

HEADBOAT SAMPLERS' TRAINING MANUAL

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National Marine Fisheries Service
Southeast Fisheries Science Center

by

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Introduction

The headboat survey, established in 1972 to develop a database on reef fish populations, has become a principal source of data for reef fishery management in both the Gulf of Mexico and the U.S. South Atlantic. Congress passed a law in 1976 declaring that the area between 3 and 200 miles offshore be managed so that the citizens of this country obtain maximum economic and social benefits from the resources. This act was originally known as the Magnuson Act. It was recently renamed the Magnuson-Stevens Fishery Management and Conservation Act (MFMCA). The protected area is known as the Exclusive Economic Zone (EEZ). In order to comply with the Magnuson Act, managers must come up with some estimate of productivity of the EEZ.

The overall goal of the headboat survey is to provide information on the status of populations of reef fish throughout the southeastern U.S. To accomplish that goal we provide:

- 1) annual and seasonal estimates of the total number and total weight of each fish species taken in various geographic regions.
- 2) measurements of size dispersion of the species taken.

The data we need are:

- 1) the records of numbers of fish caught and of participating anglers for each trip, and
- 2) measurement of lengths and weights of fish in a representative sample of the catch.

You collect and provide these two essential kinds of data. Both are equally important to the final goal of generating annual catch and effort estimates of the southeastern U.S. and Gulf of Mexico headboat fisheries.

Bioprofile information (length, weight, etc.) is obtained when you show up at a vessel, set up your table and equipment, and physically sample the day's catch. Species identification, length and weight are recorded for each fish sampled. In addition, other biological samples may be taken; e.g., otoliths, stomachs, or gonads to support studies of age and growth, diet or reproduction. The actual measurements you take will be used at the Beaufort lab to generate average weights, length frequencies, etc. for each species.

Catch and effort estimates are based on catch records (CR) from the vessels. These forms list the total number and weight of all species caught, and also fishing effort (angler numbers and approximate time spent fishing). These forms are used to generate estimated total number caught of each species. This number, along with the average weight calculated from observed samples, gives us a fairly reliable total weight caught, by species. These calculations are done by month or season, and by geographic area.

Note: As of January 1, 2013, the Southeast Region Headboat Survey (SRHS) implemented electronic logbook reporting for the South Atlantic and Gulf of Mexico. Paper forms were used

to collect catch and effort information from 1972 to 2012 and will be described in this document. Electronic reporting and other recent changes will be discussed in the document named SRHS Program Description.

Catch Records

One of your many duties is to obtain daily catch records (CR) from vessel personnel. Some crew members will be much more cooperative than others. Ideally, we would like to have a CR filled out for each trip. If a vessel runs three 1/2-day trips, we would like three separate CR forms filled out. Most people will cooperate and provide some CRs to us. Although headboat owners are required by law to furnish catch and effort reports, those that refuse to furnish us with information require special effort on your part to glean tidbits of information about vessel activity.

The catch record is divided into two sections: 1) trip-effort information and 2) catch information. The trip information, at the top of the form, includes date of trip, vessel, trip-type, location fished and number of anglers. While we would like to obtain locations, some captains are hesitant to give up their "favorite holes" to strangers, especially the government. Explain to them that we are asking for a location identifying a 10 mile by 10 mile grid. Giving us a 100 square mile area on a grid map will not endanger the privacy of their favorite ocean bottom. It is imperative that we get the date, vessel, trip-type and number of anglers. Without the angler number and trip-type, we cannot calculate effort, and the catch record is useless to us. So if you are ever given catch records without number of anglers, try to get them somehow (office books, Capt's logbook, etc.). If you can't obtain the numbers, let the record keeper know that this statistic is important. You can then put the records aside and use them when you fill out your monthly headboat activity reports.

The second part of the catch record consists of the vessel personnel's estimate of total numbers and total weight of fish landed. It would be best if fish were actually counted but we are realistic and a good "fisherman's-eye" estimate will suffice. If they want to count them, that's all the better. This portion of the sheet is grouped in family assemblages to make it easier to find things (groupers, grunts, porgies, snappers, etc.). You will find a number to the left of each species name. This is the species code (numeric). You will also notice a section at the bottom right corner of the page, "Other Fish". Here the record keeper may write in anything the boat caught that does not appear elsewhere on the sheet. **Please look up the numeric species code and write it next to the species name for these occurrences.** Total numbers and weights go in the same columns as above. Check CRs for missing information (angler numbers, etc.) and unknown fish names **before leaving the docks!**

Obviously many different individuals will be filling these records out for you. It is impossible to legislate neatness and readability. However, we send these catch records to a data processing firm for key entry. These people are paid by how much they punch in, and they do not take the time to try and figure out unreadable numbers; they just punch something in. So try and get folks to write semi-neatly. It is up to you to make any questionable entries legible

before sending us the data.

All weights on the catch records are in pounds. Some record keepers like to write "lbs" next to the weight. This is unnecessary and, if written too close to the weight, can be mistaken for part of the number. You can ask record keepers to leave off any abbreviations such as this and explain to them how it might confuse the keypunchers. Use common sense, though. If they are set in their ways and will not change, don't force the issue, but correct by crossing out or whiting out the abbreviation before mailing to Beaufort.

Weights must be in whole numbers. A large number of record keepers report in fractions. We realize they are trying to be as accurate as possible, and we appreciate that, but we can only deal in whole numbers. Before sending the CRs to us, please round up or down, get rid of the fraction, and leave it looking **LEGIBLE!** Whether you choose to take up this item with record keepers is entirely up to you. Use your own judgement.

You will notice a portion of the CR, near the top, consisting of blank boxes and entitled "Agency Use Only". This is where you enter your vessel and trip type codes and transfer down the other information from the top of the page. Most of this should be self-explanatory. You should find vessel, area, and trip-type code lists in the appendices of the manual. Please fill this portion out in No. 2 pencil (DO NOT USE INK PENS) and make it as legible as possible, since this information will be keypunched in.

When you sit down with a batch of catch records to process them, you will go through all of the above-mentioned steps: checking legibility, entering vessel and trip codes at the top, adding any species codes (numeric) that might be needed. You should also check species reported (should also be scanned at dockside when first received) to make sure the record keeper is not mistakenly misreporting a particular species (e.g. in the Daytona area, sand perch are often reported as squirrelfish, which is a common "slang" name for them, or the use of 'gray snapper' for white grunts in southwest Florida). If this happens you need to cross out the wrong entry and write in the number and weight next to the correct species (or write it in under "Other Fish" if necessary).

After you have finished processing your CRs, organize them chronologically by vessel. Keep vessels separate somehow (paper clips). You are now ready to enter the angler numbers on your headboat activity reports.

Headboat Activity Reports

The headboat activity report (HAR) provides very important information. On this form you should report every bit of information you can obtain about the activity of your headboats. Actual numbers of anglers is the desired statistic. If this is unobtainable, though, information about trip occurrences (did the boat run or not) are important.

Actual angler numbers can come from several different places. First and foremost, we would like this number to come from catch records. If your record keepers fill out a CR for every trip and are truthful and accurate, then your HARs will be in good shape. You should transcribe these numbers from the CRs to the HAR for the appropriate month before sending the CRs in to the lab. Angler numbers can also come from ticket agents, office books or captain's logbooks. These are useful places to get information if you are not getting CRs for every trip from the boat. Another way to get actual angler numbers is by counting the anglers as they leave the boat when you sample. You should do this for every vessel you sample if possible to check the validity of reports you receive.

If you cannot obtain CRs or office records for a boat, then your personal observations of vessel activity become even more important. These personal observations can come from phone calls, drive-bys, talking to vessel personnel, etc.

Obviously you will enter angler numbers from CRs when you process the CRs. Only angler numbers from CRs go in the Cr-Ang column on the headboat activity report. You may want to get whatever office records that are available once a month, so as not to bother the offices too much. Personal observations may be recorded daily on the HAR, or you may keep a notebook, and work from this to the HAR once a month. If you have angler numbers coming from different sources, please indicate the sources on the HAR. All of these other numbers belong in the Obs-Ang column on the HAR and require a comment column code. We would like to have HARs in hand at Beaufort by the end of the month following the reporting period. This means we would like to have all of your July HARs by August 31. Send in individual HARs when complete, though, and do not wait until you finish all HARs for all vessels in your area. These records are important. Timely submission of reports is an extremely important factor in our rating of employees, so try and get these in on time.

The HAR form we are now using is a recent revision of an long-used form, and we are still working the bugs out. A few "commandments" to keep in mind:

1. Only angler #s from catch records belong in the CR-Ang column.
2. Angler #s from all other sources belong in the Obs-Ang column.
3. If you have an angler # in one of these columns, there must be an accompanying trip-type code.
4. All Obs-Ang entries must be accompanied by a comment code 5 or 6. These are the only source codes we have presently. If you counted the anglers, comment =

5. If the angler # comes from the office, or captain or a mate, etc, comment = 6.
5. As previously mentioned, occurrences of "trip not made" are important, as are "trip made" observations without angler numbers. We have three "no trip" comment codes, and one code for "trip made, no angler #s available. Please include a trip type with each if possible.
6. The days of the month are pre-numbered, and there is space for three trips per day. If you have a vessel that runs more than three (e.g., 4 or 5 hour 1/2 day trips 4 times a day), enter the fourth trip down in the blank spaces at the bottom, entering the date in the day column.
7. Work from left to right, and do not leave blank spaces. e.g., if the only trip run was an afternoon half-day, record it in the first spot, not in the middle spot while leaving the spot for morning trip blank.

Many fishermen object to providing the government with numbers of anglers. Some think we give this information to the IRS and it serves to hurt them tax-wise. Others think reporting catch/effort information will serve to tighten fishing restrictions and put them out of business. You may have to work hard in some areas to convince them otherwise. The Privacy Act forbids the government from giving out information to anyone about individual owners, and then only in anonymous groups of 3 or more owners; this is so that no single owner/individual may figure out what another is doing. We have never had to give any information to the IRS since the survey started in 1972 and it is questionable whether the IRS even knows we have angler number information. As far as fishing restrictions, you have to try and convince people to cooperate by convincing them that we are working for the fish. Without healthy fish stocks in the future, no one will be in business, even NOAA Fisheries. Public relations is a very important part of your job.

Other Forms

Weekly Activity Reports (WAR)

These are weekly reports of your activity as a sampler. Report daily activity; what boats were sampled, types of fish seen, hours worked. A typical entry might appear as follows:

Sept. 7 - Sampled Sea Love II, St. Augustine. Many VS, 4 GAG, BSBs, GTFs, 6 GS. Picked up catch records. Processed Crs at home at night.
Downloaded FMB. 7 hrs.

Fill out an entry for every day of the week, even if you didn't work (e.g., Sept 8 - no work - 0 hours). At the end of the week, total up your hours and e-mail the form to the lab (currently Kenneth.Brennan@noaa.gov).

Vehicle Log

A vehicle log must be maintained for all government vehicles. The log must be filled out each time the vehicle is used, including the date, destination, departure time, starting mileage, return time and ending mileage. All vehicle gas receipts must be submitted to the Beaufort Laboratory each month. Each sampler must be trained and certified in Defensive Driving.

Time and Attendance Sheet

This form is an accounting of your hours worked and hours absent during the two week pay period. Samplers will be mailed these forms every two weeks. Please initial the sheet in the bottom right corner next to the letters "Empl". Return the T & A sheet in the enclosed return envelope promptly.

Vessel Record Form

A vessel record form will be filled out for every vessel operating as a headboat in your sampling area(s). This form contains basic information such as the vessel name and location, as well as names and mailing addresses of the owner (s) and/or captain(s) of the vessel. It is important that we have this information in case we need to contact them for some reason (information about new regulations, etc.). Every year we will have you update these records and send new ones in for each vessel to the Beaufort Lab, just to make sure our information is current.

Bioprofile Sampling Procedure

A bioprofile sample is made to obtain measurements from fishes taken by headboats. Biological samples (scales, otoliths, spines, stomachs and gonads) are also collected routinely. Length-weight data is used to compute average weights for each species and to compute age frequencies and mortality rates. This information combined with catch record data is used to calculate an estimate of total weight (kg) of reef fish landed in the headboat fishery. Complete and accurate data collection is therefore essential.

The following equipment should be present at dockside when you sample:

Sampling table	Scale envelopes
Electronic Fish Measuring Board (FMB)	Otolith vials
Electronic Scale	Hand Towels
Forceps (blunt-end and fine-tip)	WD-40
Scissors	Hacksaw/extra blades
Fillet knife and whetstone	Pencils/sharpener
Wood Chisel	Magnetic Probes (at least two)
Survey Brochures in dispenser	Scrub Brush

In addition, the following should be in your sampling vehicle in case of equipment failure/vessel need:

Wooden measuring boards	Extension cord
Clipboard w/bioprofile sheets	FMB charger w/yellow cable
Extra clipboards	Extra pencils
Extra catch records	Extra location gridmaps

Sampling Procedure

1. Decide where you need to sample, and call the office the day you plan to go there to confirm whether they went out and when they will be back in. When deciding which vessels to sample, note who you have and have not sampled already that month. Try and do all vessels once, and then start over. Obviously, you will not keep the same rotation every time. Sometimes you may have to choose vessel A over vessel B because vessel A has not run in two months while you sampled vessel B eight days ago. Samplers have a lot of personal freedom in devising your sampling agenda. Try and sample all headboats equally.
2. Load equipment into vehicle and drive to port, planning to arrive 30 minutes - 1 hour early to allow set-up time.
3. Set up table with all equipment (FMB, scale, tools, towels, etc.).
4. Enter vessel data into FMB (vessel codes in Appendix VII), save, turn off FMB, and wait for your ship to come in.

This is the time to solve any equipment problems you might have. If the battery is low in your FMB or scale, hook up the extension cord to a nearby outlet. If you cannot find a power source, or your FMB just will not work, get out your wooden measuring board and bioprofile sheets. Be prepared for all eventualities.

The sample table should be set up in a location that offers easy access to the day's catch, yet is not an obstruction to the captain and mates. It is generally best to consult with the boat crew regarding a suitable spot. In areas where the fish are individually marked (with a series of cuts on the throat or tail) and sorted on the dock, the sampler may be allowed to work within the restricted dock area. It may therefore be possible to sample the entire catch before the fish are distributed to the anglers. In areas in which the fish are placed on marked stringers it is best to set up the sampling table next to the path of the departing anglers. Setting your sampling table up near the fish cleaning table (if there is one) works well also.

Port samplers should attempt to obtain a representative sample of the total catch (if sampling the entire catch is not possible). This can usually be accomplished by identifying oneself to several anglers with sizable catches and asking if their fish may be measured and weighed. Conversing with the fishermen and explaining the scope and purpose of the program while weighing the fish promotes cooperation and interest and usually prevents the waiting fishermen from becoming bored and leaving before their fish can be weighed. (However, there is still the occasional angler who may try to sneak away. The exclamation, "I thought you were going to let me weigh your fish!" is one of several effective ways to draw them back into the conversation.)

