AL FAMP Assessment Sampling - Standard Operating Procedures

Alabama Marine Resources Division

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Assessment Sampling
Standard Operating Procedures

Introduction

The fisheries assessment and monitoring program (FAMP) is a fishery-independent database that helps to determine the status of populations of marine organisms throughout Alabama coastal waters. This data is available to fisheries managers to use in the analysis of growth, seasonal and geographical distribution, changes in population structures and correlation of abundance with some abiotic factors for all Alabama marine fauna. Monthly sampling for all penaeid shrimp, *Callinectes* sp. crabs and finfish species started in October 1980. All organisms were enumerated and weighed according to SEAMAP procedures beginning in 1990. In 1998 the program shifted to an interagency program with ADEM; water quality parameters and the number of sites sampled were expanded but effort was reduced to one sampling regime per quarter. After determining that quarterly sampling did not provide enough definition to accurately observe trends, monthly sampling was resumed in October 2000. Beam-Plankton sampling was discontinued after December 2018. Given the revisions of the SEAMAP program and the importance for similar sample collection/processing throughout the Gulf, AMRD adjusted the FAMP program in order to produce data complementary to SEAMAP protocols beginning in May 2010.

Sample sites were selected at the beginning of the program to be most representative of the marine fauna found in Alabama waters. Current sample locations and gear used at those sites in Mississippi Sound, Mobile Bay, the Perdido system, Little Lagoon and Alabama's territorial sea can be found in Appendix A. Two methods of sample collection are employed within these areas to target a wide range of fauna throughout their life history. Seine hauls are used to target juvenile life stages utilizing shoreline habitats, and otter trawls are used to target juvenile and adult stages occurring within deeper waters.

Method – Field Sampling
Trawling

Sampling should be accomplished as early in the month as possible to allow for equipment, personnel and weather delays. It is not necessary to have more than one week's time between monthly samples. Sampling days are generally designated by area: Mississippi Sound including Petit Bois Pass, Upper Mobile Bay, and Lower Mobile Bay including Mobile Pass, Perdido system including Perdido Pass, Little Lagoon and territorial sea. If weather permits, sampling will begin as early as possible. Selection of sampling area will depend on weather and sea conditions. Once the sampling area is selected, a logical station order will be determined according to weather conditions.

Upon arriving at each station, the trawl should be examined for twists and other fouling problems (at stations over 30 ft in depth, extra line will be added to the trawl to

ensure proper sampling). With the boat at idle speed, the trawl should be set out cod end first, followed by the net being fed out to the doors which are set so they are uncrossed and not twisted. The bridle and tow lines (100 feet) are fed out with constant, light tension until all line is out and boat speed can increase to 2.0 to 2.5 kts. This is considered the start of trawling and the time is recorded. After 10 minutes, the trawl is retrieved. Personnel are to observe the doors, head rope, bottom rope, and cod-end during retrieval to assess if the gear is fouled. In the event of fouled gear, the catch will be discarded, and additional trawls will be conducted until a correct sampling event is achieved. Once a 'good' trawl is back on board, the cod end should be emptied onto the sorting table or tub and trash removed. The sample is then placed into a Ziploc bag and labeled to indicate the date and sample site. The trawl should be examined for any gilled or stuck specimens and such organisms are to be removed and added to the bag. Examine the liner for small specimens stuck to the mesh. All specimens should then be placed in the labeled sample bag. All sample bags should be placed in an ice chest until they can be put in a freezer at the lab. If a specimen is on the endangered species list, threatened species list or too large to transport back to the lab; identify, enumerate, measure, weigh and record the data on the hydrologic sheet for the appropriate site and return the specimen alive to the water. If the gear fished properly but no specimens were caught; indicate that nothing was caught on the hydrologic sheet for the appropriate site.

All members of Phylum Cnidaria, which do not include comb jellies, must be sorted from the catch while in the field. Each species of Phylum Cnidaria collected at each sample site must be placed in individual Ziploc bags labelled with the date and station then properly covered with ice in the sample cooler.

Hydrologic data can be taken at the beginning or end of a trawl. When using a properly calibrated Hydrolab or YSI data logger (Appendix B), data should be taken slightly off the bottom and recorded appropriately on the hydrologic data sheet. If an unusual reading is observed, the instrument should be inspected for fouling and the reading retaken. If an odd reading is observed, and the instrument in use is the YSI data logger, the unit should be calibrated. Report to your supervisor as soon as possible if odd readings persist after checking for fouling (Hydrolab & YSI) and/or calibrating (YSI). Once readings are recorded, the Hydrolab/YSI should be rinsed and stored to prevent any damage occurring. In the event the Hydrolab or YSI sonde is unable to reach the seabed, a water sample can be taken using the water collection sampler. The sampler should be lowered to the bottom and remain there until completely filled with water. Once back on deck, the Hydrolab/YSI sonde is placed in the water sampler and measurements will be recorded when readings equalize. Upon safe stowage of gear and equipment, proceed to the next station.

Once the sites are completed, and the vessel has returned to the office all equipment should be thoroughly cleaned and inspected for damage. Samples, excluding cnidarian samples, will be placed in the FAMP freezer at the Dauphin Island office and the samplers' initials, date collected, time collected, salinity, dissolved oxygen, and temperature are entered in the correct row/columns of the "Monthly Check-Sheet". The hydrologic bench sheet is then filed in the appropriate folder. The cnidarian samples must be processed without being frozen.

Method – Field Sampling
Seine

There are several seine sites in the Marine Resources Division's sampling area. Sampling for these sites is often combined with several BPL sites and may require a full day. If weather permits, daily sampling begins as early as possible.

Upon arrival at the sampling site, all appropriate hydrologic data (salinity, dissolved oxygen and temperature) will be collected. All shoreline hydrologic samples are considered surface samples. The need to take hydrologic data first is to ensure that minimal perturbation of the system has occurred. Procedures are similar to those described for trawling. At extremely shallow sites, water may be collected in the sampling bucket for accurate hydrologic information. Care must be taken not to agitate the water as it is collected in the bucket as this could affect the D.O. reading.

Both samplers don waders and one sampler carries the seine into deeper water to the full length of the 60 ft tether. The path of travel should be selected to minimize perturbation of the intended sampling area. The second sampler follows and both samplers begin to unfurl the seine. Once the seine is fully open, it should be examined for twists and to ensure the bag is fully deployed. Once the seine is free of twists, with the lead line on the bottom and the floats on top, the samplers haul the seine toward the beach. Samplers need to ensure that the bottom of the poles remain in contact with the substrate during the entire haul. Once the shore has been reached, the lead line must be brought in maintaining constant contact with the substrate. The wings of the seine are shaken down so that all specimens reach the bag, which is then carefully lifted up and gently shaken so all specimens are confined at the bottom of the bag. All specimens should then be placed in a Ziploc bag and labeled to indicate the date and sample site. All collected samples should then be placed in an ice chest until they can be put in a freezer at the lab.

Once the sites are completed and samples are returned to the office, all equipment should be thoroughly cleaned and inspected for damage. Samplers' initials, date collected, time collected, salinity, dissolved oxygen, and temperature must be entered in the correct row/columns of the "Monthly Check-Sheet". The hydrologic bench sheet is then filed in the appropriate folder.

Method – Field Sampling
Hydro only

There are some sites where no biological data is gathered. At these sites, only hydrologic data (salinity, dissolved oxygen and temperature) is taken and follows the same procedures described in the trawl sampling section for hydrologic data collection. The Hydrolab/YSI should be used to collect data. Data are recorded on the hydrologic bench sheets along with the date and time of sample collection. Upon return to the Dauphin Island laboratory, the sampler's initials, date collected, time collected, salinity, dissolved oxygen, and temperature are entered in the correct row/columns of the

"Monthly Check-Sheet". The hydrologic bench sheet is then filed in the appropriate folder.

Method – Threatened or Endangered Species Interactions
All Field Data Collection Activities

The Endangered Species Act of 1973 (ESA) is federal legislation that was established "***to provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved, and provide programs for the conservation of those species, thus preventing extinction of native plants and animals***". In addition, the Act designated NOAA Fisheries the responsibility to conserve *endangered and threatened* marine species and the Fish and Wildlife Service the responsibility to conserve *endangered and threatened* freshwater and terrestrial species. Further administrative law specific to conserving and identifying federal agency roles for the protection of marine mammals was provided in the Marine Mammal Protection Act (MMPA).

For clarification of federal agency jurisdiction and responsibilities, sea turtles do not fall under the sole jurisdiction of NOAA Fisheries. Sea turtles are the responsibility of NOAA Fisheries when they are in the water and the Fish and Wildlife Service when they are on land. The West Indian manatee is under the jurisdiction of the Fish and Wildlife Service. Currently, known species protected under the ESA and MMPA that may be encountered during sampling activities in inshore and nearshore waters off Alabama include bottlenose dolphin, West Indian manatee, sea turtles, Largetooth Sawfish, Smalltooth Sawfish, Gulf Sturgeon, Giant Manta Ray, and the Scalloped Hammerhead shark. A detailed list of all species can be found at https://www.fisheries.noaa.gov/species-directory/threatened-endangered. Threatened or endangered species will be referred to as "protected" for the remainder of this document unless otherwise specified.

To comply with provisions in the ESA and the MMPA, both federal lead agencies are keen to gather information regarding the type and frequency of interactions. Interactions resulting in the "take" of a protected ESA or MMPA species is required to be reported to the responsible management agency. As per Section 3(18) of the ESA, a "take" means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." For example, an interaction where a protected species is captured or entangled by sampling gear is considered a "take". Additionally, a species encircled by a net, even if the animal does not touch the gear and is not free to swim away unless assisted by humans is considered a "take".

All "take" incidents involving protected species must be reported to the supervisor and appropriate federal agency immediately after the "take" occurs. The following numbers are associated with the appropriate contacts and must be used when reporting a "take'.

Marine Mammal Stranding Hotline: 877-433-8299
Sea turtles: 866-732-8878
Gulf Sturgeon: 727-209-5962
Sawfish: 844-4SAWFISH

An interaction where the protected animal is observed touching the gear, either directly or indirectly but is free to swim away from the gear on its own, is NOT considered a "take" and is NOT required to be reported to the managing agency. For example, if a protected animal removes a fish captured by the sampling gear without being caught, contained, or entangled in the sampling gear containing the fish, the interaction is not considered a "take".

In addition to making the initial phone call when a "take" occurs, staff must complete the Southeast Region Protected Species Incidental Take (PSIT) form (form instructions and the PSIT form are attached. Staff must give completed paperwork to their immediate supervisor; the supervisor is required to submit the paperwork to the appropriate federal agency after an internal review ideally within 24 hours of the "take".

If a "take" of an ESA species occurs, staff should assess the situation to 1) prevent mortality of the animal if the animal is still alive, and 2) minimize stress to the animal by working efficiently and quickly to return the animal to the water, once it regains its strength. If possible and without endangering the health of the animal, photographs and/or video of the "take" should be acquired before administering assistance, during assistance and after release of the animal. Photographs/videos are helpful to confirm the species, document the extent of capture, and determine the general health of the animal after release. If the animal is released alive, the staff shall visibly monitor the area for 10 minutes after the release for signs of distress by the released animal.

Field staff and sampling program supervisors are required to be familiar with reporting procedures and information requested on the PSIT form. Field staff should review the SOP at least once per year and supervisors should periodically confirm the telephone numbers are valid and that information in the SOP, particularly this section, is accurate. A waterproof container containing the SOP, reporting forms, agency contact information and tools for assisting individuals with the release of captured animals that are also approved by the federal agency with jurisdiction of the captured animal must be maintained on each vessel used for sampling where practical and safe.

Recording Gear Interactions with Protected Species in the Database

ADCNR/MRD staff are to record the occurrence of protected species interactions (including "takes") during sampling events. The Field Data Sheet (Figure 0) is provided for recording data. In the header of the data sheet, "Protected species" is provided for samplers to record the presence/absence of protected species observed in the vicinity of the deployed gear. Under the column labeled "Interaction Type" in the Species Section of the data sheet, a sampling trip crew member should indicate "1" in

the provided space if **no** protected species were observed while gear was deployed, "2" if a protected species was observed while the gear was deployed but there was no interaction between the gear and the protected species, "3" if a protected species was observed within 25 feet of the deployed gear but no interaction was observed, "4" if an interaction that didn't meet the "take" definition was observed between the animal and deployed gear, and "5" if a "take" of a protected species occurred. If a "2", "3", "4", or "5" is recorded in "Protected Species", indicate the species that was observed. If an interaction occurred, describe the interaction in detail in the comments section of the sheet. If two individuals of the same species were observed to interact with the gear during the deployment use two rows to record the status of the interactions. Use the comments section at the bottom of the data sheet to provide information about unusual observations, confirm that a "take" was called in, whether or not photos/video was taken during a take release, or other relevant information.

Upon return to an ADCNR/MRD office following a "take", the field staff shall download and rename any photographs/video documentation using the following abbreviated nomenclature: **Year_Month_Day_Station_Number_Species_SequentialNumber**. For example, the third picture of a Bottlenose Dolphin at Station 12 on July 2, 2021 would be named "21_07_02_T12_BDolphin_3.jpg". After correctly renaming all documentation of ESA listed species "takes", images must be delivered to a supervisor who will electronically file images in a folder that can be queried in association with the data.

Method – Field Processing

Sample Sorting

All organisms processed for FAMP should be sorted from debris while in the field prior to placing in Ziploc bags. However, this is not always practical while in the field. Large pieces of wood, trash, derelict crab traps, etc. will likely have encrusting organisms or other animals associated with the material. Animals that can be easily removed in a timely manner should be picked from the exterior of large pieces of material before being discarded. The entire catch, if less than one gallon, must be brought to ADCNR/MRD headquarters for processing if the catch contains algae, Bryozoans, etc.

A "rough" sort of animals from the catch should be performed in the field and one gallon of the material should be collected if the volume of difficult to sort material is greater than 1 gallon. The "rough sort should consist of quickly inspecting the material for relatively large organisms at the rate of approximately 15 minutes per 5 gallons of material, and animals should be placed in the labelled Ziploc bag. One gallon of the filamentous or fibrous material should be randomly selected from the batch and placed in a separate, labelled Ziploc bag for further processing at the lab.

Method – Laboratory

Sample Workup

Trawl and seine samples are thawed and rinsed at the sink, and trays of specimens are identified to species. A number 20 sieve should be used to ensure all specimens from the sample are not lost during the thawing/rinsing process. The recorder enters the station, gear type, date, and hydrologic data into the ASA program (refer to the ASAdirection.ppt file for detailed descriptions of how to enter data into the ASA). Up to 20 individuals of each species will be measured to the nearest millimeter and individually weighed to the nearest 0.1 gram on calibrated bench scales. The species is selected from the species list box in the "Collections Data" form of the ASA program and lengths/weights are entered. The species-specific total number and weight is then determined. Once individual lengths, weights, total abundance and the total weight is entered for the selected species, the recorder clicks the "Done / Save Data" button. The next species is then selected for data entry of individual lengths/weights, total abundance, and total weight. Finfish are measured to standard length, except skates and rays which are measured by disc width, and those data will concurrently be entered into the ASA program. A verbal confirmation will be made during each keystroke of data entered into ASA. The employee entering the data will read aloud the entered data after the employee physically handling the sample calls out the information to be entered. Each key stroke made within the ASA program will be confirmed using the "Read/Confirmation" method of quality control (i.e station, hydrologic data, date collected/processed, species, lengths/weights, etc). Several measurements apply only to invertebrates, the appropriate measurement descriptions for each is listed in Appendix C. Jellyfish are identified to species. When jellyfish are preserved as discreet individuals with at least ¾ body mass available, lengths, individual weights, total number and total weight is recorded. The gelatinous masses from species that are too fragile to successfully preserve are discarded. In some samples, the number of individuals of a species may be in the thousands. A subsample is allowed if time does not permit the enumeration of all individuals when the number of individuals for the particular species appears to be over two hundred. In this situation, a subsample of 50 individuals is weighed and is recorded on scratch paper. The remaining individuals are then weighed, and the total number of individuals is calculated using the following formula:

$$TA_i = 50 + \left(\frac{50 \times W_{-50i}}{W_{50i}} \right)$$

where: TA_j = Total Abundance of i^{th} species
W_{50i} = Weight of 50 individuals of i^{th} species
W_{-50i} = Weight of all individuals excluding the 50 individuals of the i^{th} species previously weighed

Total weight for the species = weight of 50 individuals + weight of remaining individuals

COMMERCIALLY HARVESTED SHRIMP ARE NOT TO BE SUBSAMPLED. They are to be counted out individually and processed. The subsample method should only be utilized when specimens are of a similar size class. Individuals of a significantly larger or smaller size class should be process individually rather than included in the subsampling process,

Because of the small size of many specimens, weights may not be accurate due to the water-weight factor, which would introduce an unacceptably large error. In this situation, "0" should be entered into ASA for the weight of the individuals when water weight is a significant portion of the weight measured on the scale

In the event that a specimen cannot be identified, it will be held for examination by the appropriate biologist.

