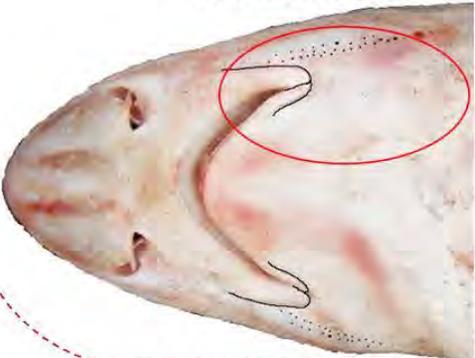
One row of pores directly posterior of upper labial furrows

- Two rows of pores directly posterior of upper labial furrow.
- Upper labial furrows ~2x length of lowers.

MUSTELUS CANIS
Smooth Dogfish



MUSTELUS SINUSMEXICANIS
Gulf Smoothhound



*(IDENTIFICATION CHARACTERS FOR MUSTELUS SPP. HAVE NOT YET BEEN VERIFIED. THESE CHARACTERS IMPLEMENTED IN ORDER TO TEST THEIR VALIDITY)

**C. POROSUS NOT PRESENT IN GROUND FISH DATA BUT VERIFIED
IN GULF OF MEXICO AND NEAR IDENTICAL TO R. TERRAENOVAE**

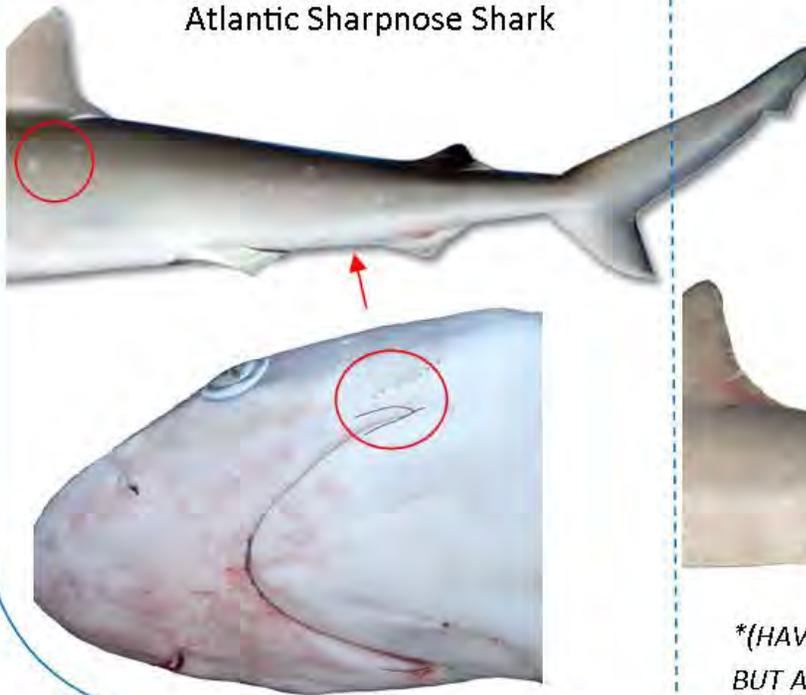
- Pre-anal ridges present (*check by touch*)
- Labial furrows prominent
- White dorsal spots present in specimens >60 cm.

- Pre-anal ridges absent (*check by touch*)
- Labial furrows inconspicuous
- White dorsal spots absent

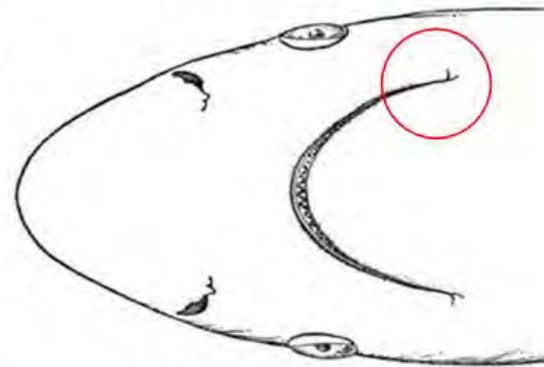
CARCHARHINUS POROSUS*

RHIZOPRIONODON TERRAENOVAE

Atlantic Sharpnose Shark



Smalltail Shark



www.flmnh.ufl.edu/fish/Gallery/Descript/StailShark/StailShark.html



***(HAVE NOT HISTORICALLY BEEN RECORDED
BUT ARE LIKELY PRESENT)**

A GUIDE TO EASILY MISIDENTIFIED BATOIDS CAUGHT ON GROUND FISH TRAWL.