When selecting fish to sample, look for stringers with the less common species on them. Choose stringers with groupers, red snapper, unusual porgies. As you work in an area for a while, you will begin to learn what is common and what is uncommon. By choosing stringers with less common species, you will automatically obtain plenty of the common species to measure also.

If possible, ten or more fish of each species present in the total catch should be weighed and measured for lengths. It is very important to obtain as many weights as possible, especially of the less commonly encountered species (the larger the size of the data base, the more accurate the computed average weight). Once you have obtained 10 lengths and weights from an individual species, you do not have to sample any more of that species from successive stringers. However, **do not stop measuring a species in the middle of a stringer**. With the exception of species for which you already have 10 measurements, once you start a stringer you should measure all fish on that stringer. This is done to avoid any size- or species-selectivity bias.

Weights should be taken from all intact, non-gutted fish. Do not take weights from gutted fish. Lengths should be taken as follows:

Triggerfish (all species), Scamp, Yellowmouth Grouper - Fork Length only

All other reef species (porgies, grunts, snappers, grouper, etc.) - Total Length only

Pelagics (mackerels, tunas, dolphin, jacks, bluefish, cobia, etc.) - Total and Fork Length

Billfish (marlin, sailfish, etc) - measured from the fork or tip of tail to tip of lower jaw

Biological Samples (otoliths, spines, gonads, and stomachs)

Although the sampler's priority should be to obtain as many lengths and weights as possible from the different species represented in the total catch, biological samples should also be taken whenever time permits. The list of priority species (the samples should be taken) is subject to change. A current list can be obtained from the Beaufort Laboratory. In general, samples should be taken from the demersal reef fish and the amberjacks whenever possible.

It is generally easiest to obtain samples if the fish are being cleaned at the dock. In addition, there are usually fishermen who are interested enough in the project to wait while the sampler removes from their fish whatever materials are necessary. Explaining why the samples are taken, and how they are important in the management of fishery resources can spark additional interest. Distribute the blue pamphlet to all fishermen that cooperate and anyone else who is interested. The standard procedures for obtaining samples are outlined below.

Otoliths

Age can be determined from annual bands laid down in the otoliths, the method currently used to age all reef fishes. Scales are seldom used for ageing reef fishes anymore because of the problem of regenerated scales giving false ages.

The otoliths are taken by one of two methods. The traditional method is to cut through the cranium with a hacksaw and pry the skull part. The otoliths can be removed with fine-tip forceps. Proper placement of the cut will expose the tips of the otoliths without slicing through them. In most cases, this may be accomplished by sawing downward through the cranium midway between the preopercle and the posterior edge of the eye. This method is probably most effective when dealing with large fish. However, anglers planning to sell their catch to a fish market will not want their fish cut in this way, and you may have to use the following method.

Otoliths can be obtained quickly and easily from beneath the gill cover by slicing with a chisel through the bony compartment (otic bulba) in which they are housed. Only one otolith at a time (one on each side of the head) can be removed with this technique. To find the otolith the gill cover should be lifted. With the flat side of the chisel down, scrape the gills down and back toward the tail end of the fish. The idea is to remove all obstructions to the otic bulba. This small convex bony compartment at the base of the brain will feel smooth and convexly rounded to the fingertips. It may be easier to do this by feel than by sight. Successive thin layers of bone should be chiseled away (flat side up) until the fluid filled cavity containing the otolith is exposed. The otolith is nestled along the curvature of the interior of the cavity. It will usually be visible at this point and can be carefully manipulated through the opening with fine-tip forceps. Care should be taken not to push the otolith deeper into the cranium, making it virtually impossible to retrieve. (An otolith "lost" in this manner can sometimes be recovered by pushing it through to the opposite side of the head. This side can then be opened up and both otoliths recovered).

Time is limited, therefore one otolith from each fish is sufficient. The otolith should be

placed in an envelope and labeled with the bioprofile collection number. All other information should be recorded on the envelope when time permits. Otolith envelopes should be placed in an empty box of sturdy construction and mailed to the Beaufort Laboratory when requested or the box is full.

Spines

The age and growth rate of triggerfishes (Gray, Queen, and Ocean) are determined by the concentric growth rings of the second dorsal spine (the largest one). When collecting triggerfish spines, it is necessary to cut the spine (with a sharp knife or hacksaw) about 1/4 - 1/2 inch below its insertion into the body. This is to insure that the section of spine with growth rings is taken. The spines are placed in envelopes labeled with the date, location, collection number, species, length and weight. These are mailed to the Beaufort Laboratory along with any scale samples each week.

Stomachs and Gonads

Stomach contents provide information on diet and therefore on the fish's role in the food web and its relationship to other marine organisms. The collection of ovaries reveals the time and duration of the spawning season, the number of eggs produced, and the age at which the fishes reach sexual maturity.

To collect the stomach and gonads, an incision should be made anterior to the anus. A pair of surgical scissors may be used with blunt tip down to open the belly--starting at the anus and extending forward to the pelvic fins. The stomach (unless empty) and ovaries are then separated from the rest of the viscera and placed in cloth bags. A label placed inside the bag should identify the species and the collection number. An outside label should list the date, area, collection number, species, length, weight, and sex. Only use labels supplied by the Beaufort Lab (regular paper disintegrates in formalin. Both labels should be written in pencil. The bags are then stored in collection buckets containing a 10-15% formalin solution. The information that is recorded on the outside label should also be entered into a separate notebook. This notebook, along with the full collection bucket, will be transferred to the Beaufort Laboratory.

Most samplers will be supplied with pre-mixed, buffered 10% formalin in a 20 Liter (5 gal) polypak. In the event we supply you with full strength 37% formaldehyde, this should be mixed with seawater in the ratio of 9 parts seawater to 1 part formaldehyde in order to achieve the proper buffered chemistry (10%).

Sex Determination

On occasion, samplers may be asked to determine the gender of certain species without necessarily collecting gonads. Gonads are generally found in the upper portion of the body cavity, connected to the body wall by mesenteries. Male testes are smooth textured, white or cream-colored, and appear in cross section to have sharp edges. Female ovaries are grainier, range from cream-colored to orange to pink, and are round in cross-section. When ripe,

individual eggs (ova) may be seen in the ovaries. It may be necessary to move the other internal organs aside in order to find the gonads. Most species are easy to sex if mature, however, grouper are very difficult due to their hermaphroditic nature.

On Board Sampling

Sampling on board the fishing vessel allows additional time for data collection and helps to establish a rapport between the sampler and the boat crew. Arrangements to sample on board should be made in advance through the boat captain or owner. The crew should be consulted regarding a suitable location for the sampling equipment. Measuring boards, (both FMB and wooden) envelopes, forceps, chisels, scissors, filet knife, clipboard, BP sheets, pencils and hand towels are recommended supplies. Do not record weights while sampling on board, as boat motion renders most scale measurements highly inaccurate.

It may be possible for the sampler to measure the lengths of each fish before it is stowed away in the fish box. Otoliths, spines, stomachs and gonads should be collected and labeled as described for the dockside sampling.

While sampling on board is a lot of fun (variety is the spice of life!) it is also very time consuming, and should not be done routinely. If you feel you might be able to talk a previously uncooperative captain into keeping CRs by going fishing with him and listening to his viewpoint, go ahead and try. Please do not abuse the privilege by wearing it out.

The Bioprofile Sheet

In the event that the electronic FMB is not working, you will have to use a wooden measuring board and record your data on a bioprofile sheet. You should have a series of these in your vehicle at all times just in case. The top portion of the sheet contains the information necessary to identify the sample (date, vessel name and number, area, vessel type). The bottom portion is devoted to data from fish sampled (species name and numeric code, lengths, weights, and instances of biological samples taken (indicated by a "1" in the appropriate column). If sex is determined in the fish, a "1" denotes female and a "2" denotes a male.

A separate bioprofile sheet should be used for each vessel sampled. Multiple sheets may be used for one vessel, however, if you are able to obtain more than 30 fish in your sample.

The Electronic Fish Measuring Board (FMB)

The FMBs were introduced en masse in the headboat survey in 1988. They eliminate the need for writing data in the field by automatically recording species, lengths and weights with the touch of a magnetic probe. They have sped up the data processing of bioprofile samples immensely. We no longer have to send the data out to be keypunched, as it is already on a computer disk when received at the lab. Editing is done both on your laptop computer and again at Beaufort on desktop PC.

The following is an orderly procedure for preparing your FMB for sampling as you set up your sampling table:

1. Connect FMB and electronic balance via cable.
2. Turn on the FMB with the magnet.
3. Check collection number with "view collection #" key. If previous sample showing (e.g., 20388-61), hit "increment collection #" key. View collection number again; it should now read 20389-00.
4. Enter trip information (date entered by touching date key; vessel number, area and vessel type entered via numeric keypads).
5. Hit "Save Data" key.
6. You may now turn off the board and wait for the boat to come in. The FMB is turned off by touching the magnet to the "shift" key, followed by touching the key immediately to the left of the "Memory Left" key (long boards) or by touching the shift key and the (Off)/Backspace key (short boards).

Once the headboat is in and you are ready to sample, turn on the FMB and the electronic balance. Check to ensure the balance is weighing in kilograms. When you have fish on your table and you are ready to measure, the procedure is:

1. Hit "Species" key.
2. Enter the alphabetic code first, then the numeric code for your specimen. (Appendix VI).
3. Touch the magnet to the end of the oppressed fish tail on the length line.
4. Place the fish on the electronic balance and touch the magnet to the "weight" key.
5. If you take any biological samples, touch the magnet to the proper function key to record this (e.g., scales, otoliths).
6. If you need both total and fork length from a specimen:

- a. take TL as above
 - b. hit the "shift" key with magnet (**think of this as ‘shifting’ the board out of total length mode and into fork length mode**).
 - c. touch the magnet to the length line at fork. A "k" should be displayed in front of the length, indicating the length is a fork length.
 - d. take wt. as above
7. You may now remove the fish and repeat the process for your next fish. Hit "species" and enter your codes all over. If the next specimen is the same species as the previous one, you may enter an "X" instead of the alpha and numeric codes again. If you can somehow order your sample by species, sampling will go much smoother and faster. This is not always possible, however.
 8. If you catch yourself making a mistake in entering species codes (i.e. VS11) you may use the "Backspace" key to delete characters from the display, one at a time, until the mistake is erased. Then enter the proper codes and go from there. The species-length-weight data is not saved "beyond reach" until you hit the "species" key again.
 9. When you have a fish too long for the board, use the "reverse" key. This usually happens with pelagics (amberjacks, dolphins, etc.). Turn the fish so that his head is resting against the right inside edge of your table. Touch the magnet to the reverse key, then to the end of the tail. For a fork length, touch the reverse key, then the shift key, then the length line at the fork. Note the procedure is the same except for the introduction of the reverse key. The procedure for setting up the FMB reverse key is explained later in this manual.

When you have finished with your sample, hit the "save data" key, and turn off the FMB. Disconnect the FMB from the balance by unscrewing the yellow cable from the FMB, being certain to replace the cap on the FMB port. **IT IS VERY IMPORTANT TO KEEP THESE PORTS DRY!** You are now ready to clean up.

Cleanup

Cleaning your equipment after sampling is common sense and self-explanatory. You should have no problem finding fresh water around the headboat docks, though you may have to wait until the crew washes down the boat. Wash down the sampling table, the FMB (** **MAKE SURE THE CAPS ARE SCREWED ON THE CABLE PORTS** **), electronic balance, the magnetic probe, any chisels, forceps, scissors or hacksaws you may have used. Water under **high** pressure should not be used on either the display portion of the electronic balance or the seams in the FMB. After you have finished washing everything, load it all back in your vehicle. The FMB should be loaded in your vehicle in a secured **and** cushioned fashion, ensuring that it does not slide around loosely. In addition, nothing should be stored on top of the FMB.

Other FMB Features

Coll # key - This key is used to input a new collection number into your FMB. This will need to be done when you start a new bioprofile series or if you experience board power problems and the FMB loses memory temporarily. The procedure is simple. Simply enter your new collection number via the numeric keypads (e.g., 15600), touch the "shift" key with the magnets and then touch the magnet to the "coll.#" key. Your new collection number should now be in place. Check by using the "view coll.#" function.

Samplers work with one bioprofile series of a hundred numbers (e.g. 26000-26099). When you reach the last five or ten numbers in your series, ask for a new BP series number in your weekly phone call.

Speaker key - This key is used to raise or lower the audible "beep" produced by the FMB whenever you touch the magnet to a key. There are five different levels. Since dockside environments can be rather boisterous, it is probably a good idea to set the FMB on the loudest speaker setting and leave it there.

Setting the "Reverse" # in your FMB - You already know when and how to use the reverse key. In order to get your reverse function to work properly, you need to store a correction factor in your board using the reverse key. This number will depend on the size of your sampling table. The procedure is as follows:

1. Measure the distance (in mm) from the beginning of the FMB's measuring line to the right inside table edge.
2. Turn on the FMB, and enter the resulting number via the numeric keys.
3. Touch the magnet first to the "shift" key, and then to the "reverse" key. Your FMB is now set up to handle fish the length of this sampling table. If you ever change tables, you need to remeasure and reset your reverse number.

Memory Left Key - Touching the magnet to this key will give you a display readout of how much memory your FMB has left. Lack of memory should never interfere with sampling, though, because you should download your FMB daily or even between vessel samples if necessary.

Downloading the FMB and Editing Your Data

Bring the FMB and electronic balance into your office or house at the end of each sampling day. Plug the FMB into a wall outlet, through the surge protector, via the yellow cable, ammeter and adaptor. Always keep the FMB on charge when not in use.