Method – Laboratory
Hydrologic Workup

Salinity, D.O., and temperature data recorded on the hydrologic data sheets are transcribed onto the "Monthly Check-Sheet" and appropriately filed upon arrival to AMRD from the day's sampling cruise. These data are then entered into the ASA program during laboratory sample processing. Hydrologic data are entered in the ASA program within the appropriate fields of the "Data Entry" screen. The recorder is to ensure the proper Hydrologic Station is selected prior to entry of hydrologic data.

Method – Laboratory
ASA Database Backup and Storage

The ASA database is to be backed-up twice each day of processing samples. The back-up should occur immediately prior to 12:00 PM and at the end of the day. The file to be backed-up is along the file path C:\ProgramFiles\FAMP\FAMP.mdb. The FAMP.mdb file is copied and pasted onto the designated ASA thumb drive. Once the file FAMP.mdb is placed on the thumb drive, the name should be changed following the nomenclature FAMPmmddyyyyhhhh followed by the initials of the employee making the back-up. Therefore, if Jane Sue Doe creates the backup of the FAMP.mdb file at 4:37 PM on January 25, 2010 onto the designated thumb drive, the back-up filename on the thumb drive would be FAMP012520101637JSD. Under no circumstances should any file in the C:\ProgramFiles\FAMP folder be opened or tampered with. Similarly, back-up files that occur on the thumb drive should not be altered without supervision. The last back-up file of each month then will be placed on supervisor's computers. At the end of each calendar year, the back-up containing complete data of all samples for the respective year will be saved on supervisor's computers as well as a secure external hard drive with the naming nomenclature

FAMPyyyy. Therefore, the file FAMP2014 will contain complete data from ASA's inception (May 2010) through December 31, 2014.

Appendix A

FAMP Monthly Checksheet

Month/Year _____

Station#	Location	Sampler	Date Collected	Time Collected	Sal	D.O.	Temp	Proc'd by	Comments
Little Lagoon/Perdido Bay Trawls									
18T	Perdido Pass								
31T	Arnica Bay								
59T	East End Little Lagoon								
60T	West End Little Lagoon								
63T	Bayou St. John								
94T	Mid-Perdido								
97T	Grassy Point								
123T	Lagoon Pass								
Mississippi Sound Trawls									
16T	Petit Bois Pass								
20T	Tall Range C								
24T	Heron Bay								
61T	Grand Bay								
Lower Mobile Bay Trawls									
8T	MSC 23-24								
9T	GIWW 135								
12T	East Fowl River								
17T	Mobile Pass								
27T	Weeks Bay								
28T	Bon Secour River								
56T	Oil Rig East								
Upper Mobile Bay Trawls									
3T	MSC 57								
14T	Dog River								
133T	Garrow's Bend								
134T	Battleship								
707T	Point Clear NCA								
Seines									
147E	Bon Secour								
36E	Hollingers Island								
37E	Daphne								
148E	Coffee Island								
150E	Little Sand Island								
146E	Navy Cove Marsh								
151E	Cedar Island								
42E	DI-Airport								
149E	Hatchet Point								
129E	Weeks Bay								
Hydro Only									
44HYDRO	Fish River Reef								
75HYDRO	Soldier Creek / Perdido Bay off Red Bluff								
92HYDRO	Ross Point								
95HYDRO	South of Lilian Bridge								
99HYDRO	Perdido River #1								
101HYDRO	Eleven Mile Creek								
131HYDRO	Shellbank Reef								
136HYDRO	Klondike Reef								
137HYDRO	Denton Reef								

Appendix B
Calibration of YSI 85 Data Logger

Step 1
Ensure a small damp sponge is pressed into the back of the storage chamber. This damp sponge should remain in the storage chamber at all times, including when the unit is not in use.

Step 2
Press the “ON/OFF” button to turn on the YSI 85 Data Logger and confirm the sonde is pressed firmly into the storage compartment.

Step 3
Press the “MODE” button to scroll through the display options until % Dissolved Oxygen is displayed.

Step 4
Allow the % Dissolved Oxygen value to stabilize (approximately 10 minutes).

Step 5
Simultaneously press the “Up Arrow” and “Down Arrow” buttons.

Step 6
Set the altitude to sea level. The top right of the screen indicates the units of altitude X 100 feet (displayed in small font "ALT X 100ft"). Press the "Up Down" or "Down Arrow" to according set "ALT X 100ft" to "0".

Step 7
Press the "ENTER" button to set the % Dissolved Oxygen saturation at 100%.

Step 8
Press the "ENTER" button to SAVE and accept the new calibration value. The % Dissolved Oxygen should display 100.0% if the calibration was completed correctly.

Appendix C

SOUTHEAST REGION PROTECTED SPECIES INCIDENTAL TAKE REPORTING FORM INSTRUCTIONS

October 2014
Updated October 2016

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Point of Contact:
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State/Academic surveys: Andrew Herndon Andrew.Herndon@noaa.gov (727) 824-5312

For questions regarding the National Environmental Policy Act Environmental Assessment (NEPA EA): Melissa Cook Melissa.Cook@noaa.gov (228) 549-1628

For questions regarding the Marine Mammal Protection Act Letter of Authorization (LOA) for incidental takes: Keith Mullin Keith.Mullin@noaa.gov (228) 549-1632

Southeast Region Protected Species Incidental Take Reporting Form Instructions

INTRODUCTION

The Southeast Region Protected Species Incidental Take (PSIT) Reporting Form, version 1.3 10/2014 (Appendix A) is used to record vessel/trip information, gear characteristics and interaction information, and biological data of protected species (e.g. sea turtles, sawfish, marine mammals, etc.) incidentally captured during fishery independent sampling. Other data collected, such as biological information, tagging data and biopsy samples are critical to the development of conservation and recovery strategies for protected species. Only trained and authorized personnel may collect the biological information indicated on this form.

When conducting research, authorized personnel must carry all relevant permits and authorization letters and follow all terms and conditions, including reporting requirements, as outlined in the permit(s).

GENERAL INSTRUCTIONS

Complete one Southeast Region Protected Species Incidental Take Reporting Form for each protected species (i.e., marine mammals, sea turtles, sturgeon and sawfish) captured. If possible, photograph the gear interaction prior to removal. Try to photograph all specimens, including those hooked or entangled that are not brought aboard due to their large size and/or for safety reasons. Photographs are used to confirm species identification and document the gear interaction. Record tag data, if tags are present, and take biological samples if requested and authorized. Note the amount of writing required when completing the form has been minimized by offering drop-downs and options to check a box, although some questions require a written response. **If an answer is not available in the drop-down list you may type in your response. For many fields, hovering over the blank box will further describe the requested information required.**

Report all marine mammal incidental takes immediately. Marine mammal entanglements (live or dead) and vessel strikes must be reported immediately to the NOAA Fisheries Marine Mammal Stranding Hotline at 1-877-433-8299. All applicable reporting forms should be sent within 24 hours.

Please submit completed PSIT Form and photographs within 24 hours to nmfs.ser.ea_loa.takereport@noaa.gov. Please enter Fisheries Independent Monitoring Protected Species Take (BiOp SER-2009-7541) in the subject line and include the 1) project name and 2) species in the text of the email. Name the PSIT form, photos and associated documents with the generated Unique Identifier (Ex. NOAA-07-22-2016-29Z2-1).

Please fill out the following required fields for each incidentally captured protected species. All required fields are outlined in red on the instructions and PSIT form. If red outline is not visible, select Highlight Fields, located in the purple instructions section of the form.

REPORTER INFORMATION

Reporting Agency: Select name from the list or enter your agency's abbreviations.

Project/Survey Name: Select the name of your project from the list.

VESSEL/TRIP INFORMATION

Vessel Name/ID: Record vessel name or identification number.

Cruise/Trip #: Record the survey cruise/trip #.

Station/Site #: Record the station/site #. Please do not leave blank.

Collection #: If you assign a unique number for a specimen please record it here.

Specimen #: Record a three digit consecutive number for each protected species captured on that cruise. Enter 001 for the first capture and number sequentially for each additional animal caught (regardless of species). Protected species specimen numbers are kept separate from all other specimen numbers for other species groups. Example: if two turtles were captured, regardless of species, in one net then it should be 001 and 002, if a sturgeon was captured on the next station it would be number 003 and so on.

Vessel Size: Select the size (in feet) of the vessel from the list.

Unique Identifier (assigned by NMFS): Please leave blank, automatically populated. Identifier is composed of the Agency abbreviations, capture date (year, month, day), station number and specimen number. Each field is separated by a hyphen. Ex. NMFS-20141023-100-01.

The following section describes the gear used in the sampling activity involved in the protected species interaction. Please complete all applicable fields.

GEAR CHARACTERISTICS

TRAWL GEAR

Trawl Type: Select type of trawl from the list or enter trawl type if not listed.

Headrope Length (ft): Record the headrope length in feet. Length is measured between the points at which the ends of the headrope are attached to the trawl net, measured along the forward-most webbing.

Footrope Length (ft): Record the footrope length in feet. Length is the distance between the points at which the ends of the footrope are attached to the trawl net, measured along the forward-most webbing.

# of Nets: Select the total number of nets pulled at that specific station.

TED Present: Indicate whether or not a turtle excluder device (TED) was installed in the net the capture occurred by selecting Yes or No from the list.

Trawl Body: Select from the list the type of material from which the trawl body is constructed and record the *stretched* mesh size in inches.

Cod End: Select from the list the material type from which the cod end of the trawl is constructed and record the *stretched* mesh size in inches.

Ground Gear: Indicate the length of the ground gear (i.e. tickler chain, cookies, wheels, etc.) in feet and record its size in inches.

Doors**:** Select from the list the type of material type from which the trawl doors are constructed. Also include the length and height of the door in feet.

Lazy Line: Select from the list the type of material type from which the lazy line is made.

Net Sampling Location: Refers to the general sampling location of where the net is fishing in the water column. Please select the appropriate classification from the list.

Net Sampling Depth: Enter the actual depth in the water column where the net was fishing. For trawls fishing on the bottom entering the bottom depth is appropriate. For midwater trawling, enter the depth where the net was fishing.

OTHER NET TYPES: SEINE/GILLNET/TRAMMEL/FYKE NETS

Other Net Types: Select the type of non-trawl net used from the list or enter trawl type if not listed.

Seine/Gillnet/Trammel Net – Floatline Length: Record the floatline length in feet and the diameter in inches.

Seine/Gillnet/Trammel Net – Leadline Length: Record the leadline length in feet and the diameter in inches.

Fyke Net – Leader Length: Record the leader length in feet.

All Net Types Mesh – Material Type: Select from the list the type of material from which the net is constructed.

All Net Types Mesh – Twine Size: Record the twine size of the net in inches.

Gillnet – Net Sampling Location: Refers to the general sampling location of where the net is fishing in the water column. Please select the appropriate classification from the list.

Gillnet – Mode of Fishing: Refers to the more general type of gillnet fishing (i.e., anchored, drift, or encircling). Please select the appropriate method from the list.

Gillnet – # of Panels: Record the total number of mesh panels making up a net, even if they are of different mesh sizes. Please select the appropriate number from the list.

Gillnet – Length (ft): Record the length of the panel in feet.

Gillnet – Height (ft): Record the height of the panel in feet.

Gillnet – Spacing (ft): Record the distance between each panel in feet. If there is no distance between the panels, record the distance as 0.

Gillnet – Mesh Size (in): Record the *stretched* mesh size for each panel in inches. Even if the mesh sizes are the same, record it for each panel.

LONGLINE/HOOK-AND-LINE GEAR

Hook and Line Type: Select from the list the type of hook-and-line gear used.

Mainline Length (m): Record the length of the mainline in meters.

Mainline Test (lb): Record the test of the mainline in pounds.

Mainline Line Type: Select from the list the material type of the mainline.

Gangion Length (m): Record the length of the gangions in meters.

Gangion Test (lb): Record the test of the gangions in pounds.

Gangion Line Type: Select from the list the material type of the gangions.

Vertical Line/Bandit Reel ONLY – Backbone Length (m): Record the length of the gangions in meters.

Vertical Line/Bandit Reel ONLY – Backbone Test (lb): Record the test of the gangions in pounds.

Vertical Line/Bandit Reel ONLY – Backbone Line Type: Select from the list the material type of the gangions.

Bait Type: Select from the list the type of bait used or enter bait type if not listed. If multiple bait types or a type of bait not listed is used, please describe the bait(s) used in the space provided.

Hook Size: Check the box for the appropriate size(s) of hook, (e.g., 9/0, 18/0). If using multiple hook sizes, check all that apply.

Hook Type: Select "J" or Circle from the list or enter hook type if not listed.

 # Gangions: If using longline, bandit or vertical line gear, record the total number of gangions used.

Rod and Reel ONLY – Hooks/Line: Record the number of hooks per line.

Manufacturer: Select from the list the manufacturer of the hooks used (e.g. Mustad) or enter if not on the list.

Style No.: Record the style number of the hooks used (e.g., Mustad #39968D).

Offset: Record the degree of hook offset (e.g., 0°, 5°, 10°).

ALL OTHER GEAR: Please record any other fishing gear used that was not included in previous sections.

The following sections describe the capture, identification, interaction, biological information and release of the species involved in the interaction. Please complete all applicable fields. All required fields are outlined in red on the instructions and form.

CAPTURE INFORMATION

Start of Set Date: Record the date of the start of the set.

Start of Set Time: Record the starting time of the set. This may vary depending on type of gear used. Ex. Trawl, gillnet/trammel net and hook & line - when the gear reaches its fishing depth, longline - when the last highflyer enters the water. Record the time using 24-hour (HHMMSS) notation. Enter time as six digits and do NOT use punctuation (ex. 091530).

Start of Set Zone: Select from the list the time zone (GMT, Atlantic, Eastern, Central) used for recording the time for the Start of the Set.

End of Set Date: Record the date of the end of the set.

End of Set Time: Record the ending time of the set. This may vary depending on type of gear used but it is typically when gear haul back begins. Ex. Trawl, gillnet/trammel net and hook & line - when haul back begins, longline - when the first high flyer is retrieved. Record the time using 24-hour (HHMMSS). Enter time as six digits and do NOT use punctuation (ex. 091530).

End of Set Zone: Select from the list the time zone (GMT, Atlantic, Eastern, Central) used for recording the time for the End of the Set.

Standard Soak Time (min): The target amount of time in minutes that the gear is typically soaked in the water based the survey's sampling protocol.

Soak Time (calculated/manually enter if end of set goes into next day): The amount of time the gear actually soaked in the water; calculated from start and end of set fields.

Water Depth (m): Record the maximum water depth in meters at the location where the animal was captured.

Surface Water Temperature (°C): Record the surface water temperature in Celsius at the location where the animal was captured.

Capture Latitude (DD.DDDD): Record, using decimal degrees, the latitude at the time of the actual recovery of the animal.

Capture Longitude (DD.DDDD): Record, using decimal degrees, the longitude at the time of the actual recovery of the animal. Remember longitude is negative in the western hemisphere.

Capture Date: Record the date the animal was captured.

Capture Time (24 hr): Record the time the animal was captured using 24-hour (HHMMSS) notation. Enter time as six digits and do NOT use punctuation (ex. 091530).

Capture Zone: Select from the list the time zone (GMT, Atlantic, Eastern, Central) used for recording the capture time.

Marine Jurisdiction: Select the jurisdiction in which the vessel was fishing when the capture occurred. If the incidental capture occurred in state waters please select which state waters or choose Federal if the capture occurred in federal waters.

Animal Boarded? If the captured animal was brought on the vessel select Yes. If the animal was kept in the water and not brought on the vessel select No.

Condition of animal at time of capture: Select the appropriate description that best corresponds to the captured animals' condition when it was recovered. On the diagram(s) on page 4, record specific notes about any previous/healed injuries and injuries due to the interaction.

- **Alive, Injured:** The animal is alive and injured. Any fresh lesion or abrasions from the interaction constitutes an injury. *All animals hooked by fishing gear are considered injured.*
- **Alive, Uninjured:** The animal is alive and visually does not appear to be injured from the related interaction, and there are no fresh lesions or abrasions.
- **Comatose/Unresponsive:** Select this category if the animal is comatose/unresponsive and/or if there is any indication of life but no obvious movements or breaths.
- **Fresh Dead:** The animal appears to have died as a direct result of incidental capture in the current research or looks like it has died within the last 24 hours. The carcass may show signs that it had been alive during the interaction (e.g., multiple wrap entanglement in line or netting, or internal hooking). The carcass may or may not have rigor mortis.
- **Previously Dead:** "Dead before interaction". The animal obviously died prior to and not as a result of the observed fishing interaction. A previously dead animal will usually have rotting tissue around the eyes and vents, and it may be bloated and foul smelling. It also may have sloughing skin/scutes/scales. However, it may not smell, but may have rigor mortis.
- **Unknown:** The scientist cannot determine if the animal is injured or cause of death cannot be determined. This may happen when an animal is not boarded, and no one got a good view of the animal. If the animal is dead and it cannot be determined if fresh or previously dead select Unknown and note comments and uncertainties in the Additional Comments section on page 3.

