

User's Guide

for the

TIP

Trip Interview Program

Version 6.0

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Trip Interview Program
Data Collection and Reporting Form Procedures
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Introduction

NOAA Fisheries has the responsibility for the stewardship of the Nation's living marine resources. To achieve this mission, it is vital that our fisheries managers are provided with the best possible information. The information consists of many different parts. Catch, effort, biological, ecological, sociological, and economic data are all important.

The Trip Interview Program (TIP) was developed by the Southeast Fisheries Science Center (SEFSC) in the 1980s as part of the State-Federal Cooperative Statistics Program. The primary focus of this shore-based sampling program is the collection of detailed commercial fishery information on the level of individual trips. The TIP mandate is to obtain representative samples from federally managed species for which age information (Biosampling) is needed for stock assessments. Biological samples include morphometric, age, reproductive, and genetic data. In addition to collecting biological data, the TIP serves as a quality assurance on catch and effort data. It validates the species composition of the landings as well as the type and quantity of gear through firsthand, trained observation. Other important information, obtained through personal interviews with the fishermen and dealers, also serves the quality assurance purpose.

The TIP is a major component of the Atlantic Coastal Cooperative Statistics Program (ACCSP) in the southeastern U.S. Atlantic coastal region and the Commercial Fisheries Information Network (COMFIN) in the U.S. Gulf of Mexico coastal region. It also collects data from Puerto Rico and the U.S. Virgin Islands.

This manual provides comprehensive instructions for TIP data collection, reporting, and submission. These standards and procedures are to be followed for all sampling that is conducted by SEFSC employees, as well as state personnel, universities, and private consulting firms that are under grants or contractual arrangements with SEFSC/NOAA Fisheries.

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Sampling Guidelines

There are many difficulties inherent in dockside sampling; nevertheless, the TIP strives to ensure that the data collected are representative of the fisheries which are surveyed. To that end, the procedures in this document are guidelines which promote the collection of data in a consistent and well-documented manner. Without a set of standard procedures for data collection and reporting, analysis of the data becomes very difficult if not impossible. Although the TIP seeks to avoid bias in the collection of data, it provides for recording of bias, real or potential, where it may occur. Such documentation is extremely important to fisheries managers.

Guidelines are provided for the following aspects of the TIP:

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A. The Goal of the TIP

The goal of the TIP is to obtain representative samples from targeted fisheries on the level of individual fishing trips. A representative sample is a sample that meets sound statistical criteria for (at minimum) describing a population. The populations are defined by fishery-gear-time-area strata. For practical reasons area is defined here by area of landing, not the fishing area. The samples collected must be representative in kind (e.g. species and size), in quantity (numbers and weight), and of fishery conditions (number of trips and vessels, gear type used). Sampling fishing trips at random within the specified strata should result in each vessel or fisherman occurring in the sample in proportion to the fishing activity.

B. Which Fisheries to Target

As stated in the previous section, the primary focus of the TIP is to collect representative fisheries-dependent data for use in stock assessments. An initial step in the data collection procedures is to identify fisheries which regularly land species that are the subject of current assessments or for which assessments are planned. In the past, TIP sampling was directed by 'Priority Fisheries' lists and sampling quotas. TIP species selection for NOAA Fisheries is no longer based on a Priority Species list. **Species sampled should be representative of the species landed in each region. Sampling priority should be given to federally managed fisheries and their associated catches.** TIP sampling in the Gulf of Mexico and South Atlantic does not target highly migratory species or shark fisheries. The federally managed fisheries that TIP focuses on include reef fish and the snapper-grouper complex, mackerels and coastal pelagics, the jacks complex, and spiny lobster (in the South Atlantic, golden crabs are also federally-managed). The primary species sampled varies by region. Samplers should contact the TIP Coordinator for updates on priority species. State partners and partners in the ACCSP and COMFIN will have their own lists of 'priority fisheries'.

C. Where to Sample

Upon request by a sampler, reports will be provided listing landings of the NOAA Fisheries, SEFSC assessment species by county and month for the most recent available data. Samplers can refer to these reports when making decisions concerning which areas to focus on.

The location where sampling takes place will vary trip by trip. In the TIP, there are typically two locations involved; the landing dock and the dealer site. Vessels will not always land at the same dock or sell to the same dealer. Also, dealers may handle landings differently from day to day. **The preferred method is to sample the catch at the initial point of offloading.** This is really the only way the samplers can be sure at the time of sampling that they are seeing the entire landings. Sometimes the dealer is this initial point. In other cases, dealer sites can be used as back-up locations only if the sampler has access to the entire landing of a particular species from the trip. It is not recommended that samples be taken from retail markets, as the fish may have gone through several purchasing transfers and may not be completely representative of the individual fishing trip.

Although it is preferred that the entire landings of all species from a trip be available for sampling, this is not always possible. Sampling may take place if the agent can be sure he/she is seeing the entire landing of the sampled species for a particular trip. **Do not take samples of any species unless**

the entire landing of that species is available. This does not apply to non-random biological sampling such as for the taking of hard-parts, gonads and tissues to fill quotas. See Chapter 2 Section *F. Selecting Fish to Measure* for guidelines on what sample sizes to take.

Any considerations which may bias or limit areas of coverage should be documented. Electronic Mail is a good medium for documenting all situations where sampling is affected. The TIP Coordinator will then make the notes available to the fisheries managers. Contact the TIP Coordinator for guidance on specific situations that are not discussed in the manual and accompanying appendices, and/or if sampling locations in your area vary greatly from those described here.

D. Trip Selection

Selected fishing trips should be commercial in nature. This means trips which are undertaken solely for the purpose of selling the catch. On occasion, samplers will be asked to fill quotas for biological samples. In these cases recreational or fishery independent data may be entered into the TIP database, but it must be properly recorded as such. Selected trips should be primarily from federally managed fisheries described in Section B of this chapter. Because trip selection is no longer based upon the priority species list, samplers should use all of the resources available to them when selecting trips to sample. This includes opportunistic sampling, routinely contacting dealers and fishermen, and IFQ notifications. While the IFQ notifications are helpful, samplers with access to them should be careful not to over-utilize this tool, i.e. trips should not be selected solely from IFQ notifications, because there are numerous other commercial species that are not regulated by IFQs. **To obtain samples representative of the regional fleets, samplers should make every effort to routinely sample from as many vessels and gear types as possible throughout their entire area and season.**

In order to select sampling sites, it is necessary to project landings in that fishery/area/time frame by vessel or dealer. This usually will be done on the basis of historical landings. At the start of the fishing season, the landings from the prior season should be used as a starting point. The rest of the time, the most recent available data will be used. NOAA Fisheries Logbook Data and state 'trip ticket' data are valuable sources of historical landings. Samplers may be provided with target guidelines by their respective agencies or through the ACCSP and the COMFIN. Timely knowledge of the sampler will often supersede historical data. The samplers are generally aware of changes in the fishery long before they are reflected in the database. In these instances, samplers should prioritize sampling as best they can. The TIP Coordinator is ready to assist in providing historical landings the sampler may need to make target adjustments. Also, samplers should routinely check for and introduce themselves to new vessels and dealers in their area.

The purview of the TIP is to obtain random, representative samples of the federally managed commercial fisheries in each region, and thus it is important that samplers do not impose bias by the selection process. Trips should be selected so they are representative of all aspects of the fishing activity in the sampler's area. That is, samplers should not continually select the same fishermen or dealers because they are more cooperative, or because they land more fish. It is recommended that samplers keep a record of the vessels and dealers they have sampled from each month, and refer to it in order to avoid over-sampling a particular vessel or dealer. It is important to obtain interviews

and samples from more trips rather than more samples from fewer trips.

There are practical problems involved with trip selection, such as time considerations and traveling distance. In most fisheries, it is difficult to schedule an intercept very far in advance. In addition, the time of landing may not coincide with the samplers' normal working hours. Samplers should try to keep a flexible schedule and document where odd landing hours become a hindrance to sampling. In order to sample at the point of landing, the sampler must remain in close contact with the selected vessel or dealer. In any case, it is required of the fishermen and dealers that they make their catch available for sampling. Try to maintain contact throughout the week with the vessels or dealers you have selected and be ready to sample if the landing time is within your schedule. Samplers with large areas should also document where traveling distance becomes a hindrance to sampling.

Samplers should be aware of other TIP samplers in their area. When sharing an area with another TIP sampler (same or different agency), all samplers should try to keep in contact with each other in order to avoid (1) over-sampling a particular vessel or dealer, (2) jointly sampling a vessel (can't have double records for a trip, only one sampler should enter the trip into TIPOL), and (3) missing trips because of the assumption that the other sampler will be there. If difficulties arise in shared sampling areas, contact your immediate supervisor or the TIP Coordinator to resolve the issues.

Samplers should also be aware of on-board fisheries observers. For fisherman interviews, ask the captain if there was an onboard observer and if the observer took samples (otoliths). If the observer took otoliths, do not sample the landings. If the observer did not take age samples, it is okay to sample the landings for TIP. For dealer samples, unless the sampler finds a fish with otoliths previously removed, the assumption is that no observer was onboard.

If there are questions regarding sampling priorities and locations, contact your immediate supervisor. Feedback on the conditions and situations at the docks and dealer locations is very useful. If fishing patterns change so that certain species are not available for sampling, or other local conditions affect your ability to meet sampling targets, that information should be documented in written correspondence to the TIP Coordinator.

E. Conducting the Interview

Having a good working relationship with the captains in your area is essential. It is important to be on good terms with not only with the captains but with the dealers and crew as well; neatness and courtesy are extremely useful skills. Be diplomatic, considerate, and patient, but firm. It is important to continually build rapport with the dealers and captains in your area.

It is usually best to attempt an interview shortly after the vessel has landed at the dock. For some people, the strategy of a casual conversation will work best, while others might benefit more from the run-through of a standard data sheet and questions. Also, it is not always necessary to conduct the full interview before sampling begins; timing of the interview will depend on the speed of the offload, availability of the catch, and availability of the captain and/or crew.

Always try to approach the captain before you begin sampling to get an estimate of the size and species diversity of the landing. This will help you in determining the best method for sampling.

Usually the dealer or processing crew will have already been in contact with the vessel and have an idea of this information as well. When interviewing the captain, ask if there was a fisheries observer onboard for the trip and if he/she took otolith samples.

F. Selecting Fish to Measure

Trip and fish selection is no longer associated with a priority species list. Because trip selection is based on the landings of federally managed commercial fisheries in each region, fish selection should also be representative of the species landed in each region. As with trip selection, the fish should be measured to provide data that are as representative as possible of the trip's landings. If fish from a trip are measured to meet biological sampling quotas such as for hard-parts, etc., and are not randomly selected, make sure that the data from this trip are clearly labeled in the TIP database as 'Quota Samples'.

Samples should be randomly selected from the entire landings for each trip interviewed to ensure that all individuals in the landing have an equal probability of being sampled. Sampling a catch randomly means you must select the next fish to be sampled without prejudice to size, color, or species. Samples should be representative in kind (e.g. species and size), in quantity (numbers and weight), and of fishery conditions (number of trips and vessels). Random selection from the entire landings should result in a sample that is relatively proportional to the species diversity and size range of the landings, thus providing a representative sample. For example, if the landings are comprised of 50% red grouper, 20% vermillion snapper, 10% red snapper, 10% other grouper and 10% porgies, the samples should be primarily red grouper (50%) followed by vermillion snapper (20%), with a few samples other grouper and porgy species, which may amount to 1 or 2 fish per each of these species.

It is possible to introduce bias into the data by not selecting the fish randomly. Bias can be introduced by not dispersing the samples taken by time, fishing location, landing location, etc. and by being selective of the individuals chosen for measurement, e.g. the tendency to pick out larger fish or the tendency to select fish from evenly from every size (resulting in a flat distribution that is not reflective of the true size distribution). Try to avoid purposive sampling and selection of fish in a manner that will introduce biases, e.g., always selecting large or small fish. Also try to avoid sampling individuals that were selected by the fishermen, as they might have a pre-conceived notion of what fish you should sample. If you do sample individuals targeted by a fisherman, dealer, or other person, make sure to mark them as non-random, targeted samples.

It is also important to randomly select individuals from the entire landing of that species in order to avoid any potential biases that may have occurred when the fish were stored onboard the vessel, e.g. the fish may be stratified by size and/or fishing locations. Sampling fish selected throughout the entire offload should allow for the sampling of multiple species, resulting in an overall sample that is representative of the species landed as well as the size and age range of these species. For landings that are sorted by size, the potential for size bias will be minimized but it is essential that samples (and sample numbers and/or weights) be obtained from all market categories in proportion to the number of fish in each category. If possible, the total number and/or weight of each sorted group should be recorded, before sampling begins, in order to sample each category in proportion to the overall landings.

It is not usually necessary to sample all of the fish from a trip. The emphasis in the TIP is on sampling more individual trips rather than taking a large number of samples from a few trips; of course, the number of trips available within a set of strata will depend on the fishery. For each trip, a maximum of 30 random age samples should be collected per species, where the random collection of fish is spaced out throughout the entire landing. In between taking age structures, samplers should also measure lengths from all randomly selected fish (regardless of species). In the case of sorted landings, samples should be randomly selected from each market size category, and the number of samples from each category should be proportional to the number of individuals in that category. For trips with small landings, where only a few age structures would be able to be collected, the priority will be to collect lengths instead of lengths and age structures.

Complete random sampling is often neither feasible nor efficient and more complex procedures such as stratified, systematic and two-stage sampling may be used. It is best to follow some simple process like selecting every fifth or tenth fish to measure in order to avoid non-representative selection. Estimate the number of fish in the landings, or sorted portion of the landings, divide by 30 and round down to obtain the order of selection. This method works best for offloads on conveyor belt systems but can be adapted for situations where all of the fish are together in one container. Another frequently used sampling process is a form of systematic cluster sampling, where the sampler randomly selects a couple of samples (1-5) from each cluster/container or from a set number of clusters/containers taken throughout the entire landings. Reference the list of example scenarios that follow for more information on sampling methods.

General Sampling Guidelines

Port samplers should aim to follow the random sampling protocol while causing minimal interference to the unloading process. It is essential to work quickly and efficiently to avoid slowing the processor's operations. When possible, return the sampled fish to the container from which they were taken. If the container has been emptied, ask the crew where the fish should go. During sampling, be aware of the weighing and sorting processes, and remember to return the fish to where you collected them. On a hot day, keep fish on ice and out of the sun. If you selected fish that were already packed or on ice, make sure to repack and re-ice them upon return.

Refer to Chapter 3 for data collection guidelines and data entry, Chapter 4 for guidelines for bioprofile sampling, and the Appendices for TIPOL codes, data sheets, and detailed examples. Samplers should contact the TIP Coordinator if they are unable to determine the proper sampling method for a scenario they faced or if they are unsure how to report/code it in TIPOL.

Sampling Guidelines for the Six Most Common Sampling Scenarios:

During the offload / at the landing site

Landings come off the vessel unsorted on a conveyor belt

Randomly select fish off the belt to sample one at a time, selecting approximately every 10th or 20th fish, depending on the speed of the offload, speed of sampling, and amount of fish in the landing. This does not imply that you are expected to count the fish as they go by (although this would be the best method if it were practical) but instead you should aim to select samples continuously and as evenly as possible throughout the entire offload. Do not focus on only one species. It is best to set up the sampling station

at a fixed point next to the belt in order to view the fish as they pass by, and to avoid roaming the length of the belt for sample selection.

Landings come off the vessel unsorted in baskets, bins or containers

Treat each container as a cluster, and select a sample of clusters (containers) by a random method or systematically (every n^{th}) to select samples from. Aim to sample from as many containers as possible throughout the entire offload. Randomly select several (1-5) fish from a container, sample them and return them to the container, then randomly select more fish from a different container to sample. Continue this throughout the offload. The number sampled from each container will vary based on the size of the landing, species diversity, speed of the offload, and speed of sampling. In this type of sampling, what should never be done is to take a single basket or tote aside and completely work it up before starting on another basket or tote.

Landings are sorted in baskets or bins as they are offloaded

Before starting to sample, the sampler should ask the captain or processing crew for a rough estimate of the number or percentage of fish in each size category. This will allow the sampler to perform a mental calculation to determine the number of fish to sample from each category. Samples should be randomly selected from each size category (from each container) in proportion to the amount landed in each category.

Partial Sorting – landings come off the vessel unsorted but some are immediately sorted

Before starting to sample, the sampler should ask the processing crew if the majority of the species landed will be sorted into size categories of left unsorted. The samples should be selected from whichever sorting method contains the majority of the landings for that species. If time permits, the sampler should try to take samples from both the sorted and unsorted landings. Depending on the sorting method, samples should be randomly selected as described in the previous examples.

After the offload, at the dealer site

Landings are unsorted in bins or vats at the dealer

Treat each container as a cluster, and randomly or systematically select a sample of clusters to select samples from. It is best to start by asking the dealer for the total pounds landed per species and count the number of containers to calculate how many samples should be selected from each container to obtain a representative sample. When selecting samples from a large vat, it is best to start at one corner or side and select samples from the top down to the bottom (but this is not always possible). Always try to select samples from all of the containers, or from as many as possible, in order to obtain a sample that is representative of the entire landings.

Landings are sorted in bins or vats at the dealer

Select samples from all categories in proportion to the number of fish in each size category. Ask the dealer for the total pounds landed per species and size category. Determine the number of containers for each size category and use the information gathered to calculate the number of samples needed per category and container for proportional sampling. Randomly select samples from each container and category. When selecting samples from a large vat, it is best to start at one corner or side and select samples from the top down to the bottom.

G. Recording the Data

Refer to Chapter 3 - Data Collection and Reporting Procedures for instructions on what data to record, how to enter the data in the TIP Online application, the federal data entry schedule, and how to cross-check data. How the data are recorded in the field is left up to the sampler to some degree. The standard TIP Field Data Sheet should be used for recording data in the field (Appendix F). However, samplers may devise their own standard forms for field use as long as they address all aspects of the interview and sampling. The TIP Data Sheets should be filed neatly away as a valuable hard-copy reference that will be used for data checking purposes. Do not throw away TIP data sheets and do not transcribe data to a clean data sheet. TIP Data Entry Forms are available in Appendix F, on the TIP website, or from the TIP Coordinator. The two primary methods for recording data in the field are TIP data entry forms, and electronic measuring boards (not standard issue). Other less common recording methods include notepads, tape recorders (not standard issue), and punch sheets (no longer standard protocol). See Appendix G for a complete list of required and optional sampling gear.

Samplers should spend some time checking their data sheets for errors at the end of every interview and/or sampling session. It is also best to record all trip information while still on site, when the information is fresh in the memory. In order to prevent data reporting errors, it is best to avoid transcribing data even if the original data sheets are messy. If transcription is necessary, a record (photocopy or original) of the field data should be stored with the transcribed data.

H. Data Confidentiality

Data collected during TIP sampling is classified as confidential and may not be released or shown to anyone other than the vessel permit holder, dealer, law enforcement officials, and holders of non-disclosure agreements. TIP samplers should not discuss the details (e.g. landing size, fishing locations, product price) of any interview with anyone other than their cross checker and supervisor, including other fishermen or dealers. TIP samplers should not release even summarized data or give outreach presentations with summarized data without contacting their supervisor for clearance to do so. If a sampler's office is located in a room that is accessed by anyone during the sampler's absence, such as cleaning staff, the TIP data sheets must be stored in locked file cabinets.

I. Safety and Sanitation

The following are some general guidelines on seafood sanitation and safety in biological sampling:

HACCP –Hazard Analysis Critical Control Point Systems: Samplers should be aware that dealers have HACCP plans which they have submitted to the FDA to ensure that their product is safe. These plans follow a basic outline but differ from dealer to dealer. Dealers may have a person designated to oversee the HACCP at their dealership. The dealer should point out the guidelines to the sampler where they exist. Samplers should observe these guidelines. **When samplers visit new sites, they should inquire what sanitation/safety guidelines the dealer requires prior to taking samples.** In the absence of more specific standards, samplers should adhere to general guidelines which follow.

Instruments: Instruments should be calibrated and maintained according to manufacturer's

specifications. Sampling instruments which contact the fish should be disinfected each day prior to taking samples and each time the sampling location changes during the day. More frequent cleaning may be necessary. Instruments need to be corrosion resistant; nevertheless, they may be treated with a rust preventative when stored. In this case, the instrument must be thoroughly washed with disinfectant soap and water to remove any traces of lubricant prior to sampling. A rusty instrument should be replaced. Tables, containers, and measuring boards provided by the sampler should be cleaned with disinfectant soap and water prior to each day's sampling and when location changes. More frequent cleaning may be necessary. Paper overlays to sampling boards such as 'punch sheets' should be cleaned or changed between locations. All instruments and contact surfaces must be rinsed to remove residue of soap or other cleaning agent prior to sampling. All water used for cleaning purposes should be from a treated source; for example, a municipal water supply system. There may be more than one source of water at a given location (ie. one may be treated, the other untreated). When in doubt, ask the dealer. Samplers should carry a source of clean water when going into situations where it may not be available (ie. at a boat ramp). Ice should be discarded after use at each location or more frequently if necessary.

Personal Hygiene: Samplers should wear outer garments suitable to the operation in a manner that protects against contamination of fish, fish contact surfaces or fish-packing materials. Samplers must maintain adequate personal cleanliness. Samplers must wash hands thoroughly (and sanitize if necessary) in an adequate hand washing facility before starting work, and after each absence from the work station. Hands should be dried with clean dry towels or other sanitary drying device. Samplers must remove all unsecured jewelry and other objects that might fall into the food or containers, and remove or cover any hand jewelry that cannot be properly sanitized. If gloves are used, they should be in an intact, clean, and sanitary condition. Gloves should be of an impermeable material. Samplers should not eat, chew gum, drink beverages, or use tobacco where the fish may be exposed or where equipment and utensils are washed. Samplers should wear a hat or head covering to keep hair out of contact with the fish.

Fish Handling: Fish should be handled in a manner so as not to decrease their market quality. Fish should be placed on surfaces or in containers, not thrown. If the fish have been on ice or in cold storage, they need to be put back there as soon as possible. This is especially true of shellfish and pelagic fish (tunas, mackerels, dolphinfish, wahoo). Fish should be replaced as they were before being selected. The dealer may want his own personnel to do this job; if not, it is up to the sampler. In general, the sampler should allow the fishermen or fish house personnel to handle the fish as they wish, as long as this does not interfere with proper sampling. When handling heavy fish, samplers should use gloves having a friction surface. For heavy fish in awkward locations (ie. at the bottom of a container), the sampler may wish to employ a device such as a snare to grab the tail so that the sampler can use adequate leverage when lifting the fish from the container. Any device such as a snare or hook should be approved by the dealer prior to use. If a fish is too heavy for the sampler, he/she should ask for assistance from fish house personnel.

Sampling Safety: Samplers should wear closed-toed shoes with adequate traction. When sampling on board a vessel or transport vehicle, samplers should enter and exit by the proper access/egress points. Samplers should always have both hands free to assist them in boarding or exiting a vessel or transport vehicle. No sampling should ever be done in a moving vehicle. When setting up a sampling station, samplers should avoid potential safety hazards such as mechanical processors, forklifts, etc. Samplers should be mindful of proper fish handling procedures such as outlined previously in order to avoid potential injury. Samplers should wear safety gloves when using a

knife. Samplers should avoid confrontations with fishermen or fish house personnel. If ordered off the sampling location, the sampler should comply and refer the matter to their supervisor. Such incidents should be well documented as they may become compliance enforcement cases. Documentation would need to be detailed enough to answer the base questions: who, what, where, and when.

J. Sampling of Non-Commercial Fisheries

Although TIP is a commercial dockside sampling program, occasionally samplers will be asked to obtain interviews and samples from non-commercial sources. Unless specifically instructed otherwise by their supervisor, samplers should always put commercial trips ahead of non-commercial trips on their agenda. When non-commercial trips are sampled in TIP, biological sampling for hard parts, gonads, and tissues should be emphasized. In areas and times where commercial fishing is light or non-existent, non-commercial trips may receive increased attention. Such trips would be charter boats, 'head' boats, private/rental boats, tournaments, and scientific survey (fishery independent). Special instructions for these are as follows.

Charter Boats: These trips fall into a 'gray' area in that many charter vessels are also permitted as commercial vessels and many charter captains and crew have licenses to sell their catch. Since the TIP defines commercial trips as undertaken solely for the purpose of selling the catch, trips where passengers were taken along for a fee are excluded. Even though the TIP considers them non-commercial, catch may be sold commercially from these trips. When charter trips are sampled where fish are sold commercially and a 'trip ticket' is filled out the samplers should obtain the information from that ticket the same as if it were a commercial trip. In any case, Vessel ID and individual license number are required. Trip landing date, MRFSS site, gear, and primary area of catch are also required.

Head Boats: A 'head' boat is a vessel where customers pay by the person. Generally these vessels have a large customer capacity relative to charter boats. There may be cases where catch is sold and a trip ticket filled out. In these cases, the sampler should obtain that information. Otherwise, vessel id, landing date, MRFSS site, gear, and primary area of catch are required.

Private/Rental: Very rarely sampled in TIP. An exception would be a sampler happening on a very unusual catch. Landing date, vessel/boat id, MRFSS site, gear, and primary area of catch are required.

Tournaments: Sampling of tournaments should be cleared in advance with the area supervisor. Often the catch will be sold by the tournament organizer. If so, the sampler should obtain the trip ticket information. Landing date, MRFSS site, gear, and primary area of catch are required.

Scientific Survey: This means fishery independent data. Vessel ID, sampling, date if done on board vessel, landing date if shore based, gear, and area of catch are required. Record each tow or trawl as a separate interview if they are sampled individually. Notify the TIP Coordinator with any questions on how to enter fishery independent data in TIP.

3

Data Collection & Reporting Procedures

This chapter provides the procedures for TIP data collection and reporting through the Trip Interview Program's online application (TIPOL), which can be accessed at: <http://www.sefsc.noaa.gov/tip/>. All TIP samplers should thoroughly read this chapter before entering data in TIPOL. A detailed demonstration, with screen-shots, of how to use the TIPOL can be found at: http://www.sefsc.noaa.gov/Viewlets/Tiponline_Data_Entry_Viewlets.html. This chapter is divided into seven sections: one for general TIPOL instructions, one for each entry page in TIPOL, and one outlining the data entry schedule and cross-checking instructions for federal samplers. Each section contains definitions for all categories on each TIPOL page in their order of occurrence. The definitions can also be accessed through TIPOL's Help function menu (Help button is located at the top of every TIPOL page) and by clicking on each heading in TIPOL.

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A. General Instructions for Entering Data in TIPOL

The TIPOL Application can be reached via the Southeast Fisheries Science Center's webpage: <http://www.sefsc.noaa.gov/> in the Fisheries Data section. Information describing the Trip Interview Program can be found at: <http://www.sefsc.noaa.gov/interview/>. Clicking on 'TIP online Web Application' near the bottom of the TIP page will direct your browser to TIPOL. If you receive a security warning, click 'continue to this website'. The direct link for TIPOL is: <http://www.sefsc.noaa.gov/tip/>.

Internet Browser Compatibility

TIPOL requires Microsoft Internet Explorer 5.0 or higher or other compatible browsers that support JavaScript and cookies. TIPOL is not fully compatible with Google Chrome. Using older browsers or disabling JavaScript and cookies may prevent the system from working properly. If you use a Popup Blocker you will need to configure it to allow popups for this website because the help menu and selection menus function via pop-ups.

When accessing TIPOL using Microsoft Internet Explorer 10 or higher, compatibility mode must be turned on. To turn on compatibility mode in Microsoft Internet Explorer 10 select 'Compatibility View Settings' in the Tools menu, type noaa.gov in the box for 'Add this website', then select 'Add' and 'Close'.

TIPOL Menu

The TIPOL Menu bar at the top of the application includes 6 options: home, data entry, export, tools, help, and logout.

Once logged in, clicking on the 'Data Entry' button at the top of the application will open the initial screen of the data entry system. From this screen you may enter new interviews as well as retrieve previous interviews to review and edit. In most cases, users will have access to only their interviews and the interviews of their data checking partner. Data managers may access the interviews for their areas of responsibility. Interview records will be given program-generated record numbers in the order of entry and itemized in the left hand column of the list. Information identifying the interview is included in the list to aid selection. The right hand column of the list shows the status of the interview. To select an interview, click on its record number.

The Data Entry screen lists the sampler's previous interviews, starting with the most recent record. To retrieve previous interviews, use the left and right arrows at the bottom of the list of interviews to scroll by record number, or enter criteria and select the 'Search' button to filter the data. To aid in the search for previous interviews the filters include fields for Agency, Agent, Status, Checked, Interview Date, Interview Number, Vessel Name, Landing State (the state in which the product first passes from water to land), Sample State, Tag Number, and Vessel Number. Use any combination of these when searching for an interview. The 'Clear' button removes the entered search criteria from the screen; however, after selecting the 'Clear' button, select the 'Search' button to retrieve all interviews or enter new search criteria then select 'Search'. To select an interview, click on the record number in the left hand column or select 'Open' in the right hand column.

Selecting the 'Export' button at the top of the application will open the initial screen of the data exporting system. From this screen you may enter search criteria to search for particular interviews and export the data records for printing or saving. For more detailed information on exporting data

from TIPOL see Appendix J.

Selecting the 'Tools' button at the top of the application will open the initial screen for searching the TIP Code Tables. The first selection criterion is the Table. The primary use of the tools menu is to select the 'USER_PROFILE' table, which allows the sampler to edit his/her personal preferences, such as user password and defaults. See Appendix L for detailed information on setting defaults.

Selecting the 'Help' button at the top of the application will bring up the help menu in a pop-up window. The Help Menu includes information regarding support personnel, data entry, and exporting data. The data entry section of the help menu includes further details about each data entry field and category.

Creating an Interview in TIPOL

First, select the 'Data Entry' button at the top of the application. To start a new record either click on 'New Interview' or click on the  button. All of the forms open in 'Insert' mode, simply fill in the form and click save or insert to proceed to the next form. The 5 forms available for each TIPOL entry are: Interview, Effort, Landing, Sample, and Observation. To create new records on the Effort, Landing, and Sample pages, select the  button, enter all of the relevant information, then select 'Insert'; repeating these steps for each new record. To create new records on the Observation page, select 'Add', fill in all of the relevant information for each observation, and select 'Insert' to save the observations.