We want you to download data from the FMB to a diskette via your desktop or laptop computer at the end of each sampling day. This insures that the previous day's data is not lost if your FMB suffers a battery dysfunction. The procedure for downloading to the diskette is as follows:

1. Hook the FMB up to the wall outlet via yellow cable/adaptor through the ammeter.
2. Connect computer to wall outlet via computer adaptor.
3. Connect FMB with computer via the 9-pin connector port on the end of the yellow cable.
4. Turn on computer first, if not already on. Then turn on FMB.
5. Most of you will be working off the hard drive (C) of your computers. I recommend creating a folder called FMB, and using it to store your FMB utilities files as well as your weekly board data. If you choose to work off diskettes, then the appropriate drive is the A:drive, and you will need to type A: at the C-prompt after turning on your machine.
6. You are now ready to download the day's data. Type in GETDATA at either the **C:\FMB** or the **A:** prompt. You should begin to see the data scroll down the screen. When downloading is complete, the computer will give you a message confirming this. Occasionally you may attempt a download with the GETDATA command and receive a 'No response' answer from the computer, along with garbled letters. If this happens, physical connection between the FMB and the computer is below par. Tighten up all connections between the FMB and the computer. Then run the SETBAUD.COM program. This is accomplished by typing in SETBAUD.COM at the **C:\FMB** or **A:** prompt. This program re-establishes and redefines the electrical communication between the FMB and the computer. Run this program 3 times. If you still get no response, check your physical connections (cable to FMB, etc.) again and make sure they are tight. Then run the SETBAUD program again. When connection is good, you should get a response that has your FMB board number included (eg. Using F4011B...). If you keep getting a no response message and cannot get the FMB to dump the data, call the lab for assistance.
7. When transfer of data is successfully complete, you may turn off the FMB and disconnect the FMB from the computer. Your data is now stored either in your FMB directory or on the 3 ½ " diskette in the laptop.
8. Your data is stored under a filename consisting of your FMB's serial number (e.g. F4011), three numbers indicating if this is the first, second, etc. download (e.g. 000, 001, etc.) and the extension, **.FMB**, identifying this file as a **Fish Measuring Board** data file. If you aren't paying attention, you may need to run a directory (type DIR) to obtain the filename you just downloaded (e.g. F4011000.FMB).

You are now ready to examine your just downloaded data and edit any mistakes you might have made. The easiest way to do this is in Dos-Edit. To do this, simply activate the Dos-

prompt function and get to the prompt of whatever directory your data is stored in (e.g., **C:\FMB**). At the Dos-prompt, type in **Edit** followed by a space, followed by the filename of the file you wish to edit (Edit F4011000.fmb, for example). Working off a diskette, obviously you would do this from the **A:** prompt. Examine your data carefully to make sure collection numbers, vessel numbers, dates and areas are correct, all alphabetic and numeric codes are present where needed, length types are proper, weights downloaded to the proper line, and that you included any indicators of biological samples collected (otoliths, spines, etc.) When you are satisfied that the data is clean and correct, save it to your directory under the same file name. You may get a question prompt asking you if you want to replace the existing file of the same name, and you may say yes.

At this point record the bioprofile collection number you just used in a separate small notebook next to the date and vessel number sampled. This is done to insure that the same collection number is not used twice. When you e-mail your weekly data in to the lab, you will have several collection numbers recorded in your notebook for that week (hopefully!). Keeping the numbers recorded in a separate notebook is a good idea in case we need to call you up and ask you about a specific sample after we receive your email.

You have just downloaded one day's data. This is the procedure you will go through each evening (or the next morning before taking the FMB out into the field again). At the end of your sampling week you will send in that week's edited data to the Beaufort Laboratory via e-mail. Before you do this, however, it is imperative that you make a backup copy of your data. This is a safety measure in case your data gets lost or garbled in cyberspace. You may copy all of the files on your directory (including FMB utilities files) every time onto a diskette or an alternate backup folder on your hard drive, or you may simply copy the data files. This can be done simply at the A: prompt by typing **Copy C:\FMB*.FMB/v**. This will copy all files in the C:FMB directory that have a FMB suffix to the A: (diskette). When Peggy at the Beaufort Laboratory confirms that your data has been received and is complete, you may then reuse your diskette, or erase those backups.

FMB Charging

Almost all failures have been related to low battery charges, which are entirely under your control as the primary user of the equipment. Let's review the components important to the charging system (the cable and ammeter), and the initialization procedure.

The cable which connects your FMB to the computer and the charger is the weak link in the system, and the most likely to wear out. While it is flexible, the more flexing it endures, the more likely it is to develop a broken wire inside the cable which will result in intermittent charging or downloading problems. Similarly, the watertight plug end (FMB end) wears each time it is plugged in. The point is that the more you use the cable, the faster you wear it out. This means that it will not last forever, and you are responsible for telling lab personnel when you think you need a new cable, which we keep in stock.

The battery is a rechargeable lead-based battery. The battery life of this type of battery is **not** reduced by continual recharging, so the FMBs should be hooked up to the wall outlet for

charging whenever you are not in the field sampling. **The FMB should be hooked up to wall power whenever you are downloading data.** If you plan to download data to a laptop in the field, make sure you have your extension cord to plug your FMB into a wall outlet somewhere. **Loss of data at the download step due to an improperly charged battery is completely unacceptable.** The FMB will usually give you a 'Low Battery' message when power is low, indicating that there is ½ to 1 hour of battery power left. This should prompt you either to get back and get your FMB charged up, or to begin using the extension cord with your FMB if you have more sampling left to do.

The ammeter, the gray box that plugs into the FMB cable and the charger, is your tool to monitor the condition of your cable and FMB battery. When you plug in everything, the needle moves towards the right (increasing milliamps) showing that current (electrons of electricity) is moving into the FMB. If the needle does not move, or moves up and immediately back down, then suspect the cable has a bad connection or other problem and may need replacing. Pay attention to the position of the needle and how it reacts, as it tells you with a high reading that the battery condition is less than fully charged. Later in the manual is a table that lists the expected meter levels and the corresponding probable conditions. Use this table as a guide to teach yourself to troubleshoot your FMB, but do not assume that the chart covers every situation.

Keep in mind these important points:

1. When you break down, fix it now or tell us if you can't.
2. The cable will wear out and cause problems, so treat it well.
3. Pay attention to the ammeter and it may tell you about a problem before you have it.

Troubleshooting the FMB - Re-Initialization Procedures

Occasionally a sampler may find his FMB is non-responsive. This may take the form of some of the keys not responding when you touch the magnet to them. You may find you cannot turn the FMB off after a sample. You may not be able to increment the collection number upon trying. There are a variety of symptoms, and they may indicate one of two things:

- 1) Your FMB battery is low, and may need charging or replacing.
- 2) Your FMB needs to be reinitialized.

If you are the victim of a non-responsive FMB, my first suggestion would be to call the Beaufort Laboratory Reef Fish Team personnel and let us try and talk through the symptoms together and solve the problem. We keep records on the performance history of the different FMBs, and we may know some inside information that may help us glean a solution, especially if it turns out to be a battery problem. If we decide to re-initialize the FMB, we will be glad to talk you through this the first time. It is a fairly straightforward procedure, but you do not want to do this **if you still have data in the board, as re-initialization will erase that data.** The procedure for reinitializing your FMB is as follows:

- a). Hook up the FMB to your computer and get into the appropriate drive and folder where you FMB utilities files are (e.g. C:\FMB)
- b). Turn on the FMB
- c). Type **Setbaud** to make sure communication is established.
- d). Type **Send MZ** . This will erase everything in the FMB, so **never do this if you still have data in the board.**
- e). Now type **Senddef Doran** if you have a long FMB, or **Senddef NC1MM** if you have one of the boards with a short measuring line. This is the command that sends over the new definitions for all the keys on the board.
- f). Finish by running **Setbaud** one more time to ensure good communication. You may know check the success of the procedure by touching the magnet to the numeric or alphabetic keys, and/or various spots on the FMB measuring line to see if the lengths are correct (each diamond is 100 mm!).

I would like to stress here again that **if you have data you cannot retrieve from the FMB, do not reinitialize, call the lab.** We may be able to talk you through getting the data out. **If you cannot turn your board on at all, even if it is showing a full charge, call us.** If you have any questions or doubts about your FMB's performance, call us first. That is why we are here.

Doran Electronic Balance

The Doran electronic balances are fairly sturdy, generally function well with the FMBs, and we have had very little trouble with them in the past, when treated properly by samplers. One of the few problems we have had is sometimes slow communication between the scale and the FMB (i.e., taking 5 seconds or longer for the weight to show up on the FMB display after touching the magnet to the weight key). If this happens to you, please call us at the Beaufort Laboratory (Ken Brennan) and we may be able to walk you through a procedure where we change the sending frequency settings of the scale.

The scale also possesses a nickel-cadmium (Ni-Cad) battery, and one of the properties of Ni-Cad batteries is a reduced lifespan every time you recharge the battery. **Only hook the scale up to the wall outlet to recharge the battery when you have a low battery indicator light lit up.** Continual recharging will render your scale battery useless in a very short time. If you have problems with your low battery indicator light staying on, please call us.

EMERGENCY PROCEDURES

In an medical emergency, of course any doctor or medical facility can be called upon. Regardless of the circumstances, however, provide your supervisor with the full name and address of any doctor or medical facility that was used.

- E INJURIES. Office of Workers' Compensation, Employee's Notice of Injury (attached), is to be prepared and forwarded to your supervisor **within 48 hours** of any injury, however, slight. All injuries received on the job and requiring medical attention must be reported to your supervisor as soon as possible after receiving medical attention.
- E SERIOUS ACCIDENT. Notify supervisor immediately by telephone.
- E AUTO ACCIDENTS. In case of an accident while driving a government vehicle, fill in the accident report form(s) located in dash compartment of same and notify your supervisor. The forms may be xeroxed to assure a supply.

In the event of an emergency or problem in which you do not know what should be done, employees should place a credit card or collect phone call to:

National Marine Fisheries Service
Beaufort Laboratory
Beaufort, North Carolina 28516-9722
Telephone: Area Code 252-728-3595 or the following:

Beaufort Laboratory contacts:

	<u>Work</u>	<u>Home</u>
Ken Brennan	252-728-8618	252-646-9610
Kelly Fitzpatrick	252-728-8760	252-
Erik Williams	252-728-8603	252- 422-9001
Mike Burton	252-728-8756	252-240-1253

APPENDICES

APPENDIX I. TROUBLESHOOTING FMB CHARGING PROBLEMS

Ammeter Reading	Scenario	Problem	Remedy
0	JUST PLUGGED IN	OPEN CIRCUIT	CHECK
ALL CONNECTIONS			REPLACE
CABLE HIGHER THAN NORMAL BOARD	SAMPLED MANY BOATS	NOT A PROBLEM IF BOARD CHARGES	CHARGE
HIGH, STAYS HIGH FOR REPLACEMENT FMB	AFTER ANY SAMPLE	CHARGING SYSTEM PROBLEM	CALL
HIGHER THAN USUAL FOR REPLACEMENT FMB	ROUTINE SAMPLE	BATTERY WEARING DOWN	CALL
NORMAL, LATER AT 0	ROUTINE SAMPLE	PLUG AT FMB LOOSE	REPLUG
IN, REPLACE CABLE IF CHRONIC	ROUTINE SAMPLE	NONE	
READING AROUND 200, "NORMAL" BATTERY			
LATER AROUND 20			

Note: ammeter reading will vary with number of fish measured and battery condition.

APPENDIX II. SOUTHEAST REGION HEADBOAT SURVEY

TYPES OF VESSELS

<u>CODE</u>	<u>TYPE OF VESSEL</u>
1	HEADBOAT
2	RESEARCH
3	COMMERCIAL
4	CHARTERBOAT
5	SEAFOOD MARKET (Vessel unknown, probably commercial)
6	UNKNOWN VESSEL

APPENDIX III. SOUTHEAST REGION HEADBOAT SURVEY

TRIP TYPE CODES

<u>CODE</u>	<u>DEFINITION</u>	<u>HOURS</u> *
1	1/2 DAY, AM	4-6
21	1/2 DAY, PM	4-6
9	1/2 DAY, NIGHT	4-6
29	1/2 DAY, NIGHT (2nd trip)	4-6
3	3/4 DAY	6-8
23	3/4 DAY (2nd trip)	6-8
2	FULL DAY	8-12
4	OVERNIGHT	8-12
25	12 DAYS	18
5	TWO DAYS	24
6	THREE DAYS	36
7	FOUR DAYS	48
8	FIVE DAYS	60
10	SIX DAYS	72
11	SEVEN DAYS	84

* includes travel time to and from the fishing grounds

APPENDIX IV. SOUTHEAST REGION HEADBOAT SURVEY

AREA (LOCATION) CODES

<u>CODE</u>	<u>AREA NAME *</u>	<u>DESCRIPTION</u>
1	CAPE HATTERAS, NC (OFFSHORE)	VA/NC BORDER - OKRACoke ISLAND, NC
2	CAPE FEAR, NC (INSHORE)	TOPSAIL ISLAND - OCEAN ISLE BEACH, NC
3	CAPE FEAR, NC (OFFSHORE)	Same as above
4	SOUTH CAROLINA (INSHORE)	CALABASH, NC - HILTON HEAD ISLAND, SC
5	SOUTH CAROLINA (OFFSHORE)	Same as above
6	GEORGIA	SAVANNAH - BRUNSWICK, GA
7	NORTHEAST FLORIDA (SECTION 1)	FERNANDINA BEACH - ST. AUGUSTINE, FL
8	NORTHEAST FLORIDA (SECTION 2)	DAYTONA BEACH - SEBASTIAN, FL
9	CAPE LOOKOUT (INSHORE)	MOREHEAD CITY - SNEADS FERRY, NC
10	CAPE LOOKOUT (OFFSHORE)	Same as above
11	SOUTHEAST FLORIDA	FORT PIERCE - MIAMI, FL
12	FLORIDA KEYS	KEY LARGO - KEY WEST, FL
17	DRY TORTUGAS, FLORIDA (Vessels docked in FL Keys)	FISHING AREA AROUND THE DRY TORTUGAS, FL
18	DRY TORTUGAS, FLORIDA (Vessels docked on west coast of FL)	FISHING AREA AROUND THE DRY TORTUGAS, FL
21	SOUTHWEST FLORIDA	NAPLES - CEDAR KEY, FL

22	FLORIDA MIDDLE GROUNDS (Vessels docked on west coast of FL)	FISHING AREA AROUND THE FL MIDDLE GROUNDS
23	NORTHWEST FLORIDA & ALABAMA	CARRABELLE, FL - ORANGE BEACH, AL
24	LOUISIANA	EMPIRE - GRAND ISLE, LA
25	NORTHEAST TEXAS	SABINE PASS-FREEPORT, TX
26	PORT ARANSAS, TEXAS	PORT ARANSAS, TX
27	SOUTHEAST TEXAS	PORT ISABEL - SOUTH PADRE ISLAND, TX

* INSHORE & OFFSHORE - Only in North Carolina and South Carolina, used to separate vessels which operate in shallow waters (<100 ft.) for black sea bass, from vessels which operate in deeper waters (>100 ft.) for tropical reef fishes.