If comatose/unresponsive, attempted resuscitation? Choose Yes or No to indicate whether resuscitation was attempted. Record in the Additional Comments section on page 3, the time it took for the animal to respond and how long the animal was kept on deck before release. For sea turtles, Resuscitation Guidelines are described in the Federal Register (66 FR 67495, December 31, 2001) and in Chapter 3 of the Sea Turtle Research Techniques Manual.

IDENTIFICATION

Species: Select from the list the appropriate species of captured animal. If you are unable to identify the species with certainty, try to take photographs and record the species to the lowest possible taxa.

Confidence in species ID: Select from the list Good, Fair or Poor to indicate confidence in species identification.

Photographs taken? Select from the list Yes or No as to whether photos of the captured animal were taken. Please attempt to photograph every animal if it does not jeopardize the health and safety of the animal. Take as many photos as necessary to: (1) confirm species identification and (2) document the gear interaction.

Number of Photos: Record the number of photos taken. *If applicable, do not leave blank.*

Video taken? Select from the list Yes or No as to whether video of the captured animal was taken.

Contact Info for Photos/video (person, email): Provide the name and email address of the person possessing the original photographs and/or video. Photos will need to be submitted.

GEAR INTERACTION

***ALL NET GEAR*:**

Capture Location in Gear: Indicate the section of gear where the animal was captured or entangled. Select all answers that apply, as animals may interact with multiple parts of the gear. If entangled in the body of the gear, record the stretched mesh size of the webbing in inches. If the gear location is not listed on the form, check the "other" box and describe the location of the gear where the animal was captured.

Entanglement Location on Animal: Indicate the location on the animal's body where the gear was entangled. Select all answers that apply as gear may interact with/entangle on multiple parts of the animal. If not entangled in net, leave blank. *Please also indicate exact location of gear interaction on the appropriate diagram on page 4.*

Gear left on Animal? For each location selected above where the animal was entangled, select Yes or No if any gear was left on the animal at the time of release (for live animals only). For example, if tail/fluke is checked as the location on the body where the animal was entangled, indicate whether gear was left on the tail/fluke when the animal was released by selecting Yes or No.

How much? Estimate the length of gear remaining on each entanglement location at the time of release. Select the units of measurement (centimeters, meters, feet, inches).

ALL LONGLINE/HOOK AND LINE GEAR:

Capture Location in Gear: Indicate the location of the gear where the animal was entangled and/or hooked. Select all answers that apply as animals may interact with multiple parts of the gear. If

selecting "hooked", please also select the size of hook from the list. If the gear location is not listed on the form, check the "other" box and describe the location of the gear interaction.

Entanglement Location on Animal: Indicate the location on the animal where the gear was entangled. Select all answers that apply as gear may interact with multiple parts of the animal. *Please also indicate the exact location of gear interaction(s) on the appropriate diagram on page 4.*

Gear left on Animal? For each location selected above where the animal was entangled/hooked, select Yes or No if any gear was left on the animal at the time of release (for live animals only). For example, if tail/fluke is checked as the location on the body where the animal was entangled/hooked, indicate whether gear was left on the tail/fluke when the animal was released by selecting Yes or No.

How much? If there was any location on the animal in which gear was left, estimate the length of gear remaining on each entanglement location at the time of release. Select the units of measurement (centimeters, meters, feet, inches) for estimated length of fishing line remaining. For hook and line fisheries, the measurement begins at the eye of the hook, includes the crimp, and all line left on the animal.

If Hooked, Hook Location on Animal: For hooked animals, select **all** locations where the animal is observed to be hooked or may be hooked (both internal and external) if they can be determined. If a specific jaw or mouth location cannot be determined, note the general location of the hook by checking the beak/mouth box. If the hooked location is not listed on the form, check the "other" box and describe the location on the animal where it was hooked. Please also n*ote the hook location in the appropriate diagram on page 4. Indicate if there is more than one hook involved in the Additional Comments section at the bottom of page 3.*

BIOLOGICAL INFORMATION

Length Measurements

Use measuring tape, calipers, and a scale to record the following measurements. Select the units used to take the measurement. If the animal cannot be measured, estimate the total length and check the estimated box.

Finfish (Other than Sawfish)
Total length – Using a measuring tape, record the straight distance from the tip of the nose to the end of the tail. Do NOT compress the tail.

Fork length – Using a measuring tape, record the straight distance from the tip of the rostrum/nose to the notch in the tail.

Sawfish
Total length – Using a measuring tape, record the straight distance from the tip of the rostrum to the dorsal caudal fin by stretching/compressing the fin away from the body.

Marine Mammals
Total length – Using a measuring tape, record the straight distance from the tip of the rostrum to the notch of the fluke.

Sea Turtles

Curved carapace length (cm): Using a measuring tape, record the distance between the center of the nuchal scute and the end of the longest post-central scute **(notch-to-tip)**, following the curvature of the dorsal center line. On leatherbacks the measurement is taken alongside (not over the top) of the vertebral (center) ridge.

Curved carapace width (cm): Using a measuring tape, record the maximum distance between the lateral edges of the carapace, measured over the curvature of the shell, perpendicular to the center line of the carapace, at the widest point. On leatherbacks, the width is measured from side ridge to side ridge at the widest point.

Straight carapace length (cm): Using calipers, record the distance between the center of the nuchal scute and the end of the longest post-central scute (**notch-to-tip)**. If the animal cannot be measured, estimate the straight carapace length and check the estimated box.

Straight carapace width (cm): Using calipers, record the maximum distance between the lateral edges of the carapace, perpendicular to the center line of the carapace. Note: this measurement may be taken at a different place on the carapace than when measured over the curve with a tape measure.

Weight and Sex: All Incidentally Captured Animals

Weight: If possible, use a scale to weigh the animal and note if units are pounds (lb) or kilograms (kg). If the weight was estimated, mark the estimated box.

Sex: Select from the list if the sex of the animal was M (male), F (female) or unknown.

Tag/ID #

Examine the animals' entire body for existing tags. Multiple tags and different types of tags may appear on the same animal. Animals may have both external and internal tags. For example, sea turtles may have metal or plastic tags located externally on any of the four flippers. Marine mammals, notably bottlenose dolphins, may have a freeze brand near the base of the dorsal fin. Sea turtles, sturgeon and sawfish should be scanned with a passive integrated transponder (PIT) tag reader if one is available.

Tag/ID # 1-4: Record the number of the tag that is already present or that is being applied. If no tags are on the animal and none are applied, leave blank.

For each Tag/ID # (1-4), note each of the following by using the drop-down menu. If response is not listed it may be entered manually in the "other tag" section.

Tag/ID Presence: Choose "*Already present*" if the Tag/ID was in/on the animal prior to the incidental capture; choose "*Applied*" if a Tag/ID was put on by the scientists on the vessel following capture. If the tag is already present, record the return address of the tag in the Additional Comments section. Only trained and permitted individuals may tag incidentally captured species.

Tag/ID Type: Choose from the list the type of tag/ID on/applied to the animal.

Tag/ID Color: Choose from the list the color of the tag/ID on/applied to the animal.

Tag/ID Position: Select from the list the location on the animal's body where the tag was located or applied.

Tags Removed? Select from the list Yes or No to indicate if tags are removed.

-Sea turtles, any tags that are getting hard to read or about to fall off should be removed and replaced with new ones. The removed tags should be collected and provided to the SEFSC Program Coordinator. If existing tags are in good condition, leave them in place.

Other Tags: When other types of tags, not listed above, are present or are applied, record the tag number if it has one. Record details, including position and photograph the tag. If living tags are observed, please describe them here and record details, including position and photograph the mark. Some sea turtles, mainly Kemp's ridleys, may have living tags externally on any of the lateral scutes.

PIT Tag Scan? Select from the list Yes or No, indicating whether you scanned the animal with a PIT tag scanner prior to and after application. Remember when scanning to hold the scanner as close as possible to the animal and keep the reader protected from the wet environment by sealing it in a water proof bag.

-Sea turtles, scan the four flippers, shoulder and "armpit" area with the PIT tag scanner.

-Sturgeon PIT tag placement is typically located to the left of the spine, immediately anterior to the dorsal fin, and posterior to the dorsal scutes. However, it is recommended to scan the entire body surface to ensure it has not been previously tagged.

Samples

Samples Taken: Select from the list Yes, No or Unsuccessful to indicate if any samples were taken from the animal. Dead protected species should be photographed (if possible) and then salvaged or discarded according to the requirements stated in the Biological Opinion (SER-2009-07541).

Sample number: Record the sample number for the corresponding sample taken.

Sample Recipient: Record the name of the person receiving the sample at the end of the survey.

Affiliation: Record the affiliation of the person receiving the sample at the end of the survey.

RELEASE INFORMATION

Record the location (latitude and longitude) where the animal was released, the release time, and water temperature at that location. If the entire animal was returned to shore (salvaged or taken to holding facility), leave blank (this is recorded in the Final Disposition section).

Latitude of Release (DD.DDDD): Record, using decimal degrees, the latitude at the time of the actual release of the animal.

Longitude of Release (DD.DDDD): Record using decimal degrees the longitude at the time of the actual release of the animal.

Date: Select the date the animal was released.

Time (24hr): Record the time of day the animal was released using 24-hour (HHMMSS) notation. Enter time as six digits and do NOT use punctuation (ex. 091530).

Zone: Select from the list the time zone (GMT, Atlantic, Eastern, Central) used for recording the capture time.

How was animal released?: Select from the list the best description of how the animal was released or escaped from the gear. *If the animal was cut free from the gear, disentangled, or a hook was removed, please record the equipment used to perform the action in the Additional Comments section on page 3.*

Time taken to release animal (calculated/manually enter if end of set goes into next day): The amount of time it took to release the animal. This is calculated from the capture and release time. Includes any time spent on sampling (measuring, weighing, etc).

Final Disposition: Record the final disposition (fate) of the animal by checking the appropriate box:

- **Discarded Dead/Comatose/Unresponsive Carcass:** In some cases, an animal may have shown signs of life while onboard, but if it is dead or unresponsive at release, it belongs in this category.
    - **Marked?** Select Yes or No as to whether the carcasses was marked before being discarded. All carcasses returned to sea should be spray painted, tagged, or otherwise marked.
- **Salvaged Carcass/Parts (other than sampled above, list all):** Select this disposition if the carcass or parts of the carcass were salvaged. List all parts saved.
- **Released Alive:** Select if animal was alive upon release.
- **Taken to Holding Facility:** Select if live animal was taken to a holding facility and list facility name and location.
- **Unknown** (explain): If final disposition is unknown please explain.

Behavior upon release: It is extremely important to observe and record the behavior(s) of the animal upon release. Check ALL the appropriate boxes that apply and/or describe the animal's behavior next to "other".

Describe the nature of any injuries caused by the capture and release in the box provided. If the animal was injured as a result of the capture and/or release, it is extremely important to explain and describe the nature of those observed or suspected injuries (i.e. blood in the water, location of bleeding, how much bleeding, cuts/lacerations on body and where, etc.). If wounds were observed on the animal's body, please note these on the appropriate diagram on page 4.

Data Recorder: Person responsible for filling out data sheet.

Tagger: Person responsible for handling and tagging animal (if applicable).

Mitigation Measures in place at time of capture: List all mitigation measures followed at the time of capture, and note why other mitigation measures in place for your particular project may not have been followed. Some examples of mitigation measures are limited tow/soak times, turtle excluder devices (TEDs) in trawls, ending soak/tow time if protected species are sighted in sampling area, ending

soak/tow time if protected species is observed interacting with sampling gear, use of circle hooks, gear constantly monitored/tended, etc.

Additional Comments: Use this area to record any additional comments, as noted specifically above, or that the recorder feels are important. If resuscitation was attempted on the animal, please record all details in this section (such as length of time resuscitation was attempted, method(s) used, etc.). If the animal was cut free from the gear, disentangled, or a hook was removed, record the equipment used to perform the action.

Diagrams on Page 4: Please note any gear interactions, scars, etc. on appropriate diagrams.
Use these diagrams to annotate any details as specifically noted above and any anomalies, wounds, location of living tags, etc. Also, be sure to indicate locations of all biological samples collected. To annotate the diagrams, on your menu, go to *Tools->Comment and Mark up and* select a drawing tool. Use the typewriter tool to enter text.

Appendix A

Southeast Region Protected Species Incidental Take Reporting Form

NOAA Fisheries

Southeast Region Protected Species Incidental Take Reporting Form

version 1.6 09/2016

REPORTER INFORMATION

Reporting Agency: | Project/Survey Name:

VESSEL/TRIP INFORMATION

Vessel Name/ID	Cruise/Trip#	Station/Site#	Collection #	Specimen #	Vessel Size	Unique Identifier (generated):

If vessel strike, also complete the SER Vessel Strike form and immediately contact 877-433-8299.

GEAR CHARACTERISTICS

Trawl Type

Headrope length (ft) _____ # of nets _____ TED present? _____

Footrope length (ft) _____

Trawl Body	Cod End	Ground Gear
material type	material type	length (ft)
mesh size (in) (stretched)	mesh size (in) (stretched)	size (in)

Doors: type; length (ft) _____ height (ft) _____

Lazy Line: material type

net sampling location (water column) | net sampling depth (m) _____

Other Net Types

Seine/Gillnet/Trammel: Floatline length (ft) _____ diameter (in) _____ Leadline length (ft) _____ diameter (in) _____

Fyke: Leader length (ft) _____

All Net Types: mesh material type | twine size (in) _____

Gillnet: net sampling location (water column) | mode of fishing

Panels/bags in net: # of panels | mesh size (in): (stretched) panel 1 _____ panel 2 _____ panel 3 _____ panel 4 _____ panel 5 _____ panel 6 _____

length (ft) _____

height (ft) _____

spacing (ft)

Longline/Hook and Line Type

Mainline length (m) _____ test (lb) _____ line type

Gangion length (m) _____ test (lb) _____ line type

Backbone length (m) _____ test (lb) _____ line type
(vertical line/bandit reel only)

Hook size (s): (check all that applies)

☐ 4/0 ☐ 11/0
☐ 6/0 ☐ 12/0
☐ 7/0 ☐ 13/0
☐ 8/0 ☐ 15/0
☐ 9/0 ☐ 18/0

hook type | hooks/line _____ (rod and reel only)

gangions _____

bait type

If bait type "other/multiple", please describe _____

Manufacturer | Style No. _____ offset _____

All Other Gear *(describe)*:

CAPTURE INFORMATION

	Date	Time (24hr)	Zone
Start of Set:			
End of Set:			

Standard Soak Time (min) | Water Depth (m) _____

Soak Time 0 | Surface Water Temp (°C) _____

(calculated/manually enter if end of set goes into next day)

CAPTURE INFORMATION (Cont.)

Latitude: (DD.DDDD) Longitude: (DD.DDDD)

Marine Jurisdiction Animal Boarded?

Date Time (24hr) Zone

Condition of animal at time of capture

If comatose/unresponsive, attempted resuscitation?