Saving and Validating an Interview

To save your interview data, select 'Insert.' Only select 'Insert' once; the system may take some time to load, be patient. When the Interview Page is saved, it will generate an Interview Record Number. Pressing 'Cancel' prior to 'Insert' will delete the interview.

If you need to stop entering data after you have inserted and saved the interview, but before data entry is complete, you may select 'Save' OR 'Cancel.' This will set the interview status to 'Pending'. The interview will then be accessible from the data entry home page for further entry and validation later. To edit existing data, click on the record number (usually underlined) and the data will be moved into the edit fields.

Once you have completed entering the data for the entire interview, select 'Validate.' You may also validate the data at any point once the initial page is entered. However, the application expects to see Landings data and Effort data if the Interview indicated they were present. So, entry must continue in those sections to get a 'Valid' status. Otherwise, the interview has an 'Invalid' status. If no validation is attempted, the status will be 'Pending.'

When data entry status is invalid, edit the entry to identify and correct the problem. After correcting the problem, select 'Validate' to re-validate the entry. If the status is invalid because of an unknown dealer, vessel, or license number, report the new information to the TIP Coordinator. Once you receive confirmation that the new information is in the TIP system, edit the TIPOL entry with the correct information and re-validate the entry.

Tips and Shortcuts for Data Entry

Do not use your browser's back button to access previous entries in TIPOL; instead use the scroll buttons for navigation between lists, the tab headers for navigation between data entry tabs/pages, and the menu buttons at the top of every page. Use the tab or arrow keys to advance the cursor to the next entry box. Pressing the tab key will advance the cursor to the next field, while pressing the Shift and Tab keys at the same time will move the cursor back to the previous field. Do not use the enter key, this will insert and save your record. The navigation tabs show a number representing the entries for that tab.

Selecting the title for each data entry field will bring up the help menu (including the definition and options) for that particular field. Data fields that have an entry in the help menu will appear blue when the cursor is placed over them.

Some fields use a list that users can select values from. Depending on its size, a list will be presented as a pop-up window when clicking on either of these two buttons:  or a drop-down menu when selecting the down arrow: . In all drop-down menus, typing the first letter of the variable or field descriptor will select it. For example, in the Landing type field, typing in 'C' selects 'Complete Landings'. Typing the letter a second time will bring up other options that start with the same letter. All pop-up windows show lists of 50 records; however the maximum number of records shown can be changed to 20, 100, 250, or 500. The  next to the data entry field shows all values for that field. The  next to the data entry field will show a list of values that have recently been used by the sampler. If the records in a table exceed scroll capacity, use the Find filter on the top of the pop-up window to locate the record. Enclose the typed portion of the record with percent symbols (%), which work like a wild card. When the 'Find' button is clicked, all records having the enclosed typed characters will be selected. For example: searching %hog% in the species list on the landing, sample and observation pages will return: hogfish, hogchocker, mahogany snapper, quahog, red hogfish, and Spanish hogfish.

Dates can be entered in YYYY-MM-DD format or selected from a calendar pop-up. The pop-up will display the current calendar month. At the top of the pop-up are a left and right arrow which can be used to scroll the calendar from month to month and two drop-down menu fields which identify the month and year displayed. Click on the drop-down arrows  to the right of each field to display menus of months and years from which the desired calendar month may be selected. This is useful when searching for historical interviews.

Several fields in TIPOL have pre-set defaults. These options can be changed and selected individually. See Appendix L for more information, and then contact the TIP Coordinator if you have any more questions.

There are speed keys to assist data entry by skipping from one field to another (not necessarily in order). If a field has a speed-key, it is identified by a number to the left of the field heading. Pressing the ALT key and the number moves the cursor directly to that field. For example, on the Interview Page ALT-6 advances the cursor directly to the Time of Data Collection field. For a complete list of the speed keys for each page see the table below.

Interview Page		Effort Page		Landing Page	
ALT 0	Interview Date	ALT 0	Gear	ALT 0	Gear
ALT 1	Fishing Mode	ALT 1	Quantity	ALT 1	Region
ALT 2	Landing State	ALT 2	Usage/Frequency	ALT 2	Area
ALT 3	Sampling State	ALT 3	Size	ALT 3	Market Species
ALT 4	Number of Vessels	ALT 4	Gear Average Info	ALT 4	Size
ALT 5	Crew	ALT 5	Number Set	ALT 5	Grade
ALT 6	Time of Data Collection	ALT 6	Total Line Length	ALT 6	Quantity
ALT 7	License Agency	ALT 7	Average Miles per Set	ALT 7	Weight
ALT 8	Trip Ticket Agency	ALT 8	Soak Time	ALT 8	Unit
ALT 9	Comments	ALT 9	Region	ALT 9	Condition
		ALT A	Area	ALT M	Minimum Market Count
		ALT Q	Quadrant	ALT X	Maximum Market Count
	All Pages	ALT T	10 min		
ALT I	Insert	ALT L	Latitude Degree		
ALT C	Cancel	ALT D	Distance to Shore		
ALT N	Finish	ALT M	Min or Avg Depth		
ALT S	Save	ALT X	Maximum Depth		
Sample Page		Sample Page		Observation Page	
ALT 0	Landing	ALT 8	Unit	ALT L	opens the Length Information pop-up
ALT 1	Species	ALT 9	Count/Qty		
ALT 2	Size	ALT R	Random Sample	ALT T	opens the Tag Info pop-up window
ALT 3	Grade	ALT W	Sub-sample Weight		
ALT 4	Sample Method	ALT U	Sub-sample Unit		
ALT 5	Full Catch	ALT K	Sub-sample Condition		
ALT 6	Condition	ALT B	Random Sub-Sample		
ALT 7	Weight				

The Effort, Landing, and Sample pages all have a 'Hide' button located in the menu at the top and bottom of the screen next to the Insert, Cancel, and Validation buttons. Selecting the Hide button will hide the edit table from view. The edit table lists all of the records for that page and the Hide button can be useful when the list of records in that table is long and more space is needed on the screen for data entry. Once the edit table is hidden, the Hide button will be replaced with the 'Show' button. Selecting the Show button will reveal the edit table again.

When entering tag numbers for observations it is possible to autofill the tag numbers. Enter the first tag number then press the Shift and + buttons on the keyboard at the same time to autofill the tag numbers. Continuing to hold them both will autofill all of the rows with sequential tag numbers. Holding just the Shift button and pressing the + button once will only autofill the tag number for the next row.

On the observation page, after selecting the species, hovering the cursor over the length entry box will display the length type (ex: fork) and length unit (ex: mm).

Technical Difficulties

If you experience technical difficulties with the TIPOL, wait 30 minutes and then re-try before reporting the problem to the TIP Coordinator or Database Administrator because some problems are related to the server and will work again in 15 to 20 minutes. Use the windows screen shot function to capture error messages when reporting problems.

B. Interview & Trip Information

This section provides elements of the interview such as date, vessel identification, state, county, and dealer codes which can be essential in linking to the catch/effort databases. It serves internal quality control purposes by identifying the agent, showing the time spent conducting the interview, and tracking the type of fishery within area-time strata so that percentage of target reached can be determined. It indicates possible bias in the interview and provides some general effort information.

Data fields identified by headings in red text are required while those in black text are optional, but strongly recommended. Samplers should handle each data entry field as if it is required. Always report as much information as possible for each trip interviewed. If a sampler knows information that is not required but has a field in TIPOL, he/she should report the information.

INTERVIEW INFORMATION

0) Agency

The Agency collecting the interview is entered using the drop-down menu. For most samplers, there should only be one agency to select; the agency you work for will be the default.

Interview Date

This field indicates the date that the interview and sampling was completed. The date can be directly entered in **YYYY-MM-DD** format or selected from a calendar pop-up. The pop-up will display the current calendar month. At the top of the pop-up are left and right arrows, which can be used to scroll the calendar from month to month. Two drop-down menus at the top of the window identify the month and year. Once the correct month is displayed, click on the day of the interview. The interview date cannot be earlier than the trip's start date.

1) Fishing Mode

The Fishing Mode is the type of fishing activity for the trip being interviewed. Commercial Fishing is the primary mode interviewed by TIP samplers; however, useful biological data may be obtained from other modes. The purpose of this information is to indicate whether the data were collected from a source other than commercial fishing. The codes that are to be used are in the following table. Note, only one code can be selected.

0	UNKNOWN	Fishing mode unknown.
1	COMMERCIAL	Sole purpose of fishing is to sell the catch.
2	PARTY / CHARTER	Fishing vessel rented for a finite period of time, and at least one of the activities on board is recreational fishing.
3	HEADBOAT	Vessel engaged in recreational fishing, in which individuals pay by the person for the opportunity to fish off the vessel.
4	PRIVATE RECREATIONAL	Fishing vessel owned by a member of the fishing party engaged in recreational fishing. Usually the fishing party is smaller than the charter or head boat party.
5	TOURNAMENT	At an organized recreational fishing competition with prizes or trophies.
6	SCIENTIFIC SURVEY	Data obtained as a result of scientific cruises. These cruises usually collect data with the purpose of studying one particular species or fishery. This is fishery independent data.

Information Source

Choose one of the following codes to indicate the source of the sampling information. The purpose of this field is to indicate the source of the trip's effort and landings data. Landings and effort information can be obtained later in most cases, since the sampler should have the vessel id number and the landing date. Effort data can be obtained by phone interview if necessary. If the landings and/or effort information is obtained after data entry occurs, samplers will need to update this field when they add that information to their interviews. Only one code can be selected. See 'Example Scenarios' on the following page for more information. Contact the TIP Coordinator for guidance on specific situations not included in this manual. Refer to Chapter 2 Sections C and D for guidance on preferred sampling locations and information sources.

1	SALES RECORD	Commercial dealer trip ticket(s) or other sales records were used to collect the landings and effort portions of the TIP interview.
2	LOGBOOK	A NOAA Fisheries Logbook report was used to collect the landings and effort portions of the TIP interview.
3	SITE SAMPLING	No interview (no effort data) and no landings data; or the trip was non-commercial.
4	SALES, INTERVIEW	Sampler obtained landings data from the dealer's records and interviewed the fisherman for effort information; or interviewed the dealer for effort information and believes this information accurately reflects the fishermen's effort information.
5	OBSERVER DATA	Sampler collected landings and effort data from observer records.
7	SALES, OBSERVER	Sampler collected landings data from dealer records and effort data from observer records.
8	INTERVIEW ONLY	Interview and effort data, but no landings data. Sampler interviewed captain for effort data, but landings records were not available.
9	SALES, LOGBOOK	Sampler collected landings data from dealer records and effort data from the NOAA Fisheries Logbook.
10	LOGBOOK, INTERVIEW	Sampler collected landings data from the NOAA Fisheries Logbook and effort data from the fisherman interview.

Interview Type

The purpose of this field is to identify the person or persons interviewed for the trip and the source of the samples (single or multiple trips). The following codes are to be used to specify the type of interview. See 'Example Scenarios' on the following page for more information. Contact the TIP Coordinator for guidance on specific situations not included in this manual. Refer to Chapter 2 Sections C and D for guidance on preferred sampling locations and information sources.

- | | | |
|---|---------------------|--|
| 1 | FISHERMAN
SAMPLE | If some or all of the catch and effort information for the interview were provided by captain, crew, or their logbook. The interview and samples are representative of one trip. Typically the interview and sampling take place during the initial offload; but this also includes when the fisherman was interviewed by phone after the offload and sampling occurred. |
| 2 | DEALER
SAMPLE | Sampling occurred at the dealer or processor's location, usually after the original time of offload. The samples are representative of one trip. The captain and crew were not interviewed; ALL of the trip information came from the dealer or processor; OR if no such information was provided. |
| 3 | TRIP SURVEY | The information is summarized data from multiple trips rather than a record of one trip. Sampling occurred after trips were offloaded; samples were taken from a container(s) in which the landings of multiple trips/vessels were combined. |
| 4 | ANGLER TRIP | Used in cases where vessel has more than one licensed fisherman and the catch is split and sold under two or more licenses and the sampler interviews and samples catch from each fisherman separately. |
| 5 | OBSERVER
TRIP | If the interview information were provided as a result of being an on-board observer or from an on-board observer. |

Example Scenarios with Information Source and Interview Type Codes

Samplers should give preference to sampling single trips where they can interview the fisherman and record landings weights from the dealer's records. This scenario is coded as an *Information Source* of SALES, INTERVIEW and an *Interview Type* of FISHERMAN SAMPLE. Contact the TIP Coordinator for guidance on specific situations not included in this manual.

Common Sampling Scenarios:

FISHERMAN SAMPLE

Sampler interviews the fisherman and samples the landings as they are offloaded.

1. Sampler records landing weights from the trip ticket or sales record. SALES, INTERVIEW
2. Sampler records landing weights from the fisherman's Logbook. LOGBOOK, INTERVIEW
3. Sampler is unable to obtain landings records. INTERVIEW ONLY

DEALER SAMPLE

1. Sampler does not interview the fisherman but is able to sample the landings as they are offloaded.

- A. Sampler records landings weights from the trip ticket or dealer record. SALES RECORD
- B. No landings records are available. SITE SAMPLING

2. Sampler does not interview the fisherman and is not present when landings are offloaded; samples are taken at the dealer location.

- A. Sampler records landings weights from the trip ticket or dealer record. SALES RECORD
- B. No landings records are available. SITE SAMPLING

Less-Common Sampling Scenarios:**FISHERMAN SAMPLE**

1. Sampler interviews the fisherman and samples the landings as they are offloaded. The fisherman tells the sampler that not all of the catch is being landed and sold to this one dealer.
 - A. Sampler records landing weights from the dealer's record. SALES, INTERVIEW
 - B. No landings records are available. INTERVIEW ONLY
2. Sampler samples the landings at the dealer location after the fish have been offloaded. Sampler follows up with the fisherman (by phone call) the next day to conduct the interview.
 - A. Sampler records landing weights from the dealer's record. SALES, INTERVIEW
 - B. Sampler is unable to obtain landings records. INTERVIEW ONLY
3. Sampler does not interview the captain or fisherman while at the offloading location, but is able to sample the landings as they are offloaded. Sampler follows up with the fisherman (by phone call) to conduct the interview.
 - A. Sampler records landing weights from the dealer's record. SALES, INTERVIEW
 - B. Sampler is unable to obtain landings records. INTERVIEW ONLY
4. Sampler interviews captain for effort information but is unable to sample the landings.
 - A. Sampler records landing weights from the dealer's record. SALES, INTERVIEW
 - B. Sampler is unable to obtain landings records. INTERVIEW ONLY
5. Sampler samples the landings as they are offloaded. The fisherman gives the sampler the logbook to copy effort and landings data from. LOGBOOK
6. Sampler samples the landings as they are offloaded. The sampler copies effort information from the logbook and landings information from the dealer's sales record. SALES, LOGBOOK

DEALER SAMPLE

1. Sampler does not interview the fisherman and is not present when the landings are offloaded; samples are taken at the dealer location. The dealer spoke with the captain and verbally provides the effort information as well as a written copy of the landing records. SALES, INTERVIEW

TRIP SURVEY

No single trips are available to sample or the sampler is unable to sample the fish from each trip individually before the landings are combined. Samples are taken from a container in which landings have been combined together from more than one trip (by the same fishermen/vessel or by multiple fishermen/vessels).

1. Sampler does not interview the fishermen. Sampler records aggregate landing weight from dealer's records. SALES RECORD
2. Sampler does not interview the fishermen. Sampler is unable to obtain an aggregate landing weight. SITE SAMPLING
3. Sampler interviews the fishermen from all of the trips for effort information, entering separate effort entries for each in TIPOL. Sampler records aggregate landing weight from dealer's records. SALES, INTERVIEW

For all Trip Survey situations, the sampler must report the number of vessels and number of trips in the designated fields on the TIPOL interview page, as well as record 'multiple vessels' in the comments sections on both the interview and landings pages. If the number of vessels and/or trips is unknown, leave these fields blank (do Not enter 0) and make a note in the comments section. The vessel identification numbers, individual license numbers, and trip ticket numbers (if available) should be listed in the interview comments section. Once multiple vessels are entered, the vessel information and trip ticket information can only be recorded in the comments section. If available, the number of crew should be reported as a summation or total number of crew from all vessels and trips. If the number of crew from all vessels and trips is unknown, leave this field

blank. The Trip Dates field should be left blank (unless all trips started and ended on the same dates). If available, this information can be reported in the comments section. The Days Out and Days Fished should also be reported as a summation or total number of days combined from all vessels and trips. On the Landings Page, record the aggregate landing weights for each species (i.e. add the total landing weight from all vessels for each species); if no landing weights are available, leave the weight field blank.

LANDING AREA

It is important to know the location where fish are initially landed, which may be a different area than the one where sampling actually occurs. There are three fields involved: the NMFS state code, the NMFS county code, and the FIPS (Federal Information Processing System) place code.

2) State

The Landing State is defined as the state in which the product first passes from water to land. This may be a different state than the one sampling actually occurs in. Enter the landing state as the state's two letter abbreviation or select from a pop-up table.

County

The County of Landing is the county where the product first passes from water to land. Enter the county of landing as a 3 digit FIPS (Federal Information Processing System) code. The code may be selected from a pop-up table in a manner similar to that previously described. Due to the number of rows in this table, the <Find> feature will almost always need to be used here. The county code is state dependent. Make sure that the county is within the state of landing as some county names will duplicate. The landing area county may also be entered using the customized user list by clicking on the  icon to the right of the main pop-up button. This list will contain all landing counties previously entered by the user. This reduces the amount of scrolling needed to find a familiar county. If the county is not in the customized user list, the main pop-up list will have to be used.

Place Code

Enter the Place of Landing as a FIPS code (or USGS place code for PR and USVI). Place codes are state and county dependent, 5 digit FIPS codes. Use the place code that is most descriptive of the location; for example, within the City of Miami, there is the generic county-wide code for Miami-Dade 99086 and a city-wide Miami code 45000 but there are more specific location codes for each neighborhood or census-designated place such as 36300 for Key Biscayne and 40820 for Little Havana. Use the pop-up table and the <Find> feature to enter the code if the place code is not known. Make sure the place of landing is within the county of landing selected as some place names will duplicate. The landing area place may also be entered using the customized user list by clicking on the icon to the right of the main pop-up button as described above.

SAMPLING AREA

The SAMPLING AREA fields provide information regarding the location of sampling activity. There are four fields involved: the state code, the NMFS county code, the FIPS place code, and the

dealer code where the sampling was performed. NOTE: Sampling area is defaulted from landing area. Please change the defaulted data where sampling area differs from landing area. You may use the custom lists here as well for familiar locations.

3) State

The Sampling State is the state in which the sampling actually occurred. It may be a different state than the landing state described above. Enter the sampling state as the state's two letter abbreviation or select from a pop-up table.

County

The Sampling County is the county where the sampling occurred. Enter the county of landing as a 3 digit FIPS (Federal Information Processing System) code. The code may be selected from a pop-up table in a manner similar to that previously described. The county code is state dependent. Make sure that the county is within the sampling state as some county names will duplicate.

Place Code

Enter the Place Code where sampling occurred as a 5 digit FIPS code (or USGS place code for PR and USVI). Place codes are state and county dependent. Use the place code that is most descriptive of the location; for example, within the City of Miami, there is the generic county-wide code for Miami-Dade 99086 and a city-wide Miami code 45000 but there are more specific location codes for each neighborhood or census-designated place such as 36300 for Key Biscayne and 40820 for Little Havana. Use the pop-up table and the <Find> feature to enter the code if the place code is not known. Make sure the place of landing is within the county of landing selected as some place names will duplicate.

Dealer

Enter the identification code for the dealer where sampling occurred. This is typically the purchasing dealer, where the catch was first landed and sold. However, the dealer where sampling occurred may not always be the same as the original purchasing dealer. For example, if the catch was sold to multiple dealers and sampling occurred only at the second dealer, enter the dealer code for the second dealer in the sampling location dealer field and report the dealer code for the first dealer in the comments section.

Dealer codes are state dependent and may be county dependent in some cases. Make sure to enter the appropriate code within the state and county of sampling. The codes are standardized to ACCSP/FIN format. Use the pop-up table and the Find feature to enter the code if the dealer code is not known.

NOTE: If the dealer is not listed in the pop-up table, email the dealer's information to the TIP Coordinator for entry into the database. Once the sampler receives confirmation from the TIP Coordinator, the sampler must go back into that interview in TIPOL to update the dealer code and validate the interview.

NOTE: If a dealer is making purchases from initial landings and writing trip tickets in a county other than the county where that dealer is physically located (i.e. making purchases via a truck), contact the TIP Coordinator to get that dealer added into TIP for the county where the truck purchases are occurring.

TRIP INFORMATION

The Trip Information section provides information identifying the number of vessels and trips that were sampled, as well as the status of the landings and effort information reported.

4) Number of Vessels

Ideally samples should come from a single trip; however, there may be cases where a sampler will obtain samples from inseparable landings by multiple vessels. The field is included for this reason. If the number of vessels is unknown, leave this field blank, do not enter zero.

Trip Number

Ideally samples should come from a single trip; however, there may be cases when the catch is combined from multiple trips by a single vessel. In this case, enter the number of trips which make up the catch. There may also be cases when the catch is combined from multiple vessels. In this case, enter the number of trips which make up the catch. This number will be equal to or greater than the number of vessels. If the number of trips is unknown, leave this field blank, do not enter zero.

Landing Type

The Landing Type indicates whether or not the landings information is complete for this fishing trip. Once again, landings information can often be obtained after the interview has taken place. This field will need to be updated when landings data is added to the interview. Unless the sampler is told by the fisherman that the catch is being sold to multiple dealers, it is assumed that the landings information provided by the dealer is complete. For detailed information on reporting the Landing Type for trips where the landings were sold to multiple dealers, see Appendix I. The sampler is to select one of these types from the drop-down menu:

- | | | |
|---|------------------------|---|
| 1 | COMPLETE
LANDINGS | Landing weights were recorded for all species landed, i.e. the information on the Landing page is complete. |
| 2 | INCOMPLETE
LANDINGS | Sampler does not have a record of total weights for <u>all</u> species landed, i.e. the information on the Landing page is incomplete. This includes interviews where the fisherman did not sell the entire catch to one dealer and the sampler only received landings information for part of the catch. This does not include commercial catch that was kept for personal use, i.e. not sold. |
| 3 | NO LANDINGS
RECORD | Use where no landings report was filled out (recreational and scientific trips) or when unable to obtain landings records (site sampling, interview only). |
| 4 | NO FISH LANDED | Fishermen were interviewed for effort information but no fish were landed. |

Effort Data Collected

The Effort Data Collected checkbox indicates whether any effort information was collected. When the box is checked it allows entry of data in the effort section.

5) Crew

The Crew indicates the total number of fishermen on the vessel including the captain. Count the fishing passengers as crew for non-commercial trips.

Bias Type

This field is no longer used.

Termination

Specify the reason the fishing trip ended. The following are the valid codes for this field. Please choose only one.

0	UNKNOWN	Reason for return unknown.
1	NORMAL	Normal return to port.
2	WEATHER	Weather caused return to port.
3	EQUIPMENT FAILURE	Equipment failure caused return to port.
4	NO FISH AVAILABLE	Lack of catch caused return to port.
5	PREDATOR DAMAGE	Predators (i.e. sharks) in area prohibited fishing.
6	WEIGH IN OR END OF SEASON	When it is necessary to return to dock for the season closure or at the end of a tournament.
7	OUT OF BAIT	Lack of bait caused return to port.
8	TRIP OR BAG LIMIT REACHED	When trip limits, bag limits, or quota limits have been reached.
9	OUT OF ICE	Lack of ice caused return to port.
10	EMERGENCY OR HEALTH ISSUE	Returned to port because of health emergency, including injuries and illnesses to any crew member, on-shore family emergency, or personnel issues.
11	OTHER – SEE COMMENTS	Termination reason not in the preset list. Record the reason for termination in the Comments section.

TIME OF DATA COLLECTION

Use this field to record the sampling period or the time required to complete the trip interview and sampling, from beginning to end. This is the time period that the sampler had access to the fish and was actively sampling, not the time spent waiting for the vessel or dock crew to begin unloading, or time spent setting up and cleaning equipment. If more than one interview is obtained on the same day at the same site and sampling time cannot be easily allocated between interviews, divide the total time equally between the interviews. Format for the Begin and End times is military time, the two-digit hour in the first box and two digit minute in the second box. The data entry screen shows 'up to' a two digit minute, but single digits where that is applicable (e.g. 7 instead of 07).

6) Begin

The Time of Data Collection – Begin is used to record the time when the trip sampling began. The time should be recorded in military time with the format: two digit hour 0 to 23 in the first box and the two digit minute 0 to 59 in the second box. The data entry screen shows ‘up to’ a two digit minute, but single digits where that is applicable (e.g. 7 instead of 07). This field is required.

End

The Time of Data Collection – End is used to record the time when the trip sampling was completed. The time should be recorded in military time with the format: two digit hour 0 to 23 in the first box and the two digit minute 0 to 59 in the second box. The data entry screen shows ‘up to’ a two digit minute, but single digits where that is applicable (e.g. 7 instead of 07). This field is required.

TRIP DATES

Start

The Trip Date - Start indicates the date when the vessel left the dock. The date can be entered directly in **YYYY-MM-DD** format or selected from the pop-up calendar. This date will be automatically populated with the interview date once the time of data collection is entered. Please change the defaulted date when the trip's start date differs from interview date. If the samples came from multiple trips or vessels, leave this field blank.

Unload (End)

The Trip Date - Unload indicates the date when the vessel off-loaded. If the vessel unloaded multiple times or at multiple dealers, report the date of the first unload. The date can be entered directly in **YYYY-MM-DD** format or selected from the pop-up calendar. This date will be automatically populated with the interview date once the time of data collection is entered. Please change the defaulted date when the trip's start date differs from interview date. If the samples came from multiple trips or vessels, leave this field blank.

Days Out

Days Out is the number of days that the vessel was away from the dock/port. Count the number of calendar days from the day of departure to the day of return. The day of return may or may not be the same as the day of unloading. If the return date is earlier than the offload date, do not include days at the dock in the field Days Out as this has already been accounted for in the trip dates. Round up to the whole day (8 hrs = 1 day, 30 hrs = 2 days, 4 ¾ days = 5 days). If samples come from the landings of combined trips, report the total number of days out (summation of all trips).

Days Fished

Days Fished indicates on how many days the vessel was actively engaged in fishing. This is counted in calendar days and is different from soak time (the amount of time the gear was in the water, which is recorded in the effort section). Round up to the whole day (8 hrs = 1 day, 30 hrs = 2 days, 4 ¾ days = 5 days). If samples come from the landings of combined trips, report the total number of days fished as a summation of all the trips. For reference, see the gear-specific examples below.

Gear-Specific Example Calculations for Days Out and Days Fished

1. **Crab or Lobster Traps**
A vessel sets 100 traps and then comes back 10 days later and hauls all 100 traps before returning to port the same day. They left the dock around 8 am, it took 6 hours to haul the traps, and returning at 4pm to offload. Total Soak Time = 240 hrs. Days Fished indicates the time it took to haul in the traps. Days Out = 1 Days Fished = 1
2. **Fish Traps/Pots**
A vessel is away from the dock for about 10 hours, with a transit time of about 2 hours. They fished for 2 sets of 28 fish pots with an average of about 2 hours per set. Soak Time = 4 hours. Days Out = 1 Days Fished = 1
3. **Bandit Reel**
A bandit reel vessel went fishing for 4 days, offloading on the evening of the fourth day. On average, they fished about 7 hours each day with 6 reels. Total Soak Time = 28 hours. Days Out = 4 Days Fished = 4
4. **Bandit Reel Example 2**
A bandit reel vessel fished for 2 ½ days with 2 reels. The captain says that they fished for 14 hours the first day, 8 hours the second day, and 6 hours the third day. Total Soak Time = 28 hrs. Days Out = 3 Days Fished = 3
5. **Longline**
A longline vessel was away from the dock for 8 days. Total transit time was about 1 day. They fished for 7 days with about 3 sets per day, and an average soak time of 4 hours per set. Total Soak Time = 84 hrs. Days Out = 8 Days Fished = 7
6. **Longline Example 2**
A long line vessel left the dock Sunday afternoon and returned Thursday night. They fished on Monday through Thursday, completing a total of 16 sets, with an average soak time of 3 hours per set. Total Soak Time = 48 hours. Days Out = 5 Days Fished = 4
7. **Hook & Line**
A hook and line vessel fished for 1 day with 5 rod and reels for about 8 hours, returning the next morning to offload. Total Soak Time = 8 hours. Days Out = 1 Days Fished = 1
8. **Hook & Line Example 2**
A hook and line vessel fished for 2 days, landing their catch on the morning of the third day. They fished with 6 rod and reels for about 6 hours the first day and 12 hours the second day. Soak Time = 18 hours. Days Out = 3 Days Fished = 2
9. **Trolling**
A vessel trolling for mackerel fished for 3 days with 4 lines. They trolled for about 7 hours each day with all 4 lines. Total Soak Time = 21 hrs. Days Out = 3 Days Fished = 3
10. **SCUBA Diving**
A dive vessel goes fishing for 1 day and has 2 divers on the vessel. Total Soak Time = 4 hours. Days Out = 1 Days Fished = 1
11. **Free Diving with Spears**
A spear fishing vessel is away from the dock for 1 ¾ days and has 1 free-diver onboard. The diver dove both days and completed 9 dives (average time in the water per dive: 40 min) for a Total Soak Time = 6.03 hours. Days Out = 2 Days Fished = 2
12. **Gill Net**
A gill netter goes fishing for a half day using 1 gill net, making 3 hauls with an average of 1 hour per haul. The vessel left the dock around 7 am and returned by Total Soak Time = 3 hours. Days Out = 1 Days Fished = 1

VESSEL INFORMATION

Samplers should make every effort to always report as much information about the vessel as possible. Required identifiers for commercial trips are: the vessel identification number and the individual license number, as well as the trip ticket number when available.

7) License Agency

Select the Agency (State or Federal) which issues the individual license. This field is required when an individual license number is entered.