APPENDIX V. SPECIES LIST – WITH ALPHABETIC FMB ABBREVIATIONS

04/08/13

CODE	SPECIES	COMMON
AB	120	ATLANTIC BONITO
ACT	362	ANCHOR TILEFISH
AEL	281	AMERICAN EEL
ALB	212	ALBACORE
ALJ	62	ALMACO JACK
AM	207	ATLANTIC MACKEREL
AMB	217	AMBERINA
AMF	355	ATLANTIC MOONFISH
ANF	365	ATLANTIC NEEDLEFISH
AP	90	AFRICAN POMPAÑO
ATB	221	ATLANTIC BUMPER
BAD	302	BANDED DRUM
BAF	114	BLUE ANGELFISH
BAL	122	BALLYHOO
BBD	324	BLACKBAR DRUM
BBF	197	BARBFISH
BBR	311	BLACKBELLY ROSEFISH
BBS	184	BLACKBAR SOLDIERFISH
BC	135	BERMUDA CHUB
BCD	330	BICOLOR DAMSELFISH
BCE	304	BANK CUSK EEL
BD	213	BLACK DRUM
BDN	155	BLACK DURGON (OCEAN TALLY)
BE	98	BIGEYE (TORO)
BEM	64	BLACKEDGE MORAY
BES	102	BIGEYE SCAD
BET	283	BIGEYE TUNA
BF	79	BLUEFISH
BFS	14	BLACKFIN SNAPPER (HAMBONE)
BFT	126	BLACKFIN TUNA
BG	166	BLACK GRUNT
BGO	335	BRIDLED GOBY
BGR	32	BLACK GROUPER
BH	180	BLUE HAMLET (INDIGO)
BHD	137	BONNETHEAD
BHW	205	BLUEHEAD (WRASSE)
BJ	49	BAR JACK
BKT	351	BLACKLINE TILEFISH
BLC	341	BLUE CHROMIS
BLF	208	BARRELFISH

BLJ	148	BLACK JACK
BLT	40	BLUELINE TILEFISH (GRAY)
BLU	343	BLENNIES UNIDENTIFIED
BM	46	BLACK MARGATE
BMN	266	BLUE MARLIN
BNS	242	BLACKNOSE SHARK
BNT	224	BLUEFIN TUNA
BON	216	BONEFISHES
BPF	174	BLUE PARROTFISH
BR	97	BLUE RUNNER
BRF	123	BANDED RUDDERFISH
BRO	222	BEARDED BROTULA
BS	45	BLACK SNAPPER
BSA	328	BELTED SANDFISH
BSB	33	BLACK SEA BASS
BSC	92	BLUESPOTTED CORNETFISH
BSF	240	BIGEYE SOLDIERFISH
BSG	54	BLUESTRIPED GRUNT
BT	146	BLUE TANG
BTM	321	BLACKTAIL MORAY
BTS	231	BLACKTIP SHARK
BUF	219	BUTTERFISH
BUG	198	BURRO GRUNT
BUH	181	BUTTER HAMLET
BUM	134	BULLET MACKEREL
BUS	244	BULL SHARK
CDF	289	COCOA DAMSELFISH
CE	67	CONGER EEL
CER	41	CERO
CF	37	CREOLE-FISH
CG	169	CAESAR GRUNT
CH	183	CAROLINA HAKE
CJ	87	CREVALLE JACK
CM	220	CHUB MACKEREL (BOSTON)
CMJ	210	COTTONMOUTH JACK
CNR	282	COWNOSE RAY
CNS	284	CLEARNOSE SKATE
COB	55	COBIA
COG	300	COMB GROUPER
CON	89	CONEY
CRO	251	CROAKER, ATLANTIC
CS	17	CUBERA SNAPPER
CUB	223	CUBBYU

CUT	200	CUTLASSFISHES
CW	52	COTTONWICK
DAU	347	DAMSELFISHES UNIDENTIFIED
DDF	345	DUSKY DAMSELFISH
DF	48	DOCTORFISH
DGF	337	DWARF GOATFISH
DOL	117	DOLPHIN
DS	109	DOG SNAPPER
DSP	227	DWARF SAND PERCH
DUF	85	DUSKY FLOUNDER
DUS	232	DUSKY SHARK
EQS	214	"EQUETUS" SPECIES
ESC	363	ESCOLAR
FAF	113	FRENCH ANGELFISH
FCS	243	FALSE CAT SHARK (FLATHEAD)
FG	145	FRENCH GRUNT
FIL	215	FILEFISHES (UNIDENTIFIED)
FLG	108	FLYING GURNARD
FLO	110	FLOUNDERS (UNIDENTIFIED)
FM	262	FRIGATE MACKEREL (SPEEDO)
FP	158	FLORIDA POMPANO
FTS	233	FINETOOTH SHARK
GAF	209	GRAY ANGELFISH
GAG	29	GAG
GAJ	60	GREATER AMBERJACK
GB	121	GREAT BARRACUDA
GBP	334	GREENBLOTCH PARROTFISH
GBW	190	GREENBAND WRASSE
GCF	193	GAFFTOPSAIL CATFISH
GES	360	GLASSEYE SNAPPER
GF	245	GOOSEFISHES (UNIDENTIFIED)
GFT	42	GOLDFACE TILEFISH (C. CHRYSOPS)
GHH	236	GREAT HAMMERHEAD
GM	101	GREEN MORAY
GP	139	GRASS PORGY
GRA	88	GRAYSBY
GRU	327	GRUNTS (UNIDENTIFIED)
GS	18	GRAY SNAPPER
GSF	352	GREATER SOAPFISH
GTF	77	GRAY TRIGGERFISH
GTM	157	GOLDENTAIL MORAY
GUA	273	GUAGUANACHE
GUF	299	GULF FLOUNDER (Paralichthys albigutta)

GUH	315	GULF HAKE
HB	272	HARLEQUIN BASS
HEJ	71	HORSE-EYE JACK
HF	156	HOUNDFISH
HH	239	HIGH-HAT
HHC	253	HARDHEAD CATFISH
HOG	80	HOGFISH
ILF	72	INSHORE LIZZARDFISH
IP	356	IRISH POMPAÑO
JEW	28	JEW FISH
JHP	5	JOLT HEAD PORGY
JKF	241	JACKKNIFE-FISH
KM	74	KING MACKEREL
KSE	313	KINGSNAKE EEL
		KINGFISHES UNIDENTIFIED (WHITINGS, SEA
KUD	96	MULLET)
KWP	3	KEY WEST PORGY (KNOBBED)
LAJ	61	LESSER AMBERJACK
LB	270	LANTERN BASS
LD	265	LOOKDOWN
LDS	261	LEOPARD SHARK
LDT	310	LEOPARD TOADFISH
LF	136	LADYFISH
LHP	6	LITTLEHEAD PORGY
LJ	142	LEATHERJACKET
LJS	106	LONGJAW SQUIRRELFISH
LLF	238	LONGLURE FROGFISH
LNF	353	LIONFISH
LNS	259	LEMON SHARK
LS	16	LANE SNAPPER
LSC	320	LONGSNOUT SCORPIONFISH
LSP	9	LONGSPINE PORGY
LSS	107	LONGSPINE SQUIRRELFISH
LT	116	LITTLE TUNNY
LTB	291	LONGTAIL BASS
MAR	53	MARGATE
MAS	128	MAHOGANY SNAPPER
MGR	91	MARbled GROUPER
MH	175	MUTTON HAMLET
MLS	103	MACKEREL SCAD (TINKER)
MOS	258	MAKO, UNIDENTIFIED
MS	19	MUTTON SNAPPER
MTC	68	MARGINTAIL CONGER (EEL)

MYG	59	MISTY GROUPEr
NES	250	NURSE SHARK
NGR	24	NASSAU GROUPEr
NKF	348	NORTHERN KINGFISH
NNS	178	NORTHERN SENNET
NS	264	NIGHT SHARK
OF	298	OCELLATED FLOUNDER
OFF	189	OCELLATED FROGFISH
OIL	303	OILFISH
OLF	73	OFFSHORE LIZZARDFISH
OM	296	OCELLATED MORAY (G. saxicola or G. ocellatus)
ORF	226	ORANGE FILEFISH
OSF	105	OCEAN SURGEONFISH
OTF	76	OCEAN TRIGGERFISH
OYT	301	OYSTER TOADFISH
PCF	287	PEACOCK FLOUNDER
PD	177	POMPANO DOLPHIN
PER	143	PERMIT
PF	58	PARROTFISH, UNIDENTIFIED
PHF	286	PLANEHEAD FILEFISH
PIG	81	PIGFISH
PIL	144	PILOTFISH
PIN	83	PINFISH
PMM	65	PURPLEMOUTH MORAY
POM	218	POMPANO (UNIDENTIFIED)
POR	35	PORKFISH
PPF	149	PORCUPINEFISH
PRE	332	PURPLE REEFFISH
PRF	93	PEARLY RAZORFISH
PRG	326	PORGIES (UNIDENTIFIED)
PSE	69	PALESPOTTED EEL
PSF	159	PLUMED SCORPIONFISH
PUD	309	PUDDINGWIFE
PUF	118	PUFFERS (UNIDENTIFIED)
PW	274	PAINTED WRASSE
QAF	202	QUEEN ANGELFISH
QPF	358	QUEEN PARROTFISH
QS	260	QUEEN SNAPPER
QTF	82	QUEEN TRIGGERFISH
RB	131	RED BARBIER
RBF	339	REEF BUTTERFLYFISH
RBP	229	REDBAND PARROTFISH
RC	191	REEF CROAKER

RCF	246	RED CORNETFISH
RD	167	RED DRUM (CHANNEL BASS)
RDS	285	ROUND SCAD
REH	27	RED HIND
REM	140	REMORA
RFS	295	REEF SHARK
RGF	361	RED GOATFISH
RGR	22	RED GROUPER
RH	307	RED HAKE
RM	66	RETICULATE MORAY
ROH	26	ROCK HIND
RP	1	RED PORGY
RR	57	RAINBOW RUNNER
RS	11	RED SNAPPER
RSB	228	ROCK SEA BASS
RSC	104	REEF SCORPIONFISH
RSR	357	ROUGHTAIL STINGRAY
RTF	185	ROUGH TRIGGERFISH
RTP	306	REDTAIL PARROTFISH
RTS	350	REDTAIL SCAD
RW	201	RAINBOW WRASSE
SAI	132	SAILFISH
SAM	164	SARGENT MAJOR
SBE	86	SHORT BIGEYE
SBF	204	STRIPED BURRFISH
SBS	234	SANDBAR SHARK
SC	276	STRIPED CROAKER
SCA	30	SCAMP
SCF	170	SCRAWLED COWFISH
SCG	75	SAILORS CHOICE (GRUNT)
SCO	173	SCORPIONFISHES (UNIDENTIFIED)
SCS	94	SPINYCHEEK SCORPIONFISH
SCU	8	SCUP
SD	154	SAND DIVER (SAND LIZZARDFISH)
SDF	119	SMOOTH DOGFISH
SDG	256	STRIPED GRUNT
SDR	308	SPOTTED DRIFTFISH
SE	267	SHRIMP EEL
SEA	165	SEAROBINS (UNIDENTIFIED)
SEP	129	SAUCEREYE PORGY
SFB	338	SPOTFIN BUTTERFLYFISH
SFF	138	SCRAWLED FILEFISH
SFH	95	SPOTFIN HOGFISH

SFL	249	SPANISH FLAG
SG	186	SPANISH GRUNT
SGF	127	SPOTTED GOATFISH
SGR	21	SNOWY GROUPER (CHOCOLATE)
SGS	314	SIX GILL SHARK
SH	20	SPECKLED HIND (KITTY MITCHELL)
SHA	252	SHARKS (UNIDENTIFIED)
SHD	211	SHEEPSHEAD
SHF	162	SPANISH HOGFISH
SHH	235	SCALLOPED HAMMERHEAD
SHP	7	SHEEPSHEAD PORGY
SIS	248	SILKY SHARK
SIT	275	SEATROUT, SILVER
SJT	179	SKIPJACK TUNA
SKA	269	SKATES (UNIDENTIFIED)
SKF	182	SOUTHERN KINGFISH
SKS	124	SHARKSUCKER
SLD	100	SLIPPERY DICK (WRASSE)
SLP	271	SPOTLIGHT PARROTFISH
SM	56	SPANISH MACKEREL
SMG	168	SMALLMOUTH GRUNT
SMH	237	SMOOTH HAMMERHEAD
SMP	280	SMOOTH PUFFER (L. laevigatus, rabbitfish)
SMS	99	SCHOOLMASTER SNAPPER
SNA	322	SNAPPERS, UNIDENTIFIED
SNF	70	SNAKEFISH
SNM	364	SNAKE MACKEREL
SNO	188	SNOOK
SNS	230	ATLANTIC SHARPNOSE SHARK
SOF	288	SOUTHERN FLOUNDER
SOH	187	SOUTHERN HAKE
SOS	141	SOUTHERN SENNET
SP	38	SAND PERCH
SPA	333	STRIPED PARROTFISH
SPD	292	SPINY DOGFISH (<i>Squalus acanthias</i>)
SPE	277	SPEARFISH
SPF	47	SPADEFISH
SPM	63	SPOTTED MORAY
SPO	160	SPOT
SPU	317	SOUTHERN PUFFER
SQF	78	SQUIRRELFISH
SRS	263	SPINNER SHARK
SS	12	SILK SNAPPER (YELLOW EYE)

SSC	318	SPOTTED SCORPIONFISH
SSF	130	SPOTTED SOAPFISH
SSG	192	SOUTHERN STARGAZER
SSO	359	SPINYCHEEK SOLDIERFISH
SSR	294	SOUTHERN STINGRAY
SST	247	SPOTTED SEATROUT
ST	254	SAND SEATROUT
STA	344	STRIPED ANCHOVY
STF	44	SAND TILEFISH
STG	279	SAND TIGER SHARK
STM	349	STRIPED MULLET
STP	4	SPOTTAIL PINFISH
STR	225	STINGRAY
STS	278	SMALLTAIL SHARK
STU	194	STURGEONFISH
SUF	111	SUMMER FLOUNDER
SVP	153	SILVER PORGY
SWB	329	SEAWEED BLENNY
SWO	152	SWORDFISH
TAR	195	TARPON
TAT	36	TATTLER
TAU	84	TAUTOG
TEF	316	THREE-EYED FLOUNDER
TF	151	TOBACCOFISH
TGR	199	TIGER GROUPE
THS	325	THRESHER SHARK
TIL	43	TILEFISH (GOLDEN, DEEPWATER)
TKF	161	TRUNKFISH
TOA	176	TOADFISHES, FAMILY
TRF	171	TRUMPETFISH
TRI	115	TRIPLETAIL
TS	257	TIGER SHARK
TSC	336	TWOSPOT CARDINALFISH
TT	51	TOMTATE
TUN	150	TUNAS (UNIDENTIFIED)
UFF	172	UNICORN FILEFISH
VS	10	VERMILION SNAPPER
WAH	133	WAHOO
WAR	23	WARSAW (GROUPE)
WF	163	WEAKFISH (DO NOT USE #196 SEA TROUT)
WFS	366	WHITEFIN SHARKSUCKER
WG	50	WHITE GRUNT
WH	312	WHITE HAKE