IDENTIFICATION

Species Confidence in species ID

Photographs taken? # of Photos ____ Video taken? Contact Info for photo/video (person, email):

GEAR INTERACTION

ALL NET GEAR:

Capture Location in Gear (check all that applies)

- ☐ cod end
- ☐ lazy line
- ☐ wing extension
- ☐ in the body mesh size(in) (stretched) ____
- ☐ near lead line
- ☐ near float line
- ☐ other (describe): ____

Entanglement Location on Animal (check all that applies)

- ☐ beak/neck/head/saw/rostrum
- ☐ rear flipper/groin/peduncle
- ☐ front flipper/shoulder/armpit
- ☐ carapace/plastron/body
- ☐ pectoral flipper
- ☐ dorsal fin
- ☐ tail/fluke
- ☐ other (describe): ____

Gear left on Animal? **How Much?**

ALL LONGLINE/HOOK AND LINE GEAR:

Capture Location in Gear (check all that applies)

- ☐ entangled in mainline
- ☐ entangled in floatline
- ☐ entangled in gangion
- ☐ entangled in float
- ☐ hooked (size)
- ☐ other (describe): ____

Entanglement Location on Animal (check all that applies)

- ☐ beak/neck/head/saw/rostrum
- ☐ rear flipper/groin/peduncle
- ☐ front flipper/shoulder/armpit
- ☐ carapace/plastron/body
- ☐ pectoral flipper
- ☐ dorsal fin
- ☐ tail/fluke
- ☐ other (describe): ____

Gear left on Animal? **How Much?**

If Hooked, Hook Location on Animal

Internal: (check all that applies)

- ☐ beak/mouth jaw location: ☐ upper ☐ lower ☐ side (mouth only)
  - mouth location: ☐ tongue ☐ jaw joint ☐ glottis/throat ☐ roof of mouth
- ☐ swallowed/esophagus (hook visible)
- ☐ swallowed/esophagus (hook not visible)
- ☐ unknown
- ☐ other (describe): ____

External: (check all that applies)

- ☐ beak/neck/head/saw/rostrum
- ☐ rear flipper/groin/peduncle
- ☐ front flipper/shoulder/armpit
- ☐ carapace/plastron/body
- ☐ pectoral flipper
- ☐ dorsal fin
- ☐ tail/fluke
- ☐ other (describe): ____

BIOLOGICAL INFORMATION

Measurements

Finfish

total length _____ ☐ estimated

fork length _____ ☐ estimated

Marine Mammals

total length _____ ☐ estimated

Sea Turtles

curved carapace length (cm) _____

curved carapace width (cm) _____

straight carapace length (cm) _____ ☐ estimated

straight carapace width (cm) _____

All Incidentally Captured Animals

Weight _____ ☐ estimated

Sex _____

Tag/ID #

	Tag/ID Presence	Tag/ID Type	Tag/ID Color	Tag/ID Position	Tags Removed?
Tag/ID #1 _____					
Tag/ID #2 _____					
Tag/ID #3 _____					
Tag/ID #4 _____					

Other tag (describe) _____ PIT scan? _____

Samples

Samples Taken	Type	Sample Number	Final Disposition: Person	Final Disposition: Affiliation
	blood			
	fin clip			
	tissue			
	carcass			
	other (describe): _____			

RELEASE INFORMATION

Latitude: (DD.DDDD) _____ Longitude: (DD.DDDD) _____

How was animal released? _____

Date _____ Time (24hr) _____ Zone _____

Time taken to release animal 0
(calculated/manually enter if release goes into next day)

Final Disposition:

- ☐ discarded dead/comatose/unresponsive carcass (marked?) _____
- ☐ salvaged carcass/parts (list all): _____
- ☐ released alive
- ☐ taken to holding facility (location): _____
- ☐ unknown (explain): _____

Behavior upon release:

- ☐ swam away vigorously ☐ dove quickly
- ☐ swam away slowly ☐ dove slowly
- ☐ remained at surface ☐ sank
- ☐ surfaced to breathe
- ☐ other (describe): _____

Describe the nature of any injuries caused by capture and release (i.e. blood in water, location of bleeding, how much bleeding, cuts/lacerations on body and where):

Data Recorder _____ Tagger _____

Mitigation Measures in place at time of capture:

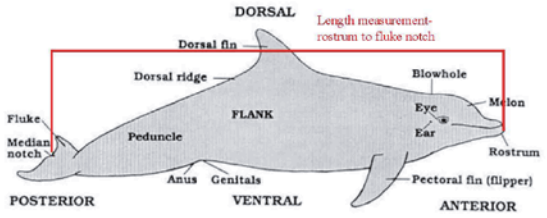
Additional Comments:

Please submit completed PSIT Form and photographs within 24 hours to nmfs.ser.ea_loa.takereport@noaa.gov. Please enter Fisheries Independent Monitoring Protected Species Take (BiOp SER-2009-7541) in the subject line and include the project name and species in the text of the email. Name PSIT form, photos and associated documents with Unique Identifier (Ex. NOAA-07-22-2016-29Z2-1)

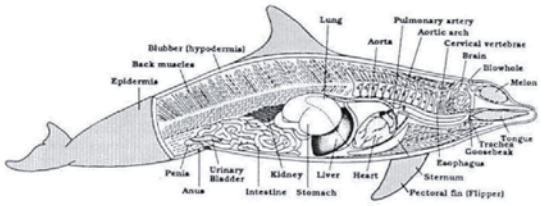
Print Form Reset Form Page 3 of 4

Use these diagrams to annotate any details as specifically noted above and any anomalies, wounds, location of living tags, etc. Also, be sure to indicate locations of all biological samples collected. To annotate the diagrams, on your menu, go to *Tools->Comment and Mark up* and select a drawing tool. Use the typewriter tool to enter text.

Marine Mammals



Basic External Anatomy

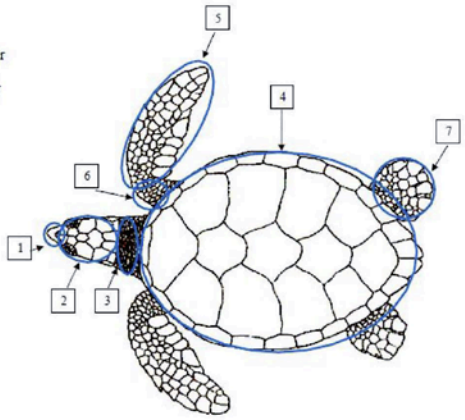


Basic Internal Anatomy

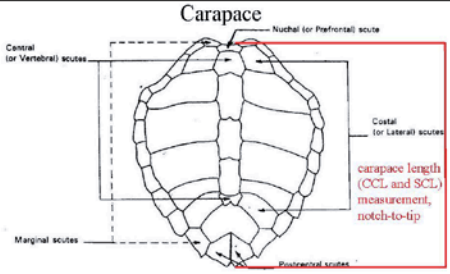
Sea Turtles

External hardshell:

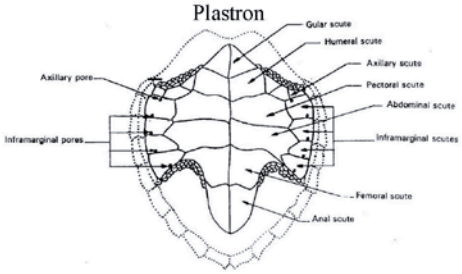
1) Beak
2) Head
3) Neck
4) Carapace
5) Front Flipper
6) Shoulder
7) Rear Flipper



Carapace

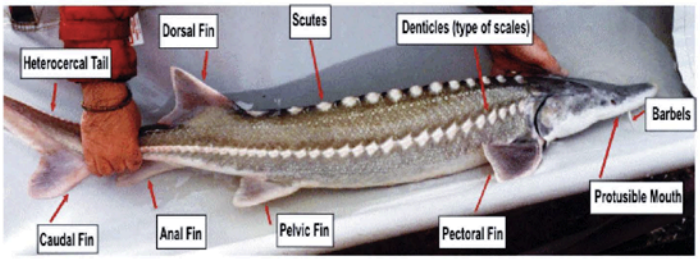


Plastron

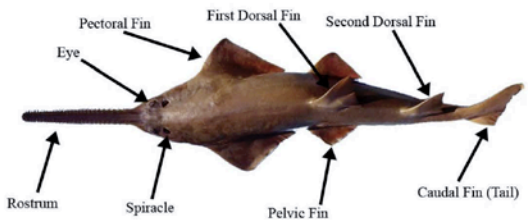


Finfish

Sturgeon



Sawfish



Appendix D

FAMP - Field Data Sheet

Date: **Samplers' Initials:**

Station #	Location	Time	Gear	Temp (C)	DO	Sal	Protected Species		
							Interaction Type*	Species	Take Reported (Y/N)

* **1** = no protected species were observed while gear was deployed, **2** = protected species was observed while gear was deployed, but no interaction between gear and the protected species, **3** = protected species was observed within 25' of deployed gear, but no interaction, **4** = interaction between animal and deployed gear that does not meet the "take" definition, and **5** = "take" of protected species occured

Comments

Appendix E
FAMP Gear description

Water quality equipment used for all three sampling methods:

- One Hydrolab for pH, salinity, depth, temperature and dissolved oxygen ***OR***
- YSI 85 Data Logger ***OR*** YSI Pro 2030
- Water sampler
- Blank hydrologic data sheet

Otter Trawl Gear:

- Onboard D GPS (WAAS enabled) with coordinates for site locations
- 16' Otter Trawl - 2 Seam Net with 3/16" Interlinear in the bag
- Head Rope – 3/8" poly dac, 14.2' long, 6' leg lines, with 2 (3"x3") corks
- Bottom Rope – 3/8" poly dac, 17.8' long, 6' leg lines, with 3/16" chain for lead lines
- Chains – 17" (17 links) w/ 8 hangs between each chain (7 chains attached to bottom rope)
- Webbing – 1 3/8" (#9)
- Bag – 1 3/4"
- Interlinear – 3/16" knotless seine
- Main tow line – 3/8" polydac at a length of 55' (measured from tow point on vessel to bridles).
- Bridle length – 35' 6"
- Extra 120' of 3/8" polydac (used for all Mobile Ship Channel sites and supplemental sites over 30 ft deep)
- Plastic ziploc bags (quart, gallon, and 2 gallon)
- Sorting table / tub
- Index cards
- Pencils
- Permanent marker
- Clock/Watch
- Measuring board
- Ice chest with ice to hold samples

Seine Gear:

- 50' Seine; Webbing – 3/16" knotless seine, 50' long, 4' high, Bag - 3/16" knotless seine, 4' long x 4' high x 4' deep; Floats – 1 3/4" x 3" , 17 1/2" center to center
- 60 ft tether
- Ziploc bags
- Index cards
- Pencils
- Permanent marker
- Waders
- Bucket and lid for each site
- Formalin

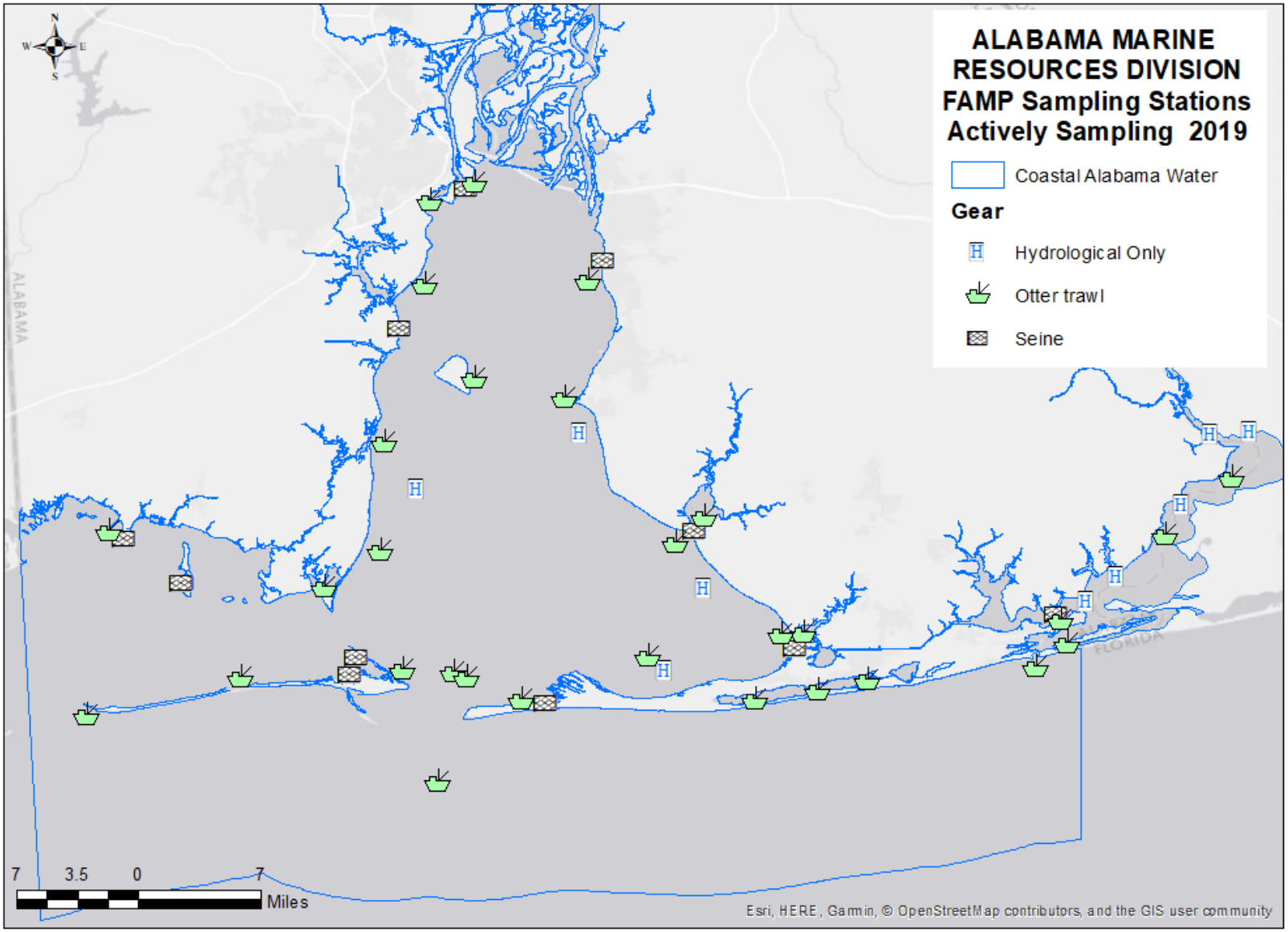
Clock/Watch
Ice chest with ice to hold samples

Beam Plankton Trawl Gear:

Beam – 1.8 meter, aluminum
Trawl Opening (front) – 150 cm x 83.8 cm
Trawl Bottom (back) – 40 cm diameter
Net Depth – 100cm center, 116 cm sides
Mesh – 0.5 mm
Bag (detachable) – 40 cm dia. opening, 100cm deep, 9 cm dia. opening for cod
Cod End – 3" PVC w/ 3" cap, 16 holes w/ 0.5 mm screen
Bucket with lid for each site
Formalin
Index cards
Pencils
Clock/Watch
Waders

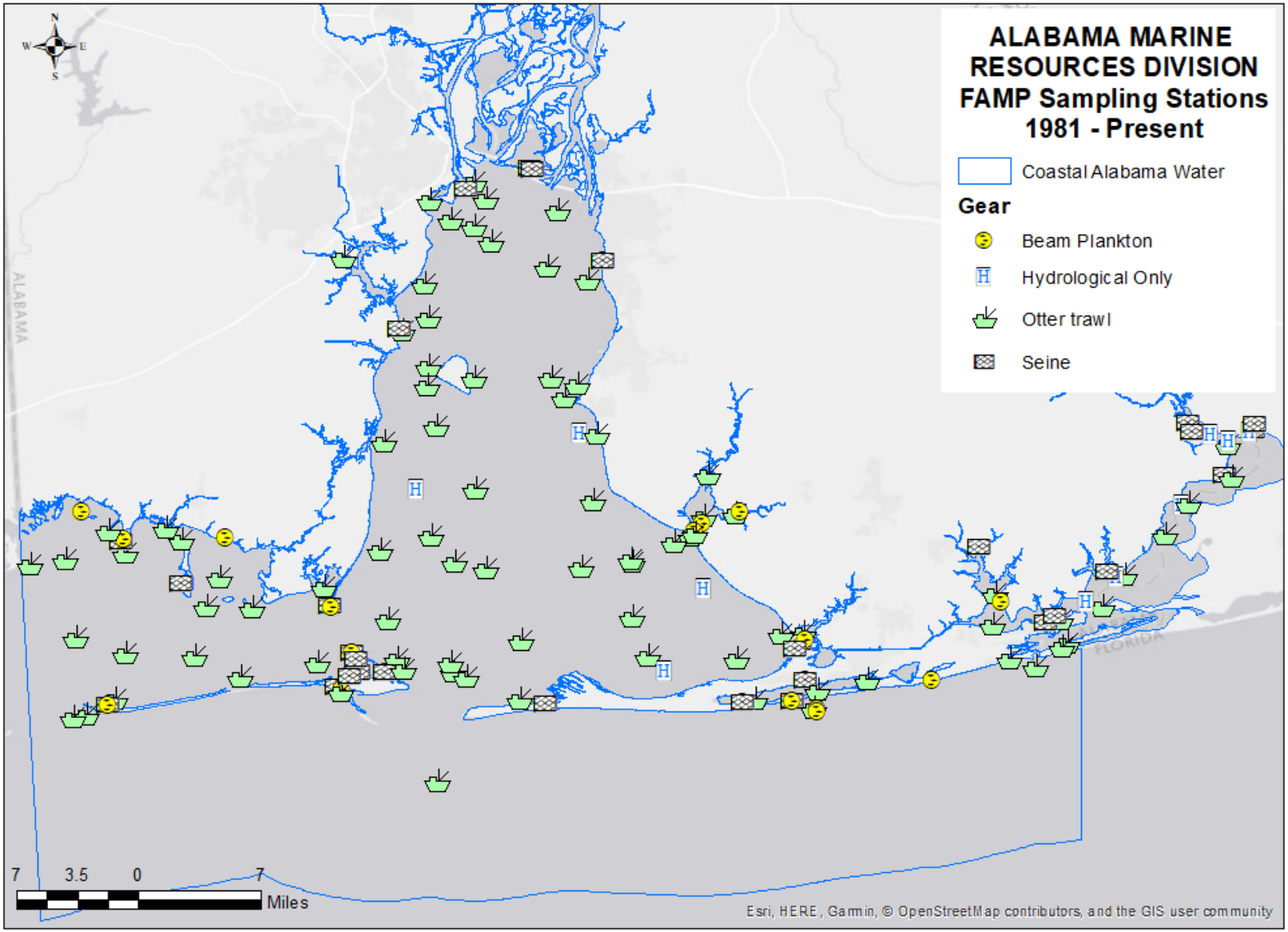
Appendix F

Current FAMP Station Locations



Appendix G

FAMP Station Locations represented in AL FAMP Station Inventory and Historic FAMP data