Individual License Number

Enter the state-issued License Number for the fisherman. This applies to commercial trips only. This field and the vessel identification number are required for commercial trips. If the samples came from multiple vessels, report all of the individual license numbers in the comments section. Note: If the TIPOL does not validate the interview because of an invalid license number, the sampler should email the license information to the TIP Coordinator for entry into the database. Once the sampler receives confirmation from the TIP Coordinator, the sampler must go back into that interview in TIPOL to update the license number and validate the interview.

Vessel Identification (ID) Number

The Vessel Identification (ID) Number must be recorded whenever it is possible to determine one. Record the vessel ID, which is either the U.S. Coast Guard registration number or the state registration number for each interview. If it is USCG registered, omit the DO prefix and enter the number only. If it is a state registered boat, then use both the alpha and numeric characters (ie. AA9999AA, where A is a letter and 9 is a number). Do not leave any blanks or hyphens between the letters and the numbers. The vessel may also be selected from the pop-up table. In the case where a vessel has both a Coast Guard registration number and a state registration, the vessel id field should default to the Coast Guard number and the state number should be reported in the comments section. If the samples came from multiple vessels, report all of the vessel identification numbers in the comments section.

Note: If the TIPOL does not validate the interview because of an invalid vessel identification number, the sampler should email the vessel information to the TIP Coordinator for entry into the database. Once the sampler receives confirmation from the TIP Coordinator, the sampler must go back into that interview in TIPOL to update the vessel identification number and validate the interview.

New Vessel Name

The New Vessel Name allows you to record a new name for the vessel when you find it different from the name recorded in the pop-up vessel list for that vessel identification number. This is useful for validating against the permit lists. Also, send an email to the TIP Coordinator with the vessel id number and new name so that it can be updated in the system.

To check if the vessel name is different: Open the pop-up list for Vessel #, type in the vessel identification number then check the list to see if the name associated with that vessel id # is different than the vessel name given by the captain/crew/dealer or the name that you (the sampler) saw on the vessel.

8) Ticket Agency

The Ticket Agency is the primary agency that collects the trip tickets. (State issued trip tickets are to be recorded as collected by that state, not by NOAA, even though NOAA Agents may pick up the tickets at the dealers).

Trip Ticket Number

The Trip Ticket Number records the number of the trip ticket which holds the landings information for the trip that was sampled. This is generally a pre-printed number on the trip ticket form or a program-generated number from the electronic ticket program. This field is required. If the trip ticket number includes any alpha characters or a prefix, include them as part of the whole number. When no trip ticket number is available, Ticket Agency must be set to 'Select a Value'. If the samples came from multiple vessels or multiple trips, report the trip ticket number with the largest landing weights in the field 'Trip Ticket Number' and report the other trip ticket numbers in the 'Comments' field. If the landings information was recorded from records other than a trip ticket, include the record number in the comments section if possible.

9) Comments

The Comments field is for comments agents may have which pertain to the entire interviewed trip, or to information collected specifically on the Interview page (other data entry pages have their own comments sections). It can contain information such as air and water temperature, weather, and captain's opinion of environmental or operational factors affecting his catch. If sampling was interrupted or terminated too soon, detail reasons here. Use of the comments field is required for identifying license numbers and landings records when interview and samples come from multiple vessels. See notes in the previous sections. The comments fields allows up to a maximum of 4,000 characters. The comments field is not meant to serve as a means for industry to communicate with NOAA or the Councils concerning issues such as regulation.

SAVING THE INTERVIEW IN TIPOL

Once entries are completed on the Trip Interview Page, click the 'Insert' button at the Top or Bottom of the Page to save the interview and advance to the additional pages for Effort, Landing, Sampling, and Observation. Pressing 'Cancel' prior to 'Insert' will delete the interview.

Interview Number

When the Interview Page is saved via the 'Insert' button, it will generate an Interview Record Number which needs to be physically recorded on the hard copy of the TIP Data Sheet with a pen for later cross-reference. The interview number is displayed at the top of the Interview page. It is a unique 14 digit identifier in the TIP database, consisting of the 4-digit year, a 2-digit agency code, a 2-digit NMFS state code, followed by a 6-digit sequence number. These codes are automatically assigned by the TIPOL application. The 2-digit NMFS state code represents the reporting state where the landings originated. Interview numbers should automatically sequence themselves. Please note that when communicating with the TIP Coordinator or database administrator regarding a trip, you only need to reference the last 6 digits.

C. Effort Data (Fishing Activity)

The purpose of this section is to provide detailed information on gear, fishing effort and the general location of the fishing activity. Since some of this information is obtainable in other databases, this section is designed to provide data that is obtained through **direct interview with the captain** and/or personal observation so that quality control can be achieved. Firsthand effort information is preferred; these sources include the captain (1st choice), crew members, logbook, observers, and personal observation. Secondhand information sources for effort data may also be used, such as a dealer interview, sales record or trip ticket. However, the information source and interview type must be properly coded on the Interview page in order to distinguish firsthand data from secondhand data. Because this type of data may not always be available, the Effort section is not a required part of the data entry program. However, samplers should make every effort to obtain a fisherman interview, and always report as much information as possible for each trip they sample. If a sampler knows information that is not required but has a field in TIPOL, that information should be entered.

To enter a new effort record, click on the  icon. The Effort section can hold multiple records per interview, so all detail obtained (multiple gears, multiple areas) can be entered. Gear and Area or Gear and Lat/Long must be entered if this section is to be a part of the interview. Please note that the effort records are not linked to individual landing and sample records.

EFFORT INFORMATION

0. Gear

Select the Gear that was used by the fisherman. The Gear Code can be entered directly or selected from the pop-up menu. The 3 digit NMFS gear codes must be used. See Appendix C for a list of the available gear codes, accompanied by descriptions and illustrations for each. Avoid using “combination gear codes”, i.e. 400, 600, and generic codes. Try to use as specific a code as possible. If no specific gear information is available enter ‘989 for ‘unspecified gear’. If the gear used has no proper code, enter ‘000’ for ‘gear not coded’ and contact the TIP Coordinator with a full description of the gear so that a code can be assigned. Record all types of gear that were used on the fishing trip in separate entries in the Effort section. Entries should be made in order of importance, if known (i.e. enter the primary gear first, secondary gear second, etc.)

Gear Descriptors:

Once the Gear Code is selected, use the ‘Tab’ button to advance to the first Gear Descriptor, 1) Qty, then each gear descriptor will display the gear-specific parameters it requires. Please note that some of these gear descriptions do not apply to all gears and an N/A will be displayed if the field does not apply to the gear code selected.

The Gear Descriptors for each gear group are listed in the following table and then described on the subsequent page.

Gear group	Qty	Usage/ Freq	Size	Gear Avg Info	Number set	Total line length	Avg miles per set	Soak time
Otter and beam trawls and paranzella nets	# Nets	# Tows	Diagonal mesh size (in)	n/a	n/a	Total Lead Line Length (yd)	n/a	soak time (hrs)
Fish and shellfish traps and pots	# Traps Hauled	# Hauls per Trap	Diagonal slot size (in)	n/a	# Traps Set	n/a	n/a	soak time (hrs)
Purse, haul, and stop seines, gill, trammel and lampara nets	# Nets	# Hauls	Diagonal mesh size (in)	Avg Net Length (yd)	n/a	n/a	n/a	soak time (hrs)
Hand lines and trolling gear	# Lines	n/a	n/a	# Hooks per Line	n/a	n/a	n/a	soak time (hrs)
Long lines, bottom and surface	# Main Lines	# Sets	n/a	Avg # Hooks per Set	n/a	n/a	Avg Miles per Set	soak time (hrs)
Divers	# Divers	Total # of Dives	n/a	n/a	n/a	n/a	n/a	dive time (hrs)
Unclassified or by hand								soak time (hrs)

1. Quantity (Qty)

The Qty (Quantity) indicates the total number of gear fished. This would be the number of: nets, lines, main lines (Long Line gear), divers, or traps.

2. Usage/Frequency (Freq)

The Usage/Frequency indicates the number of times the gear was used. This would be the number of: Hauls for Nets, Tows for Trawl Nets, Sets for Long Lines, Dives for Divers, and Hauls per Trap.

3. Size

Only use for Nets or Traps; enter the diagonal mesh or slot size in inches. When measuring nets, stretch the mesh closed.

4. Average Gear Information (Gear Avg Info)

The Average Gear Information indicates the average length per net in yards for all nets except trawl nets. It indicates the average number of hooks per line for hook and line gear, and the average number of hooks per set for long lines.

5. Number Set

The Number Set is the number of traps set. This only applies to traps and pots.

6. Total Line Length

The Total Line Length is the total length of lead line length (in yards) for trawls. This only applies to trawl gear.

7. Average Miles per Set

The Average Miles per Set is the average number of miles per set for long line gear. This only applies to Long Line gear.

8. Soak Time (hours)

The soak time is the total amount of time (in hours) that any single unit of gear (one bandit reel, one longline, one trap) was in the water fishing during the entire trip. Do not multiply by gear quantity. Record soak times for each gear type fished and each area fished. Typically soak time can be calculated by two different methods depending on the information given by the captain: 1. If the captain provides an average time fished per day, then multiply the number of days fished by the average number of hours fished per day (for each gear and/or area); 2. If the captain gives exact hours fished each day, then add up the number of hours fished each day (for each gear and/or area) to find the total soak time.

Gear-Specific Examples:

1. Crab or Lobster Traps

A vessel sets 100 traps and then comes back 10 days later and hauls all 100 traps before returning to port the same day. Soak Time for traps is the time from the set (time the gear begins fishing) to haul (time at which the gear is retrieved). This can be longer than the length of the trip since traps can remain in the water while the vessel returns to port. Soak Time for traps is calculated by multiplying the number of days by the number of hours. So, 10 days X 24 hours = 240 hours soak time.

2. Fish Traps/Pots

A vessel fishes for 1 day with 28 fish pots. They set the 28 pots twice (2 sets) for an average of 2 hours each set. Soak Time for fish traps/pots is calculated by multiplying the number of days by the number of sets and the hours per set. So, 1 day X 2 sets X 2 hours per set = 4 hours soak time.

3. Bandit Reel

For hand line gear, Soak Time is active Fishing Time. A bandit reel vessel goes fishing for 4 days and has 6 reels operating on the vessel. During the interview, the captain states that on average, they fished about 7 hours each day. Soak time is calculated by multiplying the number of days by the number of hours. So, 4 days X 7 hours = 28 hours soak time.

4. Bandit Reel Example 2

For hand line gear, Soak Time is active Fishing Time. A bandit reel vessel goes fishing for 2 ½ days and has 2 reels operating on the vessel. The captain says that they fished for 12 hours the first day, 10 hours the second day, and 4 hours the third day. Soak time is calculated by summing the number of hours to get the total. So, 12 + 10 + 4 = 26 hours soak time.

5. Longline

A longline vessel fishes for 7 days, makes about 3 sets per day, with an average set time of 4 hours. For set time on long lines record the time from the end of deployment (last hook in) to the end of retrieval (last hook out); this is the same format required for coastal logbooks.

Total soak time for longline gear is calculated by multiplying the number of days by the number of sets per day by the average set time. So, $7 \times 3 \times 4 = 84$ hours soak time.

6. Longline Example 2

A long line vessel tells you they completed a total of 16 sets during their trip, with an average soak time of 3 hours per set. Total soak time for this longline vessel is calculated by multiplying the total number of sets by the average set time (no need to multiply by number of days because the number of sets is total). So, $16 \times 3 = 48$ hours soak time.

7. Hook & Line

For hand line gear, Soak Time is active Fishing Time. A hook and line vessel goes fishing for 1 day and has 5 rod and reels on the vessel. The captain states that on average, they fished about 8 hours. Soak time is calculated by multiplying the number of days by the number of hours. So, $1 \text{ day} \times 8 \text{ hours} = 8$ hours soak time.

8. Hook & Line Example 2

For hand line gear, Soak Time is active Fishing Time. A hook and line vessel goes fishing for 2 days, landing their catch the next morning. You see 6 rod and reels on the vessel and the captain states that they fished about 6 hours the first day and 10 hours the second day. Calculate soak time by adding up the number of hours fished. So, $6 + 10 = 16$ hrs soak time.

9. Trolling

For hand line gear, Soak Time is active Fishing Time. A vessel trolling for mackerel fished for 3 days with 4 lines. The captain states that they trolled for about 7 hours each day with all 4 lines in the water. Soak time is calculated by multiplying the number of days by the number of hours. So, $3 \text{ days} \times 7 \text{ hours} = 21$ hours soak time.

10. SCUBA Diving

A dive vessel goes fishing for 1 day and has 2 divers on the vessel. The captain states that both divers completed 2 tank dives each, and each dive was about 1 hour long. To calculate soak time for this dive vessel, multiply the total number of dives by the average time of one dive. So, $4 \text{ dives} \times 1 \text{ hour} = 4$ hours soak time.

11. Free Diving with Spears

A spear fishing vessel is away from the dock for $1 \frac{3}{4}$ days and has 1 free-diver onboard. The captain states that the diver completed 6 dives on the first day and 3 dives on the second, with in the water time ranging from 20 minutes to 1 hour. To calculate soak time for this free-diver, find the average time per dive ($20 \text{ min} + 60 \text{ min} = 80 \text{ min} / 2 = 40 \text{ min}$ or 0.67 hr) then multiply by the total number of dives. So, $0.67 \text{ hr} \times 9 \text{ dives} = 6$ hours soak time.

12. Diving

A dive vessel goes fishing for a day with 4 divers. The captain does not recall the number of dives each diver took or the duration for each diver. The captain states that they continuously dove/fished for 6 hours. Soak time is calculated by multiplying the number of days by the number of hours. So, $1 \text{ day} \times 6 \text{ hours} = 6$ hours soak time.

13. Gill Net

A gill netter goes fishing for a half day using 1 gill net, making 3 hauls with an average of 1 hour per haul. To calculate soak time for a gill netter, multiply the number of days by the number of hauls by the average number of hours per haul. So, $1 \times 3 \times 1 = 3$ hrs soak time.

POSITIONING INFORMATION

Area

9. Region

This is the region where the fishing occurred in. Enter the Region directly or select from the pop-up menu. If fishing occurred in more than one region, create separate effort entries for each region fished. The first effort entry should be the primary region (the region where the majority of the landings were caught).

A. Area

This is the area where the fishing occurred. Enter the Area code directly or select from the pop-up menu. Area codes can be region-dependent. If fishing occurred in more than one area, record separate Effort entries, one for each area fished. The first effort entry should be the primary area (the area where the majority of the landings were caught). Note that the area names refer to the map and the codes (id's) are numeric. See Appendix B for area maps and a complete list of the area codes for each region.

Q. Quadrant

This code is only for SE coastal areas. Quadrant is the code for the area quadrant as the following: 1 = Northwest, 2 = Northeast, 3 = Southwest, and 4 = Southeast.

T. 10 Min

This is the 10 minute square within the area fished. Valid values are 1 through 36. This is used in NE and the Head Boat Survey.

GLOBAL POSITION

Report the Latitude and Longitude position where fishing occurred. Enter numbers only for degrees, minutes, seconds. Do not enter symbols. For every level of latitude entered there must be a level of longitude, and vice versa.

Latitude Hemisphere

Select North or South from the drop-down menu to indicate the Latitude Hemisphere.

Longitude Hemisphere

Select East or West from the drop-down menu to indicate the Longitude Hemisphere.

L) Latitude Degree

Enter the Latitude degree as a number from 0 to 90. Do not enter symbols.

Longitude Degree

Enter the Longitude degree as a number from 0 to 180. Do not enter symbols.

Latitude Minute

Enter the Latitude minute as a number from 0 to 59. Do not enter symbols.

Longitude Minute

Enter the Longitude minute as a number from 0 to 59. Do not enter symbols.

Latitude Second

Enter the Latitude second as a number from 0 to 59. Do not enter symbols.

Longitude Second

Enter the Longitude second as a number from 0 to 59. Do not enter symbols.

D. Distance to Shore

This is the distance from the fishing location to the nearest point of land in miles.

M. Minimum or Average Depth and X. Maximum Depth

Record the bathymetric depth or depths in fathoms (1 fathom = 6 feet). Depth is recorded from the surface to the sea floor for all gears except pelagic longline. For pelagic longline, depth is from the surface to where the hooks are fished. This is generally the length of the float-line + the drop-line (gangion). If the hooks are set at different depths, an average hook-depth should be entered.

Depth can be recorded several different ways. If only one depth is obtained, enter it in the first field (M. Min or Avg Depth). It will be assumed that this is either an actual or an average depth. If minimum and maximum depths are provided, record the minimum depth in the first field (M. Min or Avg Depth) and the maximum depth in the second field (X. Maximum Depth).

Comment

Record comments on factors affecting the effort or effort information. One useful comment would be whether the effort information was obtained on a later date than the sample, indicating the lapse of time: 'Captain interviewed 1 week after samples collected'. Another example would be if the fisher said they 'set 5 extra traps today'. The comments fields allows up to a maximum of 4,000 characters.

SAVING THE EFFORT RECORD

Select the 'Insert' button at the top or bottom of the page to save the effort record before entering another Effort record or advancing to the Landing page.

D. Landings Composition

This section is designed for the entry of landings data. Data for this section should be entered as they are reported on the trip ticket or sales record filled out by the dealer. However, samplers should report information on gear and area fished as accurately as possible. Landings data can also be taken from one of two other sources listed on the information page: Vessel logbooks or Observer logs. The trip ticket is not always available at the time of sampling; however, it can usually be obtained later. At the time of sampling, samplers should always record the vessel identification number, captain name, and landing date in order to get the landings information from the dealer or fishermen after the sampling takes place. In other words, if the entire catch from a trip is available, don't wait for it to be sorted and a trip ticket to be filled out before sampling. When the landings records are obtained later, it is important that the information source code (on the Interview page) be updated to reflect the proper source and that the trip ticket number be updated as well.

One of the objects of the TIP is to match the sampled catch with the reported landings. In order to relate the sampled species to the species or species groups in the landings records, there are links that are established from the Landings section to the Sample section and then from the Sample to the Observation section. These links are based on Market Species landed to Species Sampled and then to the actual species measured. The sampler will commonly see sampled species in the Sample and Observation sections (Chapter 3 Sections E and F) that relate back to non-specific or even incorrect groupings in the landings records. Here is an example: The sampler intercepts a trip at the dealer for which no landings records are available at the time. The sampler takes samples of three species: gag grouper, red porgy, and gray triggerfish. No other species were landed. Later, when the sampler looks at the landings record, he/she sees the following: 'black grouper' xxx lbs, 'red porgy' xxx lbs with no other fish listed. The sampler will relate the gag grouper back to the 'black grouper' by experience with the dealer. The red porgy will naturally relate back to 'red porgy'. It is uncertain where to place the gray triggerfish. Upon contacting the dealer, the sampler will confirm that the gray triggerfish were weighed with the 'red porgy', and the gray triggerfish and red porgy in the Sample section will both be assigned to the Landing record for 'red porgy'. Thus when the fisheries scientists examine the landings data, they can relate the data to the TIP database and realize that part of the 'red porgy' landings is actually gray triggerfish. This is extremely useful information. In order for this type of relationship to be achieved, the sampler will have to wait until the landings records are available prior to entering the sample and observation information.

0. Gear

Select the gear that was used to catch the species landed. If more than one gear was used for a given landings record, record the primary gear. The primary gear is the gear that caught the majority of the fish for this landing record (species and market category). The gear code can be entered directly or selected from the pop-up menu. The 3 digit NMFS gear codes must be used. See Appendix C for a list of the available gear codes, descriptions and illustrations. If the dealer reported the incorrect gear on the trip ticket or sales record, list the correct gear here on the landing page. Try to use as specific a code as possible; avoid the combination gear codes and generic codes.

1. Region

Select the region fished for the landings record. If more than one region was fished for a given record, select the primary region. The primary region is the region where the majority of the pounds landed for that record (species and market category) were caught. Region is selected from the drop-down menu.

2. Area

Select the fishing area listed on the landings record. If more than one area was fished for a given record, select the primary area. The primary area is the area where the majority of the pounds landed for that record (species and market category) were caught. Area can be entered manually or selected from the pop-up table. See Appendix B for area maps and a complete list of the area codes for each region.

3. Market Species

Enter the species or species group and the size as they are reported by the dealer on the landings record. This is done for the following 2 reasons: 1) Samples need to be related back to landings to determine the size of the landings they are attempting to describe and thus their relative importance in the overall landings (a landing of 10,000 lbs is more significant than a landing of 100 pounds). 2) It is important to determine the actual species composition of the landings since they are often identified by industry in general or market-influenced descriptions.

Use the NMFS 4-digit species code or the 10-digit NODC code in the species code field (see Appendix A). The Caribbean may use the Erdman or OECS codes. The NODC coding system allows the code to be very general (i.e. 8835020000 = Groupers (Serranidae)), or specific (i.e. 8835020502 = Black Grouper). NMFS codes also allow for general groupings as well as specific codes. As mentioned previously, dealers will often use generic codes in their landings records.

Select the species code from the pop-up menu via the  button. Use the Find filter to locate the species record, remember to enclose the typed portion of the record with a % symbol to function as a wild card. You can also access your most-frequently used codes by selecting the  button. All species codes are listed in Appendix A in order of code and by species common name.

4. Market Size (Size)

Record the market size category reported by the dealer on the landings record. If the fish are listed on the landings record by size or other market category and the fish were sampled from sorted landings, include this information here. If samples were collected from unsorted landings (before the landings were sorted) and the sales record lists the landings by market size categories, only report one landing record for that species with the size category 'Mixed/Unsorted'. If no market size category is assigned, select 'Mixed/Ungraded'. Samplers should not attempt to assign a market category on their own just because the fish are a certain size.

The market size may be selected from the drop-down menu, the full pop-up menu via the  button, or the frequently-used list via the  button. If a new market category appears on the landings records for which there is no proper coding, contact the TIP Coordinator to obtain a code.

5. Grade

Many landings are assigned a grade which is reflective of the quality of the product and is not always related to size. 'Grade' has been included in the entry to assist in defining catch as it relates to quality of product. In addition, the grade field is used to indicate the disposition of the catch, if the catch was kept for personal use (i.e. not sold to the dealer), and used to indicate the status of Discards (Live, Dead or Unknown) for observer trips. Select from the drop-down menu. If no grade was assigned by the dealer, select 'No Grade'.

6. Quantity (Qty)

This is the number of individuals in the landings for the given record, if known (do not enter an estimate). This is not a required field.

7. Weight

This is the Total Weight of the landings for a given record. This is required, unless the Fishing Mode in the Interview section is noncommercial or begins with CRP, or if the Information Source in the Interview section is 'Site Sampling' or 'Interview Only'.

If samples were collected from sorted landings and the sales record lists the landings by sorted size categories, report each category and landing weight. If samples were collected from unsorted landings (before the landings were sorted) and the sales record lists the landings by sorted size categories, only report one landing record for that species with the category 'Mixed/Unsorted' where the total landing weight is equal to the summation of the landing weights for each market category listed for that species.

8. Weight Unit

This is the unit corresponding to the landings weight reported. This field is required if a weight is entered.

9. Condition

This is a required field; all species with landings weights should be assigned a condition type. The *Condition* of the animal refers to the state of processing (physical alteration) it has undergone, examples: gutted, whole/round, live. Avoid using the null/'Unknown' option. See Appendix D for a complete list of condition codes, names, descriptions, and state classifications. This is a field in TIPOL that users should be able to set a default for (see Appendix L). Note: The field *Condition Type* is different from the fields: *Size*, which describes market category, and *Grade*, which describes the quality, use, or disposition of the product.

The field *Condition Type* occurs on the Landing, Sample, and Observation pages in TIPOL and should not be left blank on any of them. The initial code selected on the Landing page is automatically transferred to the Sample and Observation pages. Samplers should check for consistency in this field among the three pages, especially when correcting a mistake, as changes

are not automatically transferred. The *Condition* reported on the Sample page may be different from that on the Landing page, as the Landing page is typically transcribed from dealer records and the Sample page refers to the status of the animal at the time of sampling. Insert new records on the Sample page if individuals were sampled at different condition levels (physical alterations).

Market Counts

These two fields (M. Min and X. Max) are rarely used for anything but shrimp. Enter the maximum and the minimum count. Both fields are required if one is entered, otherwise both are optional. Skip these fields unless entering information for shrimp.

Comment

Enter any additional information as it relates to a particular landings record. For example, if a trip's landings were split between two dealers, the dealer information should be entered in the comments section for each landing record. Comments about the overall trip should be entered in the 'Interview' comments. The comments fields allows up to a maximum of 4,000 characters.

SAVING THE LANDING RECORD

Select the 'Insert' button at the top or bottom of the page to save the landing record before entering another record or advancing to the Sample page. The newly inserted landing record will then be visible in the Edit Bar at the top of the entry screen. A second new record may then be entered, or the first record may be recalled, edited and saved, or deleted.

E. Sampling Information

The purpose of this section is to provide sample summary data. It is important to note that from this stage forward the data are scientific in nature. That is, there is no input from any source other than the samplers', which is obtained through direct observation and measurements.

In TIP, a sample is the sum of individuals collected to represent a portion of the landings. Samples should be representative of the species and sizes of the entire landings. Therefore, there can be multiple samples for a trip and for a species depending on the landings.

For each trip, a maximum of 30 age samples should be collected per species, where the random selection is spaced out throughout the entire landing. In between taking age structures, the sampler should also measure lengths from all randomly selected fish. For small trips and trips having estimated ≤ 30 individuals from any species, it is best to measure all the individuals from the entire trip. Where there are a large number of individuals for a given species, it is best to sample a subset within that species. For example, a trip has 500 yellowtail snapper. It is not necessary to measure all the yellowtail snapper individually; instead, take a random sample of 30-50 individuals from the yellowtail snapper. Random selection from the entire landings should result in a sample that is relatively proportional to the species diversity and size range of the landings, thus providing a representative sample. In the case of sorted landings, samples should be randomly selected from each market size category, and the number of samples from each category should be proportional to the number of individuals in that category.

SAMPLE INFORMATION

0) Landing

This field permits the linking of the sample record to a landings record in the previous section. If you know the record number from the Landings section, you may enter it here or you can access the pop-up table to select the Landing record. The pop-up table includes detail that will permit identification of the record, such as species name, size, and area. It is important to relate the sample to the landings record for the following reasons:

- 1) Samples need to be related back to the landings to determine the size of the landings they are attempting to describe and thus their relative importance in the overall landings.
- 2) It is important to determine the actual species composition of the landings since they are often identified by industry in general or market-influenced descriptions.

1) Species

This field is for the sampled species as identified by the sampler, and should be recorded to the species level, not the generic genus group (unless the sampler is unable to confidently identify the species). Once the Landing record is selected, the program automatically fills in the species code from the Landings section. This is the code for the species or species group as it appears in the landings records and is not necessarily the correct code. If the actual species code of the sample is different than the code from the Landings section, the sampler must enter the correct code (or select the correct code from the pop-up menu). Use either the 4 digit NMFS code or the 10 digit NODC code, whichever is the more specific species code. Avoid using the generic codes for genus groupings. If the sampler identifies multiple species that were categorized together on the landing

page, the sampler should enter each species as a separate sample record linked to the original landings record where the species were grouped together. See the example listed in Chapter 3 Section D Landings Composition.

When searching for species in the pop-up menu, it is helpful to use the wildcard function (enclose the name or part of the name in between two percent symbols (%)) to return all similar species [See Chapter 3.A. for more information]. If the identified species is not listed in the TIPOL Species list, notify the TIP Coordinator of the species' common name and scientific name, and include a brief description of the species (with photographs if possible). Until the new species code is available in TIPOL, use the generic species group or genus group code as a placeholder and do not validate/finalize the interview until the species code is updated.

2. Size

This field identifies the market size category that the sample was taken from. Once the Landing record is selected, the program automatically fills in the size from the Landings section. If the actual size category of the sample is different than the code from the Landings section, the sampler must enter the actual code. For example, it is important for the sampler to note if the samples were in fact taken from landings which had been sorted by size regardless of what the landing report may have stated. If the sample was taken from a landing where no market size category was assigned, select 'Mixed/Ungraded'; do not assign a size category based on the length of the specimens. If the landings of a species were not separated into multiple market size categories or multiple grades, but were all listed as one market size or one grade, report the market size or grade that was given on the trip ticket (even though the sample method is 'landed unsorted').

3. Grade

This field identifies the grade of the fish at the time of sampling. Once the Landing record is selected, the program automatically fills in the grade from the Landing section. Many landings are assigned a grade which is reflective of the quality of the product and is not related to size. 'Grade' has been included in the entry to assist in defining catch as it relates to quality of product. Select from the drop-down menu. In addition, the grade field is used to indicate the disposition of the catch, and used to indicate the status of Discards (Live, Dead or Unknown) for observer trips. If no grade is assigned, select 'No Grade'.

4. Sample Method Type

The Sample Method indicates the status of the landings of a species at the time of sampling. This refers to each species record separately, and includes whether the sample was taken at sea (before being landed) or on land (after landing), whether the landings were sorted into market size categories before sampling occurred, if the entire landings of that species were available to sample from, and if the sample was selected randomly. The Sample Method is initially selected on the Sample page for each separate species record and carries over to the Observation page. Do not change the Sample Method on the Observation page for individual samples that were selected using a different method. Instead, insert a new record on the Sample page for samples that were selected using a different Sample Method or selected by a non-random method. Insert new sample records

with the appropriate Sample Method if samples were taken from both the sorted and unsorted landings of the same species. While TIPOL has the option 'UNKNOWN', please try to refrain from using this option. If you are unsure which sample method your sampling falls under, please contact your supervisor or the TIP Coordinator for further guidance. Note: Samplers do not need to wait for the entire landings to be offloaded before starting to sample. The following are valid codes:

- | | | |
|-----------------|---|---|
| Landed Unsorted | 1 | When the landings of a species have not been separated into market size categories before sampling occurs (i.e. species were sampled before sorting, or species were never sorted). |
| Landed Sorted | 2 | When the landings of a species were separated into market size categories before sampling occurred. Sorting only by species (not by size) does not count as a sorted landing. NOTE: this is typically a random sampling method, via proportional sampling; however it can sometimes be non-random when access to one or more of the categories is denied. |
| At Sea Unsorted | 3 | When the sampling occurred during the trip and the catch was not separated by market size category. |
| As Available | 4 | When some but not all of the landings of a species are accessible for sampling (ex. the dealer sold a portion of the landing prior to sampling). This is non-random sampling. This also includes when the landings have been split between multiple dealers and the sampler only has access to the landings at one dealer. |
| Quota Sampling | 5 | Non-random samples that were selected to fill sample quotas for biological hard-part or tissue needs, and were taken from specific fish while ignoring other fish in the landings. Or non-random samples that were selected for a particular target (sex, size, unique feature, special request, etc.). |

5. Full Catch

This field is used to record whether or not the sample is equal to the total catch. This refers to each sample and landing record individually (not necessarily the entire landings and not the entire species if the species has more than one landings record¹). For example, if the agent sampled all the snowy grouper in the catch, he/she would select 'Yes' in this field for that record even though the entire landing (of all species) was not sampled. Try to avoid using the 'unknown' option.