WHM	206	WHITE MARLIN
WKF	293	WRECKFISH
WM	13	WENCHMAN
WOF	268	WOLFFISHES
WP	2	WHITEBONE PORGY (CHOCOLATE)
WRU	346	WRASSES UNIDENTIFIED
WSF	305	WHITESPOTTED FILEFISH
WSS	290	WHITESPOTTED SOAPFISH
YCW	297	YELLOWCHEEK WRASSE
YEC	319	YELLOW CHUB
YEG	25	YELLOWEDGE GROUPER
YFG	39	YELLOWFIN GROUPER
YFM	354	YELLOWFIN MOJARRA
YFT	147	YELLOWFIN TUNA
YGF	323	YELLOW GOATFISH
YHW	342	YELLOWHEAD WRASSE
YJ	112	YELLOW JACK
YMG	31	YELLOWMOUTH GROUPER
YPG	340	YELLOWPROW GOBY
YSB	34	BANK SEA BASS (YELLOW SEA BASS)
YTR	331	YELLOWTAIL REEFFISH
YTS	15	YELLOWTAIL SNAPPER
	125	PLUMA(LITTLEHEAD PORGY)
	196	Seatrout, Unidentified
	203	Moray, Unidentified
	255	Croaker, Unidentified

APPENDIX VI. SPECIES CODES LISTED IN NUMERICAL ORDER

Revised 4-10-2013

CODE	SPECIES	COMMON NAME	GENUS	SPECIES	NODC CODE
RP	1	RED PORGY	Pagrus	pagrus	8835430601
WP	2	WHITEBONE PORGY (CHOCOLATE)	Calamus	leucosteus	8835430505
KWP	3	KEY WEST PORGY (KNOBBED)	Calamus	nodosus	8835430506
STP	4	SPOTTAIL PINFISH	Diplodus	holbrookii	8835430401
JHP	5	JOLTHEAD PORGY	Calamus	bajonado	8835430502
LHP	6	LITTLEHEAD PORGY	Calamus	proridens	8835430508
SHP	7	SHEEPSHEAD PORGY	Calamus	penna	8835430510
SCU	8	SCUP	Stenotomus	chrysops	8835430101
LSP	9	LONGSPINE PORGY	Stenotomus	carpinus	8835430102
VS	10	VERMILION SNAPPER	Rhomboplites	aurorubens	8835360501
RS	11	RED SNAPPER	Lutjanus	campechanus	8835360107
SS	12	SILK SNAPPER (YELLOW EYE)	Lutjanus	vivanus	8835360113
WM	13	WENCHMAN	Pristipomoides	aquilonaris	8835360701
BFS	14	BLACKFIN SNAPPER (HAMBONE)	Lutjanus	buccanella	8835360106
YTS	15	YELLOWTAIL SNAPPER	Ocyurus	chrysurus	8835360401
LS	16	LANE SNAPPER	Lutjanus	synagris	8835360112
CS	17	CUBERA SNAPPER	Lutjanus	cyanopterus	8835360101
GS	18	GRAY SNAPPER	Lutjanus	griseus	8835360102
MS	19	MUTTON SNAPPER	Lutjanus	analis	8835360103
SH	20	SPECKLED HIND (KITTY MITCHELL)	Epinephelus	drummondhayi	8835020404
SGR	21	SNOWY GROUPER (CHOCOLATE)	Epinephelus	niveatus	8835020411
RGR	22	RED GROUPER	Epinephelus	morio	8835020408
WAR	23	WARSAW (GROUPER)	Epinephelus	nigritus	8835020410
NGR	24	NASSAU GROUPER	Epinephelus	striatus	8835020412
YEG	25	YELLOWEDGE GROUPER	Epinephelus	flavolimbatus	8835020405
ROH	26	ROCK HIND	Epinephelus	adscensionis	8835020402
REH	27	RED HIND	Epinephelus	guttatus	8835020406
JEW	28	JEW FISH	Epinephelus	itajara	8835020401
GAG	29	GAG	Mycteroperca	microlepis	8835020501
SCA	30	SCAMP	Mycteroperca	phenax	8835020505
YMG	31	YELLOWMOUTH GROUPER	Mycteroperca	interstitialis	8835020504
BGR	32	BLACK GROUPER	Mycteroperca	bonaci	8835020502
BSB	33	BLACK SEA BASS	Centropristis	striata	8835020301
YSB	34	BANK SEA BASS (YELLOW SEA BASS)	Centropristis	ocyurus	8835020304
POR	35	PORKFISH	Anisotremus	virginicus	8835400306
TAT	36	TATTLER	Serranus	phoebe	8835022308

CF	37	CREOLE-FISH	Paranthias	furcifer	8835021701
SP	38	SAND PERCH	Diplectrum	formosum	8835021002
YFG	39	YELLOWFIN GROUPER	Mycteroperca	venenosa	8835020506
BLT	40	BLUELINE TILEFISH (GRAY)	Caulolatilus	microps	8835220104
CER	41	CERO	Scomberomorus	regalis	8850030503
GFT	42	GOLDFACE TILEFISH (C. CHRYSOPS)	Caulolatilus	chrysops	8835220105
TIL	43	TILEFISH (GOLDEN, DEEPWATER)	Lopholatilus	chamaeleonticeps	8835220201
STF	44	SAND TILEFISH	Malacanthus	plumieri	8835220301
BS	45	BLACK SNAPPER	Apsilus	dentatus	8835360201
BM	46	BLACK MARGATE	Anisotremus	surinamensis	8835400304
SPF	47	SPADEFISH	Chaetodipterus	faber	8835520101
DF	48	DOCTORFISH	Acanthurus	chirurgus	8849010102
BJ	49	BAR JACK	Carangoides	ruber	8835280308
WG	50	WHITE GRUNT	Haemulon	plumierii	8835400102
TT	51	TOMTATE	Haemulon	aurolineatum	8835400101
CW	52	COTTONWICK	Haemulon	melanurum	8835400111
MAR	53	MARGATE	Haemulon	album	8835400103
BSG	54	BLUESTRIPED GRUNT	Haemulon	sciurus	8835400113
COB	55	COBIA	Rachycentron	canadum	8835260101
SM	56	SPANISH MACKEREL	Scomberomorus	maculatus	8850030502
RR	57	RAINBOW RUNNER	Elagatis	bipinnulata	8835281301
PF	58	PARROTFISH, UNIDENTIFIED	Scaridae		8839030000
MYG	59	MISTY GROUPER	Epinephelus	mystacinus	8835020409
GAJ	60	GREATER AMBERJACK	Seriola	dummerili	8835280801
LAJ	61	LESSER AMBERJACK	Seriola	fasciata	8835280802
ALJ	62	ALMACO JACK	Seriola	rivoliana	8835280803
SPM	63	SPOTTED MORAY	Gymnothorax	moringa	8741050403
BEM	64	BLACKEDGE MORAY	Gymnothorax	nigromarginatus	8741050404
PMM	65	PURPLEMOUTH MORAY	Gymnothorax	vicinus	8741050408
RM	66	RETICULATE MORAY	Muraena	retifera	8741050502
CE	67	CONGER EEL	Conger	oceanicus	8741120101
MTC	68	MARGINTAIL CONGER (EEL)	Paraconger	caudilimbatus	8741120501
PSE	69	PALESPOTTED EEL	Ophichthus	puncticeps	8741131015
SNF	70	SNAKEFISH	Trachinocephalus	myops	8762020401
HEJ	71	HORSE-EYE JACK	Caranx	latus	8835280304
ILF	72	INSHORE LIZZARDFISH	Synodus	foetens	8762020101
OLF	73	OFFSHORE LIZZARDFISH	Synodus	poeyi	8762020104
KM	74	KING MACKEREL	Scomberomorus	cavalla	8850030501
SCG	75	SAILORS CHOICE (GRUNT)	Haemulon	parra	8835400117
OTF	76	OCEAN TRIGGERFISH	Canthidermis	sufflamen	8860020502

GTF	77	GRAY TRIGGERFISH	Balistes	capricus	8860020201
SQF	78	SQUIRRELFISH	Holocentrus	adscensionis	8810080101
BF	79	BLUEFISH	Pomatomus	saltatrix	8835250101
HOG	80	HOGFISH	Lachnolaimus	maximus	8839010901
PIG	81	PIGFISH	Orthopristis	chrysoptera	8835400201
QTF	82	QUEEN TRIGGERFISH	Balistes	vetula	8860020202
PIN	83	PINFISH	Lagodon	rhomboides	8835430201
TAU	84	TAUTOG	Tautoga	onitis	8839010101
DUF	85	DUSKY FLOUNDER	Syacium	papillosum	8857031303
SBE	86	SHORT BIGEYE	Pristigenys	alta	8835170201
CJ	87	CREVALLE JACK	Caranx	hippos	8835280303
GRA	88	GRAYSBY	Cephalopholis	cruentata	8835024611
CON	89	CONEY	Cephalopholis	fulva	8835020438
AP	90	AFRICAN POMPAÑO	Alectis	ciliaris	8835280202
MGR	91	MARbled GROUPER	Dermatolepis	inermis	8835020440
BSC	92	BLUESPOTTED CORNETFISH	Fistularia	tabacaria	8819020101
PRF	93	PEARLY RAZORFISH	Xyrichtys	novacula	8839010802
SCS	94	SPINYCHEEK SCORPIONFISH	Neomerinthe	hemingwayi	8826010402
SFH	95	SPOTFIN HOGFISH	Bodianus	pulchellus	8839010301
KUD	96	KINGFISHES (WHITINGS, SEA MULLET)	Menticirrhus	spp.	8835440600
BR	97	BLUE RUNNER	Caranx	crysos	8835280306
BE	98	BIGEYE (TORO)	Priacanthus	arenatus	8835170101
SMS	99	SCHOOLMASTER SNAPPER	Lutjanus	apodus	8835360104
SLD	100	SLIPPERY DICK (WRASSE)	Halichoeres	bivittatus	8839010702
GM	101	GREEN MORAY	Gymnothorax	funnebris	8741050401
BES	102	BIGEYE SCAD	Selar	crumenophthalmus	8835280601
MLS	103	MACKEREL SCAD (TINKER)	Decapterus	macarellus	8835281201
RSC	104	REEF SCORPIONFISH	Scorpaenodes	caribbaeus	8826011201
OSF	105	OCEAN SURGEONFISH	Acanthurus	bahianus	8849010101
LJS	106	LONGJAW SQUIRRELFISH	Neoniphon	marianus	8810080105
LSS	107	LONGSPINE SQUIRRELFISH	Holocentrus	rufus	8810080103
FLG	108	FLYING GURNARD	Dactylopterus	volitans	8832010101
DS	109	DOG SNAPPER	Lutjanus	jocu	8835360109
FLO	110	FLOUNDERS (UNIDENTIFIED)	Bothidae		8857030000
SUF	111	SUMMER FLOUNDER	Paralichthys	dentatus	8857030301
YJ	112	YELLOW JACK	Caranx	bartholomaei	8835280301
FAF	113	FRENCH ANGELFISH	Pomacanthus	paru	8835550402
BAF	114	BLUE ANGELFISH	Holocanthus	bermudensis	8835550304
TRI	115	TRIPLETAIL	Lobotes	surinamensis	8835380101
LT	116	LITTLE TUNNY	Euthynnus	alletteratus	8850030102

DOL	117	DOLPHIN	Coryphaena	hippurus	8835290101
PUF	118	PUFFERS (UNIDENTIFIED)	Tetraodontidae		8861010000
SDF	119	SMOOTH DOGFISH	Mustelus	canis	8708020401
AB	120	ATLANTIC BONITO	Sarda	sarda	8850030202
GB	121	GREAT BARRACUDA	Sphyraena	barracuda	8837010104
BAL	122	BALLYHOO	Hemiramphus	brasiliensis	8803010201
BRF	123	BANDED RUDDERFISH	Seriola	zonata	8835280804
SKS	124	SHARKSUCKER	Echeneis	naucrates proridens (pennatula)	8835270201 8835430508
	125	PLUMA(LITTLEHEAD PORGY)	Calamus		
BFT	126	BLACKFIN TUNA	Thunnus	atlanticus	8850030404
SGF	127	SPOTTED GOATFISH	Pseudupeneus	maculatus	8835450301
MAS	128	MAHOGANY SNAPPER	Lutjanus	mahogoni	8835360110
SEP	129	SAUCEREYE PORGY	Calamus	calamus	8835430503
SSF	130	SPOTTED SOAPFISH	Rypticus	subbifrenatus	8835030208
RB	131	RED BARBIER	Hemanthias	vivanus	8835021202
SAI	132	SAILFISH	Istiophorus	platypterus	8850060101
WAH	133	WAHOO	Acanthocybium	solandri	8850030601
BUM	134	BULLET MACKEREL	Auxis	rochei	8850030701
BC	135	BERMUDA CHUB	Kyphosus	sectatrix	8835510102
LF	136	LADYFISH	Elops	saurus	8738010101
BHD	137	BONNETHEAD	Sphyrna	tiburo	8708030101
SFF	138	SCRAWLED FILEFISH	Aluterus	scriptus	8860020104
GP	139	GRASS PORGY	Calamus	arctifrons	8835430501
REM	140	REMORA	Remora	remora	8835270103
SOS	141	SOUTHERN SENNET	Sphyraena	picudilla	8837010105
LJ	142	LEATHERJACKET	Oligoplites	saurus	8835280501
PER	143	PERMIT	Trachinotus	falcatus	8835280902
PIL	144	PILOTFISH	Naucrates	ductor	8835281501
FG	145	FRENCH GRUNT	Haemulon	flavolineatum	8835400108
BT	146	BLUE TANG	Acanthurus	coeruleus	8849010103
YFT	147	YELLOWFIN TUNA	Thunnus	albacares	8850030403
BLJ	148	BLACK JACK	Caranx	lugubris	8835280307
PPF	149	PORCUPINEFISH	Diodon	hystrix	8861030201
TUN	150	TUNAS (UNIDENTIFIED)	Scombridae		8850030000
TF	151	TOBACCOFISH	Serranus	tabacarius	8835022310
SWO	152	SWORDFISH	Xiphias	gladius	8850040101
SVP	153	SILVER PORGY	Diplodus	argenteus	8835430402
SD	154	SAND DIVER (SAND LIZZARDFISH)	Synodus	intermedius	8762020102
BDN	155	BLACK DURGON (OCEAN TALLY)	Melichthys	niger	8860020601
HF	156	HOUNDFISH	Tylosurus	crocodilus	8803020302