Appendix H

ITIS	Genus species	Common Name	Measurement
81289	ABRA AEQUALIS	COMMON ATLANTIC ABRA	Hinge (or Umbo) to Bill Along Longest Side
170046	ABUDEFDUF SAXATILIS	SERGEANT MAJOR	Standard Length
173245	ACANTHOSTRACION QUADRICORNIS	SCRAWLED COWFISH	Standard Length
172253	ACANTHURUS CHIRURGUS	DOCTORFISH	Standard Length
95889	ACETES AMERICANUS	AVIU SHRIMP (GHOST)	No Measurement
95891	ACETES AMERICANUS CAROLINAE	SERGESTID SHRIMP	Tip of Rostrum to End of Telson
172986	ACHIRUS LINEATUS	LINED SOLE	Standard Length
76140	ACTEOCINA BIDENTATA	TWO-TOOTH BARREL-BUBBLE	Tip of Spire to End of Apeture
52694	ACTINOTHOE GENUS	THENARIAN BURROWING ANEMONE GENUS	Disc Width
165682	ADINIA XENICA	DIAMOND KILLIFISH	Standard Length
50634	AEQUOREA FORSKALEA	MANY-RIBBED JELLYFISH	Bell Diameter
74372	AGATRIX AGASSIZII	AGASSIZ'S NUTMEG	Tip of Spire to End of Apeture
81515	AGRIOPOMA TEXASIANUM	TEXAS VENUS	Hinge (or Umbo) to Bill Along Longest Side
161121	ALBULA VULPES	BONEFISH	Standard Length
98122	ALBUNEA PARETII	BEACH MOLE CRAB	Anterior Tip to Posterior End
155475	ALCYONIDIUM GENUS	ENCRUSTING BRYOZOAN GENUS	Disc Width
656017	ALLOTHYONE MEXICANA	SEA CUCUMBER	Total Length
161707	ALOSA CHRYSOCHLORIS	SKIPJACK HERRING	Standard Length
96611	ALPHEUS ARMILLATUS	BANDED SNAPPING SHRIMP	Tip of Rostrum to End of Telson
96609	ALPHEUS FORMOSUS	STRIPED SNAPPING SHRIMP	Tip of Rostrum to End of Telson
96601	ALPHEUS GENUS	SNAPPING SHRIMP GENUS	Tip of Rostrum to End of Telson
96602	ALPHEUS HETEROCHAELIS	BIGCLAW SNAPPING SHRIMP	Tip of Rostrum to End of Telson
96606	ALPHEUS NORMANNI	GREEN SNAPPING SHRIMP	Tip of Rostrum to End of Telson
646456	ALUTERUS SCHOEPFII	ORANGE FILEFISH	Standard Length
164043	AMEIURUS NEBULOSUS	BROWN BULLHEAD	Standard Length
157649	AMPHIODIA ATRA	AMPHIODIA STAR	Disc Width
79529	AMYGDALUM PAPYRIUM	ATLANTIC PAPERMUSSEL	Hinge (or Umbo) to Bill Along Longest Side
73616	ANACHIS GENUS	DOVESNAIL GENUS	Tip of Spire to End of Apeture
73631	ANACHIS LAFRESNAYI	WELL-RIBBED DOVESNAIL	Tip of Spire to End of Apeture
73661	ANACHIS SEMIPLICATA	GULF DOVESNAIL	Tip of Spire to End of Apeture
79351	ANADARA BAUGHMANI	BAUGHMAN ARK	Hinge (or Umbo) to Bill Along Longest Side
79337	ANADARA GENUS	ARK SHELL GENUS	Hinge (or Umbo) to Bill Along Longest Side
79342	ANADARA OVALIS	BLOOD ARK	Hinge (or Umbo) to Bill Along Longest Side
79340	ANADARA TRANSVERSA	TRANSVERSE ARK	Hinge (or Umbo) to Bill Along Longest Side
166653	ANARCHOPTERUS CRINIGER	FRINGED PIPEFISH	Standard Length
161840	ANCHOA CUBANA	CUBAN ANCHOVY	Standard Length
161837	ANCHOA GENUS	COMMON ANCHOVY GENUS	Standard Length
161838	ANCHOA HEPSETUS	STRIPED ANCHOVY	Standard Length
161842	ANCHOA LYOLEPIS	DUSKY ANCHOVY	Standard Length
161839	ANCHOA MITCHILLI	BAY ANCHOVY	Standard Length
161857	ANCHOVIELLA PERFASCIATA	FLAT ANCHOVY	Standard Length
616601	ANCYLOPSETTA OMMATA	OCELLATED FLOUNDER	Standard Length
161127	ANGUILLA ROSTRATA	AMERICAN EEL	Total Length
92470	ANILOCRA ACUTA	PARASITIC ISOPOD OF GAR	Total Length
97698	ANOMURA INFRAORDER	ANOMURA CRAB INFRAORDER	Appropriate for Specimen
164525	ANTENNARIUS RADIOSUS	SINGLESPOT FROGFISH	Standard Length
914163	ANTHOZOA CLASS	ANEMONE AND CORALS CLASS	Disc Width
164405	APHREDODERUS SAYANUS	PIRATE PERCH	Standard Length
169364	APLODINOTUS GRUNNIENS	FRESHWATER DRUM	Standard Length
78033	APLYSIA BRASILIANA	MOTTLED SEAHARE	Total Length
78029	APLYSIA GENUS	SEA HARE GENUS	Total Length
157906	ARBACIA PUCTULATA	PURPLE-SPINED SEA URCHIN	Disc Width
79370	ARCA IMBRICATA	MOSSY ARK	Hinge (or Umbo) to Bill Along Longest Side
169189	ARCHOSARGUS PROBATOCEPHALUS	SHEEPSHEAD	Standard Length
79326	ARCIDAE FAMILY	ARK CLAM FAMILY	Hinge (or Umbo) to Bill Along Longest Side
98691	ARENAEUS CRIBRARIUS	SPECKLED SWIMMING CRAB	Carapace Width
89407	ARGULUS GENUS	FISH LOUSE GENUS	Total Length
680665	ARIOPSIS FELIS	HARDHEAD CATFISH	Standard Length
158854	ASCIDIACEA CLASS	SESSILE TUNICATE CLASS	Total Length
156862	ASTEROIDEA CLASS	SEA STAR CLASS	Disc Width
53370	ASTRANGIA POCULATA	NORTHERN STAR CORAL	Disc Width
156902	ASTROPECTEN AMERICANUS	SEA STAR	Disc Width
156905	ASTROPECTEN ARTICULATUS	ROYAL SEA STAR	Disc Width
171056	ASTROSCOPUS Y-GRAECUM	SOUTHERN STARGAZER	Standard Length

ITIS	Genus species	Common Name	Measurement
567256	ASTYRIS MULTILINEATA	BROWN BAND DOVESNAIL	Tip of Spire to End of Apeture
165984	ATHERINIDAE FAMILY	SILVERSIDES FAMILY	Standard Length
201897	ATRACTOSTEUS SPATULA	ALLIGATOR GAR	Standard Length
51701	AURELIA AURITA	MOON JELLY	Bell Diameter
621738	AUSTINIXA CRISTATA	CRISTATE PEA CRAB	Anterior Tip to Posterior End
164159	BAGRE MARINUS	GAFFTOPSAIL CATFISH	Standard Length
169259	BAIRDIELLA CHRYSOURA	SILVERPERCH	Standard Length
89600	BALANUS GENUS	BARNACLE GENUS	Disc Width
79374	BARBATIA GENUS	ARK CLAM GENUS	Hinge (or Umbo) to Bill Along Longest Side
171820	BATHYGOBIUS SOPORATOR	FRILLFIN GOBY	Standard Length
98692	BATHYNECTES GENUS	BATHYNECTES SWIMMING CRAB GENUS	Carapace Length
53869	BEROE CUCUMIS	BEROS COMB JELLY	Bell Diameter
171124	BLENNIIDAE FAMILY	BLENNY FAMILY	Standard Length
171871	BOLLMANNIA COMMUNIS	RAGGED GOBY	Standard Length
172714	BOTHIDAE FAMILY	LEFTEYE FLOUNDER FAMILY	Standard Length
96545	BRACHYCARPUS BIUNGUICULATUS	TWOCLAW SHRIMP	Tip of Rostrum to End of Telson
98276	BRACHYURA INFRAORDER	TRUE CRAB INFRAORDER	Carapace Width
69333	BRANCHELLION TORPEDINIS	SHARK/RAY LEECH	Total Length
159681	BRANCHIOSTOMA GENUS	LANCELET GENUS	Standard Length
161734	BREVOORTIA PATRONUS	GULF MENHADEN	Standard Length
161735	BREVOORTIA SMITHI	YELLOWFIN MENHADEN	Standard Length
164818	BROTULA BARBATA	BEARDED BROTULA	Standard Length
78052	BURSATELLA LEACHII PLEII	RAGGED SEAHARE	Total Length
74080	BUSYCON PERVERSUM	LIGHTNING WHELK	Tip of Spire to End of Apeture
74099	BUSYCOTYPUS PLAGOSUS	SHOULDERED PEAR WHELK	Tip of Spire to End of Apeture
74098	BUSYCOTYPUS SPIRATUS	PEARWHELK	Tip of Spire to End of Apeture
169200	CALAMUS LEUCOSTEUS	WHITEBONE PORGY	Standard Length
98342	CALAPPA FLAMMEA	FLAME BOX CRAB	Carapace Width
89009	CALIGUS GENUS	CALIGUS FISH SEA LICE GENUS	Total Length
52653	CALLIACTIS GENUS	CALLIACTIS ANEMONE GENUS	Disc Width
52654	CALLIACTIS TRICOLOR	HERMIT ANEMONE	Disc Width
98703	CALLINECTES BOCOURTI	BOCOURT SWIMMING CRAB	Carapace Width
98695	CALLINECTES GENUS	SWIMMING CRAB GENUS	Adult - Carapace Width; Meg - Rostrum -> Telson
98696	CALLINECTES SAPIDUS	BLUE CRAB	Adult - Carapace Width; Meg - Rostrum -> Telson
98697	CALLINECTES SIMILIS	LESSER BLUE CRAB	Adult - Carapace Width; Meg - Rostrum -> Telson
74360	CANCELLARIA RETICULATA	COMMON NUTMEG	Tip of Spire to End of Apeture
73826	CANTHARUS CANCELLARIUS	CANCELLATE CANTHARUS	Tip of Spire to End of Apeture
73825	CANTHARUS GENUS	CANTHARUS GENUS	Tip of Spire to End of Apeture
168584	CARANGIDAE FAMILY	JACK FAMILY	Standard Length
168607	CARANGOIDES BARTHOLOMAEI	YELLOW JACK	Standard Length
168612	CARANX CRYSOS	BLUE RUNNER	Standard Length
168605	CARANX GENUS	CREVALLIES GENUS	Standard Length
168609	CARANX HIPPOS	CREVALLE JACK	Standard Length
80865	CARDIIDAE FAMILY	COCKLE FAMILY	Hinge (or Umbo) to Bill Along Longest Side
167691	CENTROPRISTIS PHILADELPHICA	ROCK SEA BASS	Standard Length
72120	CERITHIUM ATRATUM	DARK CERITH	Tip of Spire to End of Apeture
72119	CERITHIUM GENUS	CERITH GENUS	Tip of Spire to End of Apeture
168139	CHAENOBRYTTUS GULOSUS	WARMOUTH	Standard Length
169539	CHAETODIPTERUS FABER	ATLANTIC SPADEFISH	Standard Length
67097	CHAETOPTERUS VARIOPEDATUS	PARCHMENT WORM	No Measurement
171164	CHASMODES BOSQUIANUS	STRIPED BLENNY	Standard Length
171165	CHASMODES SABURRAE	FLORIDA BLENNY	Standard Length
615846	CHILOMYCTERUS SCHOEPFII	STRIPED BURRFISH	Standard Length
51479	CHIROPSALMUS GENUS	SEA WASP GENUS	Bell Diameter
51480	CHIROPSALMUS QUADRUMANUS	SEA WASP	Bell Diameter
168670	CHLOROSCOMBRUS CHRYSURUS	ATLANTIC BUMPER	Standard Length
51644	CHRYSAORA QUINQUECIRRHA	SEA NETTLE	Bell Diameter
172715	CITHARICHTHYS GENUS	WHIFF GENUS	Standard Length
172724	CITHARICHTHYS MACROPS	SPOTTED WHIFF	Standard Length
172725	CITHARICHTHYS SPILOPTERUS	BAY WHIFF	Standard Length
98187	CLIBANARIUS GENUS	HERMIT CRAB GENUS	Carapace Length
98188	CLIBANARIUS VITTATUS	THINSTRIPE HERMIT CRAB	Carapace Length
161700	CLUPEIDAE FAMILY	HERRING FAMILY	Standard Length
81387	CORBICULA FLUMINEA	ASIAN CLAM	Hinge (or Umbo) to Bill Along Longest Side

ITIS	Genus species	Common Name	Measurement
168791	CORYPHAENA HIPPURUS	DOLPHIN	Standard Length
567407	COSTOANACHIS AVARA	GREEDY DOVESNAIL	Tip of Spire to End of Apeture
79872	CRASSOSTREA VIRGINICA	EASTERN OYSTER	Hinge (or Umbo) to Bill Along Longest Side
72623	CREPIDULA FORNICATA	COMMON ATLANTIC SLIPPERSNAIL	Hinge (or Umbo) to Bill Along Longest Side
72627	CREPIDULA PLANA	EASTERN WHITE SLIPPERSNAIL	Hinge (or Umbo) to Bill Along Longest Side
83677	CRUSTACEA SUBPHYLUM	CRUSTACEAN SUBPHYLUM	Appropriate for Specimen
621718	CRYPTODROMIOPSIS ANTILLENSIS	HAIRY SPONGE CRAB	Carapace Length
201982	CRYSTALLARIA ASPRELLA	CRYSTAL DARTER	Standard Length
636799	CTENOGOBIUS BOLEOSOMA	DARTER GOBY	Standard Length
171926	CTENOGOBIUS GENUS	DARTER/FRESHWATER GOBY GENUS	Standard Length
636837	CTENOGOBIUS SHUFELDTI	FRESHWATER GOBY	Standard Length
90745	CUMACEA ORDER	HOODED SHRIMP ORDER	Tip of Rostrum to End of Telson
80795	CUNA DALLI	DALL CONDYLCLAM	Hinge (or Umbo) to Bill Along Longest Side
51671	CYANEA CAPILLATA	LION'S MANE	Bell Diameter
172776	CYCLOPSETTA CHITTENDENI	MEXICAN FLOUNDER	Standard Length
92437	CYMOTHOIDAE FAMILY	PARASITIC ISOPOD FAMILY	Total Length
169243	CYNOSCION ARENARIUS	SAND SEATROUT	Standard Length
169238	CYNOSCION GENUS	SEATROUT GENUS	Standard Length
169239	CYNOSCION NEBULOSUS	SPOTTED SEATROUT	Standard Length
169240	CYNOSCION NOTHUS	SILVER SEATROUT	Standard Length
163342	CYPRINIDAE FAMILY	MINNOW FAMILY	Standard Length
165631	CYPRINODON VARIEGATUS	SHEEPSHEAD MINNOW	Standard Length
163344	CYPRINUS CARPIO	COMMON CARP	Standard Length
167624	DACTYLOPTERUS VOLITANS	FLYING GURNARD	Standard Length
171045	DACTYLOSCOPUS MOOREI	SPECKLED STARGAZER	Standard Length
98195	DARDANUS FUCOSUS	BAREYE HERMIT CRAB	Carapace Length
98193	DARDANUS INSIGNIS	RED BROCADE HERMIT CRAB	Carapace Length
160951	DASYATIS AMERICANA	SOUTHERN STINGRAY	Disc Width
160947	DASYATIS GENUS	STINGRAY GENUS	Disc Width
160953	DASYATIS SABINA	ATLANTIC STINGRAY	Disc Width
160954	DASYATIS SAY	BLUNTNOSE STINGRAY	Disc Width
95599	DECAPODA ORDER	CRAB SHRIMP AND LOBSTER ORDER	Appropriate for Specimen
168725	DECAPTERUS PUNCTATUS	ROUND SCAD	Standard Length
95600	DENDROBRANCHIATA SUBORDER	SHRIMP SUBORDER	Tip of Rostrum to End of Telson
82118	DENTALIUM GENUS	TUSKSHELL GENUS	Tip of Spire to End of Apeture
82125	DENTALIUM LAQUEATUM	RETICULATE TUSKSHELL	Tip of Spire to End of Apeture
80913	DINOCARDIUM ROBUSTUM	ATLANTIC GIANT COCKLE	Hinge (or Umbo) to Bill Along Longest Side
68407	DINOPHILUS GENUS	PEANUT WORM (POLYCHAETE) GENUS	No Measurement
98153	DIOGENIDAE FAMILY	LEFT-HANDED HERMIT CRAB FAMILY	Adult - Carapace Length; Meg - Rostrum -> Telso
66180	DIOPATRA CUPREA	PLUMED WORM	No Measurement
167796	DIPLECTRUM BIVITTATUM	DWARF SAND PERCH	Standard Length
167793	DIPLECTRUM FORMOSUM	SAND PERCH	Standard Length
167791	DIPLECTRUM GENUS	SAND PERCH GENUS	Standard Length
81244	DONACIDAE FAMILY	COQUINA FAMILY	Hinge (or Umbo) to Bill Along Longest Side
81248	DONAX VARIABILIS	VARIABLE COQUINA	Hinge (or Umbo) to Bill Along Longest Side
78157	DORIDOIDEA SUBORDER	DORID NUDIBRANCH SUBORDER	Total Length
171919	DORMITATOR MACULATUS	FAT SLEEPER	Standard Length
161737	DOROSOMA CEPEDIANUM	GIZZARD SHAD	Standard Length
161738	DOROSOMA PETENENSE	THREADFIN SHAD	Standard Length
51692	DRYMONEMA DALMATINUM	PINK MEANIE	Bell Diameter
98901	DYSPANOPEUS SAYI	SAY MUD CRAB	Carapace Width
98902	DYSPANOPEUS TEXANUS	GULF GRASSFLAT CRAB	Carapace Width
168575	ECHENEIS NAUCRATES	SHARKSUCKER	Standard Length
168169	ELASSOMA EVERGLADEI	EVERGLADES PYGMY SUNFISH	Standard Length
168171	ELASSOMA ZONATUM	BANDED PYGMY SUNFISH	Standard Length
171929	ELEOTRIS GENUS	SPINYCHEEK SLEEPER GENUS	Standard Length
171932	ELEOTRIS PISONIS	SPINYCHEEK SLEEPER	Standard Length
161111	ELOPS SAURUS	LADYFISH	Standard Length
98138	EMERITA PORTORICENSIS	PUERTO RICAN SAND CRAB	Anterior Tip to Posterior End
98134	EMERITA TALPOIDA	ATLANTIC SAND CRAB (MOLE CRAB)	Anterior Tip to Posterior End
158026	ENCOPE ABERRANS	ENCOPE	Disc Width
553173	ENGRAULIDAE FAMILY	ANCHOVY FAMILY	Standard Length
161830	ENGRAULIS EURYSTOLE	SILVER ANCHOVY	Standard Length
168113	ENNEACANTHUS GLORIOSUS	BLUESPOTTED SUNFISH	Standard Length