The following are valid codes:

No	0	Sample is not equal to the total catch
Yes	1	Sample is the total catch
Unknown		It is unknown if the sample was equal to the total catch

¹ The parameters for Full Catch are different than those for the Random Sample Checkbox. Please refer to examples 16b and 24 in Appendix I.

Full Catch Examples:

1. The catch included two landing records of Caribbean Spiny Lobster, one for the live trade and one for the dead trade. The sampler measured all of the lobster for the dead trade and none from the live trade. The sample record that is linked to the dead trade should have Full Catch = Yes.
2. The landings included white grunt, bluestriped grunt, and yellowtail snapper. The yellowtail snapper were sorted into three market size categories, small, medium and large. The sampler measured some of the grunts, all of the small yellowtail snapper, some of the medium yellowtail, and some of the large yellowtail. The sample record for the small yellowtail snapper should be tied to the landing record for the small yellowtail snapper and the Full Catch = Yes. For all of the other records (medium and large yellowtail snapper, and grunts) the Full Catch = No.
3. If the sample equals the full catch of a species that was not listed on the landing page, include a sample comment that the sample is the full catch of an unlisted species, not the full catch of the species that was reported on the landing page. For example: one lane snapper was included with the landing of the vermilion snapper, which totaled 900 pounds of the landing. The one lane snapper was sampled and the sample record was linked to the vermilion snapper landing record, with Full Catch = Yes and the sample comment 'one lane snapper was included in the landing of vermilion snapper'. The vermilion snapper were randomly sampled and the sample record was linked to the vermilion snapper landing record, with Full Catch = No.
4. Samples were taken from a site sample where no landing record was obtained and the sampler was unable to confirm if the entire catch was present for sampling. Full Catch = Unknown.
5. The species were mixed together in a large vat. The samples primarily consisted of red snapper and vermilion snapper with a few groupers and one mangrove snapper. The sampler did not take individual fish weights or sample weights. The landing weights of the red snapper, vermilion snapper and groupers were large, indicating that these samples were not equal to the total landing, thus Full Catch = No for those records. The landing weight for the mangrove snapper was 4.5 pounds and the sampler was unsure if the one mangrove snapper that was sampled was the only one landed; therefore the Mangrove Snapper record had Full Catch = Unknown.

6. Condition

Select the Condition of the species at the time of sampling. This may be different than the condition reported on the Landing page. The *Condition* of the animal refers to the state of processing (physical alteration) it has undergone, examples: gutted, whole/round, alive. Avoid using the 'Unknown' option. See Appendix D for a complete list of condition codes, names, descriptions, and state classifications. Note: The field *Condition Type* is different from the fields: *Size*, which describes market category, and *Grade*, which describes the quality, use, or disposition of the product.

Once the Landing record is selected, the program automatically fills in the Condition from the Landing section. The field *Condition Type* occurs on the Landing, Sample, and Observation pages

in TIPOL and should not be left blank on any of them. The initial code selected on the Landing page is automatically transferred to the Sample and Observation pages. Samplers should check for consistency in this field among the three pages, especially when correcting a mistake, as changes are not automatically transferred. The *Condition Type* reported on the Sample page may be different from what is reported on the Landing page, as the Landing page is typically transcribed from dealer records and the Sample page refers to the status of the animal at the time of sampling. Insert new records on the Sample page if individuals were sampled at different condition levels (physical alterations).

7. Weight

This is the Total Weight of the Sample record (i.e. total weight of all individuals in the sample record). It is desirable to weigh each sample so that its percentage of the landings can be properly determined.

8. Weight Unit

This is the unit that corresponds to the Total Weight of the Sample. Select the unit from the drop-down menu. This is required when the weight is entered.

9. Count/Quantity (Qty)

This is the number of individuals in the sample. This must be equal to the total number of Observations linked to this Sample record.

R. Random Sample

Samples should be selected randomly from the entire landings for each trip (described in Chapter 2 Section E). The check box for Random Sample when checked indicates that the sample was taken by a random sampling method from the entire landings for that species. When left blank (unchecked), it indicates that the sample was selected by a non-random or targeted method. While this field is linked to each individual sample record, it applies to the selection of these samples from the entire landings of that species. See Appendix I for detailed examples of sampling scenarios. By default, this box is checked, so make sure to take care when entering non-random samples. When the box is unchecked (non-random samples), the sampler must add information in the comments section explaining why the sample was not selected randomly; otherwise an error message will pop up when the entry is inserted. Also, when the box is unchecked, the sampler must properly identify the type of non-random selection in the Sample Method field. If the full catch of a species was sampled, then it is a random sample (the box is checked).

SUB-SAMPLE INFORMATION

This section is designed for situations where a “Sample of a Sample” is taken. This may be done to preserve a portion of the sample if time becomes an issue. This section is used to record the weight, condition, and quantity of the subsample in the same manner that is described in the sample information section. Only use this section if the sampler is UNABLE to measure all of the fish in

the sample. A random sub-sample of 10 is typical. A sub-sample is a sample of that sample. For example: Landings = 500 yellowtail snapper, Sample = 50 randomly selected yellowtail snapper from the 500, sub-sample = 10 yellowtail snapper randomly selected from the 50.

W. Weight

Record the total weight of the sub-sample.

U. Unit

Select the weight unit of the sub-sample from the drop-down menu. This must be selected when weight is entered.

K. Condition

Select the Condition of the fish at the time of sampling from the drop-down menu. This field refers primarily to the state of processing the fish has undergone and is essential for entering the weight of the fish. Avoid using the 'Unknown' option. See Appendix D for a detailed list of condition types.

Q. Count/Quantity

Enter the number of individuals in the sub-sample.

B. Random Sub-Sample

Check the box if the sub-sample was taken by a random sub-sampling method from the entire sample. An unchecked box indicates that the sub-sample was selected by a non-random or targeted method.

Comment

Record any additional information pertinent to the sample here. Notes about sample selection should be included here. The comments fields allows up to a maximum of 4,000 characters.

SAVING THE SAMPLE RECORD

Select the 'Insert' button at the top or bottom of the page to save the sample record before entering another record or advancing to the observation page. The newly inserted sample record will then be visible in the Edit Bar at the top of the entry screen. A second new record may then be entered, or the first record may be recalled, edited and saved, or deleted. To clear the sample page screen after inserting and saving a sample record, click on the  icon to insert a new sample record.

F. Bioprofile Data (Observations)

This section is for the entry of measurements of individual fish or invertebrates and for the identification of biosamples collected.

Data Entry

Do not be confused by the non-descript initial screen you will see in the Observation Section. Simply click on either of the ADD buttons to begin entry of individual measurements. The screen allows for entry of details on individual fish or invertebrates from the samples. The number of rows on the screen can be adjusted so that more or less records can be entered prior to INSERT (save). It is good to start with 10 records until one is well practiced, as data will be lost if the INSERT is not done due to timeout, etc. See Appendix L for detailed information on setting defaults, such as the number of records on the observation screen.

Sample

The Sample field permits the linking of the individual record to a sample record in the previous section and thus to a landings record in the section before that. It is a required field. If you know the record number from the Sample section, you may enter it here or you can access the pop-up table to select the Sample record. The table will include detail that will permit identification of the record, such as species name and replicate number. It is important to relate the observation to the sample and landings records for the following reasons:

1. Observations need to be related back to samples and landings to determine the size of the landings they are attempting to describe and thus their relative importance in the overall landings.
2. It is important to determine the actual species composition of the landings since they are often identified by industry in general or market-influenced descriptions. Sample identification may not be specific where observations of individuals should be.

After selecting the Sample record, the program will automatically populate the species code, weight unit, size type, condition, and sample method from the Sample page. All of which can be altered on the Observation page if necessary.

To the right of the Sample field are the following three buttons that are used for:



Clearing the data entered for that observation



Copying the record for that observation



Pasting the data copied from another observation

Using the Copy and Paste buttons will allow for quick insertion of the sample link, species, length type and unit, weight unit, grade, size, condition, and sample method to the next observation records. After pasting this information all the sampler will need to enter are the lengths, weights, and sex and maturity stages (if applicable) for each observation record.

SPECIES

This field will be automatically populated with the species code of the linked Sample record. If this code is incorrect for this observation, enter the appropriate species code directly or select the code from the pop-up table. It is expected that the sampler will make the identification at the species level.

In circumstances where the sampler is unsure of the species, code to the finest level possible while taking photos of the fish (if possible) and noting morphological characteristics for identification later. The records can then be edited once positive identification is achieved. In rare cases a fish may be purchased from the dealer and submitted for identification. Samplers will need to clear such purchases with their supervisors.

Lengths

There are two fields under the title “Lengths”. The first identifies if the length information reported is a precise length (Exact) or a length range (Interv). The second is for entering the length measurement. Placing the mouse cursor over the entry box for lengths will trigger the appearance of a small message box that provides the default length unit and length type. To enter more than one precise length or to change the defaulted length type and/or length unit, use the pop-up window accessed via the  button to the right of the blank data entry box. The pop-up window permits the entering of up to 3 length measurements (ex. total, fork, and standard) per specimen and the corresponding Length Unit and Length Type, which are required for each length entered. The program's default Length Unit is millimeters, and the default Length Type is Fork Length. To change these defaults, select the appropriate unit and type from the drop-down menu.

The standard procedure for recording the primary length (the first length entered for each observation) is to measure the fork (centerline) length for all fish. Fork length is equivalent to centerline length and should be measured along the midline of the fish from the anterior-most extremity (tip of the snout) to the posterior end of the middle caudal rays (center of the end of the tail), regardless of tail shape². If a total length is taken as a secondary or tertiary measurement, it should be a maximum total length measured with the lobes of the caudal fin ‘pinched’ together to give the greatest length of the fish from the anterior-most extremity to the end of the tail fin. For complete descriptions and illustrations of all available Length Types see Appendix E. All measurements should be taken in millimeters or in centimeters to the nearest tenth centimeter.

For incremental length ranges, the pop-up window includes 6 fields: Start Length, Length Increment, End Length, Midpoint Length, Length Unit, and Length Type. The length ranges typically represent the length increments on the punch-board measuring device. The Start Length and End Length indicate that the specimen's actual length fell within this increment. After entering the Start Length, select the Length Increment from the drop-down menu, which will then automatically compute the End Length and Midpoint Length for you. The Length Unit and Length Type should then be selected from the drop-down menus.

Sex

Sex ID is a required field. The Sex ID field pertains only to macroscopic sex identification of the gonads; if the sampler uses secondary sex characteristics to identify the sex of the fish, this should be reported in the observation's ‘comments’ field. See Chapter 4 Section D and Appendix E for more information on determining the sex of fish and invertebrates. The options are:

² Lagler, K.F. 1971. Capture, sampling and examination. Pp7-44 in: W.E. Ricker (ed.), Methods for Assessment of Fish Production in Fresh Waters. IBP Handbook No 3. 2nd ed. Blackwell Scientific Publications, Oxford, England.

M	Male	Gonads observed are testes.
F	Female	Gonads observed are ovaries.
T	Transitional	Displays both male and female characteristics.
U	Unknown	Observed the gonads and unable to determine sex.
N	No Gonads	The gonads were removed prior to sampling.
D	Did Not Attempt	Did not attempt to identify sex, or unable to access body cavity.

Maturity

Select the Maturity Stage of Sexual activity as it can be determined by gross observation of the gonads in the field. The Maturity Stage can be selected from the drop down menu. See Chapter 4 Sections D and E and Appendix E for more information on determining the maturity stage of fish. The options are:

Immature	Fish is not yet old enough to reproduce
Developing	Gonads becoming ripe for reproduction
Ripe, running	Gonads in active reproductive stage
Spent	Gonads show fish has recently spawned
Inactive	Sexually mature fish, gonads not in reproductive stage
Unknown	Unable to determine maturity stage or gonads removed before sampling occurred
Berried	Female crab or lobster with eggs
Tar	Female spiny lobster has tar spots (male sperm) on underside of tail

Tags (T. Tag Number)

It is here that the biological sample data are recorded as being collected in conjunction with a tag number. The tag number identifies the fish from which the sample was taken. All biosamples taken from one fish should have the same tag number. The tag number should match the tag number included with the biological sample, so that it may be used to link length/weight data with age data.

Select the  icon to the right of the 'Tags' box, this will bring a pop-up window with space to record up to 3 tag numbers and select the sample types they pertain to.

The tag number is automatically built from the 4 digit year and 3 digit agent number, followed by the 4 digit sample number that the sampler enters. This number should include the preliminary zeros (ex 0012 for the number twelve). The range of tag numbers extends from 0001-9999. Do not begin renumbering sample tags for each interview. For each new calendar year, tag numbers should start again with the number 0001. Thus, for each sampler, tag numbers should be continuous from interview to interview throughout a calendar year. If the sampler collects more than 9,999 samples in one calendar year, the system does allow for the entry of 5 digit tag numbers (10000 – 99999). However, it is not necessary to use 5 digits for tag numbers that are less than 10,000.

The default sample type for fish samples is 'otolith'. After entering the tag number, if the sample type is different from the default, open the Tags pop-up window and select the corresponding Sample Type from the drop-down menu (for example: Spine). Tag numbers may also be

automatically filled in. After entry of the first tag number, press the Shift and + buttons on the keyboard at the same time to autofill the tag numbers consecutively.

To enter more than 3 tags or sample types, you must edit the observation record (after initial data entry has been saved). When the record list comes up, select the record number. Scroll down to the bottom of the screen to see the Tagged Samples portion of the screen. Enter the tag number along with the biological sample taken from the specimen. Then click on the Insert button at the bottom right hand side of the screen. This will automatically associate biological samples with their original specimen. While multiple tag numbers and sample types may be reported, the tag number identifies the fish from which the sample was taken. Thus, all biosamples taken from one fish should have the same tag number (with different sample types).

The validation program shows the first error where the current complete tag number duplicates the tag given to another fish. If the duplication occurs in the current interview, you can click the observation link in the error message to edit the tag using the current screen. If the duplication occurs in another interview: Click the Data Entry button; Enter the interview number containing the invalid tag; Press finish or validate to validate that record ; Click on the observation link in that interview's error message to reach the record that must be changed.

Weight

This field is used to record the total weight of the individual.

Weight Unit

This is the unit that corresponds to the Total Weight of the individual. This field will be automatically populated with the weight unit reported on the Sample record. If changes are necessary, select the correct unit from the pop-up menu. This field is required when the weight is entered. This will be automatically filled in when using the Copy and Paste functions.

Grade

The grade from the linked Sample record will be automatically populated in this field. The grade is reflective of the quality of the product and is not always related to size. If the grade of this individual was different than that selected for the rest of the individuals in this sample record, select the grade from the pop-up table. This will be automatically filled in when using the Copy and Paste functions.

Number of Fish (FREQUENCY)

Record the number of fish that have the same length or weight in this field. If only one fish was measured at the respective length, enter 1. This field has been included to allow for the entry of length intervals and “punch-board” data where many observations may fit within a measurement; however, this type of length reporting is no longer requested, and the default is set to 1.

Size

The market size of the individuals in the sample will be automatically populated in this field after selection of the Sample record. If the market size of this individual observation was different than that selected for the rest of the individuals in this sample record, select the size from the drop down menu. This information is generally recorded as the dealer reports it, unless sampling occurred prior to the sizing of the individuals. This will be automatically filled in when using the Copy and Paste functions.

Condition

The condition from the linked Sample record will be automatically populated in this field. If the condition for this individual observation was different than that for the rest of the individuals related to this sample record, select the condition here from the drop down menu. Avoid using the 'Unknown' option. See Appendix D for a detailed list of condition types. This will be automatically filled in when using the Copy and Paste functions.

Sample Method

The sample method from the linked Sample record will be automatically populated in this field. If the sample method for this individual observation was different than that for the rest of the individuals related to this sample record, select the sample method here from the drop down menu. This will be automatically filled in when using the Copy and Paste functions.

Comments

Record any additional information pertinent to this particular observation. Sex identified by observation of secondary sex characteristics should be reported in the observation's comments section as: SS=M or SS=F (meaning secondary sex trait, male, or secondary sex trait, female, respectively). It is important that the secondary sex identification is recorded using this standard format.

Inserting and Validating Observation Records

Once the information is entered for all of the observations on this page (up to 10), select the Insert button at the bottom of the page. You must select the Insert button before leaving this page or all records on this page will be deleted. After pressing Insert, a new blank 10 records will appear and more records can be added. To exit the screen without adding records, select Cancel. The Observation screen will then show the Edit Table of the data that has been entered. Here, you can edit, validate, or delete data previously entered, or enter more data by selecting the Add button.

After entering all of the individual observations, select the Validate button. The Validation window will list errors found, such as unequal sample quantities between the Sample and Observation pages, and warnings, such as observations where the entered length value appears to be incorrect (usually outside of a preset, typical range for that species). Select the record associated with the error or warning then the edit button to make corrections and save. When the record is saved, the validation process will automatically re-run.

It is also possible to edit multiple records at once by selecting both check boxes in front of the records and then selecting the edit button. The records will then appear in an edit screen similar to the initial data entry screen. Make sure to save and validate after every edit or correction.

G. Data Entry Schedule and Cross-Checking

This Section only applies to Federal samplers in the Gulf of Mexico and South Atlantic. State samplers should contact their supervisors for guidance on data entry and verification protocols.

Federal samplers are required to follow the data entry schedule and cross-checking instructions. Adhering to the data entry schedule is important because it provides TIP data users with a timeline for when data is available for analysis. The TIP Coordinator will assign cross-checking pairs.

Protocol for Cross-Checking Data in TIPOL:

After entering and validating all of the data into TIPOL for a particular interview, the sampler will send the interview and sampling data sheets to the sampler that is responsible for cross-checking them with all of the information that was entered into TIPOL. This can be done by hand if port samplers are co-located or by scanned PDF document if the port samplers are not co-located. It is important to send the cross-checker the original data or a photocopy of the original data; do not transcribe the data onto a 'clean' data sheet for cross-checking as errors may occur during transcribing.

Once the data sheets are received by the cross-checker, cross-checking is to be completed within TIPOL. Further instruction for using TIPOL to review data can be found in Appendix K. Cross-checkers should be reviewing the data sheets and TIPOL entry to verify the codes selected for each category and the values entered in each section. Cross-checkers should review all data elements in TIPOL, checking for the status of the interview, completeness of the information reported, consistencies in the codes reported, and adherence to TIP standards. If there is disagreement between the checker and the sampler as to the codes that were used, they should discuss their reasons, consult the TIP User's Guide, and contact the TIP Coordinator for final guidance. Once cross-checking is complete, samplers should keep a file record of the hard copies of the data sheets and suggested corrections. Do not throw away data; contact the TIP Coordinator for more information on data storage.

Samplers should notify their cross-checker and the TIP Coordinator if they will be out of the office for an extended period of time as this might affect the cross-checking schedule.

Prior to sending biosamples to the age and growth laboratory, the TIP Interview must be validated, cross-checked, and have edits finalized/completed.

Cross-Checking Schedule:

The previous month's data must be entered and designated as final (with a 'valid' status) into TIPOL and data sheets for proofing must be delivered to the proof reader by the 30th of the next month. Data proofer has until the 10th of the next month to complete proofing and deliver the edits back to the data collector. Data collector has until the 20th of the month to update TIPOL with proofing edits. Note: Samplers can send data sheets to the cross-checker before the deadline and cross-checkers can review interviews before the deadline.

Example:

Sampling interview is conducted on May 18th. The sampler has until June 30th to enter the data into TIPOL and deliver data sheets for proofing to the cross-checker. The cross-checker must proof read the entire TIP entry and deliver edits back to the sampler by July 10th. The original sampler has until July 20th to update TIPOL with the proofing edits.

4

Bioprofile Sampling³

Most federally managed species are included in the **bioprofile sampling program**. This program works along with the TIP size-frequency data collection to provide biological samples for analysis of age, reproduction, feeding, and genetics. Ideally, the biological samples will be obtained from fish already randomly chosen for TIP size-frequency measurements; however, there will be cases where non-random sampling is necessary to meet targets for certain size groups or species. While the TIP database provides for housing of this data, non-random samples must be indicated as quota samples on the Sample and Observation pages (Chapter 3 Section E). In addition, samples will sometimes be taken from recreational fisheries, and must also be indicated as such by the appropriate Fishing Mode designation on the Interview page (Chapter 3 Section B). Refer to Chapter 2 Sections C, D, and F for guidance on selection of sampling locations, trips, and fish.

Biosamples should be collected from all federally managed species and their associated catches. Samples (lengths and biosamples) should be representative of the entire landings for each trip sampled. If the sampling design and landings composition result in the selection of a species that the sampler is unable to take a biosample from, the sampler should measure the length of the individual and record it in the sample. Samplers in the TIP system employed by State Fisheries Management Agencies may collect biosamples from other species as directed by their supervisors.

³ Taken from the "Operations Manual" for Trip Interview Program [TIP] in the State/Federal Cooperative Statistics Program by James R. Zweifel, Date of Revision May, 1988 and the "Bioprofile Sampling Manual" by Barbara J. Palko, Date of Revision January, 1990. Originally modified for this manual in December 1992 and revised in October 1999 and August 2013.

Lists of federally managed species for each regional management area (Gulf of Mexico, South Atlantic, and Caribbean) will be provided by the TIP Coordinator upon request. These lists can change over time so please periodically consult with the TIP Coordinator or visit the regional fisheries management website to get the most current information. In some cases, biological sampling targets will also be provided. Please note that the biological sample target numbers are not the same as the target numbers for TIP size-frequency measurements. In most cases, the priorities will coincide with the size-frequency priorities; however, conflicts may arise. In these cases, the samplers need to contact their supervisors for instructions. Length, and in some cases weight and sex, must be taken for every fish providing a biological sample. Samples can include otoliths or other hard parts (dorsal spines, scales, vertebrae, etc.), gonads, and tissues (heart, muscle, eye lens, etc.). Samplers should consult their supervisors for the most current information on which samples must be collected for which species.

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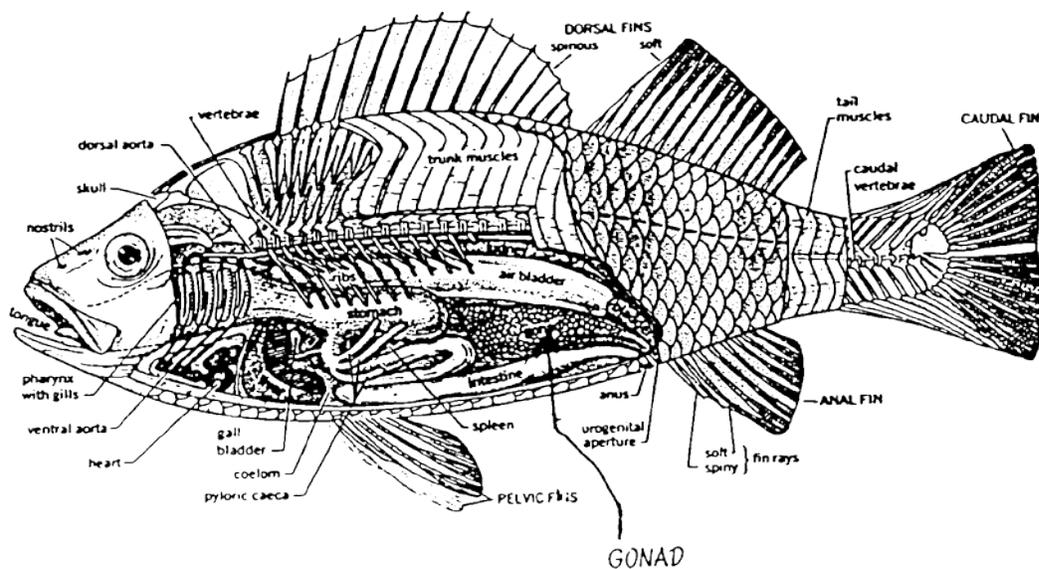


Figure 4.0 depicts a generalized drawing of a fish to provide a scheme to locate the various structures necessary to complete biological sampling. It is not meant to describe any specific species of fish.

A. Species Identification

It is of the utmost importance to identify each fish to the species level. There are several tools that are available to help samplers identify fish. They include the identification guide compiled by NMFS and the published field guides by Kells & Carpenter 2011, Hoese & Moore 1998, and Robins, Ray & Douglas 1999. Also, most state fisheries departments have online fish identification guides for public use. If you are unable to identify a particular fish to species level, record information about the key features (such as coloration, number of dorsal spines and rays, number of anal fin spines and rays, caudal fin shape) and take photographs of the fish for clarification in the laboratory.

It will be helpful for samplers to learn the approved common names of the most frequently landed species in their area as well as their dockside names. However, samplers should not rely solely on the names used by fishermen and processing crew to identify species. Specifically, when seeing a species unfamiliar or unknown to the sampler, the sampler should key out the fish or take several photographs for later ID confirmation rather than rely on the fisherman's assertion.

B. Length Measurements

It is necessary to take length measurements on all fish that biosamples are taken from. These length measurements are taken during the course of TIP sampling and are recorded in the TIP database; however, a summary of the lengths, sample tag numbers, and descriptions of samples taken must accompany the sample shipment to the respective lab. These are provided on summary sheets exported from TIPOL (See Appendix J: Exporting Data from TIPOL). Samplers may report up to three different length measurements per fish (ex. total, fork and standard length; Figure 4.1).

All primary lengths (the first length entered for each observation) are to be fork (centerline) measurements taken in millimeters; recording length in centimeters is acceptable if the sampler records to the nearest tenth decimal place. Fork length is equivalent to centerline length and is measured along the midline of the fish from the anterior-most extremity (tip of the snout) to the posterior end of the middle caudal rays (center of the end of the tail), regardless of tail shape⁴. If a total length is taken as a secondary or tertiary measurement, it should be a maximum total length measured with the lobes of the caudal fin pinched together to give the greatest length of the fish from the anterior-most extremity to the end of the tail fin. See Appendix E for descriptions and illustrations of each available length measurement.

Fish lengths should be measured on a standard-issue fish measuring board with a built in measuring scale or meter stick. The length of the fish is read from the board and written on the TIP field data sheet. Fish lengths can also be recorded with an electronic measuring board or with a measuring tape (laid flat on the ground) if the fish is longer than the board. The TIP Coordinator will provide more information on the availability and use of electronic boards. The punch board system is no longer used by TIP samplers to record incremental lengths or length frequency data. See Appendix E for descriptions and illustrations of the measuring boards and length measurements.

⁴ Lagler, K.F. 1971. Capture, sampling and examination. Pp7-44 in: W.E. Ricker (ed.), *Methods for Assessment of Fish Production in Fresh Waters*. IBP Handbook No 3. 2nd ed. Blackwell Scientific Publications, Oxford, England.

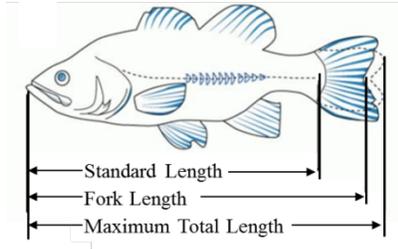


Figure 4.1 The common measurements taken from fish.

C. Weight Measurements

It is not always required for samplers to take individual weight measurements. When individual weights are taken, they should be recorded in grams to the nearest whole gram (preferred) or in pounds to the nearest hundredth of a pound. Weight should be recorded before removing any biosamples (gonads, tissue, age structures, etc.) from the individual. All individuals with recorded weights should also be assigned a condition type. The Condition of the fish refers to the state of processing (physical alteration) the fish has undergone, example: gutted. Avoid using the null field of ungraded. See Chapter 3 Section D and Appendix D for more information on Condition.

Actual operation of the scale will be dependent upon the brand/model of the scale. Scales may need to be covered in a clear plastic bag in order to keep clean and avoid water damage. Typically, a plastic tray is placed on the top of the scale in order to weigh the fish (the scale should be tared to account for the weight of the tray; see the operating instructions for the scale itself). Also be aware that the scale has a limit, but do not deliberately choose smaller fish that fit the capacity of the scale.

D. Sex Determination

Sex may be determined if samplers are allowed to open the body cavity or if the fish have been gutted and still retain a portion of the gonads. Sex can usually be determined by macroscopic inspection of the viscera of gonochoristic species (separate sexes distinct, such as snappers) as opposed to hermaphroditic species (such as groupers and porgies). The gonads are the only bi-lobed organ in the abdominal cavity. The following are general guidelines for macroscopically determining sex of gonochoristic species (individuals having separate sexes); however, each species is different and samplers should refer to the training documents provided by the age and growth laboratories, especially for hermaphroditic species. See Appendix E Section 4 for photographs of gonads from several marine fish species.

The ovaries are paired, sausage-shaped organs suspended from the dorsal wall. They are round to elliptical in cross-section and contain a central cavity or lumen into which ripe ova are shed. The color of ovaries varies from white to pink, or yellow-orange in ripening and ripe adults. As the ovaries become highly vascularized (many blood vessels) to accommodate increased blood flow during reproductive season, very ripe or spent ovaries take on a reddish color. Ovarian texture varies from smooth to slightly granular in young fish to grossly granular in ripe fish.

The testes are also paired and suspended from the dorsal wall within the body cavity. They are elongate and thin, tapering to a point. They can be elliptical to triangular in cross section and are without a lumen characteristic of ovaries. They vary in color from clear in the young to creamy-white in ripe adults. Their texture is smooth and the testes are frequently lobed in mature adults.

In less fresh specimens of both sexes, the color may fade or turn grey. When in doubt, cut a cross-section and note the presence/absence of the lumen (characteristic of ovaries). Lack of the lumen indicates testes/male. Large quantities of fat (up to 100 X the gonad weight) are often attached to the gonads of both sexes during the spawning season. This may cause identification problems because fat can easily be confused for testes, thus mistaking females for males due to the large quantities of attached fat. See Appendix E Section 4 for photographs distinguishing gonads from fat.