GTM	157	GOLDENTAIL MORAY	Muraena	milaris	8741050501
FP	158	FLORIDA POMPAÑO	Trachinotus	carolinus	8835280901
PSF	159	PLUMED SCORPIONFISH	Scorpaena	grandicornis	8826010609
SPO	160	SPOT	Leiostomus	xanthurus	8835440401
TKF	161	TRUNKFISH	Lactophrys	trigonus	8860030101
SHF	162	SPANISH HOGFISH WEAKFISH (DO NOT USE #196 SEA TROUT)	Bodianus	rufus	8839010302
WF	163		Cynoscion	regalis	8835440104
SAM	164	SARGENT MAJOR	Abudefduf	saxatilis	8835620101
SEA	165	SEAROBINS (UNIDENTIFIED)	Triglidae		8826020000
BG	166	BLACK GRUNT	Haemulon	bonariense	8835400104
RD	167	RED DRUM (CHANNEL BASS)	Sciaenops	ocellatus	8835440901
SMG	168	SMALLMOUTH GRUNT	Haemulon	chrysargyreum	8835400107
CG	169	CAESAR GRUNT	Haemulon	carbonarium	8835400106
SCF	170	SCRAWLED COWFISH	Acanthostracion	quadricornis	8860030201
TRF	171	TRUMPETFISH	Aulostomus	maculatus	8819010101
UFF	172	UNICORN FILEFISH	Eumecichthys	fiski	8815010201
SCO	173	SCORPIONFISHES (UNIDENTIFIED)	Scorpaenidae		8826010000
BPF	174	BLUE PARROTFISH	Scarus	coeruleus	8839030101
MH	175	MUTTON HAMLET	Alphestes	afer	8835020441
TOA	176	TOADFISHES, FAMILY	Batrachoididae		8783010000
PD	177	POMPAÑO DOLPHIN	Coryphaena	equiselis	8835290102
NNS	178	NORTHERN SENNET	Sphyræna	borealis	8837010102
SJT	179	SKIPJACK TUNA	Katsuwonus	pelamis	8850030101
BH	180	BLUE HAMLET (INDIGO)	Hypoplectrus	unicolor	8835021301
BUH	181	BUTTER HAMLET	Hypoplectrus	unicolor	8835021301
SKF	182	SOUTHERN KINGFISH	Menticirrhus	americanus	8835440601
CH	183	CAROLINA HAKE	Urophycis	earllyi	8791031006
BBS	184	BLACKBAR SOLDIERFISH	Myripristis	jacobus	8810080201
RTF	185	ROUGH TRIGGERFISH	Canthidermis	maculata	8860020501
SG	186	SPANISH GRUNT	Haemulon	macrostomum	8835400110
SOH	187	SOUTHERN HAKE	Urophycis	floridana	8791031007
SNO	188	SNOOK	Centropomidae		8835010000
OFF	189	OCELLATED FROGFISH	Antennarius	ocellatus	8787020202
GBW	190	GREENBAND WRASSE	Halichoeres	bathophilus	8839010701
RC	191	REEF CROAKER	Odontoscion	dentex	8835441301
SSG	192	SOUTHERN STARGAZER	Astroscopus	y-graecum	8840140102
GCF	193	GAFFTOPSAIL CATFISH	Bagre	marinus	8777180101
STU	194	STURGEONFISH	Acipenseridae		8729010000
TAR	195	TARPON	Megalops	atlanticus	8738020201
	196	Seatrout, Unidentified	Cynoscion	spp.	8835440100

BBF	197	BARBFISH	Scorpaena	brasiliensis	8826010605
BUG	198	BURRO GRUNT	Pomadasys	crocro	8835400502
TGR	199	TIGER GROUPER	Mycteroperca	tigris	8835020509
CUT	200	CUTLASSFISHES	Trichiuridae		8850020000
RW	201	RAINBOW WRASSE	Halichoeres	pictus	8839010707
QAF	202	QUEEN ANGELFISH	Holacanthus	ciliaris	8835550301
	203	Moray, Unidentified	Muraenidae		8741050000
SBF	204	STRIPED BURRFISH	Chilomycterus	schoepfi	8861030101
BHW	205	BLUEHEAD (WRASSE)	Thalassoma	bifasciatum	8839011001
WHM	206	WHITE MARLIN	Tetrapturus	albidus	8850060301
AM	207	ATLANTIC MACKEREL	Scomber	scombrus	8850030302
BLF	208	BARRELFISH	Hyperoglyphe	perciformis	8851010201
GAF	209	GRAY ANGELFISH	Pomacanthus	arcuatus	8835550401
CMJ	210	COTTONMOUTH JACK	Uraspis	secunda	8835281701
SHD	211	SHEEPSHEAD	Archosargus	probatocephalus	8835430301
ALB	212	ALBACORE	Thunnus	alalunga	8850030401
BD	213	BLACK DRUM	Pogonias	cromis	8835440801
EQS	214	"EQUETUS" SPECIES	Equetus	spp.	8835441200
FIL	215	FILEFISHES (UNIDENTIFIED)	Balistidae		8860020000
BON	216	BONEFISHES	Albula	vulpes	8739010101
AMB	217	AMBERINA	Carangidae		8835280000
POM	218	POMPANO (UNIDENTIFIED)	Trachinotus	spp.	8835280900
BUF	219	BUTTERFISH	Peprilus	triacanthus	8851030103
CM	220	CHUB MACKEREL (BOSTON)	Scomber	japonicus	8850030301
ATB	221	ATLANTIC BUMPER	Chloroscombrus	chrysurus	8835280401
BRO	222	BEARDED BROTLA	Brotula	barbata	8792010401
CUB	223	CUBBYU	Equetus	umbrosus	8835441206
BNT	224	BLUEFIN TUNA	Thunnus	thyunnus	8850030402
STR	225	STINGRAY	Dasyatidae		8713050000
ORF	226	ORANGE FILEFISH	Aluterus	schoepfi	8860020101
DSP	227	DWARF SAND PERCH	Diplectrum	bivittatum	8835021005
RSB	228	ROCK SEA BASS	Centropristis	philadelphicus	8835020305
RBP	229	REDBAND PARROTFISH	Sparisoma	aurofrenatum	8839030402
SNS	230	ATLANTIC SHARPNOSE SHARK	Rhizoprionodon	terraenovae	8708020301
BTS	231	BLACKTIP SHARK	Carcharhinus	limbatus	8708020507
DUS	232	DUSKY SHARK	Carcharhinus	obscurus	8708020501
FTS	233	FINETOOTH SHARK	Carcharhinus	isodon	8708020531
SBS	234	SANDBAR SHARK	Carcharhinus	plumbeus	8708020503
SHH	235	SCALLOPED HAMMERHEAD	Sphyrna	lewini	8708030103
GHH	236	GREAT HAMMERHEAD	Sphyrna	mokarran	8708030104

SMH	237	SMOOTH HAMMERHEAD	Sphyrna	zygaena	8708030102
LLF	238	LONGLURE FROGFISH	Antennarius	multiocellatus	8787020201
HH	239	HIGH-HAT	Equetus	acuminatus	8835441201
BSF	240	BIGEYE SOLDIERFISH	Ostichthys	trachypoma	8810080301
JKF	241	JACKKNIFE-FISH	Equetus	lanceolatus	8835441202
BNS	242	BLACKNOSE SHARK	Carcharhinus	acronotus	8708020504
FCS	243	FALSE CAT SHARK (FLATHEAD)	Scyliorhinus	retifer	8708010304
BUS	244	BULL SHARK	Carcharhinus	leucas	8708020502
GF	245	GOOSEFISHES (UNIDENTIFIED)	Lophiidae		8786010100
RCF	246	RED CORNETFISH	Fistularia	petimba	8819020102
SST	247	SPOTTED SEATROUT	Cynoscion	nebulosus	8835440102
SIS	248	SILKY SHARK	Carcharhinus	falciformis	8708020506
SFL	249	SPANISH FLAG	Gonioplectrus	hispanus	8835021101
NES	250	NURSE SHARK	Ginglymostoma	cirratum	8707100101
CRO	251	CROAKER, ATLANTIC	Micropogonias	undulatus	8835440701
SHA	252	SHARKS (UNIDENTIFIED)	Chondrichthyes		8701000000
HHC	253	HARDHEAD CATFISH	Ariopsis	felis	8777180202
ST	254	SAND SEATROUT	Cynoscion	arenarius	8835440106
	255	Croaker, Unidentified	Sciaenidae		8835440000
SDG	256	STRIPED GRUNT	Haemulon	striatum	8835400116
TS	257	TIGER SHARK	Galeocerdo	cuvier	8708020201
MOS	258	MAKO, UNIDENTIFIED	Isurus	spp.	8707040500
LNS	259	LEMON SHARK	Negaprion	brevirostris	8708020801
QS	260	QUEEN SNAPPER	Etelis	oculatus	8835360301
LDS	261	LEOPARD SHARK	Triakis	semifasciata	8708020902
FM	262	FRIGATE MACKEREL (SPEEDO)	Auxis	thazard	8850030702
SRS	263	SPINNER SHARK	Carcharhinus	brevipinna	8708020530
NS	264	NIGHT SHARK	Carcharhinus	signatus	8708020532
LD	265	LOOKDOWN	Selene	vomer	8835280701
BMN	266	BLUE MARLIN	Makaira	nigricans	8850060201
SE	267	SHRIMP EEL	Ophichthus	spp.	8741131000
WOF	268	WOLFFISHES	Anarhichadidae		8842020000
SKA	269	SKATES (UNIDENTIFIED)	Rajidae		8713040000
LB	270	LANTERN BASS	Serranus	baldwini	8835022303
SLP	271	SPOTLIGHT PARROTFISH	Sparisoma	viride	8839030406
HB	272	HARLEQUIN BASS	Serranus	tigrinus	8835022311
GUA	273	GUAGUANCHE	Sphyræna	guachancho	8837010103
PW	274	PAINTED WRASSE	Halichoeres	caudalis	8839010703
SIT	275	SEATROUT, SILVER	Cynoscion	nothus	8835440103
SC	276	STRIPED CROAKER	Corvula	sanctaeluciae	8835440305

SPE	277	SPEARFISH	Tetrapturus	pfluegeri	8850060304
STS	278	SMALLTAIL SHARK	Carcharhinus	porosus	8708020512
STG	279	SAND TIGER SHARK	Odontaspis	taurus	8707030101
SMP	280	SMOOTH PUFFER (L. laevigatus, rabbitfish)	Lagocephalus	laevigatus	8861010101
AEL	281	AMERICAN EEL	Anguilla	rostrata	8741010101
CNR	282	COWNOSE RAY	Rhinoptera	bonasus	8713070301
BET	283	BIGEYE TUNA	Thunnus	obesus	8850030405
CNS	284	CLEARNOSE SKATE	Raja	eglanteria	8713040113
RDS	285	ROUND SCAD	Decapterus	punctatus	8835281202
PHF	286	PLANEHEAD FILEFISH	Monacanthus	hispidus	8860020703
PCF	287	PEACOCK FLOUNDER	Bothus	lunatus	8857030601
SOF	288	SOUTHERN FLOUNDER	Paralichthys	lethostigma	8857030304
CDF	289	COCOA DAMSELFISH	Stegastes	variabilis	8835621233
WSS	290	WHITESPOTTED SOAPFISH	Rypticus	maculatus	8835030204
LTB	291	LONGTAIL BASS	Hemanthias	leptus	8835021201
SPD	292	SPINY DOGFISH (Squalus acanthias)	Squalus	acanthias	8710010201
WKF	293	WRECKFISH	Polyprion	americanus	8835022801
SSR	294	SOUTHERN STINGRAY	Dasyatis	americana	8713050103
RFS	295	REEF SHARK	Carcharhinus	perezii	8708020511
OM	296	OCELLATED MORAY (G. saxicola or G. ocellatus)	Gymnothorax	saxicola	8741050407
YCW	297	YELLOWCHEEK WRASSE	Halichoeres	cycnocephalus	8839010704
OF	298	OCELLATED FLOUNDER	Ancylopsetta	quadrocellata	8857030506
GUF	299	GULF FLOUNDER (Paralichthys albigutta)	Paralichthys	albigutta	8857030302
COG	300	COMB GROUPE	Mycteroperca	rubra	8835020510
OYT	301	OYSTER TOADFISH	Opsanus	tau	8783010201
BAD	302	BANDED DRUM	Larimus	fasciatus	8835440501
OIL	303	OILFISH	Ruvettus	pretiosus	8850010401
BCE	304	BANK CUSK EEL	Ophidion	holbrookii	8792010603
WSF	305	WHITESPOTTED FILEFISH	Cantherhines	macrocerus	8860020401
RTP	306	REDTAIL PARROTFISH	Sparisoma	chrysopterum	8839030403
RH	307	RED HAKE	Urophycis	chuss	8791031001
SDR	308	SPOTTED DRIFTFISH	Ariomma	regulus	8851020104
PUD	309	PUDDINGWIFE	Halichoeres	radiatus	8839010709
LDT	310	LEOPARD TOADFISH	Opsanus	pardus	8783010203
BBR	311	BLACKBELLY ROSEFISH	Helicolenus	dactylopterus	8826010301
WH	312	WHITE HAKE	Urophycis	tenuis	8791031003
KSE	313	KINGSLAKE EEL	Ophichthus	rex	8741131009
SGS	314	SIX GILL SHARK	Hexanchus	griseus	8705020101
GUH	315	GULF HAKE	Urophycis	cirrata	8791031005

TEF	316	THREE-EYED FLOUNDER	Ancylopsetta	dilecta	8857030503
SPU	317	SOUTHERN PUFFER	Sphoeroides	nephelus	8861010208
SSC	318	SPOTTED SCORPIONFISH	Scorpaena	plumieri	8826010614
YEC	319	YELLOW CHUB	Kyphosus	incisor	8835510101
LSC	320	LONGSNOUT SCORPIONFISH	Pontinus	castor	8826010501
BTM	321	BLACKTAIL MORAY	Gymnothorax	kolpos	8741050446
SNA	322	SNAPPERS, UNIDENTIFIED	Lutjanidae		8835360000
YGF	323	YELLOW GOATFISH	Mulloidichthys	martinicus	8835450101
BBD	324	BLACKBAR DRUM	Pareques	iwamotoi	8835441208
THS	325	THRESHER SHARK	Alopias	vulpinus	8707040401
PRG	326	PORGIES (UNIDENTIFIED)	Sparidae		8835430000
GRU	327	GRUNTS (UNIDENTIFIED)	Haemulidae		8835400000
BSA	328	BELTED SANDFISH	Serranus	subligarius	8835022309
SWB	329	SEAWEED BLENNY	Parablennius	marmoreus	8842012501
BCD	330	BICOLOR DAMSELFISH	Stegastes	partitus	8835621234
YTR	331	YELLOWTAIL REEFISH	Chromis	enchrysur	8835620302
PRE	332	PURPLE REEFISH	Chromis	scotti	8835620307
SPA	333	STRIPED PARROTFISH	Scarus	croicensis	8839030103
GBP	334	GREENBLOTCH PARROTFISH	Sparisoma	atomarium	8839030401
BGO	335	BRIDLED GOBY	Coryphopterus	glaucofraenum	8847010205
TSC	336	TWOSPOT CARDINALFISH	Apogon	pseudomaculatus	8835180110
DGF	337	DWARF GOATFISH	Upeneus	parvus	8835450402
SFB	338	SPOTFIN BUTTERFLYFISH	Chaetodon	ocellatus	8835550101
RBF	339	REEF BUTTERFLYFISH	Chaetodon	sedentarius	8835550107
YPG	340	YELLOWPROW GOBY	Elacatinus	xanthiprora	8847010609
BLC	341	BLUE CHROMIS	Chromis	cyaneus	8835620301
YHW	342	YELLOWHEAD WRASSE	Halichoeres	garnoti	8839010705
BLU	343	BLENNIES UNIDENTIFIED	Blenniidae		8842010000
STA	344	STRIPED ANCHOVY	Anchoa	hepsetus	8747020201
DDF	345	DUSKY DAMSELFISH	Stegastes	fuscus	8835621229
WRU	346	WRASSES UNIDENTIFIED	Labridae		8839010000
DAU	347	DAMSELFISHES UNIDENTIFIED	Pomacentridae		8835620000
NKF	348	NORTHERN KINGFISH	Menticirrhus	saxatilis	8835440603
STM	349	STRIPED MULLET	Mugil	cephalus	8836010101
RTS	350	REDTAIL SCAD	Decapterus	tabl	8835281203
BKT	351	BLACKLINE TILEFISH	Caulolatilus	cyanops	8835220102
GSF	352	GREATER SOAPFISH	Rypticus	saponaceus	8835030207
LNF	353	LIONFISH	Pterois	volitans	8826011401
YFM	354	YELLOWFIN MOJARRA	Gerres	cinereus	8835390301
AMF	355	ATLANTIC MOONFISH	Selene	setapinnis	8835280705