ITIS	Genus species	Common Name	Measurement
81023	ENSIS MINOR (MEGISTUS?)	MINOR JACKKNIFE CLAM	Hinge (or Umbo) to Bill Along Longest Side
78593	EOLIDOIDEA SUBORDER	AEOLID NUDIBRANCH SUBORDER	Total Length
72233	EPITONIUM GENUS	WENTLETRAP GENUS	Tip of Spire to End of Apeture
163922	ERIMYZON SUCETTA	LAKE CHUBSUCKER	Standard Length
163926	ERIMYZON TENUIS	SHARPFIN CHUBSUCKER	Standard Length
171878	EROTELIS SMARAGDUS	EMERALD SLEEPER	Standard Length
80995	ERVILIA CONCENTRICA	CONCENTRIC ERVILIA	Hinge (or Umbo) to Bill Along Longest Side
162140	ESOX AMERICANUS	REDFIN PICKEREL	Standard Length
162143	ESOX NIGER	CHAIN PICKEREL	Standard Length
168437	ETHEOSTOMA STIGMAEUM	SPECKLED DARTER	Standard Length
172729	ETROPUS CROSSOTUS	FRINGED FLOUNDER	Standard Length
172733	ETROPUS CYCLOSQUAMUS	SHELF FLOUNDER	Standard Length
172728	ETROPUS GENUS	ETROPUS FLOUNDER GENUS	Standard Length
161743	ETRUMEUS TERES	ROUND HERRING	Standard Length
98081	EUCERAMUS PRAELONGUS	OLIVEPIT PORCELAIN CRAB	Anterior Tip to Posterior End
169015	EUCINOSTOMUS ARGENTEUS	SPOTFIN MOJARRA	Standard Length
169014	EUCINOSTOMUS GENUS	MOJARRA GENUS	Standard Length
169016	EUCINOSTOMUS GULA	SILVER JENNY	Standard Length
98760	EURYPANOPEUS ABBREVIATUS	LOBATE MUD CRAB	Carapace Width
98759	EURYPANOPEUS DEPRESSUS	FLATBACK MUD CRAB	Carapace Width
171764	EVORTHODUS LYRICUS	LYRE GOBY	Standard Length
96927	EXHIPPOLYSMATA OPLOPHOROIDES	COCK SHRIMP	Tip of Rostrum to End of Telson
551570	FARFANTEPENAEUS AZTECUS	BROWN SHRIMP	Tip of Rostrum to End of Telson
551571	FARFANTEPENAEUS BRASILIENSIS	PINKSPOTTED SHRIMP	Tip of Rostrum to End of Telson
551574	FARFANTEPENAEUS DUORARUM	PINK SHRIMP	Tip of Rostrum to End of Telson
684690	FARFANTEPENAEUS GENUS	FARFANTEPENAEUS SHRIMP GENUS	Tip of Rostrum to End of Telson
74185	FASCIOLARIA LILIUM HUNTERIA	BANDED TULIP	Tip of Spire to End of Apeture
166416	FISTULARIA TABACARIA	BLUESPOTTED CORNETFISH	Standard Length
92224	FLABELLIFERA SUBORDER	FLABELLIFERA ISOPOD	Total Length
201973	FUNDULUS BLAIRAE	SOUTHERN STARHEAD MINNOW	Standard Length
165652	FUNDULUS CHRYSOTUS	GOLDEN TOPMINNOW	Standard Length
165645	FUNDULUS CONFLUENTUS	MARSH KILLIFISH	Standard Length
165644	FUNDULUS GENUS	TOPMINNOW GENUS	Standard Length
165651	FUNDULUS GRANDIS	GULF KILLIFISH	Standard Length
165653	FUNDULUS JENKINSI	SALTMARSH TOPMINNOW	Standard Length
165649	FUNDULUS MAJALIS	STRIPED KILLIFISH	Standard Length
647286	FUNDULUS NOTTI	BAYOU TOPMINNOW	Standard Length
165656	FUNDULUS PULVEREUS	BAYOU KILLIFISH	Standard Length
165878	GAMBUSIA AFFINIS	MOSQUITOFISH	Standard Length
69459	GASTROPODA CLASS	GASTROPOD CLASS	Tip of Spire to End of Apeture
81511	GEMMA GEMMA	AMETHYST GEM CLAM	Hinge (or Umbo) to Bill Along Longest Side
78750	GLAUCUS ATLANTICUS (GLUACIDAE)	BLUE GLAUCUS	Total Length
164460	GOBIESOX STRUMOSUS	SKILLETFISH	Standard Length
171746	GOBIIDAE FAMILY	TRUE GOBY FAMILY	Standard Length
171832	GOBIOIDES BROUSSONNETII	VIOLET GOBY	Standard Length
171767	GOBIONELLUS GENUS	DARTER GOBY GENUS	Standard Length
171769	GOBIONELLUS OCEANICUS	HIGHFIN GOBY (SHARPTAIL)	Standard Length
171789	GOBIOSOMA BOSC	NAKED GOBY	Standard Length
171794	GOBIOSOMA LONGIPALA	TWO-SCALE GOBY	Standard Length
171791	GOBIOSOMA ROBUSTUM	CODE GOBY	Standard Length
618905	GONEPLACIDAE FAMILY	GONEPLACIDAE CRAB FAMILY	Carapace Width
99033	GRAPSIDAE FAMILY	MARSH CRAB FAMILY	Carapace Width
161189	GYMNOTHORAX NIGROMARGINATUS	BLACKEDGE MORAY	Total Length
161192	GYMNOTHORAX SAXICOLA	HONEYCOMB MORAY	Total Length
160962	GYMNURA MICRURA	SMOOTH BUTTERFLY RAY	Disc Width
169055	HAEMULIDAE FAMILY	GRUNT FAMILY	Standard Length
169058	HAEMULON AUROLINEATUM	TOMTATE	Standard Length
164594	HALIEUTICHTHYS ACULEATUS	PANCAKE BATFISH	Standard Length
76258	HAMINOEA SOLITARIA	SOLITARY GLASSY-BUBBLE	Tip of Spire to End of Apeture
161755	HARENGULA JAGUANA	SCALED SARDINE	Standard Length
158618	HARRIMANIIDAE FAMILY	ACORN WORM FAMILY	No Measurement
75436	HASTULA SALLEANA	SALLE'S AUGER	Tip of Spire to End of Apeture
94018	HAUSTORIUS GENUS	AMPHIPOD GENUS	No Measurement
168740	HEMICARANX AMBLYRHYNCHUS	BLUNTNOSE JACK	Standard Length

ITIS	Genus species	Common Name	Measurement
157625	HEMIPHOLIS ELONGATA	BLOOD BRITTLE STAR	Disc Width
98348	HEPATUS EPHELITICUS	CALICO BOX CRAB	Carapace Width
165915	HETERANDRIA FORMOSA	LEAST KILLIFISH	Standard Length
98636	HETEROCRYPTA GRANULATA	SMOOTH ELBOW CRAB	Anterior Tip to Posterior End
52430	HEXACORALLIA SUBCLASS	SEA ANEMONE SUBCLASS	Disc Width
98764	HEXAPANOPEUS ANGUSTIFRONS	SMOOTH MUD CRAB	Carapace Width
98763	HEXAPANOPEUS GENUS	HEXAPANOPEUS MUD CRAB GENUS	Adult - Carapace Width; Meg - Rostrum -> Telson
98765	HEXAPANOPEUS PAULENSIS	KNOBBED MUD CRAB	Carapace Width
567690	HEXAPLEX FULVESCENS	GIANT EASTERN MUREX	Tip of Spire to End of Apeture
166488	HIPPOCAMPUS ERECTUS	LINED SEAHORSE	Total Length
96747	HIPPOLYTE GENUS	HIPPOLYTE SHRIMP GENUS	Tip of Rostrum to End of Telson
621750	HIPPOLYTE PLEURACANTHUS	FALSE ZOSTERA SHRIMP	Tip of Rostrum to End of Telson
69290	HIRUDINEA SUBCLASS	LEECHES SUBCLASS	No Measurement
164520	HISTRIO HISTRIO	SARGASSUMFISH	Standard Length
158140	HOLOTHUROIDEA CLASS	SEA CUCUMBER CLASS	Total Length
70493	HYDROBIIDAE FAMILY	HYDROBIID MUD SNAIL FAMILY	Tip of Spire to End of Apeture
95107	HYPERIIDEA SUBORDER	HYPERIIDEAN SUBORDER	No Measurement
171198	HYPLEUROCHILUS GEMINATUS	CRESTED BLENNY	Standard Length
98300	HYPOCONCHA ARCUATA	GRANULATE SHELLBACK CRAB	Anterior Tip to Posterior End
616683	HYPORHAMPHUS MEEKI	AMERICAN HALFBEAK	Lower Jaw to Caudal Peduncle
171155	HYPSOBLENNIUS GENUS	COMBTOOTH BLENNY GENUS	Standard Length
171156	HYPSOBLENNIUS HENTZ	FEATHER BLENNY	Standard Length
171157	HYPSOBLENNIUS IONTHAS	FRECKLED BLENNY	Standard Length
163997	ICTALURUS FURCATUS	BLUE CATFISH	Standard Length
163998	ICTALURUS PUNCTATUS	CHANNEL CATFISH	Standard Length
163955	ICTIOBUS BUBALUS	SMALLMOUTH BUFFALO	Standard Length
79561	ISCHADIUM RECURVUM	HOOKED MUSSEL	Hinge (or Umbo) to Bill Along Longest Side
92120	ISOPODA ORDER	ISOPOD ORDER	Total Length
166016	LABIDESTHES SICCULUS	BROOK SILVERSIDE	Standard Length
80894	LAEVICARDIUM PICTUM	PAINTED EGGCOCKLE	Hinge (or Umbo) to Bill Along Longest Side
173285	LAGOCEPHALUS LAEVIGATUS	SMOOTH PUFFER	Standard Length
169187	LAGODON RHOMBOIDES	PINFISH	Standard Length
169269	LARIMUS FASCIATUS	BANDED DRUM	Standard Length
96870	LATREUTES FUCORUM	SLENDER SARGASSUM SHRIMP	Tip of Rostrum to End of Telson
96871	LATREUTES PARVULUS	SARGASSUM SHRIMP	Tip of Rostrum to End of Telson
96214	LEANDER GENUS	SHRIMP GENUS	Tip of Rostrum to End of Telson
169267	LEIOSTOMUS XANTHURUS	SPOT	Standard Length
98104	LEPIDOPA WEBSTERI	WEBSTER'S MOLE CRAB	Anterior Tip to Posterior End
161095	LEPISOSTEUS OCULATUS	SPOTTED GAR	Standard Length
161094	LEPISOSTEUS OSSEUS	LONGNOSE GAR	Standard Length
168132	LEPOMIS CYANNELLUS	GREEN SUNFISH	Standard Length
168141	LEPOMIS MACROCHIRUS	BLUEGILL	Standard Length
168153	LEPOMIS MEGALOTIS	LONGEAR SUNFISH	Standard Length
168154	LEPOMIS MICROLOPHUS	REDEAR SUNFISH	Standard Length
168157	LEPOMIS MINIATUS	REDSPOTTED SUNFISH	Standard Length
168155	LEPOMIS PUNCTATUS	SPOTTED SUNFISH	Standard Length
164825	LEPOPHIDIUM BREVIBARBE	BLACKEDGE CUSK-EEL	Total Length
96178	LEPTOCHELA SERRATORBITA	COMBCLAW SHRIMP	Tip of Rostrum to End of Telson
98454	LIBINIA DUBIA	LONGNOSE SPIDER CRAB	Anterior Tip to Posterior End
98455	LIBINIA EMARGINATA	PORTLY SPIDER CRAB	Anterior Tip to Posterior End
98453	LIBINIA GENUS	SPIDER CRAB GENUS	Adult - Carapace Length; Meg - Rostrum -> Telso
82703	LIMULUS POLYPHEMUS	HORSESHOE CRAB	Carapace Width
551680	LITOPENAEUS SETIFERUS	WHITE SHRIMP	Tip of Rostrum to End of Telson
70395	LITTORINA GENUS	PERIWINKLES GENUS	Tip of Spire to End of Apeture
683307	LIVONECA GENUS	PARASITIC ISOPOD GENUS	Total Length
683311	LIVONECA REDMANII	PARASITIC ISOPOD SPECIES	Total Length
683312	LIVONECA RENIFORMIS	PARASITIC ISOPOD SPECIES	Total Length
169007	LOBOTES SURINAMENSIS	TRIPLETAIL	Standard Length
82369	LOLIGINIDAE FAMILY	SQUID FAMILY	Mantle Length
82372	LOLIGO PEALEII	LONGFIN INSHORE SQUID	Mantle Length
82373	LOLIGO PLEI	ARROW SQUID	Mantle Length
82379	LOLLIGUNCULA BREVIS	ATLANTIC BRIEF SQUID	Mantle Length
165679	LUCANIA PARVA	RAINWATER KILLIFISH	Standard Length
156869	LUIDIA ALTERNATA	BANDED SEA STAR	Disc Width