It can be difficult to macroscopically identify undeveloped gonads. If the sampler is unable to determine the sex because the gonads are small and undeveloped, sex should be reported as Unknown (U) and maturity stage should be reported as immature. Sex can be more difficult to determine for hermaphroditic species; in cases where the gonads exhibit both male and female appearances, sex should be recorded as Transitional (T). The “spent” condition may also be difficult to macroscopically distinguish in many tropical and subtropical fishes due to extended spawning seasons and rapid physiological transition of the gonad. However, in some species the spent condition may be visually apparent (as in king mackerel). Spent fish should be designated as mature and reported as either Male (M) or Female (F). Note that the “spent” condition may not signal the end of annual spawning as in high latitude species.

If the sex of the individual is determined, enter the sex as M (Male), F (Female), T (Transitional), or select one of these from the drop-down menu. However, it is not always possible to determine sex. In many cases the gonads are removed when the fish is gutted and the sex should be reported as N (No Gonads). If the gonads are not intact, the sex should be recorded as N (No Gonads). Some fish change sex as they mature. In cases where the gonads exhibit both male and female appearance, report the sex as T (Transitional). If the gonads are intact and the sampler is unable to identify the sex by macroscopic observation, report the sex as U (Unknown). If the sampler did not attempt to identify sex, or if the sampler was unable to access the body cavity, report D (Did Not Attempt).

Secondary Sex Characteristics

A secondary sex characteristic is defined as a difference (morphological or outer appearance, and color phases) between the sexes that relate to structures other than the reproductive organs (ovary or testes) and gametes (eggs or sperm). The identification procedure is as follows: First, visually examine the fish and use the observable secondary sex characteristics to determine the sex of the fish. In the Gulf of Mexico and South Atlantic, gag grouper (coloration on abdomen), golden tilefish (size of pre-dorsal ridge flap) and red porgy (color of lips) have well documented secondary sex characteristics (see Appendix E for photographs and examples of other species). Second, use the Observation's 'Comments' field to report secondary sex characteristics in this manner: SS=M or SS=F. If you notice secondary sexual characteristics in other species, please document examples and notify your supervisor and the age and growth laboratory staff.

Invertebrate Sex Identification

To determine the sex of a spiny lobster, examine the shape of the abdominal appendages beneath the tail section (pleopods) and the underside of the cephalothorax. The distinguishing features for

males are: (1) sperm ducts at the base of the fifth pair of walking legs, (2) the second set of walking legs are much longer than the others, and (3) the pleopods are single and leaf-like or paddle-like. The distinguishing features for females are: (1) the fifth pair of walking legs has hook-like structures at the tips, (2) all walking legs are the same length, and (3) the pleopods have two lobes or segments, one that is leaf-like or paddle-like and one that is rod-like or resembles small pincers. See Appendix E Section 4 for photographs distinguishing the sex of lobsters.

To determine the sex of a crab, examine the shape of the abdomen that is folded against the ventral surface (underside). Males are distinguished by tall, narrow abdomens that are tower-like and may form an inverted 'T' shape. Females have broad, wide abdomens, forming an inverted 'V' or 'U' shape. See Appendix E Section 4 for photographs distinguishing the sex of crabs.

Identification of Maturity Stage

Macroscopic identification of maturity stage within sex can be determined for some gonochoristic species if the entire gonads are intact for observation. If the sex and maturity stage cannot be determined because the gonads are not intact or because the sampler does not have access to the body cavity, report N (no gonad) for the sex and Unknown for the maturity stage. Descriptions and photographs of each maturity stage are available in Appendix E Section 4. Samplers should consult with their supervisors to determine the species for which maturity staging is needed and identify the appropriate training material.

If a female lobster or crab is visibly carrying eggs (orange to dark brown colored eggs held underneath the tail), the maturity stage should be classified as 'Berried'. If a female lobster has tar spots (mail sperm) on the underside of the tail, the maturity stage should be classified as 'Tar'.

E. Gonad Sampling

It is not necessary to sample the gonads of every fish. Gonads should not be sampled by occasional ad-hoc selection. Samplers will be updated via separate memorandums as to which species to sample gonads from, along with target sample sizes and sampling protocols. When gonad samples are requested, do not freeze gonads and do not store gonads on ice; instead, subsampling kits will generally be provided. A protocol for subsampling gonads is included in Appendix E Section 5.

F. Tissue Samples

Tissue samples may be taken if the sampler is allowed access to the body cavity and when preservation of the fish's appearance is not needed. It may not be necessary to remove tissue samples from every fish. Samplers will be updated via separate memorandums as to when to take tissue samples and from which species, along with target sample sizes and sampling protocols.

G. Aging Structure Collection

Aging structures include scales, otoliths, spines, and vertebrae. Samples of aging structures should be maintained separately from all other biological samples (gonad, tissue, etc.). For most species,

otoliths are the primary aging structure. After removal, aging structures must be cleaned with fresh water and dried before being placed in containers for shipment (see Section H). The collection of aging structures is reported in the Observations section of TIPOL (see Chapter 3 Section F). Separate memorandums may be provided for sampling quotas per species and aging structure.

SCALE REMOVAL

Unless instructed otherwise, all scales will be taken beneath the tip of the posteriorly extended pectoral fin (Figure 4.2); at least 6-10 scales should be taken and stored in a coin envelope.

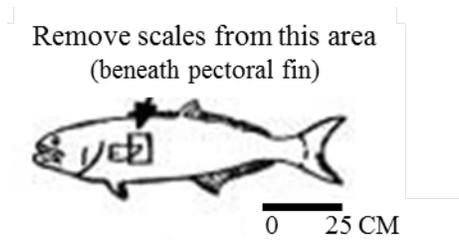


Figure 4.2 Scale removal location.

SPINE REMOVAL

Spines should be cut at the base (Figure 4.3) and stored in a coin envelope. For triggerfish, only dorsal spine(s) will be sampled (no otoliths). Once the spine is collected, remove the excess tissue and flesh. Dry the spine completely and store in a coin envelope.

Protocol for extraction of the first dorsal spine of triggerfish

It is critical to remove the entire spine, including the condyle or ‘knuckle’, as this structure is aged using the most basal portion (Figure 4.3). There are two methods used for triggerfish spine removal (outlined below). The first method is less likely to physically alter the fish and thus be more acceptable to a dealer.

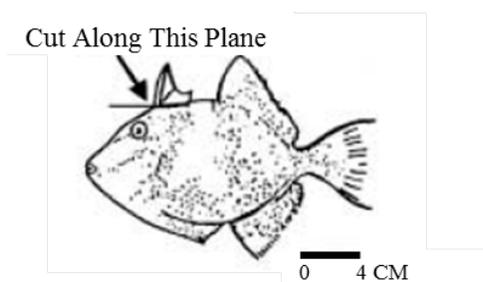


Figure 4.3 Triggerfish spines should be removed at the base.

- Using a heavy knife, cut the membrane between the first and second dorsal spine toward the joint where the condyle articulates with the first basal pterygiophore (Figure 4.4A). Insert the knife anteroventrally into the condyle socket at the posteroventral base of the first dorsal spine. Remove excess connective tissue. Apply distal pressure to the posterior surface of the spine, and move the spine anteriorly until the condyle “pops” out of the socket (Figure 4.4B). Remove the excess tissue/flesh. Dry and store in coin envelope or plastic bag.

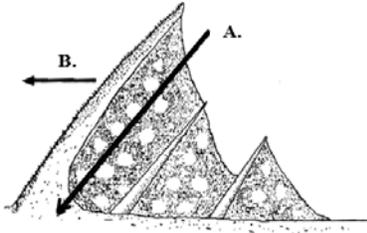


Figure 4.4 Triggerfish spine removal modified from Ingram 2001. Line A: Cutting plane, and Line B: direction of pull for removal of the first dorsal spine.

2. Make 3 cuts around the spine: 2 on either side of the spine's base to detach it from the muscle tissue, and a third directly behind the spine through the membrane toward the joint (Figure 4.5). The spine with the 'knuckle' intake should then be pulled forward until it 'pops' out of the socket.

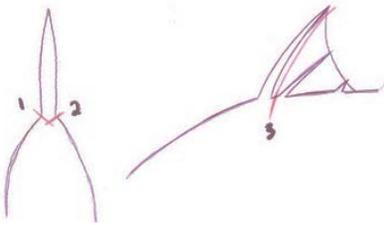


Figure 4.5 Three cuts around the first dorsal spine of triggerfish for spine removal.

OTOLITH REMOVAL

The otoliths are located inside the otic capsule toward the posterior end of the ventral surface of the skull (behind the top of the gill arches), one on each side of the head. Even though there are two otoliths, only one is needed for determining age; samplers typically remove only the left otolith for biosamples. If the sampler is unable to remove the left otolith or if the left otolith is damaged, they may remove the right otolith instead. There may be instances when both otoliths may be requested for projects such as otolith chemistry. Samplers will be updated via separate memorandums as to which species to sample both otoliths from, along with target sample sizes and sampling protocols.

There are several methods to remove otoliths. The method used will depend on the size of the fish and whether its appearance needs to be preserved. The following three methods have been used by TIP samplers: (1) horizontal cut, (2) vertical cut, (3) hidden cut (Figure 4.6). The most commonly used method is the hidden cut because it is the least destructive and usually the quickest. Only the hidden cut method is described here; all three methods are described in Appendix E Section 2.

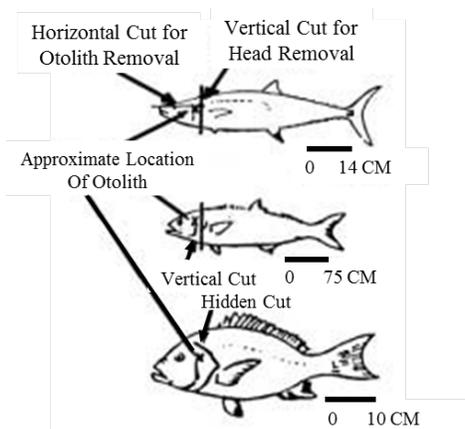


Figure 4.6 Otolith removal methods.

Hidden Cut

When the appearance of the fish is important, the hidden cut should be used. This is the most commonly used method because it is the least destructive and usually the quickest of the three methods. This method is also known as the ‘under the gills’ method because the otic capsule is accessed by lifting the operculum and pulling down the gill arch. Typically, the otic capsule is removed with the use of a woodworking chisel; however, tools such as gouge chisels and slime knives may also be used. See Appendix G for a complete list of tools used for otolith removal.

For illustrations of each step of this method refer to Figure 4.7. For photographs of each step, refer to Appendix E Section 2. The procedure is as follows: First, on the left side of the fish, lift the operculum as far as possible; a small cut made at the top of the operculum where it meets the body will allow for increased space and is generally unnoticeable. Pull down the top of the gill arch, and in the area immediately anterior of the upper end of the first gill arch, scrape away the muscle-tissue from the otic vesicle (Figure 4.7). In most fish a slight "bump" will coincide with the distal (outside) surface of the otic capsule (Figure 4.7C). Gently remove the thin layer of bone using a sharp chisel to shave it off a little at a time (Figure 4.7D). This is typically done with the chisel's flat side down. When the capsule is open, a cavity will appear with a visible white otolith (Figure 4.7E). Gently remove the otolith with forceps (Figure 4.7F). Depending on the orientation of the otolith in the cavity, sometimes it is useful to push down on the top portion of the otolith (with forceps) forcing the bottom side to rise out of the cavity, allowing for easier removal.

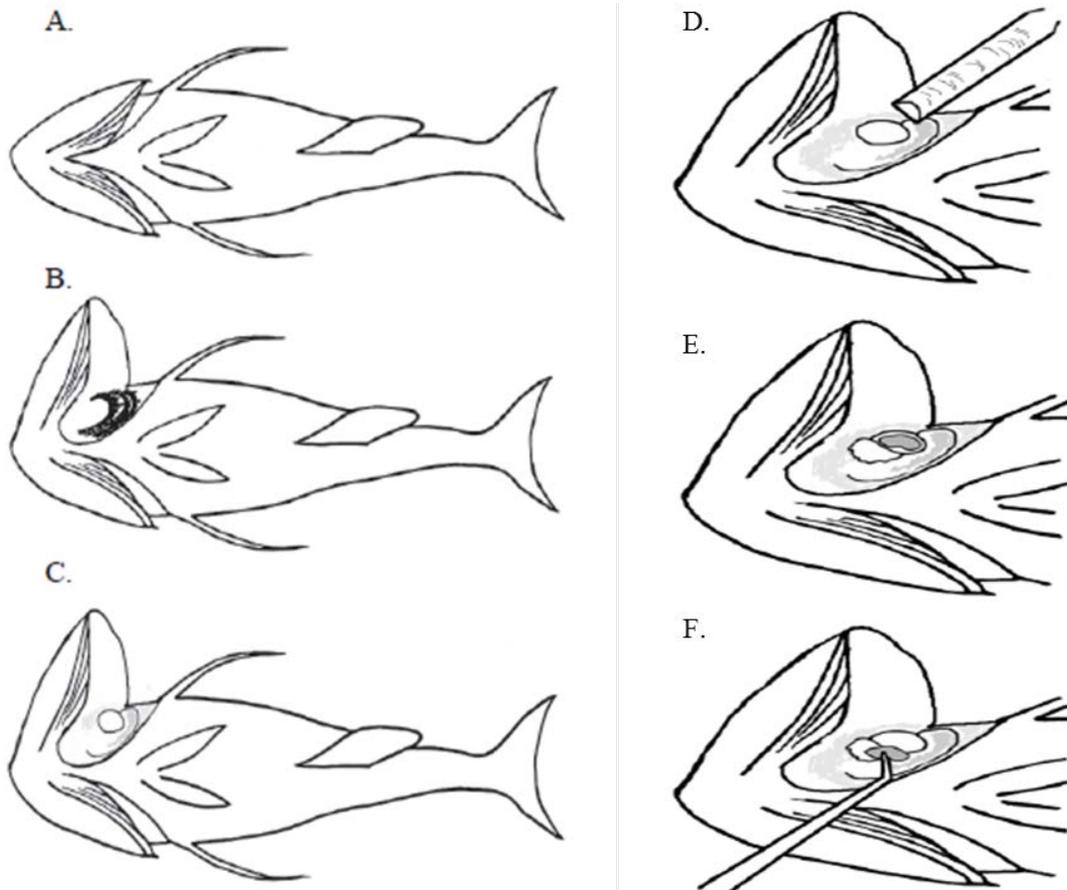


Figure 4.7 Ventral view of otolith removal by the ‘Hidden Cut’ method through the gill arches under the operculum. Modified from Vanderkooy 2009, figures 3.1 and 3.2. A. Ventral view of fish. B. Gill cover and operculum flared exposing the gill arches. C. gill cover flared with gills removed exposing the otic capsule. D. Utilization of a chisel or other sharp object to scrape off capsule surface. E. Open otic capsule with otolith exposed. F. Otolith removal with forceps.

OTOLITH STORAGE IN THE FIELD

Immediately following removal, excess tissue should be removed from the otoliths, and the otoliths should be stored in individual containers. To facilitate data recording (standard data sheet or electronic measuring board) and otolith cleaning, it is recommended that samplers store otoliths in well-containers with lids. These containers are depicted in Appendix G and come in a variety of sizes, ranging from 6 to 24 wells per container. Other storage containers such as pill organizers are also acceptable. Samplers may also store otoliths directly in coin envelopes; this facilitates mailing, however, samplers must properly clean and dry the otoliths before mailing. Refer to Appendix G for a complete list of required, recommended, and optional sampling gear.

State samplers should contact their supervisors for agency-specific requirements for otolith storage and cleaning.

H. Sample Preservation

At the end of each sampling day, all perishable samples must be stored in the appropriate manner (refrigeration, freezing, formalin, ETOH, DMSO, etc). Permanent labels must be securely attached to whatever container (bag, vial, coin envelope, etc.) is used for individual sample storage. If vials are used, labels must also be inserted into the vials or the vials must be inserted into individual pre-labeled coin envelopes. Labels for the biosamples and aging structures should be checked against the Tag Numbers and Species reported in TIPOL. The tag number identifies the fish from which the sample was taken. All biosamples taken from one fish should have the same tag number.

Otolith Cleaning & Storage

All otoliths must be cleaned with fresh water and dried before being placed in vials or coin envelopes for mailing. The following protocol for cleaning and storing otoliths should be followed by all Federal samplers and other samplers who are sending otoliths to the Federal aging laboratories. State samplers should contact their supervisors for agency-specific protocols for otolith cleaning and storage.

1. Wipe off excess tissue
2. Rinse with fresh water
3. Dry completely
4. Label coin envelopes (tag number, species, etc.)
5. Place otoliths in pre-labeled envelopes and seal each envelope

Do not soak otoliths in water or any liquid. Do not use bleach or alcohol on otoliths. Steps 1 and 2 can be completed in the field or office. Typically step 1 is completed in the field followed by steps 2 through 5 in the office.

I. Sample Reporting and Mailing

State Samplers should contact their supervisors for guidance on sample packaging, labeling, and mailing procedures. Federal TIP Samplers should adhere to the following procedures:

Biological samples along with copies of exported TIP data should be sent to the following:

Gulf of Mexico Biological Samples: NOAA Fisheries - Panama City Lab
Veronica Beech
Fisheries Biology Unit
3500 Delwood Beach Road
Panama City, FL 32408-7499

Atlantic Ocean Biological Samples: NOAA Fisheries - Beaufort Lab
Jennifer Potts
Sustainable Fisheries Branch
101 Pivers Island Road
Beaufort, NC 28516-9722

Note: ALL king and Spanish mackerel biological samples should be sent to the Gulf aging facility regardless of region of capture.

Biosample Mailing Schedule

Biosamples (otoliths and spines) must be mailed to the designated aging lab ASAP once the TIPOL proofing edits have been completed. The deadline for otolith mailing is the 30th of the month when the TIPOL proofing edits were completed. Otoliths and spines can be mailed prior to the deadline as long as the TIPOL entries have been proofed. Otoliths and spines should be mailed every month regardless of how many a sampler has collected. Example: Otoliths and spines collected in May, with data entered in June and cross-checked in July, must be mailed by July 30th.

Otolith Packaging and Labeling

Otoliths should be individually packed in pre-labeled coin envelopes. Small, fragile otoliths such as king mackerel, Spanish mackerel, and amberjack otoliths should be individually packed in small plastic vials (not directly in coin envelopes). The vials should then be placed in pre-labeled coin envelopes. The coin envelopes should be grouped by species for each interview and packed in plastic bags (one bag for each interview) that can be shipped in a cardboard box along with copies of the TIPOL data summaries (See Appendix J for instructions on exporting data from TIPOL). Each coin envelope and vial must be labeled with the following:

Otolith Labels: Printed on standard label sheets attached with adhesive

Required Information:

1. Interview Number
2. Complete Tag Number
3. Accepted Species Common Name (not dock name)

The information for the labels can be exported directly from TIPOL to Microsoft Excel and Word for printing on standard label sheets. See Appendix J 'Exporting Data from TIPOL' for instructions. Labels may also be hand-written or stamped directly on envelope.

Care must be taken in recording the above information. It is of paramount importance that the COMPLETE TAG NUMBER and SPECIES recorded on each sample envelope or label match the tag number and species in the Observation Section of TIPOL. These tag numbers will be used to match biological samples with other TIP information mentioned previously in this manual. Make sure to double check all envelopes, labels, and data sheets for errors before mailing.

Appendix A

Species List

List of Valid Species Codes (sorted by NODC Code)

Common name	Scientific name	NODC Code	NMFS Code	Abbrév.
Finfish, unclassified			5290	
Lionfish	<i>Pterois</i>		2080	
Jellyfishes, scyphozoa	<i>Scyphozoa</i>	373000000000	8145	
Conchs, strombus	<i>Strombus</i>	510358010000	7750	
Pink or queen conch	<i>Strombus gigas</i>	510358010300		
West Indian fighting conch	<i>Strombus pugilis</i>	510358010500		
Abalone barleysnail	<i>Barleeia haliotiphila</i>	510386020600		
Belleglade murex	<i>Murex bellegladeensis</i>	510501101700		
Well-ribbed dovesnail	<i>Anachis lafresnayi</i>	510503030600		
Knobbed whelk	<i>Busycon carica</i>	510507010100		
Channeled whelk	<i>Busycotypus canaliculatus</i>	510507020100		
Mollusks, two shell, bivalvia	<i>Bivalvia</i>	550000000000	7720	
Eastern Atlantic oyster	<i>Crassostrea virginica</i>	551002010200		
Mangrove oyster	<i>Crassostrea rhizophorae</i>	551002010700		
Mussels, unionidae	<i>Unionidae</i>	551202000000	7830	
Quahog, hybrid	<i>Mercenaria spp.</i>	551547110000		
Quahog, northern	<i>Mercenaria mercenaria</i>	551547110100		
Quahog, southern	<i>Mercenaria campechiensis</i>	551547110200		
Squids, cephalopoda	<i>Cephalopoda</i>	570000000000		
Squids, loliginidae	<i>Loliginidae</i>	570601000000	8030	
Squids, loligo	<i>Loligo</i>	570601010000		
Longfin squid	<i>Loligo pealeii</i>	570601010200	8032	
Octopuses, octopodidae	<i>Octopodidae</i>	570801000000	7860	
Octopuses, octopus	<i>Octopus</i>	570801020000		
Common octopus	<i>Octopus vulgaris</i>	570801020200		
Crustacea	<i>Crustacea</i>	610000000000	9106	
Crustaceans, decapoda	<i>Decapoda</i>	617500000000	7381	
Shrimps, penaeidea	<i>Penaeidea</i>	617700000000		
Penaeid shrimps, penaeidae	<i>Penaeidae</i>	617701000000		
Penaeid shrimp, penaeus	<i>Penaeus</i>	617701010000		
Brown shrimp	<i>Penaeus aztecus</i>	617701010100	7310	
Shrimp, pink	<i>Farfantepenaeus duorarum</i>	617701010200		
White shrimp	<i>Penaeus setiferus</i>	617701010300	7340	
Southern white shrimp	<i>Penaeus schmitti</i>	617701010700		

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Southern brown shrimp	<i>Penaeus subtilis</i>	617701010800		
Seabob	<i>Xiphopenaeus kroyeri</i>	617701070100	7338	
Rock shrimp	<i>Sicyonia brevirostris</i>	617704010100		
Florida lobsterette	<i>Nephropsis aculeata</i>	618101010100		
American lobster	<i>Homarus americanus</i>	618101020100	7270	
Spiny lobsters, palinuridae	<i>Panuliridae</i>	618201000000		
Caribbean spiny lobster	<i>Panulirus argus</i>	618201010100	7300	
Spotted spiny lobster	<i>Panulirus guttatus</i>	618201010400		
Slipper lobsters, scyllaridae	<i>Scyllaridae</i>	618202000000	7280	
Ridged slipper lobster	<i>Scyllarides nodifer</i>	618202020200		
Spanish slipper lobster	<i>Scyllarides aequinoctialis</i>	618202020300		
Spider crabs, majidae	<i>Majidae</i>	618701000000	7187	
Channel clinging crab	<i>Mithrax spinosissimus</i>	618701250600		
Jonah crab	<i>Cancer borealis</i>	618803010700	7110	
Speckled swimming crab	<i>Arenaeus cribrarius</i>	618901010100		
Blue crab	<i>Callinectes sapidus</i>	618901030100	7000	
Lesser blue crab	<i>Callinectes similis</i>	618901030200		
Florida stone crab	<i>Menippe mercenaria</i>	618902130100	7180	
Batwing coral crab	<i>Carpilius corallinus</i>	618902400100		
Red deepsea crab	<i>Geryon quinquedens</i>	618904010100	7100	
Golden crab	<i>Geryon fenneri</i>	618904010400	7102	
Blue land crab	<i>Cardisoma guanhumii</i>	618914010100		
Mantis shrimp, stomatopoda	<i>Stomatopoda</i>	619100000000	7385	
Echinoderms	<i>Echinodermata</i>	810000000000		
Starfishes, asteroidea	<i>Asteroidea</i>	810400000000		
Asteriidae	<i>Asteriidae</i>	811703000000		
Heart urchins	<i>Echinoidea</i>	813600000000		
Echinoidea	<i>Echinoidea</i>	814900000000		
Strongylocentrotus	<i>Strongylocentrotus</i>	814903020000		
Sea cucumbers, holothuroidea	<i>Holothuroidea</i>	817000000000	8085	
Atlantic hagfish	<i>Myxine glutinosa</i>	860601020100		
Gnathostomata870000000000	<i>Gnathostomata 870000000000</i>	870000000000		
Sharks and rays, chondrichthye	<i>Chondrichthyes</i>	870100000000	3508	
Elasmobranchii	<i>Elasmobranchii</i>	870200000000		
Selachimorpha	<i>Selachimorpha</i>	870300000000		
Sixgill sharks, hexanchidae	<i>Hexanchidae</i>	870502000000	3577	
Sixgill shark	<i>Hexanchus griseus</i>	870502010100	3528	SGS
Bigeyed sixgill shark	<i>Hexanchus vitulus</i>	870502010200	3529	
Sevengill shark	<i>Notorynchus cepedianus</i>	870502020200	3587	
Bigeyed sevengill shark	<i>Heptranchias perlo</i>	870502030100	3583	
Rhincodontidae	<i>Rhincodontidae</i>	870701000000		

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Wobbegongs, orectolobidae	<i>Orectolobidae</i>	870702000000		
Sand tiger	<i>Odontaspis taurus</i>	870703010100	3482	STG
Mackerel sharks, lamnidae	<i>Lamnidae</i>	870704000000		
White shark	<i>Carcharodon carcharias</i>	870704010100	3512	
Thresher sharks	<i>Alopias</i>	870704040000	3500	
Thresher shark	<i>Alopias vulpinus</i>	870704040100	3509	THS
Bigeye thresher	<i>Alopias superciliosus</i>	870704040200	3510	
Mako sharks	<i>Isurus</i>	870704050000	3580	
Shortfin mako	<i>Isurus oxyrinchus</i>	870704050100	3505	
Nurse shark	<i>Ginglymostoma cirratum</i>	870710010100	3480	NES
Sharks, scyliorhinoidei	<i>Scyliorhinoidei</i>	870800000000		
Chain dogfish	<i>Scyliorhinus retifer</i>	870801030400		FCS
Requiem sharks, carcharhinidae	<i>Carcharbinidae</i>	870802000000		
Tiger shark	<i>Galeocerdo cuvier</i>	870802020100	3515	TS
Atlantic sharpnose shark	<i>Rhizoprionodon terraenovae</i>	870802030100	3518	SNS
Caribbean sharpnose shark	<i>Rhizoprionodon porosus</i>	870802030300	3581	
Smooth dogfish	<i>Mustelus canis</i>	870802040100	3511	SDF
Requiem sharks, carcharhinus	<i>Carcharbinus</i>	870802050000		
Dusky shark	<i>Carcharbinus obscurus</i>	870802050100	3514	DUS
Bull shark	<i>Carcharbinus leucas</i>	870802050200	3497	BUS
Sandbar shark	<i>Carcharbinus plumbeus</i>	870802050300	3513	SBS
Blacknose shark	<i>Carcharbinus acronotus</i>	870802050400	3485	BNS
Bignose shark	<i>Carcharbinus altimus</i>	870802050500	3491	
Silky shark	<i>Carcharbinus falciformis</i>	870802050600	3493	SIS
Blacktip shark	<i>Carcharbinus limbatus</i>	870802050700	3495	BTS
Oceanic whitetip shark	<i>Carcharbinus longimanus</i>	870802050800	3498	
Reef shark	<i>Carcharbinus perezii</i>	870802051100	3490	RFS
Spinner shark	<i>Carcharbinus brevipinna</i>	870802053000	3496	SRS
Finetooth shark	<i>Carcharbinus isodon</i>	870802053100	3481	
Blue shark	<i>Prionace glauca</i>	870802060100	3504	
Lemon shark	<i>Negaprion brevirostris</i>	870802080100	3517	LNS
Hammerhead sharks, sphyrnidae	<i>Sphyrnidae</i>	870803000000	3516	
Hammerhead sharks, sphyrna	<i>Sphyrna</i>	870803010000		
Bonnethead	<i>Sphyrna tiburo</i>	870803010100	3483	BHD
Scalloped hammerhead	<i>Sphyrna lewini</i>	870803010300	3523	SHH
Great hammerhead	<i>Sphyrna mokarran</i>	870803010400	3524	GHH
Shark fins, unclassified	<i>Squaliformes</i>	870900000000		
Dogfish, squaloidei	<i>Squaloidei</i>	871000000000		
Dogfishes, squalidae	<i>Squalidae</i>	871001000000	3503	
Spiny dogfish	<i>Squalus acanthias</i>	871001020100	3521	SPD
Sand devil	<i>Squatina dumeril</i>	871101010200	3582	