IP	356	IRISH POMPANO	Diapterus	auratus	8835390204
RSR	357	ROUGH TAIL STINGRAY	Dasyatis	centrourea	8713050104
QPF	358	QUEEN PARROTFISH	Scarus	vetula	8839030106
SSO	359	SPINY CHEEK SOLDIERFISH	Corniger	spinosus	8810080601
GES	360	GLASSEYE SNAPPER	Heteropriacanthus	cruentatus	8835170102
RGF	361	RED GOATFISH	Mullus	auratus	8835450201
ACT	362	ANCHOR TILEFISH	Caulolatilus	intermedius	8835220103
ESC	363	ESCOLAR	Lepidocybium	flavobrunneum	8850010301
SNM	364	SNAKE MACKEREL	Gempylus	serpens	8850010201
ANF	365	ATLANTIC NEEDLEFISH	Strongylura	marina	8803020202
WFS	366	WHITEFIN SHARKSUCKER	Echeneis	neucratoides	8835270202

APPENDIX VII. SRHS Vessel List 2013

Vessel Number	Vessel Name	Port City	State
5	CAROLINA PRINCESS	MOREHEAD CITY	NC
24	PRIDE OF THE CAROLINAS	LITTLE RIVER	SC
38	NEW INLET PRINCESS	MURRELLS INLET	SC
53	SS WINNER QUEEN	CAROLINA BEACH	NC
54	SUPER CRITTER	PONCE INLET	FL
59	SEA SPIRIT	PONCE INLET	FL
73	MISS CAPE CANAVERAL	CAPE CANAVERAL	FL
87	BLUE HERON II	JUPITER	FL
89	SEA MIST III	BOYNTON BEACH	FL
91	HELEN S VI	POMPANO BEACH	FL
114	FLAMINGO	FORT LAUDERDALE	FL
122	SEA LEGS III	HOLLYWOOD	FL
132	CAPT STACY IV	ATLANTIC BEACH	NC
135	HURRICANE	NORTH MIAMI BEACH	FL
142	MUCHO-K	NORTH MIAMI BEACH	FL
152	YANKEE CAPTS	STOCK ISLAND	FL
165	SEA LOVE II	ST AUGUSTINE	FL
168	DRIFTER	HILTON HEAD	SC
177	FISH CITY PRIDE	POMPANO BEACH	FL
212	CAPT JOHN'S GREYHOUND V	KEY WEST	FL
214	CYCLONE	CALABASH	NC
229	SEA LOVE III	ST AUGUSTINE	FL
233	MISS BLUE HERON	RIVIERA BEACH	FL
240	WEST WIND	CALABASH	NC
243	ATLANTIS	NORTH MIAMI BEACH	FL
244	SAFARI I	STUART	FL
253	CONTINENTAL SHELF	MOREHEAD CITY	NC
256	MISS ISLAMORADA	ISLAMORADA	FL
260	HURRICANE II	CALABASH	NC
266	MARATHON LADY	MARATHON	FL
273	SUNDANCER	LITTLE RIVER	SC
279	ORLANDO PRINCESS	CAPE CANAVERAL	FL
301	BLUE HERON 101	RIVIERA BEACH	FL
302	SCATT II	TYBEE ISLAND	GA
304	CAPT MICHAEL	ISLAMORADA	FL
308	TORTUGA IV	KEY WEST	FL
311	ANOTHER REWARD	MIAMI BEACH	FL
318	CAPT HOOK	HILTON HEAD ISLAND	SC

321	OCEAN OBSESSION II	CAPE CANAVERAL	FL
330	SEA KING	MARATHON	FL
333	NANCY LEE III	SWANSBORO	NC
335	NANCY LEE V	SWANSBORO	NC
336	LADY K	LANTANA	FL
338	MAYPORT PRINCESS	MAYPORT	FL
339	GULFSTREAM	KEY LARGO	FL
340	REWARD WON	MIAMI BEACH	FL
341	MARY B III	FORT LAUDERDALE	FL
345	TEASER 2	MOUNT PLEASANT	SC
346	VONDA KAY	WRIGHTSVILLE BEACH	NC
349	MISS HATTERAS	HATTERAS	NC
352	SAILORS CHOICE	KEY LARGO	FL
353	STARSHIP	NORTH MYRTLE BEACH	SC
360	PASTIME PRINCESS	NEW SMYRNA BEACH	FL
361	NAVIGATOR	CALABASH	NC
363	CATCH MY DRIFT	FORT LAUDERDALE	FL
364	FT PIERCE LADY	FORT PIERCE	FL
366	MISS CALABASH	CALABASH	NC
368	LADY STUART I	STUART	FL
369	SAFARI IV	LITTLE RIVER	SC
370	LUCKY STRIKE	CALABASH	NC
372	OSPO	BRUNSWICK	GA
374	REEL 'EM N II	TYBEE ISLAND	GA
375	MISS SEBASTIAN	SEBASTIAN	FL
376	SEBASTIAN LADY	SEBASTIAN	FL
379	FISHER OF MEN	CALABASH	NC
380	MAJESTY	MAYPORT	FL
381	CANAVERAL STAR II	CAPE CANAVERAL	FL
383	COUNTRY GIRL	MANTEO	NC
384	STORMY PETREL II	HATTERAS	NC
385	FISH SCREAMER III	LITTLE RIVER	SC
386	GULFSTREAM IV	KEY WEST	FL
387	SUPER VOYAGER III	NORTH MYRTLE BEACH	SC
390	GAME ON	CALABASH	NC
391	LIVING ON ISLAND TIME	LAKE WORTH	FL
392	ADVENTURER	CALABASH	NC
394	QUEEN JEAN	TOPSAIL BEACH	NC
506	GREAT GETAWAY	FORT MYERS BEACH	FL
512	FLYING FISH II	SARASOTA	FL
515	MISS PASS A GRILLE	ST PETE BEACH	FL

519	FRIENDLY FISHERMAN	MADEIRA BEACH	FL
520	GULF QUEEN	CLEARWATER	FL
522	DOUBLE EAGLE II	CLEARWATER	FL
523	DOUBLE EAGLE III	CLEARWATER	FL
534	GEMINI QUEEN	PANAMA CITY BEACH	FL
535	FLORIDA QUEEN	PANAMA CITY BEACH	FL
536	STAR QUEEN	PANAMA CITY BEACH	FL
537	CAPT ANDERSON	PANAMA CITY BEACH	FL
542	NEW FLORIDA GIRL	DESTIN	FL
546	SWEET JODY	DESTIN	FL
552	AMERICAN SPIRIT	DESTIN	FL
553	ZEKE'S LADY	ORANGE BEACH	AL
555	COUGAR	VENICE	LA
560	TEXSUN II	GALVESTON	TX
561	CAVALIER	GALVESTON	TX
562	NEW BUCCANEER	GALVESTON	TX
567	SCAT CAT	PORT ARANSAS	TX
568	WHARF CAT	PORT ARANSAS	TX
570	DOLPHIN EXPRESS	PORT ARANSAS	TX
571	DOLPHIN	PORT ARANSAS	TX
572	KINGFISHER	PORT ARANSAS	TX
577	MURPHY'S LAW	SOUTH PADRE ISLAND	TX
582	TWO GEORGES	TARPON SPRINGS	FL
602	FLYING FISH	SARASOTA	FL
633	FLORIDA FISHERMAN II	MADEIRA BEACH	FL
639	SUPER QUEEN	CLEARWATER	FL
641	SOUTHERNER	GOLDEN MEADOW	LA
644	AMERICA II	ORANGE BEACH	AL
647	PELICAN	PORT ARANSAS	TX
652	CHULAMAR	GULF BREEZE	FL
653	GULF EAGLE	PORT ARANSAS	TX
660	TREASURE ISLAND	PANAMA CITY BEACH	FL
663	LA PESCA	PORT ARANSAS	TX
666	OUTCAST	PENSACOLA	FL
667	ESCAPE	DAUPHIN ISLAND	AL
673	LOUISIANA	GOLDEN MEADOW	LA
675	LADY BRETT 45	NAPLES	FL
679	MISS VIRGINIA	NEW PORT RICHEY	FL
686	DESTIN PRINCESS	DESTIN	FL
689	SEA TREK	FORT MYERS BEACH	FL
699	JUBILEE	PANAMA CITY BEACH	FL

700	SWOOP	DESTIN	FL
702	REEL SURPRISE	ORANGE BEACH	AL
703	OSPREY	SOUTH PADRE ISLAND	TX
704	OSPREY II	SOUTH PADRE ISLAND	TX
705	ANGLER'S DREAM	PLACIDA	FL
708	THUNDER	HERNANDO BEACH	FL
711	THUNDERBIRD	SOUTH PADRE ISLAND	TX
712	REEF RAIDER	ENGLEWOOD	FL
713	DESTINY	DESTIN	FL
714	CAPT JOHN	GALVESTON	TX
716	VIKING GULFSTAR	TARPON SPRINGS	FL
718	GULF WINDS II	ORANGE BEACH	AL
719	SWOOP II	DESTIN	FL
720	BLUE FIN	TARPON SPRINGS	FL
722	FISH'N XPRESS	PORT ST JOE	FL
723	EMERALD SPIRIT	ORANGE BEACH	AL
724	MISS E	ORANGE BEACH	AL
725	NORTH STAR EXPRESS	PANAMA CITY BEACH	FL
726	SKIPPER	BILOXI	MS
727	MISS HOSPITALITY	BILOXI	MS
728	SILVER DOLLAR III	BILOXI	MS
729	KEESLER DOLPHIN II	BILOXI	MS
730	HAPPY HOOKER	BILOXI	MS
731	EXPLORER	ORANGE BEACH	AL
732	BIG E	EMPIRE	LA
733	VERA MARIE	DESTIN	FL
734	FISH IN EXPRESS	FORT MYERS BEACH	FL

APPENDIX VIII. VESSEL LIST - Historical - ATLANTIC HEADBOAT SURVEY

<u>Vessel No.</u>	<u>Vessel Name</u>	<u>Area</u>	<u>Location</u>	<u>VT</u>
1	Shady Lady	1	Hatteras Village NC	1
2	Capt. Stacy	10	Morehead City NC	1
3	Capt. Stacy III	10	Morehead City NC	1
4	Deep Blue	10	Morehead City NC	1
5	Carolina Princess (NC)	10	Morehead City NC	1
6	Pirate	9	Sneads Ferry NC	1
7	Buddy's Pirate	2	Topsail Beach NC	1
8	Buccaneer	2	Topsail Beach NC	1
9	Stew Bird II	2	Carolina Beach NC	1
10	Carl Winner Queen	2	Carolina Beach NC	1
11	Cheerio II	2	Carolina Beach NC	1
12	Flying Squirrel	2	Carolina Beach NC	1
13	Pirate II	2	Carolina Beach NC	1
14	Capt. Skippy Winner	3	Wrightsville Beach NC	1
15	Skipper	2	Southport NC	1
16	Capt. Juel I	5	Little River SC	1
17	Hurricane	4	Little River SC	1
18	Gulf Queen	5	Murrell's Inlet SC ?	1
19	Flying Fisher I	4	Murrell's Inlet SC	1
20	Flying Fisher II	4	Murrell's Inlet SC	1
21	Capt. Alex	5	Murrell's Inlet SC	1
22	Rocket	4	Murrell's Inlet SC	1
23	Tom-A-Gator	4	Murrell's Inlet SC	1, 3
24	Carolina Princess (SC)	4	Little River SC	1
25	Gulf Stream II	5	Mt. Pleasant SC	1
26	Mustang II	4	Mt. Pleasant SC	1
27	Greyhound Charter	4	Charleston SC	1
28	Capt. Bill	5	Murrell's Inlet SC	1
29	Bonita	4	Murrell's Inlet SC ?	1
30	Capt. Winner IV	3/17	Car.Bch NC/Key West FL	1
31	Capt. Winner II	3	Carolina Beach NC	1
32	Helen Jean	4	Little River SC	1
33	New Rascal	4	Little River SC	1
34	Thunderbird II	5	Murrell's Inlet SC ?	1
35	Summer Song	4	Little River SC ?	1
36	Sun Gypsy	4	Murrell's Inlet SC	3, 1
37	Inlet Princess	4	Murrell's Inlet SC	1
38	New Inlet Princess	4	Murrell's Inlet SC	1
39	J-J	4	Charleston SC	1
40	Marlin II	10	Morehead City NC	3
41	Onslow Bay	9-10	Beaufort NC	2
42	Citation	6	Savannah GA	1
43	Miss Jacksonville	7	Mayport FL	1
44	Kingfisher	7	Mayport FL	1
45	Capt. Ray	7	Mayport FL	1
46	C-Critter	8	Ponce Inlet FL	1
47	Little Critter	8	Ponce Inlet FL	1
48	Marianne I	8	Ponce Inlet FL	1
49	Marianne II	8	Ponce Inlet FL	1
50	Bugs Bunny	8	Port Orange FL	1
51	Snow White II	8	Ponce Inlet FL	1