ITIS	Genus species	Common Name	Measurement
156868	LUIDIA CLATHRATA	LINED SEA STAR	Disc Width
168853	LUTJANUS CAMPECHANUS	RED SNAPPER	Standard Length
168846	LUTJANUS GENUS	SNAPPER GENUS	Standard Length
168848	LUTJANUS GRISEUS	GRAY SNAPPER	Standard Length
168860	LUTJANUS SYNAGRIS	LANE SNAPPER	Standard Length
81936	LYONSIA FLORIDANA	FLORIDA LYONSIA	Hinge (or Umbo) to Bill Along Longest Side
81909	LYONSIIDAE FAMILY	LYONSIIDAE FAMILY	Hinge (or Umbo) to Bill Along Longest Side
96893	LYSMATA WURDEMANNI	PEPPERMINT SHRIMP	Tip of Rostrum to End of Telson
81056	MACOMA CONSTRICTA	CONSTRICTED MACOMA	Hinge (or Umbo) to Bill Along Longest Side
81033	MACOMA GENUS	MACOMA CLAM GENUS	Hinge (or Umbo) to Bill Along Longest Side
81054	MACOMA MITCHELLI	MITCHELL MACOMA	Hinge (or Umbo) to Bill Along Longest Side
81055	MACOMA TENTA	ELONGATE MACOMA	Hinge (or Umbo) to Bill Along Longest Side
163864	MACRHYBOPSIS AESTIVALIS	SPECKLED CHUB	Standard Length
163870	MACRHYBOPSIS STORERIANA	SILVER CHUB	Standard Length
96221	MACROBRACHIUM OHIONE	OHIO RIVER SHRIMP	Tip of Rostrum to End of Telson
567853	MACTROTOMA FRAGILIS	FRAGILE SURFCLAM	Hinge (or Umbo) to Bill Along Longest Side
173781	MALACLEMYS TERRAPIN TERRAPIN	NORTHERN DIAMONDBACK TERRAPIN	Carapace Length
74378	MARGINELLIDAE FAMILY	MARGIN SHELL FAMILY	Tip of Spire to End of Apeture
158020	MELLITA QUINQUIESPERFORATA	FIVE SLOTTED SAND DOLLAR	Disc Width
74101	MELONGENA CORONA	CROWN CONCH	Tip of Spire to End of Apeture
165989	MEMBRAS MARTINICA	ROUGH SILVERSIDE	Standard Length
165993	MENIDIA BERYLLINA	INLAND SILVERSIDE	Standard Length
165992	MENIDIA GENUS	ATLANTIC SILVERSIDES GENUS	Standard Length
165996	MENIDIA PENINSULAE	TIDEWATER SILVERSIDE	Standard Length
98812	MENIPPE ADINA	GULF STONE CRAB	Carapace Width
98810	MENIPPE GENUS	STONE CRAB GENUS	Adult - Carapace Width; Meg - Rostrum -> Telson
98811	MENIPPE MERCENARIA	FLORIDA STONE CRAB	Carapace Width
169274	MENTICIRRHUS AMERICANUS	SOUTHERN KINGFISH	Standard Length
169273	MENTICIRRHUS GENUS	KINGFISH GENUS	Standard Length
169275	MENTICIRRHUS LITTORALIS	GULF KINGFISH	Standard Length
169276	MENTICIRRHUS SAXATILIS	NORTHERN KINGFISH	Standard Length
81499	MERCENARIA CAMPECHIENSIS	SOUTHERN QUAHOG	Hinge (or Umbo) to Bill Along Longest Side
81496	MERCENARIA MERCENARIA	NORTHERN QUAHOG	Hinge (or Umbo) to Bill Along Longest Side
95668	METAPENAEOPSIS GOODEI	VELVET SHRIMP	Tip of Rostrum to End of Telson
98485	METOPORHAPHIS CALCARATA	FALSE ARROW CRAB	Anterior Tip to Posterior End
172165	MICRODESMUS LONGIPINNIS	PINK WORMFISH	Standard Length
171807	MICROGOBIUS GENUS	BANNERFIN GOBY GENUS	Standard Length
171808	MICROGOBIUS GULOSUS	CLOWN GOBY	Standard Length
171809	MICROGOBIUS THALASSINUS	GREEN GOBY	Standard Length
98797	MICROPANOPE GENUS	MICROPANOPE MUD CRAB	Carapace Width
98798	MICROPANOPE NUTTINGI	BEADED MUD CRAB	Carapace Width
98799	MICROPANOPE SCULTIPES	SCULPTURED MUD CRAB	Carapace Width
157755	MICROPHOLIS ATRA	LONGARMED BRITTLE STAR	Disc Width
169283	MICROPOGONIAS UNDULATUS	ATLANTIC CROAKER	Standard Length
168161	MICROPTERUS PUNCTULATUS	SPOTTED BASS	Standard Length
168160	MICROPTERUS SALMOIDES	LARGEMOUTH BASS	Standard Length
98521	MITHRAX PLEURACANTHUS	SHAGGY CLINGING CRAB	Carapace Width
73552	MITRELLA LUNATA	LUNAR DOVESNAIL	Tip of Spire to End of Apeture
159564	MOLGULA CITRINA	ORANGE SEA GRAPE	Disc Width
69458	MOLLUSCA PHYLUM	MOLLUSK PHYLUM	Appropriate for Specimen
167683	MORONE MISSISSIPPIENSIS	YELLOW BASS	Standard Length
167680	MORONE SAXATILIS	STRIPED BASS	Standard Length
170335	MUGIL CEPHALUS	STRIPED MULLET	Standard Length
170336	MUGIL CUREMA	WHITE MULLET	Standard Length
80959	MULINIA LATERALIS	DWARF SURFCLAM	Hinge (or Umbo) to Bill Along Longest Side
73236	MURICIDAE FAMILY	PREDATORY SNAIL FAMILY	Tip of Spire to End of Apeture
167759	MYCTEROPERCA MICROLEPIS	GAG	Standard Length
564391	MYLIOBATIS FREMINVILLEI	BULLNOSE EAGLE RAY	Disc Width
161453	MYROPHIS PUNCTATUS	SPECKLED WORM EEL	Total Length
90041	MYSIS GENUS	OPOSSUM SHRIMP GENUS	Tip of Rostrum to End of Telson
99199	NANNOSQUILLIDAE FAMILY	NANNOSQUILLID MANTIS SHRIMP FAMILY	Tip of Rostrum to End of Telson
98843	NANOPLAX XANTHIFORMIS	ROUGH SQUAREBACK CRAB	Carapace Width
160844	NARCINE BRASILIENSIS	LESSER ELECTRIC RAY	Total Length
74102	NASSARIIDAE FAMILY	NASSA MUD SNAIL FAMILY	Tip of Spire to End of Apeture

ITIS	Genus species	Common Name	Measurement
74114	NASSARIUS ACUTUS	SHARP NASSA	Tip of Spire to End of Apeture
74103	NASSARIUS GENUS	NASSA GENUS	Tip of Spire to End of Apeture
74107	NASSARIUS VIBEX	BRUISED NASSA	Tip of Spire to End of Apeture
57411	NEMERTEA PHYLUM	RIBBON WORM PHYLUM	No Measurement
65902	NEREIS GENUS	POLYCHAETE WORM GENUS	No Measurement
70159	NERITIDAE FAMILY	NERITE FAMILY	Tip of Spire to End of Apeture
567956	NERITINA USNEA	OLIVE NERITE	Tip of Spire to End of Apeture
92461	NEROCILA ACUMINATA	PARASITIC ISOPOD SPECIES	Total Length
72961	NEVERITA DUPLICATA	SHARK EYE	Longest Longitudinal Axis
170860	NICHOLSINA USTA	EMERALD PARROTFISH	Standard Length
96961	NIKOIDES SCHMITTI	NIGHT SHRIMP SPECIES	Tip of Rostrum to End of Telson
0	NO CATCH	NO CATCH	No Measurement
79366	NOETIA PONDEROSA	PONDEROUS ARK	Hinge (or Umbo) to Bill Along Longest Side
78119	NOTASPIDEA ORDER	SIDE GILL SLUG FAMILY	No Measurement
163368	NOTEMIGONUS CRYSOLEUCAS	GOLDEN SHINER	Standard Length
83756	NOTOSTRACA ORDER	FAIRY SHRIMP ORDER	Tip of Rostrum to End of Telson
163433	NOTROPIS CANDIDUS	SILVERSIDE SHINER	Standard Length
163399	NOTROPIS GENUS	EASTERN SHINER GENUS	Standard Length
163454	NOTROPIS MACULATUS	TAILLIGHT SHINER	Standard Length
163460	NOTROPIS PETERSONI	COASTAL SHINER	Standard Length
163420	NOTROPIS TEXANUS	WEED SHINER	Standard Length
79205	NUCULANA CONCENTRICA	CONCENTRIC NUTCLAM	Hinge (or Umbo) to Bill Along Longest Side
78156	NUDIBRANCHIA ORDER	NUDIBRANCH ORDER	Total Length
82603	OCTOPUS VULGARIS	COMMON OCTOPUS	Mantle Length
164584	OGCOCEPHALUS CORNIGER	LONGNOSE BATFISH	Standard Length
164576	OGCOCEPHALUS NASUTUS	SHORTNOSE BATFISH	Standard Length
164580	OGCOCEPHALUS PANTOSTICTUS	SPOTTED BATFISH	Standard Length
96737	OGYRIDES ALPHAEROSTRIS	ESTUARINE LONGEYE SHRIMP	Tip of Rostrum to End of Telson
92455	OLENCIRA PRAEGUSTATOR	PARASITIC ISOPOD OF BREEVORTIA	Total Length
168673	OLIGOPLITES SAURUS	LEATHERJACKET	Standard Length
74277	OLIVA GENUS	OLIVE GENUS	Tip of Spire to End of Apeture
74278	OLIVA SAYANA	LETTERED OLIVE	Tip of Spire to End of Apeture
74224	OLIVELLA GENUS	DWARF OLIVE GENUS	Tip of Spire to End of Apeture
74222	OLIVIDAE FAMILY	OLIVE FAMILY	Tip of Spire to End of Apeture
553418	ONCORHYNCHUS MYKISS GAIRDNERII	COLUMBIA RIVER REDBAND TROUT	Standard Length
635651	OPHICHTHUS GOMESII	SHRIMP EEL	Total Length
164841	OPHIDION GRAYI	BLOTCHED CUSK-EEL	Total Length
690647	OPHIDION HOLBROOKII	BANK CUSK-EEL	Total Length
622946	OPHIDION JOSEPHI	CRESTED CUSK-EEL	Total Length
157506	OPHIODERMA APPRESSA	HARLEQUIN BRITTLE STAR	Disc Width
157449	OPHIOLEPIS ELEGANS	BRITTLE STAR	Disc Width
157448	OPHIOLEPIS GENUS	BRITTLE STAR GENUS	Disc Width
157455	OPHIOLEPIS IMPRESSA	SCALY BRITTLE STAR	Disc Width
157796	OPHIOTHRIX ANGULATA	ANGULAR BRITTLE STAR	Disc Width
157382	OPHIURIDA ORDER	BASKET AND SERPENT STAR ORDER	Disc Width
157325	OPHIUROIDEA CLASS	BRITTLESTAR CLASS	Disc Width
78062	OPISTHOBRANCHIA INFRACLASS	OPISTHOBRANCHIA GASTROPOD	Tip of Spire to End of Apeture
161748	OPISTHONEMA OGLINUM	ATLANTIC THREAD HERRING	Standard Length
164424	OPSANUS BETA	GULF TOADFISH	Standard Length
163876	OPSOPOEODUS EMILIAE	PUGNOSE MINNOW	Standard Length
169077	ORTHOPRISTIS CHRYSOPTERA	PIGFISH	Standard Length
79897	OSTREA EQUESTRIS	CRESTED OYSTER	Hinge (or Umbo) to Bill Along Longest Side
98711	OVALIPES FLORIDANUS	FLORIDA LADY CRAB	Carapace Width
97774	PAGURIDAE FAMILY	RIGHT-HANDED HERMIT CRAB FAMILY	Adult - Carapace Width; Meg - Rostrum -> Telson
206947	PAGURIDEA SUPERFAMILY	HERMIT CRAB SUPERFAMILY	Carapace Length
98158	PAGURISTES HUMMI	PAGURISTES HUMMI HERMIT	Carapace Length
98159	PAGURISTES OXYOPHTHALMUS	OXYOPHTHALMUS HERMIT CRAB	Carapace Length
97775	PAGURUS GENUS	HERMIT CRAB GENUS	Carapace Length
97807	PAGURUS LONGICARPUS	LONGWRIST HERMIT CRAB	Carapace Length
97809	PAGURUS POLLICARIS	FLATCLAW HERMIT CRAB	Carapace Length
96383	PALAEMONETES GENUS	GRASS SHRIMP GENUS	Tip of Rostrum to End of Telson
96384	PALAEMONETES INTERMEDIUS	BRACKISH GRASS SHRIMP	Tip of Rostrum to End of Telson
96396	PALAEMONETES KADIAKENSIS	MISSISSIPPI GRASS SHRIMP	Tip of Rostrum to End of Telson
96385	PALAEMONETES PALUDOSUS	EASTERN GRASS SHRIMP	Tip of Rostrum to End of Telson

ITIS	Genus species	Common Name	Measurement
96390	PALAEMONETES PUGIO	DAGGERBLADE GRASS SHRIMP	Tip of Rostrum to End of Telson
96391	PALAEMONETES VULGARIS	MARSH GRASS SHRIMP	Tip of Rostrum to End of Telson
96213	PALAEMONIDAE FAMILY	PALAEMONID SHRIMP FAMILY	Tip of Rostrum to End of Telson
98777	PANOPEUS GENUS	PANOPEUS CRAB GENUS	Carapace Width
98778	PANOPEUS HERBSTII	ATLANTIC MUD CRAB	Carapace Width
98786	PANOPEUS OBESUS	SALT MARSH MUD CRAB	Carapace Width
98780	PANOPEUS OCCIDENTALIS	FURROWED MUD CRAB	Carapace Width
83546	PANTOPODA ORDER	SEA SPIDER ORDER	Anterior Tip to Posterior End
172736	PARALICHTHYS ALBIGUTTA	GULF FLOUNDER	Standard Length
172734	PARALICHTHYS GENUS	PARALICHTHID FLOUNDER GENUS	Standard Length
172738	PARALICHTHYS LETHOSTIGMA	SOUTHERN FLOUNDER	Standard Length
172740	PARALICHTHYS SQUAMILENTUS	BROAD FLOUNDER	Standard Length
52633	PARANTHUS RAPIFORMIS	ONION ANEMONE	Disc Width
95733	PARAPENAEUS LONGIROSTRIS	DEEP-WATER ROSE SHRIMP	Tip of Rostrum to End of Telson
169319	PAREQUES UMBROSUS	CUBBYU	Standard Length
568055	PARVANACHIS OSTREICOLA	OYSTER DOVESNAIL	Tip of Spire to End of Apeture
98469	PELIA MUTICA	CRYPTIC TEARDROP CRAB	Anterior Tip to Posterior End
95602	PENAEIDAE FAMILY	PENAEID SHRIMP FAMILY	Tip of Rostrum to End of Telson
95601	PENAEOIDEA SUPERFAMILY	PENAEOID SHRIMP SUPERFAMILY	Tip of Rostrum to End of Telson
172568	PEPRILUS BURTI	GULF BUTTERFISH	Standard Length
172564	PEPRILUS GENUS	HARVESTFISH GENUS	Standard Length
172566	PEPRILUS PARU	HARVESTFISH	Standard Length
96417	PERICLIMENES LONGICAUDATUS	LONGTAIL GRASS SHRIMP	Tip of Rostrum to End of Telson
98366	PERSEPHONA CRINITA	PINK PURSE CRAB	Anterior Tip to Posterior End
98362	PERSEPHONA GENUS	PURSE CRAB GENUS	Anterior Tip to Posterior End
98368	PERSEPHONA MEDITERRANEA	MOTTLED PURSE CRAB	Anterior Tip to Posterior End
568081	PETRICOLARIA PHOLADIFORMIS	FALSE ANGELWING	Hinge (or Umbo) to Bill Along Longest Side
98200	PETROCHIRUS DIOGENES	GIANT HERMIT CRAB	Carapace Length
98062	PETROLISTHES ARMATUS	GREEN PORCELAIN CRAB	Anterior Tip to Posterior End
98063	PETROLISTHES GALATHINUS	BANDED PORCELAIN CRAB	Anterior Tip to Posterior End
73008	PHALIUM GRANULATUM	SCOTCH BONNET	Tip of Spire to End of Apeture
154947	PHASCOLOSOMA PUNTARENAE	PEANUT WORM	No Measurement
51829	PHYLLORHIZA PUNCTATA	AUSTRALIAN SPOTTED JELLYFISH	Bell Diameter
719181	PHYSALIA PHYSALIS	PORTUGUESE MAN O'WAR	Bell Diameter
76698	PHYSELLA GENUS	PHYSA GENUS	Tip of Spire to End of Apeture
76676	PHYSIDAE FAMILY	BLADDER SNAIL FAMILY	Tip of Spire to End of Apeture
98819	PILUMNUS DASYPODUS	SHORTSPINE HAIRY CRAB	Carapace Width
98814	PILUMNUS GENUS	HAIRY CRAB GENUS	Carapace Width
98823	PILUMNUS LACTEUS	VELVET HAIRY CRAB	Carapace Width
98993	PINNIXA GENUS	PEA CRAB GENUS	Anterior Tip to Posterior End
99006	PINNIXA PEARSEI	PEA CRAB SPECIES	Anterior Tip to Posterior End
99001	PINNIXA RETINENS	PEA CRAB SPECIES	Anterior Tip to Posterior End
99002	PINNIXA SAYANA	PEA CRAB SPECIES	Anterior Tip to Posterior End
621733	PLATYLAMBRUS GRANULATA	BLADETOOTH ELBOW CRAB	Anterior Tip to Posterior End
660530	PLATYLAMBRUS SERRATUS	SAWTOOTH ELBOW CRAB	Anterior Tip to Posterior End
98488	PODOCHELA SIDNEYI	SHORTFINGER NECK CRAB	Anterior Tip to Posterior End
165898	POECILIA LATIPINNA	SAILFIN MOLLY	Standard Length
169288	POGONIAS CROMIS	BLACK DRUM	Standard Length
170447	POLYDACTYLUS OCTONEMUS	ATLANTIC THREADFIN	Standard Length
98083	POLYONYX GIBBESI	EASTERN TUBE CRAB	Carapace Width
168559	POMATOMUS SALTATRIX	BLUEFISH	Standard Length
168167	POMOXIS NIGROMACULATUS	BLACK CRAPPIE	Standard Length
98088	PORCELLANA SAYANA	SPOTTED PORCELAIN CRAB	Anterior Tip to Posterior End
98087	PORCELLANA SIGSBEIANA	STRIPED PORCELAIN CRAB	Anterior Tip to Posterior End
98058	PORCELLANIDAE FAMILY	PORCELAIN CRAB FAMILY	Anterior Tip to Posterior End
164421	PORICHTHYS PLECTRODON	ATLANTIC MIDSHIPMAN	Standard Length
46861	PORIFERA PHYLUM	SPONGE PHYLUM	Process But No Measurement
98689	PORTUNIDAE FAMILY	SWIMMING CRAB FAMILY	Adult - Carapace Width; Meg - Rostrum -> Telson
98717	PORTUNUS GENUS	SWIMMING CRAB GENUS	Carapace Width
98718	PORTUNUS GIBBESII	IRIDESCENT SWIMMING CRAB	Carapace Width
98725	PORTUNUS ORDWAYI	REDHAIR SWIMMING CRAB	Carapace Width
98719	PORTUNUS SAYI	SARGASSUM SWIMMING CRAB	Carapace Width
98721	PORTUNUS SPINIMANUS	BLOTCHED SWIMMING CRAB	Carapace Width
166973	PRIONOTUS GENUS	NORTH AMERICAN SEAROBIN GENUS	Standard Length