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Skates and rays, rajiformes	<i>Rajiformes</i>	871300000000	2860	
Sawfishes	<i>Pristis</i>	871301010000		
Sawfish	<i>Pristis pristis</i>	871301010300		
Atlantic guitarfish	<i>Rhinobatos lentiginosus</i>	871302010100		
Skates, rajidae	<i>Rajidae</i>	871304000000	3650	
Skates	<i>Raja</i>	871304010000		
Clearnose skate	<i>Raja eglanteria</i>	871304011300		CNS
Stingrays, dasyatidae	<i>Dasyatidae</i>	871305000000	2862	
Stingrays, dasyatis	<i>Dasyatis</i>	871305010000		
Southern stingray	<i>Dasyatis americana</i>	871305010300		SSR
Roughtail stingray	<i>Dasyatis centroura</i>	871305010400		
Atlantic stingray	<i>Dasyatis sabina</i>	871305010500		
Bluntnose stingray	<i>Dasyatis say</i>	871305010600		
Smooth butterfly ray	<i>Gymnura micrura</i>	871305020200		
Eagle rays, myliobatidae	<i>Myliobatidae</i>	871307000000		
Spotted eagle ray, aetobatus na	<i>Aetobatus narinari</i>	871307010100		
Cownose ray	<i>Rhinoptera bonasus</i>	871307030100		CNR
Manta rays, mobulidae	<i>Mobulidae</i>	871308000000		
Manta ray	<i>Manta birostris</i>	871308010100		
Finfish, unclassified	<i>Osteichthyes</i>	871700000000	5260	
Gars, lepisosteidae	<i>Lepisosteidae</i>	873201000000	1330	
Longnose gar	<i>Lepisosteus osseus</i>	873201010100		
Spotted gar, lepisosteus oculat	<i>Lepisosteus oculatus</i>	873201010200		
Shortnose gar	<i>Lepisosteus platostomus</i>	873201010300		
Alligator gar	<i>Lepisosteus spatula</i>	873201010400		
Teleostei	<i>Teleostei</i>	873500000000		
Ladyfishes, elopidae	<i>Elopidae</i>	873801000000		
Ladyfish	<i>Elops saurus</i>	873801010100	4410	LF
Great herring	<i>Elops hawaiiensis</i>	873801010300	4411	
Tarpon	<i>Megalops Atlanticus</i>	873802020100	4350	TAR
Bonefishes, albulidae	<i>Albulidae</i>	873901000000		
Bonefish	<i>Albula vulpes</i>	873901010100	300	BON
Eels, anguilliformes	<i>Anguilliformes</i>	874000000000	1140	
Eels, anguilloidei	<i>Anguilloidei</i>	874100000000		
American eel	<i>Anguilla rostrata</i>	874101010100	1141	AEL
Morays, muraenidae	<i>Muraenidae</i>	874105000000	1143	BTM
Viper moray	<i>Enchelycore nigricans</i>	874105030100		
Green moray	<i>Gymnothorax funebris</i>	874105040100		GM
Spotted moray, gymnothorax mori	<i>Gymnothorax moringa</i>	874105040300		SPM
Reticulate moray	<i>Muraena retifera</i>	874105050200		RM
Stout moray	<i>Muraena robusta</i>	874105050400		

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Sapphire eel	<i>Cynoponticus savanna</i>	874108030200		
Congers, congridae	<i>Congridae</i>	874112000000	1136	
Conger	<i>Conger</i>	874112010000		
Conger eel	<i>Conger oceanicus</i>	874112010100	1142	CE
Snake eels, ophichthidae	<i>Ophichthidae</i>	874113000000	1137	
Goldspotted eel, myrichthys ocu	<i>Myrichthys oculatus</i>	874113070100		
Snake eels, ophichthus	<i>Ophichthus</i>	874113100000		KSE
Shrimp eel	<i>Ophichthus gomesi</i>	874113100100		
Palespotted eel, ophichthus oce	<i>Ophichthus ocellatus</i>	874113100300		PSE
Herrings, clupeidae	<i>Clupeidae</i>	874701000000	1689	
American shad	<i>Alosa sapidissima</i>	874701010100	3474	
Menhaden	<i>Brevoortia</i>	874701040000	2210	
Atlantic menhaden	<i>Brevoortia tyrannus</i>	874701040100		
Gulf menhaden	<i>Brevoortia patronus</i>	874701040300		
Yellowfin menhaden	<i>Brevoortia smithi</i>	874701040400		
Gizzard shad, dorosoma cepedian	<i>Dorosoma cepedianum</i>	874701050100	1340	
Threadfin shad	<i>Dorosoma petenense</i>	874701050200	3470	
Round herring	<i>Etrumeus teres</i>	874701060100	1683	
Atlantic thread herring	<i>Opisthonema oglinum</i>	874701070100	1687	
False pilchard	<i>Harengula clupeola</i>	874701080100		
Redear sardine	<i>Harengula humeralis</i>	874701080200		
Scaled sardine, harengula jagua	<i>Harengula jaguana</i>	874701080300		
Dwarf herring	<i>Jenkinsia lamprotaenia</i>	874701090100		
Herrings, sardinella	<i>Sardinella</i>	874701100000		
Spanish sardine	<i>Sardinella aurita</i>	874701100100	3870	
Anchovies, engraulidae	<i>Engraulidae</i>	874702000000	60	
Striped anchovy	<i>Anchoa hepsetus</i>	874702020100		STA
Bay anchovy, anchoa mitchilli	<i>Anchoa mitchilli</i>	874702020200	62	
Slough anchovy	<i>Anchoa delicatissima</i>	874702021100	64	
Bocon	<i>Cetengraulis edentulus</i>	874702040100		
Chubs, coregonus	<i>Coregonus</i>	875501010000	720	
Salmon and trout, salmo	<i>Salmo</i>	875501030000		
Arctic char	<i>Salvelinus alpinus</i>	875501040200	701	
Night smelt	<i>Spirinchus starksi</i>	875503040100	3734	
Esox	<i>Esox</i>	875801010000		
Yellowfin aulopus	<i>Aulopus nanae</i>	876201010200		
Lizardfishes, synodontidae	<i>Synodontidae</i>	876202000000		
Lizard fishes	<i>Synodus</i>	876202010000		
Inshore lizardfish	<i>Synodus foetens</i>	876202010100		ILF
Sand diver, synodus intermedius	<i>Synodus intermedius</i>	876202010200		SD
Shortjaw lizardfish	<i>Saurida normani</i>	876202030300		

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Snakefishes, trachinocephalus	<i>Trachinocephalus</i>	876202040000		
Snakefish, trachinocephalus myo	<i>Trachinocephalus myops</i>	876202040100		SNF
Longnose lancetfish	<i>Alepisaurus ferox</i>	876209010200		
Shortnose lancetfish	<i>Alepisaurus brevirostris</i>	876209010300		
Minnnows, cyprinidae	<i>Cyprinidae</i>	877601000000	2230	
Goldfish	<i>Carassius auratus</i>	877601030100	1360	
Silver orfe	<i>Ctenopharyngodon idella</i>	877601230100	4800	
Buffalofishes	<i>Ictiobus</i>	877604070000	420	
North american freshwater catf	<i>Ictaluridae</i>	877702000000		
Catfishes, ictalurus	<i>Ictalurus</i>	877702010000	660	
Blue catfish	<i>Ictalurus furcatus</i>	877702010200	662	
Graceful catfish	<i>Ictalurus punctatus</i>	877702010500	663	
White catfish	<i>Ameiurus catus</i>	877702060200		
Brown bullhead	<i>Ameiurus nebulosus</i>	877702060500	665	
Sea catfishes, ariidae	<i>Ariidae</i>	877718000000	3380	
Gafftopsail catfish	<i>Bagre marinus</i>	877718010100		GCF
Hardhead catfish	<i>Arius felis</i>	877718020200		HHC
Toadfishes, batrachoididae	<i>Batrachoididae</i>	878301000000	4500	
Toadfishes, opsanus	<i>Opsanus</i>	878301020000		
Oyster toadfish	<i>Opsanus tau</i>	878301020100		OYT
Leopard toadfish	<i>Opsanus pardus</i>	878301020300		LDT
Goosefish	<i>Lophius americanus</i>	878601010100	120	
Frogfishes, antennariidae	<i>Antennariidae</i>	878702000000		
Sargassumfish	<i>Histrio histrio</i>	878702010100		
Abantennarius	<i>Abantennarius</i>	878702040000		
Shortnose batfish	<i>Ogocephalus nasutus</i>	878704010300		
True cods, gadidae	<i>Gadidae</i>	879103000000		
Atlantic cod	<i>Gadus morhua</i>	879103040200	820	
Codlings	<i>Urophycis</i>	879103100000	1550	
Red hake	<i>Urophycis chuss</i>	879103100100	1520	RH
Spotted hake	<i>Urophycis regia</i>	879103100200		
White hake	<i>Urophycis tenuis</i>	879103100300	1540	WH
Gulf hake	<i>Urophycis cirrata</i>	879103100500		GUH
Carolina hake	<i>Urophycis earlli</i>	879103100600		CH
Southern hake, urophycis florid	<i>Urophycis floridana</i>	879103100700		SOH
Cusk	<i>Brosme brosme</i>	879103110100	960	
Haddock	<i>Melanogrammus aeglefinus</i>	879103130100	1480	
Silver hake	<i>Merluccius bilinearis</i>	879104010100	5090	
Luminous hake	<i>Steindachneria argentea</i>	879104020100		
Cusk eels, ophidiidae	<i>Ophidiidae</i>	879201000000	1138	
Bearded brotula, brotula barbat	<i>Brotula barbata</i>	879201040100	1144	BRO

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Longnose cusk-eel	<i>Ophidion beani</i>	879201060100		
Blotched cusk-eel	<i>Ophidion grayi</i>	879201060200		
Blackfin grenadier	<i>Caelorinchus caribbeaus</i>	879401040100		
Flyingfishes and halfbeaks, ex	<i>Exocoetidae</i>	880301000000	1310	
Margined flyingfish	<i>Cypselurus cyanopterus</i>	880301010300		
Atlantic flyingfish, cypselur.m	<i>Cypselurus melanurus</i>	880301011400		
Ballyhoos, hemiramphus	<i>Hemiramphus</i>	880301020000		
Ballyhoo	<i>Hemiramphus brasiliensis</i>	880301020100	150	BAL
Balao	<i>Hemiramphus balao</i>	880301020200		
Silverstripe halfbeak	<i>Hyporhamphus unifasciatus</i>	880301030100		
Needlefishes, belonidae	<i>Belonidae</i>	880302000000		
Flat needlefish	<i>Ablennes bians</i>	880302010100		
Needlefish, Atlantic	<i>Strongylura marina</i>	880302020100		
Needlefishes, tylosurus	<i>Tylosurus</i>	880302030000	3680	
Houndfish	<i>Tylosurus crocodilus</i>	880302030200		HF
Keeltail needlefish	<i>Platybelone argalus</i>	880302040100		
Rainbowfish, poecilia reticulat	<i>Poecilia reticulata</i>	880408020500		
Green swordtail	<i>Xiphophorus helleri</i>	880408060100		
Silversides, atherinidae	<i>Atherinidae</i>	880502000000	3620	
Hardhead silverside	<i>Atherinomorus stipes</i>	880502050100		
Beardfishes	<i>Polymixiidae</i>	880901000000		
Beardfish	<i>Polymixia lowei</i>	880901010100		
Darwin's redfish	<i>Gephyroberyx darwini</i>	881002010100		
Alfonsino	<i>Beryx splendens</i>	881005010200	16	
Squirrelfishes, holocentridae	<i>Holocentridae</i>	881008000000	4120	
Squirrelfish	<i>Holocentrus ascensionis</i>	881008010100		SQF
Longspine squirrelfish, holocen	<i>Holocentrus rufus</i>	881008010300		LSS
Blackbar soldierfish	<i>Myripristis jacobus</i>	881008020100		BBS
Bigeye soldierfish	<i>Ostichthys trachypoma</i>	881008030100		BSF
Spinycheek soldierfish	<i>Corniger spinosus</i>	881008060100		
Buckler dory	<i>Zenopsis conchifera</i>	881103020200		
Deepbody boarfish	<i>Antigonia capros</i>	881106010100		
Opah (regius)	<i>Lampris regius</i>	881301010100		
Opah (guttatus)	<i>Lampris guttatus</i>	881301010200	2503	
Cornetfishes	<i>Aulostomidae</i>	881901000000		
Cornetfishes, fistulariidae	<i>Fistulariidae</i>	881902000000		
Tobacco trumpetfish	<i>Fistularia tabacaria</i>	881902010100		BSC
Longspine snipefish	<i>Macrorhamphosus scolopax</i>	881903010100		
Seahorses, syngnathidae	<i>Syngnathidae</i>	882002000000		
Chain pipefish	<i>Syngnathus louisianae</i>	882002010400		
Spotted seahorse	<i>Hippocampus erectus</i>	882002020100		

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Scorpionfishes, scorpaenidae	<i>Scorpaenidae</i>	882601000000	2959	
Shortspine thornyhead	<i>Sebastolobus alascanus</i>	882601020100	2958	
Blackbelly rosefish	<i>Helicolenus dactylopterus</i>	882601030100	2420	BBR
Spinycheek scorpionfish	<i>Neomerinthe hemingwayi</i>	882601040200	3263	SCS
Longsnout scorpionfish	<i>Pontinus castor</i>	882601050100		LSC
Longspine scorpionfish	<i>Pontinus longispinis</i>	882601050300		
Scorpionfishes, scorpaena	<i>Scorpaena</i>	882601060000		
Longfin scorpionfish	<i>Scorpaena agassizi</i>	882601060100		
Hunchback scorpionfish	<i>Scorpaena dispar</i>	882601060700		
Spotted scorpionfish	<i>Scorpaena plumieri</i>	882601061400	3265	SSC
Reef scorpionfish	<i>Scorpaenodes caribbaeus</i>	882601120100		RSC
Firefish	<i>Pterois volitans</i>	882601140100		
North american searobins	<i>Prionotus</i>	882602010000		
Northern searobin	<i>Prionotus carolinus</i>	882602010100		
Striped searobin	<i>Prionotus evolans</i>	882602010200		
Leopard searobin	<i>Prionotus scitulus</i>	882602010300		
Bighead searobin	<i>Prionotus tribulus</i>	882602010400		
Mexican searobin	<i>Prionotus paralatus</i>	882602011400		
Bluespotted searobin	<i>Prionotus roseus</i>	882602011700		
Blackwing searobin	<i>Prionotus rubio</i>	882602011800		
Shortwing searobin	<i>Prionotus stearnsi</i>	882602012100		
Slender searobin	<i>Peristedion gracile</i>	882602030300		
Armored searobin	<i>Peristedion miniatum</i>	882602030700		
Lingcod	<i>Ophiodon elongatus</i>	882701020100	2090	
Longhorn sculpin	<i>Myoxocephalus octodecemspinosu</i>	883102220900		
Flying gurnard, dactylopterus v	<i>Dactylopterus volitans</i>	883201010100		FLG
Spiny-rayed bony fishes, percoi	<i>Percoidei</i>	883500000000		
Snooks, centropomidae	<i>Centropomidae</i>	883501000000		
Swordspine snook	<i>Centropomus ensiferus</i>	883501010200		
Fat snook	<i>Centropomus parallelus</i>	883501010300		
Tarpon snook	<i>Centropomus pectinatus</i>	883501010400		
Snook	<i>Centropomus undecimalis</i>	883501010500	3790	
Groupers and sea basses, serra	<i>Serranidae</i>	883502000000	1410	
Striped bass, morone saxatilis	<i>Morone saxatilis</i>	883502010200	4180	
Sea basses, centropristis	<i>Centropristis</i>	883502030000		
Black sea bass	<i>Centropristis striata</i>	883502030100	3360	BSB
Centropristis melanus	<i>Centropristis melanus</i>	883502030300		
Bank sea bass	<i>Centropristis ocyurus</i>	883502030400	3375	YSB
Rock sea bass	<i>Centropristis philadelphica</i>	883502030500	3362	RSB
Groupers, epinephelus	<i>Epinephelus</i>	883502040000		
Goliath grouper, e. Itajara	<i>Epinephelus itajara</i>	883502040100	1850	JEW

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Rock hind	<i>Epinephelus adscensionis</i>	883502040200	1412	ROH
Speckled hind	<i>Epinephelus drummondhayi</i>	883502040400	1411	SH
Yellowedge grouper	<i>Epinephelus flavolimbatus</i>	883502040500	1415	YEG
Red hind	<i>Epinephelus guttatus</i>	883502040600	1413	REH
Red grouper	<i>Epinephelus morio</i>	883502040800	1416	RGR
Misty grouper	<i>Epinephelus mystacinus</i>	883502040900	1420	MYG
Warsaw grouper	<i>Epinephelus nigritus</i>	883502041000	4740	WAR
Snowy grouper	<i>Epinephelus niveatus</i>	883502041100	1414	SGR
Nassau grouper	<i>Epinephelus striatus</i>	883502041200	1430	NGR
Coney(historic)	<i>Epinephelus fulvus(old)</i>	883502043800	1429	CON
Graysby (historic)	<i>Epinephelus cruentatus</i>	883502043900	1428	GRA
Marbled grouper	<i>Epinephelus inermis</i>	883502044000	1417	MGR
Mutton hamlet (historic)	<i>Epinephelus afer</i>	883502044100		
Mutton hamlet	<i>Cephalopholis afer</i>	883502044100		
Groupers, mycteroperca	<i>Mycteroperca</i>	883502050000		
Gag	<i>Mycteroperca microlepis</i>	883502050100	1423	GAG
Black grouper	<i>Mycteroperca bonaci</i>	883502050200	1422	BGR
Yellowmouth grouper	<i>Mycteroperca interstitialis</i>	883502050400	1425	YMG
Scamp	<i>Mycteroperca phenax</i>	883502050500	1424	SCA
Yellowfin grouper	<i>Mycteroperca venenosa</i>	883502050600	1426	YFG
Tiger grouper	<i>Mycteroperca tigris</i>	883502050900	1419	TGR
Comb grouper	<i>Mycteroperca rubra</i>	883502051000		COG
Anthias	<i>Anthias</i>	883502070000		
Yellowfin bass	<i>Anthias nicholsi</i>	883502070200		
Sand perch	<i>Diplectrum formosum</i>	883502100200	3110	SP
Spanish flag	<i>Gonioplectrus hispanus</i>	883502110100	3371	SFL
Sea basses, hemanthias	<i>Hemanthias</i>	883502120000		
Longtail bass	<i>Hemanthias leptus</i>	883502120100	3374	LTB
Streamer bass	<i>Hemanthias aureorubens</i>	883502120400		
Hypoplectrus puella	<i>Hypoplectrus puella</i>	883502130800		
Kelp bass	<i>Paralabrax clathratus</i>	883502160200		
Creole-fish	<i>Paranthias furcifer</i>	883502170100	1427	CF
Blackear bass	<i>Serranus atrobranchus</i>	883502230200		
Tattler	<i>Serranus phoebe</i>	883502230800		TAT
Tobaccofish	<i>Serranus tabacarius</i>	883502231000		TF
Chalk bass	<i>Serranus tortugarum</i>	883502231200		
Wreckfish	<i>Polyprion americanus</i>	883502280100	5131	WKF
Giant sea bass	<i>Stereolepis gigas</i>	883502290100	3361	
Soapfishes, grammistidae	<i>Grammistidae</i>	883503000000		
Soapfishes	<i>Rypticus</i>	883503020000		
Freckled soapfish	<i>Rypticus bistrispinus</i>	883503020200		

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Whitespotted soapfish	<i>Rypticus maculatus</i>	883503020400		WSS
Greater soapfish	<i>Rypticus saponaceus</i>	883503020700		
Warmouth	<i>Lepomis gulosus</i>	883516050300		
Bluegill	<i>Lepomis macrochirus</i>	883516050400		
Redear sunfish	<i>Lepomis microlophus</i>	883516050900		
Largemouth bass	<i>Micropterus salmoides</i>	883516060200		
Redeye bass	<i>Micropterus coosae</i>	883516060500		
Bigeyes, priacanthidae	<i>Priacanthidae</i>	883517000000		
Bigeyes	<i>Priacanthus</i>	883517010000		
Bigeye, priacanthus arenatus	<i>Priacanthus arenatus</i>	883517010100	140	BE
Glasseye snapper	<i>Heteropriacanthus cruentatus</i>	883517010200	147	GES
Short bigeye	<i>Pristigenys alta</i>	883517020100	145	SBE
Longfin bulleye	<i>Cookeolus japonicus</i>	883517030200		
Longfin bulleye	<i>Cookeolus japonicus</i>	883517030200		
Cardinalfishes, apogonidae	<i>Apogonidae</i>	883518000000		
Flamefish	<i>Apogon maculatus</i>	883518010700		
Sawcheek darter	<i>Etheostoma serrifer</i>	883520010400		
Yellow perch	<i>Perca flavescens</i>	883520020100	5170	
Tilefishes, malacanthidae	<i>Malacanthidae</i>	883522000000	4480	
Tilefishes, caulolatilus	<i>Caulolatilus</i>	883522010000		
Blackline tilefish	<i>Caulolatilus cyanops</i>	883522010200	4476	BKT
Anchor tilefish	<i>Caulolatilus intermedius</i>	883522010300	4479	
Blueline tilefish	<i>Caulolatilus microps</i>	883522010400	4474	BLT
Goldface tilefish	<i>Caulolatilus chrysops</i>	883522010500	4472	GFT
Tilefishes, lopholatilus	<i>Lopholatilus</i>	883522020000		
Tilefish	<i>Lopholatilus chamaeleonticeps</i>	883522020100	4470	TIL
Sand tilefish	<i>Malacanthus plumieri</i>	883522030100	4478	STF
Bluefishes, pomatomidae	<i>Pomatomidae</i>	883525000000		
Bluefish, pomatomus saltatrix	<i>Pomatomus saltatrix</i>	883525010100	230	BF
Scombrops	<i>Scombrops</i>	883525030000		
Cobias, rachycentridae	<i>Rachycentridae</i>	883526000000		
Cobia	<i>Rachycentron canadum</i>	883526010100	570	COB
Sharksuckers, echeneididae	<i>Echeneididae</i>	883527000000		
Remoras	<i>Remora</i>	883527010000	2865	
Remora	<i>Remora remora</i>	883527010300		REM
Sharksucker	<i>Echeneis naucrates</i>	883527020100		SKS
Jacks, carangidae	<i>Carangidae</i>	883528000000	1799	
Jack mackerel, trachurus symmet	<i>Trachurus symmetricus</i>	883528010100	1820	
Rough scad	<i>Trachurus lathami</i>	883528010200	3237	
African pompano	<i>Alectis crinitus</i>	883528020100		AP
African pompano (threadfin)	<i>Alectis ciliaris</i>	883528020200	1807	

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Crevallies	<i>Caranx</i>	883528030000		
Yellow jack, caranx bartholomae	<i>Caranx bartholomaei</i>	883528030100	1803	YJ
Crevalle jack	<i>Caranx hippos</i>	883528030300	870	CJ
Horse-eye jack	<i>Caranx latus</i>	883528030400	1800	HEJ
Blue runner, caranx crysos	<i>Caranx crysos</i>	883528030600	270	BR
Black jack	<i>Caranx lugubris</i>	883528030700	1805	BLJ
Bar jack	<i>Caranx ruber</i>	883528030800	1811	BJ
White trevally, caranx dentex	<i>Caranx dentex</i>	883528033000		
Atlantic bumper	<i>Chloroscombrus chrysurus</i>	883528040100		ATB
Leatherjacket, oligoplites saur	<i>Oligoplites saurus</i>	883528050100		LJ
Bigeye scad	<i>Selar crumenophthalmus</i>	883528060100	130	BES
Lookdown	<i>Selene vomer</i>	883528070100	2095	LD
Atlantic moonfish	<i>Selene setapinnis</i>	883528070500	2310	
Amberjacks	<i>Seriola</i>	883528080000	30	
Greater amberjack	<i>Seriola dumerili</i>	883528080100	1812	GAJ
Lesser amberjack	<i>Seriola fasciata</i>	883528080200	1815	LAJ
Almaco jack	<i>Seriola rivoliana</i>	883528080300	1810	ALJ
Banded rudderfish	<i>Seriola zonata</i>	883528080400	1817	BRF
Pompanos, trachinotus	<i>Trachinotus</i>	883528090000		
Florida pompano	<i>Trachinotus carolinus</i>	883528090100	2720	FP
Permit	<i>Trachinotus falcatus</i>	883528090200	2550	PER
Palometa, trachinotus goodei	<i>Trachinotus goodei</i>	883528090300		
Round scads	<i>Decapterus</i>	883528120000	750	
Mackerel scad	<i>Decapterus macarellus</i>	883528120100	2160	MLS
Round scad	<i>Decapterus punctatus</i>	883528120200		RDS
Redtail scad	<i>Decapterus tabl</i>	883528120300		RTS
Rainbow runner	<i>Elagatis bipinnulata</i>	883528130100	1814	RR
Bluntnose jack	<i>Hemicaranx amblyrhynchus</i>	883528140100		
Cottonmouth jack	<i>Uraspis secunda</i>	883528170100		CMJ
Runner	<i>Scombroides sancti-petri</i>	883528220100	2996	
Dolphins, coryphaenidae	<i>Coryphaenidae</i>	883529000000		
Dolphins, coryphaena	<i>Coryphaena</i>	883529010000	1050	
Dolphin	<i>Coryphaena hippurus</i>	883529010100		DOL
Pompano dolphin	<i>Coryphaena equisetis</i>	883529010200		PD
Bonnetmouth, emmelichthyops atl	<i>Emmelichthyops Atlanticus</i>	883535010100		
Crimson rover	<i>Erythrocles monodi</i>	883535040300	2525	CRR
Snappers, lutjanidae	<i>Lutjanidae</i>	883536000000	3768	
Snappers	<i>Lutjanus</i>	883536010000		
Cubera snapper	<i>Lutjanus cyanopterus</i>	883536010100	3759	CS
Gray snapper	<i>Lutjanus griseus</i>	883536010200	3760	GS
Mutton snapper	<i>Lutjanus analis</i>	883536010300	3763	MS

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Schoolmaster	<i>Lutjanus apodus</i>	883536010400	3771	SMS
Blackfin snapper	<i>Lutjanus buccanella</i>	883536010600	3757	BFS
Red snapper, lutjanus campechan	<i>Lutjanus campechanus</i>	883536010700	3764	RS
Dog snapper, lutjanus jocu	<i>Lutjanus jocu</i>	883536010900	3754	DS
Mahogany snapper	<i>Lutjanus mahogoni</i>	883536011000	3772	MAS
Caribbean red snapper	<i>Lutjanus purpureus</i>	883536011100	3780	CAS
Lane snapper	<i>Lutjanus synagris</i>	883536011200	3761	LS
Silk snapper	<i>Lutjanus vivanus</i>	883536011300	3758	SS
Red snapper, lutjanus gibbus	<i>Lutjanus gibbus</i>	883536011800		
Black snapper	<i>Apsilus dentatus</i>	883536020100	3755	BS
Queen snapper, etelis oculatus	<i>Etelis oculatus</i>	883536030100	3770	QS
Yellowtail snapper, ocyurus chr	<i>Ocyurus chrysurus</i>	883536040100	3767	YTS
Vermilion snapper	<i>Rhomboplites aurorubens</i>	883536050100	3765	VS
Verilus sordidus	<i>Verilus sordidus</i>	883536060100		
Wenchman	<i>Pristipomoides aquilonaris</i>	883536070100	3756	WM
Cardinal snapper	<i>Pristipomoides macroptalmus</i>	883536070300		CRS
Blue-gray snapper	<i>Aprion virescens</i>	883536080100	3769	
Tripletail	<i>Lobotes surinamensis</i>	883538010100	4590	TRI
Mojarras, gerreidae	<i>Gerreidae</i>	883539000000	2250	
Spotfin mojarra	<i>Eucinostomus argenteus</i>	883539010100		
Silver jenny	<i>Eucinostomus gula</i>	883539010200		
Flagfin mojarra	<i>Eucinostomus melanopterus</i>	883539010500		
Slender mojarra, eucinostomus j	<i>Eucinostomus jonesi</i>	883539010900		
Tidewater mojarra	<i>Eucinostomus harengulus</i>	883539011100		
Mojarras, diapterus	<i>Diapterus</i>	883539020000		
Mojarra, diapterus rhombeus	<i>Diapterus rhombeus</i>	883539020200		
Striped mojarra	<i>Diapterus plumieri</i>	883539020300		
Irish pompano	<i>Diapterus auratus</i>	883539020400		
Yellowfin mojarra	<i>Gerres cinereus</i>	883539030100		
Grunts, haemulidae	<i>Haemulidae</i>	883540000000	1440	
Grunts, haemulon	<i>Haemulon</i>	883540010000		
Tomtate, haemulon aurolineatu	<i>Haemulon aurolineatum</i>	883540010100	1446	TT
White grunt	<i>Haemulon plumieri</i>	883540010200	1441	WG
Margate	<i>Haemulon album</i>	883540010300	1442	MAR
Black grunt	<i>Haemulon bonariense</i>	883540010400		BG
Caesar grunt	<i>Haemulon carbonarium</i>	883540010600		CG
Smallmouth grunt	<i>Haemulon chrysargyreum</i>	883540010700	1449	SMG
French grunt	<i>Haemulon flavolineatum</i>	883540010800	1445	FG
Spanish grunt	<i>Haemulon macrostomum</i>	883540011000	1448	SG
Cottonwick	<i>Haemulon melanurum</i>	883540011100	1447	CW
Bluestriped grunt	<i>Haemulon sciurus</i>	883540011300	1444	BSG

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Striped grunt	<i>Haemulon striatum</i>	883540011600		SDG
Sailors choice	<i>Haemulon parra</i>	883540011700	1452	SCG
Pigfish	<i>Orthopristis chrysoptera</i>	883540020100	2580	PIG
Orthopristis ruber	<i>Orthopristis ruber</i>	883540020300		
Black margate	<i>Anisotremus surinamensis</i>	883540030400	1443	BM
Porkfish	<i>Anisotremus virginicus</i>	883540030600	2750	POR
Barred grunt, conodon nobilis	<i>Conodon nobilis</i>	883540040100		
Burro grunt	<i>Pomadasys crocro</i>	883540050200		BUG
Scups or porgies, sparidae	<i>Sparidae</i>	883543000000	3295	
Scups or porgies, stenotomus	<i>Stenotomus</i>	883543010000		
Scup	<i>Stenotomus chrysops</i>	883543010100	3298	SCU
Longspine porgy	<i>Stenotomus caprinus</i>	883543010200	3299	LSP
Pinfish	<i>Lagodon rhomboides</i>	883543020100	2670	PIN
Sheepshead	<i>Archosargus probatocephalus</i>	883543030100	3560	SHD
Sea bream	<i>Archosargus rhomboidalis</i>	883543030200		
Scups or porgies, diplodus	<i>Diplodus</i>	883543040000		
Spottail pinfish	<i>Diplodus holbrooki</i>	883543040100	3314	STP
Silver porgy	<i>Diplodus argenteus</i>	883543040200		SVP
Porgies, calamus	<i>Calamus</i>	883543050000		
Grass porgy	<i>Calamus arctifrons</i>	883543050100	3305	GP
Jolthead porgy	<i>Calamus bajonado</i>	883543050200	3312	JHP
Saucereye porgy	<i>Calamus calamus</i>	883543050300	3304	SEP
Whitebone porgy	<i>Calamus leucosteus</i>	883543050500	3306	WP
Knobbed porgy	<i>Calamus nodosus</i>	883543050600	3308	KWP
Porgy, calamus pennatula	<i>Calamus pennatula</i>	883543050700		
Littlehead porgy	<i>Calamus proridens</i>	883543050800	3310	LHP
Sheepshead porgy	<i>Calamus penna</i>	883543051000		SHP
Red porgies, pagrus	<i>Pagrus</i>	883543060000		
Red porgy	<i>Pagrus pagrus</i>	883543060100	3302	RP
Red porgy (sedecim)	<i>Pagrus sedecim</i>	883543060200		
Drums, sciaenidae	<i>Sciaenidae</i>	883544000000	931	
Weak fishes	<i>Cynoscion</i>	883544010000		
Spotted seatrout	<i>Cynoscion nebulosus</i>	883544010200	3447	SST
Silver seatrout	<i>Cynoscion nothus</i>	883544010300		SIT
Weakfish, cynoscion regalis	<i>Cynoscion regalis</i>	883544010400	3446	WF
Sand seatrout	<i>Cynoscion arenarius</i>	883544010600	3455	ST
Mongolar drummer	<i>Cynoscion jamaicensis</i>	883544010700		
White croaker	<i>Genyonemus lineatus</i>	883544020100	926	
Silver perch	<i>Bairdiella chrysura</i>	883544030100		
Striped croaker	<i>Bairdiella sanctaeluciae</i>	883544030500		SC
Ronco	<i>Bairdiella ronchus</i>	883544030700		