52	Snow White III	8	Ponce Inlet FL	1
53	SS Winner Queen	3	Carolina Beach NC	1
54	Super Critter	8	Ponce Inlet FL	1
55	Miss Becky	7	Mayport FL	1
56	Bon Jon	4	Little River SC	1
57	Blue Heron II (NC)	9	Snead's Ferry	1
58	Rum Runner	4	Murrell's Inlet SC	1
59	Sea Love	8	Ponce Inlet FL	1
60	M/V Happy Dolphin	8	Ponce Inlet FL	1
61	Ebb Tide	10	Morehead City NC	4
62	Blue Mist	7	Mayport FL	4
63	Miss Fort Pierce	7	Mayport FL	1
64	Windjammer	4	Murrell's Inlet SC ?	1
65	Blue Sea	7	Mayport FL	1
66	Long Bay I	4	Little River SC	3
67	Blackfish	5	Murrell's Inlet SC ?	3
68	Yellow Dot	2	Carolina Beach NC ?	4
69	Stew Bird I	2	Carolina Beach NC	4
70	Idle-On	2	Carolina Beach NC ?	4
71	Waccamaw	7	Mayport FL	1
72	Capt. Dave	7	Mayport FL	1
73	Miss Cape Canaveral	8	Port Canaveral FL	1
74	Super Blue Seas	8	Port Canaveral FL	1
75	Sea Queen	8	Port Canaveral FL ?	1
76	Capt. Jim's Bonito	4	Little River SC	1
77	Safari II	4	Little River SC	1
78	White Cap II	6	Savannah GA	1
79	Miss Savannah	6	Savannah GA	1
80	Miss Fort Pierce	11	Fort Pierce FL	1
81	Lady Stuart	11	Stuart FL	1
82	Lions Paw	3	Carolina Beach NC ?	3
83	Dan Moore	10	Morehead City NC	2
84	Mandra II	11	Pompano Beach FL	1
85	Big Ben	11	Boynton Beach FL	1
86	Shamrock	11	Riviera Beach FL	1
87	Blue Heron II	11	Riveria Beach FL	1
88	Capt. Tony's Greyhound	12	Key West FL	1
89	Sea Mist III	11	Boynton Beach FL	1
90	New Popeye	11	Miami Beach FL	1
91	Helen S VI	11	Pompano Beach FL	1
92	Blue Heron I (FL)	11	Jupiter FL	1
93	Sea Angel	11	Riveria Beach FL	1
94	B-Love III	11	Lake Worth FL	1
95	Gulf Stream II (FL)	12	Key West FL	1
96	Two Georges	11	Boynton Beach FL	1
97	Tiki	11	Miami Beach FL	1
98	Sea Breeze Jr.	11	Miami Beach FL	1
99	Blue Seas II (Miami FL)	11	Miami FL	1
100	Reward II	11	Miami Beach FL	1
101	Miss Tradewinds	12	Islamorada FL	1
102	Capt. Jack III	12	Islamorada FL	1
103	Caloosa	12	Islamorada FL	1
104	Blue Heron III	11	Riveria Beach FL	1
105	NOAA R/V Oregon II	?	Pascagoula MS	2
106	Sea Legs II	11	Hollywood FL ?	1

107	Marathon Lady III	12	Marathon FL	1
108	Can't Miss	12	Key West FL	1
109	Lady Pelican	8	Melbourne FL	1
110	Cuda V	12	Big Pine Key FL	1
111	Micky Rats	11	Hollywood FL	1
112	Helen S	11	Pompano Beach FL	1
113	New Helen S	11	Pompano Beach FL	1
114	Flamingo	11	Fort Lauderdale FL	1
115	Blue Heron IV	11	Riveria Beach FL	1
116	Capt. Bob	11	Riveria Beach FL	1
117	Barbaronelle IV	11	Lake Worth FL	1
118	Dragon	11	Fort Lauderdale FL	1
119	Missy	11	Dania FL	1
120	Marathon Lady IV	12	Marathon FL	1
121	Blue Seas IV	11	Fort Pierce FL	1
122	Sea Legs III	11	Hollywood FL	1
123	Majestic II	12	Key Largo FL	1
124	Miss Majestic	12	Key Largo FL	1
125	Catch-A-Lot II	11	Palm Beach FL	1
126	Above Average	12	Marathon FL	1
127	Capt. Bill (FL)	11	Fort Lauderdale FL	1
128	Mystery	11	Miami Beach FL	1
129	Jackpot	11	Miami Beach FL	1
130	Southern Dawn	4	Charleston SC	1
131	New Capt. Bill (SC)	5	Murrell's Inlet SC	1
132	Capt. Stacy IV	10	Atlantic Beach NC	1
133	Delray Fish House	15	Delray Beach FL	5
134	Sisco Fish House	5	Murrell's Inlet SC	5
135	Hurricane	11	Miami Beach FL	1
136	Capt. Rudy	11	Miami Beach FL	1
137	Unknown Vessels	99		
138	Country Girl	1	Hatteras Village NC	1
139	Connie D	4	Murrell's Inlet SC	1
140	Empress II	5	Mt. Pleasant SC	1
141	Capt. Winner II	12	Islamorada FL	1
142	Mucho-K	11	Miami Beach FL	1
143	Thunderstar	5	Mt. Pleasant SC	1
144	Lucky Day	11	Palm Beach FL	1
145	Blue Seas (SC)	4	Little River SC	1
146	Blue Seas V (Canaveral)	8	Port Canaveral FL	1
147	Al's Superior Fish House	15	Boynton Beach FL	5
148	Fish City Seafood House	15	Boynton Beach FL	5
149	Bay King	12	Marathon FL	1
150	Nite Owl II	12	Islamorada FL	1
151	Viking Starship	17	Key West FL	1
152	Yankee Cpts. (Tortugas)	17	Key West FL	1
153	SS Winner Queen (Fl)	17	Marathon FL	1
154	Blue Seas IV			
155	Katanga			
156	Miss Avalon II			
157	Gulf Stream III	12	Key West FL	1
158	Hurricane (SC)	4	Little River SC	1
159	Codie II			
160	Mary B III (SC)	4	Calabash NC	1
161	New Rascal II	4	Little River SC	1
162	Puffin	12	Key Colony Beach FL	1
163	Miss Lynna Way			
164	City Fish House	15	Marathon FL	5

165	Sea Love II	7	St. Augustine FL	
166	Indian	8	Ponce Inlet FL	1
167	Long Bay Seafood House	4	Murrell's Inlet SC ?	5
168	Drifter	4	Hilton Head Island SC	1
169	Blue Seas II			
170	Miss Cortez			
171	Miss Mayport	7	Mayport FL	
172	Ravin' Rodiffer	7	Fernandina Beach FL	2
173	Jo All	10	Morehead City NC	3
174	Island Queen	6	St. Mary's GA	1
175	Seascape	4	Charleston SC	1
176	Dixie Lady	6	Brunswick, GA	1
177	Fish City Pride	11	Pompano Beach FL	1
178	Bingo	12	Islamorada FL	1
179	Capt. Lady	12	Islamorada FL	1
180	Ranger V	17	Key West FL	1
181	Port Jeff Ace	11	Stuart FL	1
182	Blue Seas Cat	8	Port Canaveral FL	1
183	Early Bird	8	Ponce Inlet FL	1
184	Joy B	8	Ponce Inlet FL	1
185	Capt. Daddy			3
186	Tradewinds IV	4	Little River SC	1
187	Billy Boy	4	Little River SC	1
188	Mr. Big Man	5	Murrell's Inlet SC	3
189	Native Star	11	Hypoluxo FL	1
190	The Nags	12	Islamorada FL	4
191	Pirate II	11	Stuart FL	1
192	Touchdown	4	Little River SC	1
193	Simbar	8	Grant, FL	1
194	Reward II	11	Miami FL	1
195	Humming Coming	5	Murrell's Inlet SC	3
196	Tradewinds V	8	Cape Canaveral FL	1
197	Capt. Jim	4	Little River SC	1
198				
199	Golden Anchor	7	Mayport NAS, Jax, FL	1
200	Carolina Clipper	5	Mt. Pleasant SC	1
201	Tradewinds II	8	Sebastian FL	1
202				
203				
204	Osprey	8	Sebastian FL	1
205				
206	Try Me	11	Lantana FL	
207				
208				
209	Capt. Bligh (charterboat)	8	Ponce Inlet FL	
210	Tradewinds	7	Mayport FL	
211	Pirate III	3	Carolina Beach NC	
212	Capt. John's Greyhound	12	Key West FL	
213	Summer Sun	4	Murrell's Inlet SC	1
214	Cyclone	4	N. Myrtle Beach SC	
215	King Neptune	7	Mayport FL	
216	Botany Bay	12	Key Largo FL	1
217	Winner Speed Queen	3	Carolina Beach NC	
218	Stacy Lee II	8	Pt Canaveral/Sebastian FL	
219				
220	Lori Marie	5	Little River SC	3
221	Winner Speed Queen (FL)	17	Marathon FL -Dry Tortugas	

222	Super Critter II	8	Ponce Inlet FL	
223	Miss Sebastian	8	Sebastian FL	
224	Botany Bay	8	Cape Canaveral FL	1
225	Capt. Joseph	11	Ft. Lauderdale FL	1
226	Freedom I	8	Cape Canaveral FL	1
227	Miss Kitty	12	Key Largo FL	1
228	Swift Ship I	4	Little River SC	
229	Sea Love III	7	St. Augustine FL	
230	Golden Anchor II	7	Mayport FL (Navy Base)	
231	Yankee Freedom	17	Key West FL-Dry Tort.	
232	Pelican Princess	8	Port Canaveral FL	
233	Miss Blue Heron	11	Riviera Beach FL	
234	Sea Gwen	7	Jacksonville FL	
235	Tradewinds II	7	Fernandina Beach FL	
236	Thunderbird	5	Murrell's Inlet SC	
237	Reef Raider	8	Port Orange FL	
238	Capt. Stacy VI	9	Atlantic Beach NC	
239	Florida Fish Finder	17	Stock Island FL-Dry Tort.	
240	Capt. Juel II	4	Little River SC	
241				
242	Delta Bell	11	Ft. Pierce FL	1
243	Atlantis	11	Miami Beach FL	
244	Safari	11	Jensen Beach FL	
245	Ocean Reef	8	Ponce Inlet FL	
246				
247	Capt. Snappy	8	Port Canaveral FL	
248	Capt. Bill III	5	Murrell's Inlet FL	
249	West Wind	4	N. Myrtle Beach SC	
250	Delta Belle	8	Pt. Orange FL	
251				
252	Pirate IV	3	Carolina Beach NC	
253	Continental Shelf	10	Morehead City NC	
254	Sea Legs IV	11	Hollywood FL	
255	Thunderbolt	5	Murrell's Inlet SC	
256	Gulf Lady	12	Islamorada, FL	
257	Robert E. Lee	4	Hilton Head Island SC	
258	Winner Speed Queen	12	Marathon FL	
259	Tradewinds VII	4	Hilton Head Island SC	
260	Hurricane II	4	Calabash NC	
261	Red Snapper	4	Calabash NC	
262	Sebastian Princess	8	Sebastian FL	
263	Dragon II	11	Ft. Lauderdale FL	
264	Super Cat	8	Pt. Canaveral FL	
265	Royal Flush	8	Pt. Canaveral FL	
266	Marathon Lady	12	Marathon FL	
267	JJ II	4	Charleston SC	
268	Skipper	4	Hilton Head SC	
269	Capt. Anderson II	8	Pt. Canaveral FL	
270	Tammy Jane	4	Hilton Head SC	
271	Silver Dolphin	4	Charleston SC	
272	Starlight	12	Marathon FL	
273	Sundancer	4	Little River SC	
274	South Wind	4	North Myrtle Beach SC	
275	Little Jim	5	Calabash NC	
276	Capt. Kidd II	8	Sebastian FL	
277	Indian	8	Sebastian FL	
278	7-B's	11	Stuart FL	
279	Orlando Princess	8	Port Canaveral FL	
280	Sailor's Choice	12	Key Largo, FL	

281	Doris Maw IV	11	Ft. Pierce FL	
282	Helen S VI (Bahamas)	13	Pompano Beach FL	
283	Fish Stalker	11	Ft. Pierce FL	
284	Wind Dancer	6-7	Jekyll Island GA	
285	Ocean Obsession	8	Pt. Canaveral FL	
286	Blue Jacket	4	Charleston SC- Navy Base	
287	Point Runner	5	Murrell's Inlet SC	
288	Mary C	4	Hilton Head Island SC	
289	Party Time	5	Little River SC	
290	Atlantic Star (old privateer)	5	Mt. Pleasant SC	
291	Outer Banks (Commercial)	10	Morehead City NC	
292	Lucky Too (commercial)	12	Key West FL	
293	Holiday	11	Dania FL	
294	Bigfoot	8	Sebastian FL	
295	Atlantic Star	12	Key Largo FL	
296	Reel Intent (commercial)	11	Boynton Beach FL	
297	Bloody Mary (commercial)	5	Murrell's Inlet SC	
298	Story Teller (commercial)	7	St. Augustine FL	
299	Another #1 Deal	11	Ft. Lauderdale FL	
300	Still Crazy (comm. Vessel)	5	Murrell's Inlet	
301	Blue Heron 101	11	Riviera Beach FL	
302	Scat II	6	Tybee Island GA	
303	Neva Miss	6	Tybee Island GA	
304	Capt. Michael	12	Islamorada FL	
305	Miss Jodi	12	Islamorada FL	
306	Gulf Stream Pirate	3	Carolina Beach NC	
307	Teaser (comm. Vessel)	5	Mt. Pleasant SC	
308	Tortuga	12	Marathon FL	
309	Judith M	11	Ft. Pierce FL	
310	Lady Monica	4	Little River SC	
311	Another Reward	11	Miami FL	
312	Captain John	8	Sebastian FL	
313	Sea Inn	8	Port Canaveral FL	
314	Lady Monica	3	Long Beach NC	
315	Mega Flite	3	Holden Beach NC	
316	Mega II	3	Holden Beach NC	
317	Sailor's Choice II	12	Key Largo FL	
318	Capt. Hook	4	Hilton Head SC	
319	Double R	5	Little River SC	
320	Bluewater Bullet	4	Hilton Head SC	
321	Ocean Obsession II	8	Port Canaveral FL	
322	Angler's Obsession	8	Port Canaveral FL	
323	Gulf Stream Express	5	Murrell's Inlet SC	
324	New Billy Boy	5	Little River SC	
325	The King X-Stream	4	Charleston SC	
326	Explorer	4	John's Island SC	
327	Knot at Work	4	Sullivan's Island SC	
328	Manatee	4	Hilton Head SC	
329	Reel Escape	4	Seabrook Island SC	
330	Sea King	12	Caloosa Cove FL	
331	Buccaneer	3	Oak Island NC	
332	Bluewater Princess	3	Long Beach NC	
333	Nancy Lee III	9	Swansboro NC	
334	Nancy Lee IV	9	Swansboro, NC	
335	Nancy Lee V	9	Swansboro NC	