(SEVERAL LESS COMMON OR MORE UNIQUE SPECIES DO NOT APPEAR HERE)

Head distinctly demarcated from pectoral fins. OR Pectoral fins continuous along sides of head

Subrostral lobe undivided
MYLIOBATIS FREMINVILLI
Bullnose Eagle Ray



Teeth usually in series of 7 across. (Jaw and teeth pictured)

RHINOPTERA BONASUS*
Cownose Ray



Teeth in series of 9 or more across. (Jaw and teeth pictured)

RHINOPTERA BRASILIENSIS*
Ticon Cownose Ray



*IF RI CLIPS REQUESTED FROM BONASUS SPP. FOR FURTHER IDENTIFICATION

- Skin folds absent posterior of spiracles
- Enlarged, serrated spines on tail absent (except *G. micrura*)
- Disc more than 1.5 x as wide as is long.
- Tail much shorter than disc width

- Tail with 1 or more serrated spines
- Distinct tentacle on posterior margin of spiracle
GYMNURA ALTAVELA*
Spiny Butterfly Ray



http://www.fishbase.org/summary.php?taxon=Gymnura+altavela
*NOT DESCRIBED IN GULF OF MEXICO BUT PRESENT IN RECENT HISTORICAL DATA

- Tail without serrated spines
- No tentacle on spiracle
GYMNURA MICRURA
Smooth Butterfly Ray



- Disc is less than 1.3 x as wide as is long
- Tail much longer than disc width

Outer corners of disc abruptly or angularly rounded

- Preorbital length greater than distance between spiracles.
- Pelvic fins projecting beyond posterior margin of disc by ~ 1/3 of their length.
DASYTIS SABINA
Atlantic Stingray



Outer corners of disc gradually rounded

- Preorbital length less than distance between spiracles.
- Pelvic fins not or barely projecting beyond posterior margin of disc.
DASYTIS SAY
Bluntnose Stingray



- Conspicuous thorns on lateral sides of tail.
- Ventral fin fold about 1/2 as deep as height of tail.
- From 35 cm (at birth) to 210 cm (record) disc width.
DASYTIS CENTROURA
Roughtail Stingray



- No conspicuous thorns on tail
- Ventral fin fold on tail about as deep as height of tail
DASYTIS AMERICANA
Southern Stingray



- Dark round spot on basal section of each pectoral fin.
- Tail fully covered in thorns
RAJA TEXANA
Round Skate



- Dorsal surface with dark/black defined spots and bars.
- One row of thorns from mid disc to 1st dorsal fin
- Lateral rows of thorns on tail
RAJA EGLANTERA
Clearnose Skate



- No thorns on mid disc.
- 3 rows of thorns on tail.
- Dorsal surface brown with undefined dark blotches
DIPTURUS OLSENI
Spreadfin Skate



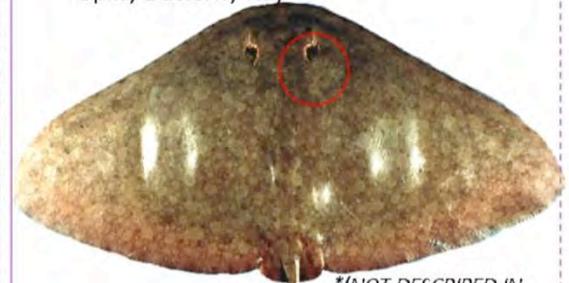
CREATED BY: Robin Goopp, NCI Intern Summer 2014.
PHOTO CREDIT: Christian Jones, Dr. Erik Hoffmayer, Kenneth Powell
NOAA Mississippi Fisheries Laboratory
McEachern and de Carvalho, 2003

GYMNURA ATLAVELA NOT DESCRIBED AS PRESENT IN GULF OF MEXICO, BUT APPEARS IN RECENT FALL AND SUMMER GROUND FISH DATA FROM 1999-2012

- Tail with 1 or more serrated spines
- Distinct tentacle on posterior margin of spiracle

GYMNURA ATLAVELA

Spiny Butterfly Ray



<http://www.fishbase.org/Photos/ThumbnailSummary.php?Genus=Gymnura&Species=altavela>

*(NOT DESCRIBED IN GULF OF MEXICO BUT PRESENT IN RECENT HISTORICAL DATA).

- Tail without serrated spines
- No tentacle on spiracle

GYMNURA MICRURA

Smooth Butterfly Ray



SINCERE THANKS TO:

ANDRE DEBOSE
NORTHERN GULF INSTITUTE
NOAA FISHERIES
THE CREW OF THE OREGON II

DR. MELISSA COOK
DR. WILLIAM DRIGGERS
KRISTIN HANNAN
DR. ERIC HOFFMAYER
KIM JOHNSON
DR. CHRISTIAN JONES
LISA JONES
KAREN MITCHELL
ERROL RONJE
TANIYA WALLACE
AND EVERYONE ELSE I HAVE WORKED WITH AT THE LABS AND AT SEA.