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Spot	<i>Leiostomus xanthurus</i>	883544040100	4060	SPO
Banded drum	<i>Larimus fasciatus</i>	883544050100		BAD
King whittings	<i>Menticirrhus</i>	883544060000	1970	
Southern kingfish	<i>Menticirrhus americanus</i>	883544060100		SKF
Gulf kingfish	<i>Menticirrhus littoralis</i>	883544060200		
Northern kingfish	<i>Menticirrhus saxatilis</i>	883544060300		NKF
Atlantic croaker	<i>Micropogonias undulatus</i>	883544070100	925	CRO
Whitemouth drummer	<i>Micropogonias furnieri</i>	883544070200		
Black drum	<i>Pogonias cromis</i>	883544080100	1081	BD
Red drum	<i>Sciaenops ocellatus</i>	883544090100	1082	RD
Star drum	<i>Stellifer lanceolatus</i>	883544100100		
Sand drum	<i>Umbrina coroides</i>	883544110100		
Drums, equetus	<i>Equetus</i>	883544120000		
Jackknife-fish	<i>Equetus lanceolatus</i>	883544120200	1830	JKF
Spotted drum	<i>Equetus punctatus</i>	883544120500		
Cubby	<i>Equetus umbrosus</i>	883544120600		CUB
Blackbar drum	<i>Equetus inamotoi</i>	883544120800		BBD
Reef croaker	<i>Odontoscion dentex</i>	883544130100		RC
Freshwater drum	<i>Aplodinotus grunniens</i>	883544260100	3530	
Goat fishes, mullidae	<i>Mullidae</i>	883545000000	1350	
Yellow goatfish	<i>Mulloidichthys martinicus</i>	883545010100		YGF
Red goatfish, mullus auratus	<i>Mullus auratus</i>	883545020100		
Spotted goatfish	<i>Pseudupeneus maculatus</i>	883545030100		SGF
Dwarf goatfish	<i>Upeneus parvus</i>	883545040200		DGF
Galjoen fishes, coracinidae	<i>Coracinidae</i>	883550000000		
Sea chubs, kyphosidae	<i>Kyphosidae</i>	883551000000	2990	
Yellow chub	<i>Kyphosus incisor</i>	883551010100		YEC
Bermuda chub	<i>Kyphosus sectatrix</i>	883551010200		BC
Spadefishes, ephippididae	<i>Ephippididae</i>	883552000000	3810	
Atlantic spadefish	<i>Chaetodipterus faber</i>	883552010100		SPF
Butterflyfishes, chaetodontida	<i>Chaetodontidae</i>	883555000000	340	
Spotfin butterflyfish	<i>Chaetodon ocellatus</i>	883555010100		SFB
Foureye butterflyfish	<i>Chaetodon capistratus</i>	883555010300		
Banded butterflyfish	<i>Chaetodon striatus</i>	883555010800		
Angelfishes, holacanthus	<i>Holacanthus</i>	883555030000		
Queen angelfish	<i>Holacanthus ciliaris</i>	883555030100		QAF
Rock beauty	<i>Holacanthus tricolor</i>	883555030300		
Blue angelfish	<i>Holacanthus bermudensis</i>	883555030400		BAF
Gray angelfish	<i>Pomacanthus arcuatus</i>	883555040100		GAF
French angelfish	<i>Pomacanthus paru</i>	883555040200		FAF
Pelagic armorhead	<i>Pentaceros richardsoni</i>	883557010100	126	

Common name	Scientific name	NODC Code	NMFS Code	Abrev.
Surf perches, cymatogaster	<i>Cymatogaster</i>	883560020000		
Pile perch	<i>Rhacochilus vacca</i>	883560060100	2537	
Cichlids, cichlidae	<i>Cichlidae</i>	883561000000		
Tilapias, tilapia	<i>Tilapia</i>	883561040000	4460	
Blue tilapia	<i>Tilapia aurea</i>	883561040100		
Blackchin tilapia	<i>Tilapia melanotheron</i>	883561040300		
Nile tilapia	<i>Tilapia nilotica</i>	883561040700		
Tilapia hornorum	<i>Tilapia bornorum</i>	883561040900		
Peacock cichlid	<i>Cichla ocellaris</i>	883561090100		
Mozambique tilapia	<i>Oreochromis mossambicus</i>	883561400100		
Damselfishes, pomacentridae	<i>Pomacentridae</i>	883562000000		
Sergeant major	<i>Abudefduf saxatilis</i>	883562010100		SAM
Brown chromis, chromis multilin	<i>Chromis multilineata</i>	883562030500		
Pomfrets, bramidae	<i>Bramidae</i>	883571000000	2710	
Bigscale pomfret, taractichthys	<i>Taractichthys longipinnis</i>	883571070100		
Mulletts, mugilidae	<i>Mugilidae</i>	883601000000	2347	
Mugil	<i>Mugil</i>	883601010000		
Striped mullet, mugil cephalus	<i>Mugil cephalus</i>	883601010100	2341	STM
White mullet	<i>Mugil curema</i>	883601010200	2346	
Liza, mugil liza	<i>Mugil liza</i>	883601010400		
Mullet, mugil dussumieri	<i>Mugil dussumieri</i>	883601010700		
Mountain mullet	<i>Agonostomus monticola</i>	883601040100		
Bobo jotur	<i>Joturus pichardi</i>	883601110100		
Barracudas, sphyraenidae	<i>Sphyraenidae</i>	883701000000	180	
Barracudas	<i>Sphyraena</i>	883701010000		
Northern sennet	<i>Sphyraena borealis</i>	883701010200		NNS
Guaguanche	<i>Sphyraena guachancho</i>	883701010300		GUA
Great barracuda	<i>Sphyraena barracuda</i>	883701010400		GB
Southern sennet	<i>Sphyraena picudilla</i>	883701010500		SOS
Threadfins, polynemidae	<i>Polynemidae</i>	883801000000	4450	
Barbu	<i>Polydactylus virginicus</i>	883801010200		
Polydactylus sexfilis	<i>Polydactylus sexfilis</i>	883801010600		
Wrasses, labridae	<i>Labridae</i>	883901000000		
Tautog	<i>Tautoga onitis</i>	883901010100	4380	TAU
Spotfin hogfish	<i>Bodianus pulchellus</i>	883901030100		SFH
Spanish hogfish	<i>Bodianus rufus</i>	883901030200		SHF
A'awa	<i>Bodianus bilunulatus</i>	883901030300		
Red hogfish	<i>Decodon puellaris</i>	883901050100		
Wrasses, halichoeres	<i>Halichoeres</i>	883901070000		
Slippery dick	<i>Halichoeres bivittatus</i>	883901070200		SLD
Painted wrasse	<i>Halichoeres caudalis</i>	883901070300		PW

Common name	Scientific name	NODC Code	NMFS Code	Abbrev.
Yellowcheek wrasse	<i>Halichoeres cyanocephalus</i>	883901070400		YCW
Yellowhead wrasse	<i>Halichoeres garnoti</i>	883901070500		YHW
Clown wrasse	<i>Halichoeres maculipinna</i>	883901070600		
Puddingwife	<i>Halichoeres radiatus</i>	883901070900	2765	PUD
Rosy razorfish	<i>Hemipteronotus martinicensis</i>	883901080100		
Pearly razorfish	<i>Hemipteronotus novacula</i>	883901080200		PRF
Hogfish	<i>Lachnolaimus maximus</i>	883901090100	1790	HOG
Parrotfishes, scaridae	<i>Scaridae</i>	883903000000	2520	
Blue parrotfish	<i>Scarus coeruleus</i>	883903010100		BPF
Midnight parrotfish	<i>Scarus coelestinus</i>	883903010200		
Striped parrotfish	<i>Scarus croicensis</i>	883903010300		SPA
Rainbow parrotfish	<i>Scarus guacamaia</i>	883903010400		
Princess parrotfish	<i>Scarus taeniopterus</i>	883903010500		
Queen parrotfish	<i>Scarus vetula</i>	883903010600		
Redband parrotfish	<i>Sparisoma aurofrenatum</i>	883903040200		RBP
Redtail parrotfish	<i>Sparisoma chrysopterus</i>	883903040300		RTP
Redfin parrotfish	<i>Sparisoma rubripinne</i>	883903040500		
Stoplight parrotfish	<i>Sparisoma viride</i>	883903040600		SLP
Weevers, trachinoidei	<i>Trachinoidei</i>	884000000000		
Duckbill flathead	<i>Bembrops anatirostris</i>	884007010100		
Southern stargazer	<i>Astroscopus y-graecum</i>	884014010200		SSG
Lancer stargazer	<i>Kathetostoma albigitta</i>	884014030100		
True gobies, gobiidae	<i>Gobiidae</i>	884701000000		
Violet goby	<i>Gobioides broussoneti</i>	884701120100		
Fat sleeper	<i>Dormitator maculatus</i>	884701330200		
Spinycheek sleeper	<i>Eleotris pisonis</i>	884701370300		
Sirajo	<i>Sicydium plumieri</i>	884701440200		
Tangs, acanthuridae	<i>Acanthuridae</i>	884901000000	4265	
Ocean surgeon	<i>Acanthurus babianus</i>	884901010100		OSF
Doctorfish, acanthurus chirurgu	<i>Acanthurus chirurgus</i>	884901010200		DF
Blue tang	<i>Acanthurus coeruleus</i>	884901010300		BT
Sackfish (oriental escolar)	<i>Epinnula orientalis</i>	885001010300		
Snake mackerel, gempylus serpen	<i>Gempylus serpens</i>	885001020100	2504	
Escolar	<i>Lepidocybium flavobrunneum</i>	885001030100	2501	ESC
Oilfish	<i>Ruvettus pretiosus</i>	885001040100	2502	OIL
Purple snake mackerel	<i>Promethichthys prometheus</i>	885001090100		
Ribbonfishes, trichiuridae	<i>Trichiuridae</i>	885002000000		
Atlantic cutlassfish	<i>Trichiurus lepturus</i>	885002020100	990	
Mackerels and tunas, scombrida	<i>Scombridae</i>	885003000000		
Little tunas	<i>Euthynnus</i>	885003010000		
Skipjack tuna	<i>Euthynnus pelamis</i>	885003010100	4654	SJT

Common name	Scientific name	NODC Code	NMFS Code	Abbrév.
Little tunny	<i>Euthynnus alletteratus</i>	885003010200	4653	LT
Kawakawa	<i>Euthynnus affinis</i>	885003010300	4659	
Black skipjack	<i>Euthynnus lineatus</i>	885003010400	4660	
Bonitos	<i>Sarda</i>	885003020000	333	
Atlantic bonito	<i>Sarda sarda</i>	885003020200	330	AB
Mackerels	<i>Scomber</i>	885003030000	2162	
Chub mackerel, scomber japonicu	<i>Scomber japonicus</i>	885003030100	2150	CM
Atlantic mackerel	<i>Scomber scombrus</i>	885003030200	2120	AM
Tunas	<i>Thunnus</i>	885003040000	4656	
Longfinned albacore	<i>Thunnus alalunga</i>	885003040100	4651	ALB
Bluefin tuna	<i>Thunnus thynnus</i>	885003040200	4652	BNT
Yellowfin tuna	<i>Thunnus albacares</i>	885003040300	4655	YFT
Blackfin tuna	<i>Thunnus Atlanticus</i>	885003040400	4658	BFT
Bigeye tuna	<i>Thunnus obesus</i>	885003040500	4657	BET
King, spanish, cero mackerels, sc	<i>Scomberomorus</i>	885003050000		
King mackerel	<i>Scomberomorus cavalla</i>	885003050100	1939	KM
Spanish mackerel, scomberomor.m	<i>Scomberomorus maculatus</i>	885003050200	3840	SM
Cero mackerel	<i>Scomberomorus regalis</i>	885003050300	1938	CER
Monterey spanish mackerel	<i>Scomberomorus concolor</i>	885003050400	3841	
Wahoo	<i>Acanthocybium solandri</i>	885003060100	4710	WAH
Bullet mackerel	<i>Auxis rochei</i>	885003070100	2151	BUM
Mackerel, frigate	<i>Auxis thazard</i>	885003070200		FM
Swordfish	<i>Xiphus gladius</i>	885004010100	4320	SWO
Marlin, sailfish, spearfish - is	<i>Istiophoridae</i>	885006000000	2180	
Sailfish	<i>Istiophorus platypterus</i>	885006010100	3026	SAI
Blue marlin, makaira nigricans	<i>Makaira nigricans</i>	885006020100	2179	BMN
White marlin	<i>Tetrapturus albidus</i>	885006030100	2177	WHM
Barrelfish	<i>Hyperoglyphe perciformis</i>	885101020100	193	BLF
Black driftfish	<i>Hyperoglyphe bythites</i>	885101020200	192	BDF
Black ruff	<i>Centrolophus niger</i>	885101030100		
Silver-rag	<i>Ariomma bondi</i>	885102010100		
Spotted driftfish	<i>Ariomma regulus</i>	885102010400		SDR
Man-of-war fish	<i>Nomenus gronovii</i>	885102030100		
Rudderfishes, stromateidae	<i>Stromateidae</i>	885103000000		
Butterfish and harvestfish	<i>Peprilus</i>	885103010000	521	
Butterfish (simillimus)	<i>Peprilus simillimus</i>	885103010100	525	
Northern harvestfish	<i>Peprilus paru</i>	885103010200		
Butterfish (triacanthus)	<i>Peprilus triacanthus</i>	885103010300		BUF
Gulf butterfish	<i>Peprilus burti</i>	885103010400		
Harvestfish, peprilus alepidotu	<i>Peprilus alepidotus</i>	885103010600		
Flatfishes, pleuronectiformes	<i>Pleuronectiformes</i>	885500000000		

Common name	Scientific name	NODC Code	NMFS Code	Abbrév.
Flatfishes, pleuronectoidei	<i>Pleuronectoidei</i>	885700000000		
Lefteyed flounders, bothidae	<i>Bothidae</i>	885703000000		
Whiffs	<i>Citharichthys</i>	885703010000	1260	
Bay whiff	<i>Citharichthys spilopterus</i>	885703011000		
Summer flounders, paralichthys	<i>Paralichthys</i>	885703030000	1209	
Summer flounder (fluke)	<i>Paralichthys dentatus</i>	885703030100	1211	SUF
Gulf flounder	<i>Paralichthys albigutta</i>	885703030200		GUF
Southern flounder	<i>Paralichthys lethostigma</i>	885703030400		SOF
Fourspot flounder, paralichthys	<i>Paralichthys oblongus</i>	885703030500	1234	
Broad flounder	<i>Paralichthys squamilentus</i>	885703030600		
Paralichthys tropicus	<i>Paralichthys tropicus</i>	885703030800		
Ocellated flounder	<i>Ancylosetta quadrocellata</i>	885703050600		OF
Peacock flounder	<i>Bothus lunatus</i>	885703060100		PCF
Spotfin flounder	<i>Cyclosetta fimbriata</i>	885703080200		
Dusky flounder	<i>Syacium papillosum</i>	885703130300		DUF
Righteyed flounders, pleuronec	<i>Pleuronectidae</i>	885704000000	4681	
Soles, soleidae	<i>Soleidae</i>	885801000000	1290	
Hogchoker	<i>Trinectes maculatus</i>	885801010100	1760	
Tonguefishes, cynoglossidae	<i>Cynoglossidae</i>	885802000000		
Blackcheek tonguefish	<i>Symphurus plagiusa</i>	885802010100		
Triggerfishes and filefishes, b	<i>Balistidae</i>	886002000000	1180	
Orange filefish	<i>Aluterus schoepfi</i>	886002010100		ORF
Unicorn filefish	<i>Aluterus monoceros</i>	886002010300		UFF
Scrawled filefish	<i>Aluterus scriptus</i>	886002010400		SFF
Triggerfishes	<i>Balistes</i>	886002020000	4560	
Gray triggerfish	<i>Balistes capriscus</i>	886002020100	4561	GTF
Queen triggerfish	<i>Balistes vetula</i>	886002020200	4563	QTF
Stephanolepis	<i>Stephanolepis</i>	886002030000		
Whitespotted filefish, canthe.m	<i>Cantherbines macrocerus</i>	886002040100		WSF
Orangespotted filefish	<i>Cantherbines pullus</i>	886002040200		
Rough triggerfish	<i>Cantbidermis maculata</i>	886002050100		RTF
Ocean triggerfish	<i>Cantbidermis sufflamen</i>	886002050200	4562	OTF
Black durgon	<i>Melichthys niger</i>	886002060100		BDN
Fringed filefish, monacanthu.ci	<i>Monacanthus ciliatus</i>	886002070100		
Planehead filefish	<i>Monacanthus hispidus</i>	886002070300		
Pygmy filefish	<i>Monacanthus setifer</i>	886002070400		
Sargassum triggerfish	<i>Xanthichthys ringens</i>	886002080100		
Trunkfishes, ostraciidae	<i>Ostraciidae</i>	886003000000	370	
Trunkfish	<i>Lactophrys trigonus</i>	886003010100		TKF
Spotted trunkfish	<i>Lactophrys bicaudalis</i>	886003010200		
Smooth trunkfish	<i>Lactophrys triqueter</i>	886003010300		

Common name	Scientific name	NODC Code	NMFS Code	Abbrév.
Scrawled cowfish, lactophrys q	<i>Lactophrys quadricornis</i>	886003010400		
Honeycomb cowfish (historic)	<i>Lactophrys polygona</i>	886003010500		
Scrawled cowfish, acanthostrac	<i>Acanthostracion quadricornis</i>	886003020100		SCF
Honeycomb cowfish, acanthostrac	<i>Acanthostracion polygona</i>	886003020200		
Puffers, tetraodontidae	<i>Tetraodontidae</i>	886101000000	2760	
Smooth puffer	<i>Lagocephalus laevigatus</i>	886101010100		SMP
Oceanic puffer	<i>Lagocephalus lagocephalus</i>	886101010200		
Puffers, sphaeroides	<i>Sphaeroides</i>	886101020000	4290	
Northern puffer	<i>Sphaeroides maculatus</i>	886101020100		
Checkered puffer	<i>Sphaeroides testudineus</i>	886101020200		
Southern puffer	<i>Sphaeroides nephelus</i>	886101020800		SPU
Blunthead puffer	<i>Sphaeroides pachygaster</i>	886101020900		
Bandtail puffer	<i>Sphaeroides spengleri</i>	886101021100		
Porcupinefishes, diodontidae	<i>Diodontidae</i>	886103000000		
Striped burrfish, chilomycterus	<i>Chilomycterus schoepfi</i>	886103010100		SBF
Web burrfish	<i>Chilomycterus antillarum</i>	886103010300		
Porcupinefish, diodon hystrix	<i>Diodon hystrix</i>	886103020100		PPF
Balloonfish	<i>Diodon holocanthus</i>	886103020200		
Reptiles, reptilia	<i>Reptilia</i>	900000000000		
Loggerhead	<i>Caretta caretta</i>	900204010100	8114	
Green sea turtle	<i>Chelonia mydas</i>	900204020100	8112	

Appendix B

Fishing Area Codes & Maps

Region	Code	Area Name
Gulf of Mexico	0	GULF UNKNOWN AREA
Gulf of Mexico	1	KEY WEST, GRID 1, HISTORIC CODE FOR ALL WATERS
Gulf of Mexico	1.1	KEY WEST, GRID 1, GULF SIDE, STATE WATERS
Gulf of Mexico	1.8	KEY WEST, GRID 1, GULF SIDE, FEDERAL WATERS
Gulf of Mexico	1.9	KEY WEST, GRID 1, HISTORIC CODE FOR ALL FEDERAL WATERS
Gulf of Mexico	2	TORTUGAS, GRID 2, ALL WATERS
Gulf of Mexico	2.1	A SUBAREA OF WATER BODY 002.0 WHICH WILL ONLY BE UTILIZED IN THE DETAILED GULF S
Gulf of Mexico	2.8	TORTUGAS, GRID 2, GULF SIDE, FEDERAL WATERS
Gulf of Mexico	2.9	TORTUGAS, GRID 2, HISTORIC CODE FOR ALL FEDERAL WATERS
Gulf of Mexico	3	EVERGLADES, GRID 3, OFFSHORE WATERS
Gulf of Mexico	3.1	EVERGLADES, ROOKERY BAY
Gulf of Mexico	3.2	EVERGLADES, WHITEWATER BAY
Gulf of Mexico	3.9	EVERGLADES, GRID 3, FEDERAL WATERS
Gulf of Mexico	4	FORT MYERS, GRID 4, OFFSHORE WATERS
Gulf of Mexico	4.1	FORT MYERS, CHARLOTTE HARBOR
Gulf of Mexico	4.2	FORT MYERS, LEMON BAY/GASPARILLA SOUND
Gulf of Mexico	4.3	FORT MYERS, PINE ISLAND SOUND/SAN CARLOS
Gulf of Mexico	4.4	FORT MYERS, ESTERO BAY
Gulf of Mexico	4.5	FORT MYERS, ROOKERY BAY
Gulf of Mexico	4.6	OTHER INLAND WATERS 1
Gulf of Mexico	4.8	LAKE OKEECHOBEE
Gulf of Mexico	4.9	FORT MYERS, GRID 4, FEDERAL WATERS
Gulf of Mexico	5	TAMPA, GRID 5, OFFSHORE WATERS
Gulf of Mexico	5.1	TAMPA, TAMPA BAY
Gulf of Mexico	5.2	TAMPA, ST. JOSEPHS SOUND
Gulf of Mexico	5.3	TAMPA, SARASOTA BAY
Gulf of Mexico	5.4	ANNA MARIA SOUND
Gulf of Mexico	5.5	TAMPA, OTHER INLAND WATERS
Gulf of Mexico	5.6	CLEARWATER BAY
Gulf of Mexico	5.9	TAMPA, GRID 5, FEDERAL WATERS
Gulf of Mexico	6	CRYSTAL RIVER-TARPON SPRINGS, GRID 6, OFFSHORE WATERS
Gulf of Mexico	6.1	CRYSTAL RIVER-TARPON SPRINGS, ST. JOSEPH
Gulf of Mexico	6.2	CRYSTAL RIVER-TARPON SPRINGS, INLAND WAT
Gulf of Mexico	6.9	CRYSTAL RIVER - TARPON SPRINGS, GRID 6, FEDERAL WATERS
Gulf of Mexico	7	APALACHEE BAY, GRID 7, OFFSHORE WATERS

Region	Code	Area Name
Gulf of Mexico	7.1	APALACHEE BAY, ST. VIN. SOUND/APALA. BAY
Gulf of Mexico	7.2	APALACHEE BAY, ST. GEORGE SOUND
Gulf of Mexico	7.3	OTHER INLAND WATERS, GRID 7
Gulf of Mexico	7.4	SUWANEE SOUND
Gulf of Mexico	7.5	WACCASASSA BAY
Gulf of Mexico	7.6	WITHLACOOCHEE BAY
Gulf of Mexico	7.8	OCHLOCKONEE BAY
Gulf of Mexico	7.9	APALACHEE BAY, GRID 7, FEDERAL WATERS
Gulf of Mexico	8	PANAMA CITY, GRID 8, OFFSHORE WATERS
Gulf of Mexico	8.1	PANAMA CITY, ST. ANDREW BAY
Gulf of Mexico	8.2	PANAMA CITY, ST. JOSEPH BAY
Gulf of Mexico	8.3	PANAMA CITY, WEST BAY/NORTH BAY
Gulf of Mexico	8.9	PANAMA CITY, GRID 8, FEDERAL WATERS
Gulf of Mexico	9	DESTIN, GRID 9, OFFSHORE WATERS
Gulf of Mexico	9.1	DESTIN, CHOCTAWHATCHEE BAY
Gulf of Mexico	9.2	ESCAMBIA BAY
Gulf of Mexico	9.3	EAST BAY, GRID 9
Gulf of Mexico	9.4	SANTA ROSA SOUND
Gulf of Mexico	9.9	DESTIN, GRID 9, FEDERAL WATERS
Gulf of Mexico	10	PENSACOLA, GRID 10, OFFSHORE WATERS
Gulf of Mexico	10.1	PENSACOLA, PENSACOLA BAY/EAST BAY
Gulf of Mexico	10.2	LOWER MOBILE BAY
Gulf of Mexico	10.3	PENSACOLA, PERDIDO BAY
Gulf of Mexico	10.4	BON SECOUR BAY HISTOR.PRIOR TO 1976
Gulf of Mexico	10.5	LITTLE LAGOON EFFECTIVE JAN.83
Gulf of Mexico	10.6	UPPER MOBILE BAY EFFECTIVE JAN.83
Gulf of Mexico	10.9	PENSACOLA, GRID 10, FEDERAL WATERS
Gulf of Mexico	11	MISSISSIPPI AND ALABAMA, GRID 11
Gulf of Mexico	11.1	MISSISSIPPI SOUND (MOBILE BAY TO GULFPOR
Gulf of Mexico	11.2	MISSISSIPPI SOUND, AL STATE WATERS
Gulf of Mexico	11.3	MISSISSIPPI SOUND, MS STATE WATERS
Gulf of Mexico	11.9	MISSISSIPPI AND ALABAMA, GRID 11, FEDERAL WATERS
Gulf of Mexico	12	E. LOUISIANA, GRID 12
Gulf of Mexico	12.1	LAKE BORGNE AND LAKE PONCHARTRAIN
Gulf of Mexico	12.2	BRETON AND CHANDELEUR SOUNDS AND ADJACENT MARSH AREAS
Gulf of Mexico	12.4	BRETON SOUND, GRID 12
Gulf of Mexico	12.5	CHANDELEUR SOUND, GRID 12
Gulf of Mexico	12.6	GARDEN ISLAND BAY, GRID 12
Gulf of Mexico	12.9	E. LOUISIANA, GRID 12, FEDERAL WATERS
Gulf of Mexico	13	MISSISSIPPI RIVER DELTA, GRID 13

Region	Code	Area Name
Gulf of Mexico	13.1	INS.WAT.FROM MISS.RIV.TO BAYOU LAFOURCHE
Gulf of Mexico	13.2	EAST BAY, GRID 13
Gulf of Mexico	13.3	WEST BAY, GRID 13
Gulf of Mexico	13.4	BASTIAN BAY AND ADAM BAY
Gulf of Mexico	13.5	LAKE WASHINGTON
Gulf of Mexico	13.6	BARATARIA BAY
Gulf of Mexico	13.7	LITTLE LAKE, GRID 13
Gulf of Mexico	13.8	LAKE SALVADOR AND LAKE CATAOUATCHE
Gulf of Mexico	13.9	LOUISIANA, GRID 13, FEDERAL WATERS
Gulf of Mexico	14	SE LOUISIANA, GRID 14
Gulf of Mexico	14.1	INS.WAT.FROM BAYOU LAF.TO ATCHAF.RIVER
Gulf of Mexico	14.2	BAYOU LAFOURCHE
Gulf of Mexico	14.9	SE LOUISIANA, GRID 14, FEDERAL WATERS
Gulf of Mexico	15	SOUTH CENTRAL LOUISIANA, GRID 15
Gulf of Mexico	15.1	INS.WAT.FROM ATCHAFALAYA RIV.TO TOGRE PT
Gulf of Mexico	15.2	FOUR LEAGUE BAY, GRID 15
Gulf of Mexico	15.3	VERMILION & COTE BLANCHE BAYS
Gulf of Mexico	15.4	LOST LAKE
Gulf of Mexico	15.9	S. LOUISIANA, GRID 15, FEDERAL WATERS
Gulf of Mexico	16	SW LOUISIANA, GRID 16
Gulf of Mexico	16.1	INS.WAT.FROM TIGRE PT.TO LA POINT JAN76
Gulf of Mexico	16.2	WHITE LAKE (IN VERMILION PARISH, LOUISIANA)
Gulf of Mexico	16.3	GRAND LAKE (IN CAMERON PARISH, LOUISIANA)
Gulf of Mexico	16.9	SW LOUISIANA, GRID 16 FEDERAL WATERS
Gulf of Mexico	17	W LOUISIANA-E TEXAS, GRID 17
Gulf of Mexico	17.1	CALCASIEU LAKE (IN CAMERON PARISH, LOUISIANA)
Gulf of Mexico	17.2	SABINE LAKE
Gulf of Mexico	17.9	W LOUISIANA-E TEXAS, GRID 17, FEDERAL WATERS
Gulf of Mexico	18	GALVESTON, GRID 18
Gulf of Mexico	18.1	GALVESTON BAY SYSTEM EFF.JAN75
Gulf of Mexico	19	FREEPORT - PORT ARANSAS, GRID 19
Gulf of Mexico	19.1	MATAGORDA BAY SYSTEM EFF.JAN75
Gulf of Mexico	19.2	SAN ANTONIO BAY SYSTEM EFF.JAN75
Gulf of Mexico	19.3	ARANSAS BAY SYSTEM EFF.JAN75
Gulf of Mexico	19.9	FREEPORT - PORT ARANSAS, GRID 19, FEDERAL WATERS
Gulf of Mexico	20	CORPUS CHRISTI, GRID 20
Gulf of Mexico	20.1	CORPUS CHRISTI BAY SYSTEM EFF.JAN75
Gulf of Mexico	20.2	UPPER LAGUNA MADRE EFF.JAN75
Gulf of Mexico	21	SOUTH PADRE ISLAND
Gulf of Mexico	21.1	LOWER LAGUNA MADRE EFF.JAN75
Gulf of Mexico	22	MEXICO, GRID 22