ITIS	Genus species	Common Name	Measurement
166996	PRIONOTUS LONGISPINOSUS	BIGEYE SEAROBIN	Standard Length
166984	PRIONOTUS MARTIS	BARRED SEAROBIN	Standard Length
166986	PRIONOTUS OPHRYAS	BANDTAIL SEAROBIN	Standard Length
166987	PRIONOTUS PARALATUS	MEXICAN SEAROBIN	Standard Length
166990	PRIONOTUS ROSEUS	BLUESPOTTED SEAROBIN	Standard Length
166991	PRIONOTUS RUBIO	BLACKWING SEAROBIN	Standard Length
166976	PRIONOTUS SCITULUS	LEOPARD SEAROBIN	Standard Length
166977	PRIONOTUS TRIBULUS	BIGHEAD SEAROBIN	Standard Length
97490	PROCAMBARUS GENUS	CRAWFISH GENUS	Tip of Rostrum to End of Telson
97521	PROCAMBARUS HINEI	EASTERN MARSH CRAWFISH	Tip of Rostrum to End of Telson
96954	PROCESSA PROFUNDA	NIGHT SHRIMP	Tip of Rostrum to End of Telson
96945	PROCESSA VICINA	PROCESSID SHRIMP	Tip of Rostrum to End of Telson
74400	PRUNUM APICINUM	COMMON ATLANTIC MARGINELLA	Tip of Spire to End of Apeture
158293	PSEUDOCOLOCHIRUS MYSTICUS	PSEUDOCOLOCHIRUS MYSTICUS SEA CUCUMBER	Total Length
201942	PTERONOTROPIS SIGNIPINNIS	FLAGFIN SHINER	Standard Length
83545	PYCNOGONIDAE CLASS	SEA SPIDER CLASS	Anterior Tip to Posterior End
75952	PYRAMIDELLA ADAMSI	ADAMS PYRAM	Tip of Spire to End of Apeture
75008	PYRGOSPIRA OSTREARUM	TURRID GASTROPOD SPECIES	Tip of Spire to End of Apeture
168566	RACHYCENTRON CANADUM	COBIA	Standard Length
160855	RAJA EGLANTERIA	CLEARNOSE SKATE	Disc Width
160875	RAJA TEXANA	ROUNDEL SKATE	Disc Width
80962	RANGIA CUNEATA	ATLANTIC RANGIA	Hinge (or Umbo) to Bill Along Longest Side
80963	RANGIA FLEXUOSA	BROWN RANGIA	Hinge (or Umbo) to Bill Along Longest Side
98405	RANINOIDES LOUISIANENSIS	GULF FROG CRAB	Anterior Tip to Posterior End
160815	RHINOBATOS LENTIGINOSUS	ATLANTIC GUITARFISH	Total Length
160985	RHINOPTERA BONASUS	COWNOSE RAY	Disc Width
98790	RHITHROPANOPEUS HARRISII	HARRIS MUD CRAB	Carapace Width
160200	RHIZOPRIONODON TERRAENOVAE	ATLANTIC SHARPNOSE SHARK	Fork Length
51920	RHOPILEMA VERRILLI	MUSHROOM JELLYFISH	Bell Diameter
551662	RIMAPENAEUS CONSTRICTUS	ROUGHNECK SHRIMP	Tip of Rostrum to End of Telson
551562	RIMAPENAEUS GENUS	RIMAPENAEID SHRIMP GENUS	Tip of Rostrum to End of Telson
551666	RIMAPENAEUS SIMILIS	ROUGHBACK SHRIMP	Tip of Rostrum to End of Telson
167987	RYPTICUS MACULATUS	WHITESPOTTED SOAPFISH	Standard Length
158727	SAGITTA GENUS	ARROW WORM GENUS	Total Length
161763	SARDINELLA AURITA	SPANISH SARDINE	Standard Length
162408	SAURIDA BRASILIENSIS	LARGESCALE LIZARDFISH	Standard Length
169237	SCIAENIDAE FAMILY	DRUM FAMILY	Standard Length
169290	SCIAENOPS OCELLATUS	RED DRUM	Standard Length
172435	SCOMBEROMORUS CAVALLA	KING MACKEREL	Standard Length
172436	SCOMBEROMORUS MACULATUS	SPANISH MACKEREL	Standard Length
166816	SCORPAENA BRASILIENSIS	BARBFISH	Standard Length
166817	SCORPAENA CALCARATA	SMOOTHHEAD SCORPIONFISH	Standard Length
78496	SCYLLAEA PELAGICA	SARGASSUM NUDIBRANCH	Total Length
51483	SCYPHOZOA CLASS	CUP JELLYFISH CLASS	Bell Diameter
168684	SELENE SETAPINNIS	ATLANTIC MOONFISH	Standard Length
168680	SELENE VOMER	LOOKDOWN	Standard Length
51636	SEMAEOSTOMEAE ORDER	JELLYFISH ORDER	Bell Diameter
168689	SERIOLA DUMERILI	GREATER AMBERJACK	Standard Length
168691	SERIOLA RIVOLIANA	ALMACO JACK	Standard Length
167848	SERRANICULUS PUMILIO	PYGMY SEA BASS	Standard Length
167674	SERRANIDAE FAMILY	SEABASS & GROUPER FAMILY	Standard Length
167858	SERRANUS SUBLIGARIUS	BELTED SANDFISH	Standard Length
99039	SESARMA RETICULATUM	HEAVY MARSH CRAB	Carapace Width
96028	SICYONIA BREVIROSTRIS	BROWN ROCK SHRIMP	Tip of Rostrum to End of Telson
96030	SICYONIA DORSALIS	LESSER ROCK SHRIMP	Tip of Rostrum to End of Telson
96027	SICYONIA GENUS	ROCK SHRIMP GENUS	Tip of Rostrum to End of Telson
96033	SICYONIA LAEVIGATA	NOTCHED ROCK SHRIMP	Tip of Rostrum to End of Telson
72951	SINUM PERSPECTIVUM	WHITE BABY EAR	Longest Longitudinal Axis
169180	SPARIDAE FAMILY	PORGY FAMILY	Standard Length
98919	SPEOCARCINUS LOBATUS	GULF SQUAREBACK CRAB	Carapace Width
92337	SPHAEROMA GENUS	SEA PILL BUG GENUS	Total Length
92339	SPHAEROMA QUADRIDENTATUM	SEA PILL BUG	Total Length
173297	SPHOEROIDES NEPHELUS	SOUTHERN PUFFER	Standard Length
173299	SPHOEROIDES PARVUS	LEAST PUFFER	Standard Length

ITIS	Genus species	Common Name	Measurement
173300	SPHOEROIDES SPENGLERI	BANDTAIL PUFFER	Standard Length
650251	SPHYRAENA BARRACUDA	GREAT BARRACUDA	Standard Length
170427	SPHYRAENA BOREALIS	NORTHERN SENNET	Standard Length
170428	SPHYRAENA GUACHANCHO	GUAGUANCHE	Standard Length
160502	SPHYRNA TIBURO	BONNETHEAD	Fork Length
80944	SPISULA SOLIDISSIMA	ATLANTIC SURFCLAM	Hinge (or Umbo) to Bill Along Longest Side
99143	SQUILLA EMPUSA	MANTIS SHRIMP SPECIES	Tip of Rostrum to End of Telson
169292	STELLIFER LANCEOLATUS	STAR DRUM	Standard Length
97294	STENOPODIDEA INFRAORDER	SPONGE SHRIMP INFRAORDER	Tip of Rostrum to End of Telson
169183	STENOTOMUS CAPRINUS	LONGSPINE PORGY	Standard Length
646454	STEPHANOLEPIS HISPIDA	PLANEHEAD FILEFISH	Standard Length
99140	STOMATOPODA ORDER	MANTIS SHRIMP ORDER	Tip of Rostrum to End of Telson
51926	STOMOLOPHUS MELEAGRIS	CANNONBALL JELLYFISH	Bell Diameter
567132	STRAMONITA GENUS	ROCKSNAIL GENUS	Tip of Spire to End of Apeture
568327	STRAMONITA HAEMASTOMA	FLORIDA ROCKSNAIL	Tip of Spire to End of Apeture
568510	STRAMONITA HAEMASTOMA CANALICULATA	FLORIDA ROCKSNAIL	Tip of Spire to End of Apeture
568511	STRAMONITA HAEMASTOMA FLORIDANA	FLORIDA ROCKSNAIL	Tip of Spire to End of Apeture
81215	STRIGILLA MIRABILIS	WHITE STRIGILLA	Hinge (or Umbo) to Bill Along Longest Side
72556	STROMBUS ALATUS	FLORIDA FIGHTING CONCH	Tip of Spire to End of Apeture
165551	STRONGYLURA MARINA	ATLANTIC NEEDLEFISH	Standard Length
159338	STYELA PLICATA	STRIPED SEA SQUIRT	Disc Width
172791	SYACIUM GUNTERI	SHOAL FLOUNDER	Standard Length
172793	SYACIUM PAPILLOSUM	DUSKY FLOUNDER	Standard Length
616615	SYMPHURUS CIVITATIUM	OFFSHORE TONGUEFISH	Total Length
173062	SYMPHURUS PLAGIUSA	BLACKCHEEK TONGUEFISH	Total Length
96695	SYNALPHEUS GENUS	SYNALPHEUS SNAPPING SHRIMP GENUS	Tip of Rostrum to End of Telson
166446	SYNGNATHUS FLORIDAE	DUSKY PIPEFISH	Standard Length
166444	SYNGNATHUS GENUS	SEAWEED PIPEFISH GENUS	Standard Length
166452	SYNGNATHUS LOUISIANAE	CHAIN PIPEFISH	Standard Length
166458	SYNGNATHUS SCOVELLI	GULF PIPEFISH	Standard Length
162376	SYNODUS FOETENS	INSHORE LIZARDFISH	Standard Length
162379	SYNODUS POEYI	OFFSHORE LIZARDFISH	Standard Length
81224	TELLIDORA CRISTATA	WHITE-CREST TELLIN	Hinge (or Umbo) to Bill Along Longest Side
81223	TELLIDORA GENUS	CRESTED TELLIN GENUS	Hinge (or Umbo) to Bill Along Longest Side
81103	TELLINA ALTERNATA ALTERNATA	ALTERNATE TELLIN	Hinge (or Umbo) to Bill Along Longest Side
81074	TELLINA GENUS	TELLIN GENUS	Hinge (or Umbo) to Bill Along Longest Side
81100	TELLINA VERSICOLOR	MANY-COLORED TELLIN	Hinge (or Umbo) to Bill Along Longest Side
81032	TELLINIDAE FAMILY	TELLIN/MACOMA FAMILY	Hinge (or Umbo) to Bill Along Longest Side
75409	TEREBRA DISLOCATA	EASTERN AUGER	Tip of Spire to End of Apeture
173283	TETRAODONTIDAE FAMILY	PUFFER FAMILY	Standard Length
158243	THYONE GENUS	THYONE GENUS	Total Length
96912	TOZEUMA CAROLINENSE	ARROW SHRIMP	Tip of Rostrum to End of Telson
96914	TOZEUMA CORNUTUM	TOZEUMA CORNUTUM	Tip of Rostrum to End of Telson
168709	TRACHINOTUS FALCATUS	PERMIT	Standard Length
168708	TRACHINOTUS CAROLINUS	FLORIDA POMPANO	Standard Length
168710	TRACHINOTUS GOODEI	PALOMETA	Standard Length
168587	TRACHURUS LATHAMI	ROUGH SCAD	Standard Length
80907	TRACHYCARDIUM MURICATUM	YELLOW PRICKLYCOCKLE	Hinge (or Umbo) to Bill Along Longest Side
166859	TRACHYSCORPIA CRISTULATA	ATLANTIC THORNYHEAD	Standard Length
172385	TRICHIURUS LEPTURUS	ATLANTIC CUTLASSFISH	Standard Length
172982	TRINECTES MACULATUS	HOGCHOKER	Standard Length
75676	TURBONILLA GENUS	TURBONILLID GASTROPOD GENUS	Tip of Spire to End of Apeture
165577	TYLOSURUS CROCODILUS	HOUNDFISH	Standard Length
99084	UCA GENUS	FIDDLER CRAB GENUS	Adult - Carapace Width; Meg - Rostrum -> Telson
99085	UCA MINAX	REDJOINTED FIDDLER	Carapace Width
10001	UNID INVERT UNDER REVIEW	UNIDENTIFIED INVERTEBRATE	Total Length
10000	UNIDENTIFIED FISH	UNIDENTIFIED FISH	Standard Length
169441	UPENEUS PARVUS	DWARF GOATFISH	Standard Length
98209	UPOGEBIA AFFINIS	COASTAL MUD SHRIMP	Tip of Rostrum to End of Telson
164735	UROPHYCIS CIRRATA	GULF HAKE	Standard Length
164737	UROPHYCIS FLORIDANA	SOUTHERN HAKE	Standard Length
164731	UROPHYCIS REGIA	SPOTTED HAKE	Standard Length
73264	UROSALPINX CINEREA	ATLANTIC OYSTER DRILL	Tip of Spire to End of Apeture
51267	VELELLA VELELLA	BY-THE-WIND SAILOR	Bell Diameter

ITIS	Genus species	Common Name	Measurement
98748	XANTHIDAE FAMILY	MUD CRAB FAMILY	Adult - Carapace Width; Meg - Rostrum -> Telson
95750	XIPHOPENAEUS KROYERI	SEABOB	Tip of Rostrum to End of Telson
614513	XYRICHTYS NOVACULA	PEARLY RAZORFISH	Standard Length

Appendix I

WHO TO CONTACT FOR:

STRANDED, NESTING OR HATCHLING SEA TURTLE, SEA TURTLE NEST
1-866-SEA-TURTLE (1-866-732-8878)

STRANDED BOTTLENOSE DOLPHIN
1-877- WHALE-HELP (877-942-5343)

ANY MANATEE SIGHTING
1-866-493-5803

GULF STURGEON SALVAGE
JOE HEUBLEIN, NOAA
1-727-209-5962

DAUPHIN ISLAND DISPATCH
251-861-5523

DAUPHIN ISLAND PARK AND BEACH BOARD
251-861-3607

BALDWIN COUNTY DISPATCH
251-972-6802

GULF SHORES DISPATCH
251-968-2431

ORANGE BEACH DISPATCH
251-981-9777