Region	Code	Area Name
Gulf of Mexico	23	MEXICO - GRID 23
Gulf of Mexico	36	CAMPECHE BANKS, GRID 36
Gulf of Mexico	37	CAMPECHE BANKS, GRID 37
Gulf of Mexico	38	CAMPECHE BANKS, GRID 38
Gulf of Mexico	57	MEXICAN
Gulf of Mexico	114.1	LOWER TIMBALIER BAY
Gulf of Mexico	114.2	LOWER TERREBONNE BAY
Gulf of Mexico	114.3	LAKE PELTO
Gulf of Mexico	114.4	PELICAN LAKE AND BAY ROUND
Gulf of Mexico	114.5	CAILLOU BAY
Gulf of Mexico	118.1	OFFFATS BAYOU AND CHANNEL TO SOUTH TIP OF NORTH DEER ISLAND
Gulf of Mexico	118.2	JONES LAKE
Gulf of Mexico	118.3	CARANCAHUA REEF TO NOTH DEER ISLAND
Gulf of Mexico	118.4	BAY HARBOR TO CARANCAHUA REEF
Gulf of Mexico	118.5	MUD ISLAND TO BAY HARBOR
Gulf of Mexico	118.6	CHOCOLATE BAY
Gulf of Mexico	118.7	BASTROP BAY
Gulf of Mexico	118.8	CHRISTMAS BAY
Gulf of Mexico	118.9	WEST BAY - UNCLASSIFIED WATERS
Gulf of Mexico	119.1	EAST MATAGORDA BAY - ALL WATERS EAST OF THE COLORADO RIVER
Gulf of Mexico	119.2	FROM AND INCLUDING THE COLORADO RIVER WEST TO A LINE FROM PALACIOS POINT TO GREE
Gulf of Mexico	119.3	FROM SOUTHERN SHORELINE OF CARANCAHUA PASS OUTWARD TO THE NORTH SIDE OF NEW CUT
Gulf of Mexico	119.4	FRON SAND POINT WESTWARD TO INDIAN POINT (MOUTH OF LAVACA BAY) TO AND INCLUDING
Gulf of Mexico	119.5	LAVACA AND KELLER BAYS
Gulf of Mexico	119.9	MATAGORDA BAY - UNCLASSIFIED WATERS
Gulf of Mexico	186.6	PUERTO RICO
Gulf of Mexico	212.1	LAKE PONTCHARTRAIN
Gulf of Mexico	214.1	UPPER TIMBALIER BAY
Gulf of Mexico	214.2	UPPER TERREBONNE BAY
Gulf of Mexico	214.3	LOWER MARSH AREA ABOVE LAKE PELTO
Gulf of Mexico	214.4	PASSES FROM CAILLOU BAY TO CAILLOU LAKE
Gulf of Mexico	214.5	KING LAKE, BAY VOISIN, AND PASSES TO CAILLOU BAY
Gulf of Mexico	218.1	CEDAR POINT SOUTH TO SMITH POINT: EAST TO LONE OAK BAYOU - NORTH TO UMBRELLA PO
Gulf of Mexico	218.2	UMBRELLA POINT SOUTH TO LONE OAK BAYOU: EAST TO BLACK POINT - NORTH TO HL&P DI

Region	Code	Area Name
Gulf of Mexico	218.3	ALL WATERS EAST OF A LINE FROM HL&P DISCHARGE CANAL SOUTH TO BLACK POINT
Gulf of Mexico	218.9	TRINITY BAY - UNCLASSIFIED WATERS
Gulf of Mexico	219.1	SAN ANTONIO BAY NORTH OF INTRACOASTAL CANAL
Gulf of Mexico	219.2	SAN ANTONIO BAY SOUTH OF INTRACOASTAL CANAL
Gulf of Mexico	219.3	ESPIRITU SANTO BAY
Gulf of Mexico	219.4	MESQUITE BAY
Gulf of Mexico	219.9	SAN ANTONIO BAY - UNCLASSIFIED WATERS
Gulf of Mexico	312.1	INSHORE AREA BETWEEN LAKE BORGNE AND LAKE PONTCHARTRAIN, FROM THE PEARL RIVER TO
Gulf of Mexico	312.2	INSHORE SOUTH OF MISSISSIPPI SOUND AND WEST OF CHANDELEUR SOUND, EXTENDING WEST
Gulf of Mexico	314.1	LITTLE LAKE 2
Gulf of Mexico	314.2	LAKE RACCOURCI
Gulf of Mexico	314.3	LAKE FELICITY
Gulf of Mexico	314.4	LAKE BARRE
Gulf of Mexico	314.5	UPPER MARSH AREA ABOVE LAKE PELTO
Gulf of Mexico	314.6	CAILLOU LAKE 2
Gulf of Mexico	314.7	LAKE MERCHANT
Gulf of Mexico	314.8	BAY JUNOP
Gulf of Mexico	318.1	CLEAR LAKE CHANNEL - SOUTH TO EAGLE POINT: EAST TO HOUSTON SHIP CHANNEL MARKER
Gulf of Mexico	318.2	BAYPORT CHANNEL - SOUTH TO CLEAR LAKE CHANNEL: EAST TO MARKER 65 - NORTH TO BAY
Gulf of Mexico	318.3	ALL WATERS NORTH OF A LINE FROM BAYPORT CHANNEL EAST TO LOST REEF: NORTHWEST TO
Gulf of Mexico	318.4	ALL WATERS SOUTH OF A LINE FROM BAYPORT CHANNEL TO LOST REEF - SOUTH TO SMITH PO
Gulf of Mexico	318.9	UPPER GALVESTON BAY - UNCLASSIFIED WATERS
Gulf of Mexico	319.1	ARANSAS BAY NORTH OF INTRACOASTAL CANAL INCLUDES ST. CHARLES AND COPANO BAYS
Gulf of Mexico	319.2	ARANSAS BAY SOUTH OF INTRACOASTAL CANAL TO AND INCLUDING LYDIA ANN CHANNEL
Gulf of Mexico	319.3	REDFISH BAY EAST OF ARANSAS CHANNEL
Gulf of Mexico	319.9	ARANSAS BAY - UNCLASSIFIED WATERS
Gulf of Mexico	412.1	INSHORE AREA SOUTH OF LAKE BORGNE TO BAYOU LA LOUTRE AND BAYOU TERRE AUX BOEUFs,
Gulf of Mexico	412.2	INSHORE AREA WEST OF BRETON SOUND, BETWEEN BAYOU LA LOUTRE TO BAYOU TERRE AUX BO
Gulf of Mexico	414.1	LAKE CHIEN AND LAKE TAMBOUR
Gulf of Mexico	414.2	LAKE BOUDREAUX
Gulf of Mexico	414.3	LAKE DE CADE

Region	Code	Area Name
Gulf of Mexico	414.4	LOST LAKE (CHANGED TO 015.4)
Gulf of Mexico	418.1	SMITH POINT SOUTHWARD TO INTRACOASTAL CANAL AT ROBINS MARINA: EASTWARD TO SUN O
Gulf of Mexico	418.2	WATERS EAST OF THE LINE FROM SUN OIL CHANNEL TO THE SOUTH TO ROBINSON BAYOU CHAN
Gulf of Mexico	418.9	EAST BAY - UNCLASSIFIED WATERS
Gulf of Mexico	512.2	INSIDE WATERS OF BRETON SOUND FROM BLACK BAY TO QUARANTINE BAY, AND INSHORE AREA
Gulf of Mexico	518.1	ALL WATERS LYING BETWEEN THE TEXAS CITY DIKE - SOUTH TO US 75 CAUSEWAY ON THE WE
Gulf of Mexico	518.2	DOLLAR POINT EAST TO HOUSTON SHIP CHANNEL MARKER 39: SOUTH TO A LINE BETWEEN PO
Gulf of Mexico	518.3	EAGLE POINT EAST TO THE SOUTHERN TIP OF REDFISH ISLAND - SOUTH TO MARKER 39 - WE
Gulf of Mexico	518.4	SOUTHEASTERN TIP OF REDFISH ISLAND EAST TO SMITH POINT: SOUTH TO ROBINS MARINA,
Gulf of Mexico	518.5	INTRACOASTAL CANAL, EAST OF PELICAN ISLAND, SOUTH TO GALVESTON SULPHUR DOCKS, E
Gulf of Mexico	518.9	LOWER GALVESTON BAY - UNCLASSIFIED WATERS
Gulf of Mexico	612.2	INSIDE WATERS FROM GRAND BAY TO GARDEN ISLAND BAY, AND INSHORE WATERS FROM THE O
Gulf of Mexico	814.1	PASS BETWEEN TIMBALIER ISLAND AND EAST TIMBALIER ISLAND 1
Gulf of Mexico	814.2	CAT ISLAND PASS AND WINE ISLAND PASS 1
Gulf of Mexico	903.1	TURNER RIVER
Gulf of Mexico	904.1	CALOOSAHATCHEE RIVER
Gulf of Mexico	904.2	PEACE RIVER
Gulf of Mexico	905.1	HILLSBORO RIVER
Gulf of Mexico	905.2	MANATEE RIVER
Gulf of Mexico	906.1	ANCLOTE RIVER
Gulf of Mexico	907.1	APALACHICOLA RIVER
Gulf of Mexico	907.2	STEINHATEHEE RIVER
Gulf of Mexico	907.3	SUWANEE RIVER
Gulf of Mexico	907.4	OCKLOCKONEE RIVER
Gulf of Mexico	907.6	WITHLACOOCHEE RIVER
Gulf of Mexico	909.1	CHOCTAWHATCHEE RIVER
Gulf of Mexico	909.2	ESCAMBIA RIVER
Gulf of Mexico	910.1	MOBILE RIVER
Gulf of Mexico	910.2	TENSA RIVER
Gulf of Mexico	910.3	ALABAMA-TOMBIGBEE RIVER
Gulf of Mexico	912.1	LAKE MAUREPAS
Gulf of Mexico	912.2	TICKFAW RIVER (PEARL RIVER)

Region	Code	Area Name
Gulf of Mexico	912.3	AMITE RIVER
Gulf of Mexico	913.1	MISSISSIPPI RIVER
Gulf of Mexico	913.2	INTRACOASTAL WALING
Gulf of Mexico	914.1	LAKE DES ALLEMANDE
Gulf of Mexico	914.2	CAT ISLAND PASS AND WINE ISLAND PASS 2
Gulf of Mexico	915	LOCAL SWAMPS (UMCLASSIFIED INLAND WATERS)
Gulf of Mexico	915.1	ATCHAFALAYA RIVER
Gulf of Mexico	915.2	BAYOU PIGEON
Gulf of Mexico	915.3	BAYOU SORRELL
Gulf of Mexico	915.4	BAYOU TECHE
Gulf of Mexico	915.5	GRAND LAKE (IBERIA & ST. MARY PARISH)
Gulf of Mexico	915.6	LAKE VERRET
Gulf of Mexico	916.1	GRAND LAKE (CAMERON PARISH)
Gulf of Mexico	916.2	WHITE LAKE
Gulf of Mexico	919.1	GUADALUPE RIVER
Gulf of Mexico	919.2	GREEN LAKE
Gulf of Mexico	919.3	LAVACA RIVER (N.E. CORNER OF LAVACA BAY)
Gulf of Mexico	919.4	KELLER BAY (S.E. CORNER OF LAVACA BAY)
Gulf of Mexico	919.5	OYSTER CREEK
Gulf of Mexico	2483.3	GULF OF MEXICO, GRID 2483 SW QUADRANT
Gulf of Mexico	52292	GULF OF MEXICO, LATITUDE 22, LONGITUDE 92
Gulf of Mexico	52382	GULF OF MEXICO, LATITUDE 23, LONGITUDE 82
Gulf of Mexico	52383	GULF OF MEXICO, LATITUDE 23, LONGITUDE 83
Gulf of Mexico	52384	GULF OF MEXICO, LATITUDE 23, LONGITUDE 84
Gulf of Mexico	52389	GULF OF MEXICO, LATITUDE 23, LONGITUDE 89
Gulf of Mexico	52393	GULF OF MEXICO, LATITUDE 23, LONGITUDE 93
Gulf of Mexico	52484	GULF OF MEXICO, LATITUDE 24, LONGITUDE 84
Gulf of Mexico	52488	GULF OF MEXICO, LATITUDE 24, LONGITUDE 88
Gulf of Mexico	52489	GULF OF MEXICO, LATITUDE 24, LONGITUDE 89
Gulf of Mexico	52584	GULF OF MEXICO, LATITUDE 25, LONGITUDE 84
Gulf of Mexico	52585	GULF OF MEXICO, LATITUDE 25, LONGITUDE 85
Gulf of Mexico	52586	GULF OF MEXICO, LATITUDE 25, LONGITUDE 86
Gulf of Mexico	52587	GULF OF MEXICO, LATITUDE 25, LONGITUDE 87
Gulf of Mexico	52588	GULF OF MEXICO, LATITUDE 25, LONGITUDE 88
Gulf of Mexico	52589	GULF OF MEXICO, LATITUDE 25, LONGITUDE 89
Gulf of Mexico	52590	GULF OF MEXICO, LATITUDE 25, LONGITUDE 90
Gulf of Mexico	52591	GULF OF MEXICO, LATITUDE 25, LONGITUDE 91
Gulf of Mexico	52684	GULF OF MEXICO, LATITUDE 26, LONGITUDE 84
Gulf of Mexico	52685	GULF OF MEXICO, LATITUDE 26, LONGITUDE 85
Gulf of Mexico	52686	GULF OF MEXICO, LATITUDE 26, LONGITUDE 86
Gulf of Mexico	52687	GULF OF MEXICO, LATITUDE 26, LONGITUDE 87

Region	Code	Area Name
Gulf of Mexico	52688	GULF OF MEXICO, LATITUDE 26, LONGITUDE 88
Gulf of Mexico	52689	GULF OF MEXICO, LATITUDE 26, LONGITUDE 89
Gulf of Mexico	52690	GULF OF MEXICO, LATITUDE 26, LONGITUDE 90
Gulf of Mexico	52691	GULF OF MEXICO, LATITUDE 26, LONGITUDE 91
Gulf of Mexico	52692	GULF OF MEXICO, LATITUDE 26, LONGITUDE 92
Gulf of Mexico	52693	GULF OF MEXICO, LATITUDE 26, LONGITUDE 93
Gulf of Mexico	52694	GULF OF MEXICO, LATITUDE 26, LONGITUDE 94
Gulf of Mexico	52695	GULF OF MEXICO, LATITUDE 26, LONGITUDE 95
Gulf of Mexico	52785	GULF OF MEXICO, LATITUDE 27, LONGITUDE 85
Gulf of Mexico	52786	GULF OF MEXICO, LATITUDE 27, LONGITUDE 86
Gulf of Mexico	52787	GULF OF MEXICO, LATITUDE 27, LONGITUDE 87
Gulf of Mexico	52788	GULF OF MEXICO, LATITUDE 27, LONGITUDE 88
Gulf of Mexico	52789	GULF OF MEXICO, LATITUDE 27, LONGITUDE 89
Gulf of Mexico	52790	GULF OF MEXICO, LATITUDE 27, LONGITUDE 90
Gulf of Mexico	52791	GULF OF MEXICO, LATITUDE 27, LONGITUDE 91
Gulf of Mexico	52792	GULF OF MEXICO, LATITUDE 27, LONGITUDE 92
Gulf of Mexico	52793	GULF OF MEXICO, LATITUDE 27, LONGITUDE 93
Gulf of Mexico	52794	GULF OF MEXICO, LATITUDE 27, LONGITUDE 94
Gulf of Mexico	52795	GULF OF MEXICO, LATITUDE 27, LONGITUDE 95
Gulf of Mexico	52796	GULF OF MEXICO, LATITUDE 27, LONGITUDE 96
Gulf of Mexico	52881	GULF OF MEXICO, LATITUDE 28, LONGITUDE 81
Gulf of Mexico	52886	GULF OF MEXICO, LATITUDE 28, LONGITUDE 86
Gulf of Mexico	52887	GULF OF MEXICO, LATITUDE 28, LONGITUDE 87
Gulf of Mexico	52888	GULF OF MEXICO, LATITUDE 28, LONGITUDE 88
Gulf of Mexico	52895	GULF OF MEXICO, LATITUDE 28, LONGITUDE 95
Middle Atlantic	623	LAT/LONG 38 TO 39 N, 72 TO 73 W
Middle Atlantic	626	WASHINGTON CANYON
Puerto Rico - USVI	43	BELIZE
Puerto Rico - USVI	48	HONDURAS
Puerto Rico - USVI	52	NICARAGUA, GRID 52
Puerto Rico - USVI	54	NICARAGUA
Puerto Rico - USVI	60	COLUMBIA, SOUTH AMERICA
Puerto Rico - USVI	186	BAHAMAS
South Atlantic	1	KEY WEST, GRID 1, ATLANTIC SIDE, STATE WATERS
South Atlantic	1.9	KEY WEST, GRID 1, ATLANTIC SIDE, FEDERAL WATERS
South Atlantic	2.2	TORTUGAS, GRID 2, ATLANTIC SIDE, STATE WATERS
South Atlantic	2.9	TORTUGAS, GRID 2, ATLANTIC SIDE, FEDERAL WATERS
South Atlantic	630.5	CHOWAN RIVER
South Atlantic	631	WRIGHT BROTHERS MONUMENT TO NC/VA LINE
South Atlantic	631.1	CURRITUCK SOUND
South Atlantic	631.2	NORTH RIVER

Region	Code	Area Name
South Atlantic	631.3	PASQUOTANK RIVER
South Atlantic	631.4	PERQUIMANS RIVER
South Atlantic	631.6	ALBEMARLE SOUND
South Atlantic	631.9	INLAND WATERWAY (CURRITUK SOUND TO NORTH RIVER)
South Atlantic	632	LAT/LONG 36 TO 37 N, 74 TO 75 W
South Atlantic	633	LAT/LONG 36 TO 37 N, 73 TO 74 W
South Atlantic	634	LAT/LONG 36 TO 37 N, 72 TO 73 W
South Atlantic	635	OCRACOKE INLET TO WRIGHT BROTHERS MONUMENT, AREA 635, 0-3 MILES
South Atlantic	635.1	ALLIGATOR RIVER
South Atlantic	635.2	ROANOKE SOUND
South Atlantic	635.3	CROATAN SOUND
South Atlantic	635.4	PAMLICO SOUND
South Atlantic	635.5	PAMLICO RIVER
South Atlantic	635.6	MATTAMUSKEET LAKE
South Atlantic	635.9	INLAND WATERWAY (ALLIGATOR RIVER TO BAY RIVER)
South Atlantic	636	LAT/LONG 35 TO 36 N, 74 TO 75 W
South Atlantic	637	LAT/LONG 35 TO 36 N, 73 TO 74 W
South Atlantic	638	LAT/LONG 35 TO 36 N, 72 TO 73 W
South Atlantic	700	KURE BEACH TO BOGUE INLET, AREA 700
South Atlantic	700.1	BOGUE SOUND1
South Atlantic	700.2	WHITE OAK RIVER
South Atlantic	700.3	NEW RIVER
South Atlantic	700.4	STUMP SOUND
South Atlantic	700.5	TOPSAIL SOUND
South Atlantic	700.6	MASONBORO SOUND
South Atlantic	700.7	CAPE FEAR RIVER
South Atlantic	700.9	INLAND WATERWAY (WHITE OAK TO CAPE FEAR)
South Atlantic	701	BOGUE INLET TO OCRACOKE INLET, AREA 701, 0-3 MILES
South Atlantic	701.1	NEUSE RIVER
South Atlantic	701.2	CORE SOUND
South Atlantic	701.3	NORTH RIVER (CARTERET COUNTY)
South Atlantic	701.4	NEWPORT RIVER
South Atlantic	701.5	BOGUE SOUND2
South Atlantic	701.9	INLAND WATERWAY ADAMS CREEK TO WHITE OAK
South Atlantic	702	OCRACOKE INLET TO SWASH INLET, AREA 702, FEDERAL WATERS
South Atlantic	703	LAT/LONG 34 TO 35 N, 74 TO 75 W
South Atlantic	704	LAT/LONG 34 TO 35 N, 73 TO 74 W
South Atlantic	705	LAT/LONG 34 TO 35 N, 72 TO 73 W
South Atlantic	706	CAPE ROMAIN TO WINYAH BAY

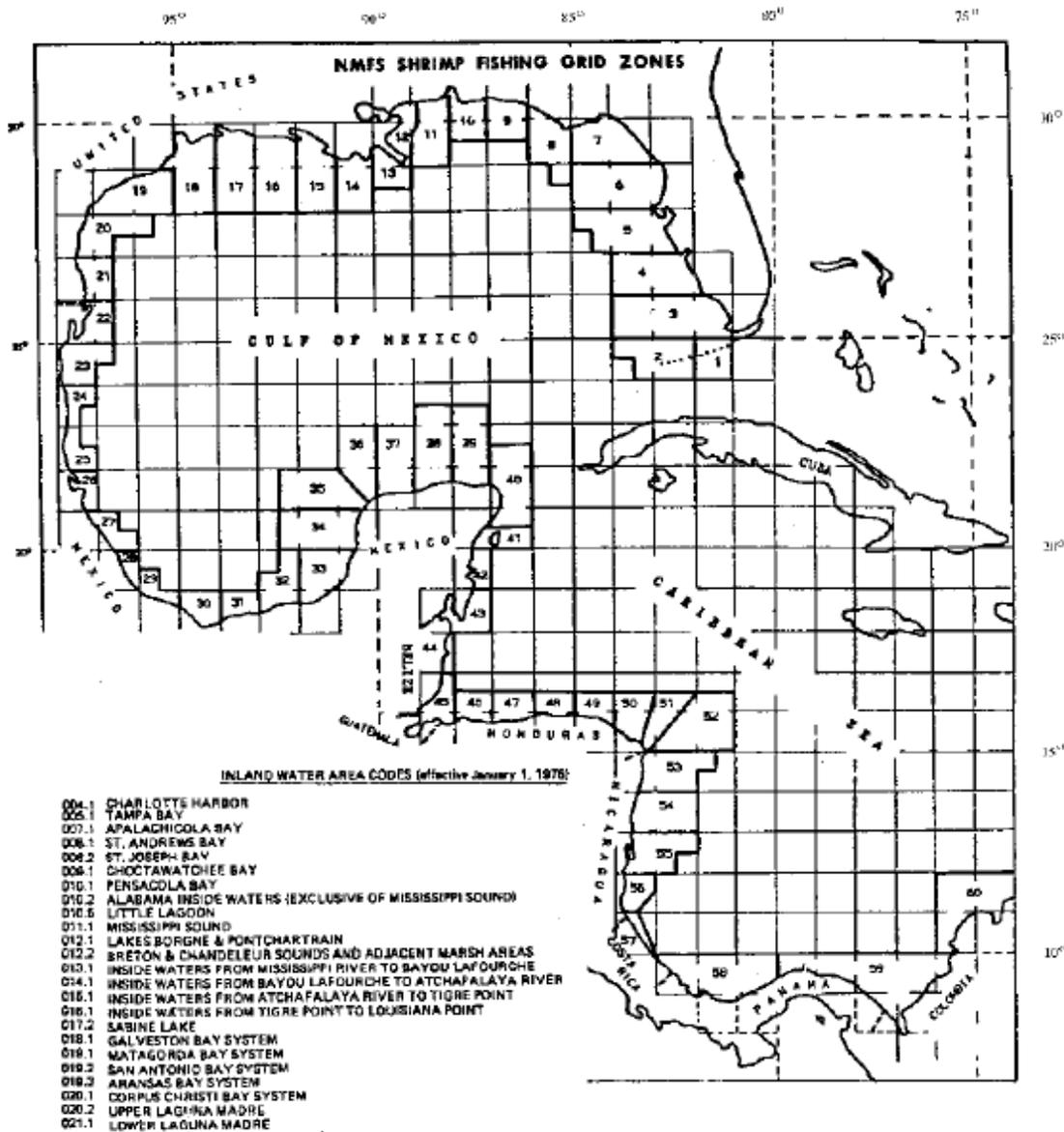
Region	Code	Area Name
South Atlantic	706.1	MURRELLS INLET
South Atlantic	706.2	WACCAMAW RIVER
South Atlantic	706.3	PEE DEE RIVER
South Atlantic	706.4	WINYAH BAY
South Atlantic	706.5	SANTEE RIVER
South Atlantic	706.6	BULL BAY
South Atlantic	707	GARDEN CITY BEACH TO CAPE FEAR RIVER, AREA 707
South Atlantic	707.1	LOCKWOOD FOLLY
South Atlantic	707.2	SHALLOTTE RIVER
South Atlantic	707.3	LITTLE RIVER INLET
South Atlantic	707.8	INLAND WATERWAY, SC
South Atlantic	707.9	INLAND WATERWAY (SOUTHPORT TO LITTLE RIVER)
South Atlantic	708	LAT/LONG 33 TO 34 N, 77 TO 78 W
South Atlantic	709	LAT/LONG 33 TO 34 N, 76 TO 77 W
South Atlantic	710	LAT/LONG 33 TO 34 N, 75 TO 76 W
South Atlantic	711	LAT/LONG 33 TO 34 N, 74 TO 75 W
South Atlantic	712	SOUTH CAROLINA, AREA 712
South Atlantic	712.1	EDISTO RIVER
South Atlantic	712.2	SAINT HELENA SOUND
South Atlantic	712.3	BROAD RIVER
South Atlantic	712.4	PORT ROYAL RIVER OR SOUND
South Atlantic	712.5	CALIBOGUE SOUND, AREA 712
South Atlantic	712.6	SAVANNAH RIVER
South Atlantic	712.7	OGEECHEE RIVER, AREA 712
South Atlantic	713	SOUTH CAROLINA, AREA 713
South Atlantic	713.2	COOPER RIVER (INCLUDING MOULTRIE LAKE)
South Atlantic	713.3	FOLLY BEACH
South Atlantic	713.4	STONE RIVER
South Atlantic	713.9	LAT/LONG 32-33 N, 79-80 W, FEDERAL WATERS, SOUTH CAROLINA
South Atlantic	714	LAT/LONG 32 TO 33 N, 78 TO 79 W
South Atlantic	714.9	SOUTH CAROLINA, GRID 714, FEDERAL WATERS
South Atlantic	715	LAT/LONG 32 TO 33 N, 77 TO 78 W
South Atlantic	716	LAT/LONG 32 TO 33 N, 76 TO 77 W
South Atlantic	717	GEORGIA - BRUNSWICK/SAVANNAH, AREA 717
South Atlantic	717.1	WASSAW SOUND, WEST, AREA 717
South Atlantic	717.2	OGEECHEE RIVER, AREA 717
South Atlantic	717.3	OSSABAW SOUND
South Atlantic	717.4	SAINT CATHERINES SOUND
South Atlantic	717.5	SAPELOE SOUND
South Atlantic	717.6	DOBOY SOUND

Region	Code	Area Name
South Atlantic	717.7	ALTAMAHA RIVER AND SOUND
South Atlantic	717.8	SAINT SIMON SOUND
South Atlantic	717.9	GEORGIA, AREA 717, FEDERAL WATERS
South Atlantic	718	ST. ANDREWS SOUND TO TYBEE ISLAND (OFFSHORE), AREA 718
South Atlantic	718.1	WASSAW SOUND, EAST, AREA 718
South Atlantic	719	LAT/LONG 31 TO 32 N, 79 TO 80 W
South Atlantic	720	LAT/LONG 31 TO 32 N, 78 TO 79 W
South Atlantic	721	LAT/LONG 31 TO 32 N, 77 TO 78 W
South Atlantic	722	JACKSONVILLE, AREA 722, OFFSHORE WATERS
South Atlantic	722.1	SAINT ANDREW SOUND
South Atlantic	722.2	JACKSONVILLE, ST. MARYS RIVER
South Atlantic	722.3	ST. MARY'S RIVER EFFECTIVE 1978
South Atlantic	722.4	JACKSONVILLE, NASSAU RIVER
South Atlantic	722.5	JACKSONVILLE, ST. JOHNS RIVER
South Atlantic	722.9	JACKSONVILLE, AREA 722, FEDERAL WATERS
South Atlantic	723	LAT/LONG 30 TO 31 N, 80 TO 81 W
South Atlantic	724	LAT/LONG 30 TO 31 N, 79 TO 80 W
South Atlantic	725	LAT/LONG 30 TO 31 N, 78 TO 79 W
South Atlantic	726	LAT/LONG 30 TO 31 N, 77 TO 78 W
South Atlantic	727	ST. AUGUSTINE TO DAYTONA BEACH, AREA 727, FEDERAL WATERS
South Atlantic	727.1	MATANZAS RIVER & INTERCOASTAL EFFECTIVE 1978
South Atlantic	727.2	LOWER ST JOHNS & LAKE GEORGE EFFECTIVE 1978
South Atlantic	728	ST. AUGUSTINE, AREA 728, OFFSHORE WATERS
South Atlantic	728.1	ST. AUGUSTINE, INSHORE WATERS
South Atlantic	728.5	ST. JOHNS RIVER (GREEN COVE SPRINGS-LAKE GEORGE)
South Atlantic	728.9	ST. AUGUSTINE, AREA 728, FEDERAL WATERS
South Atlantic	729	LAT/LONG 29 TO 30 N, 79 TO 80 W
South Atlantic	730	LAT/LONG 29 TO 30 N, 78 TO 79 W
South Atlantic	731	LAT/LONG 29 TO 30 N, 77 TO 78 W
South Atlantic	732	CAPE CANAVERAL, AREA 732, OFFSHORE WATERS
South Atlantic	732.1	CAPE CANAVERAL, INSHORE WATERS
South Atlantic	732.2	BANANA RIVER EFFECTIVE 1978
South Atlantic	732.3	INDIAN RIVER EFFECTIVE 1978
South Atlantic	732.9	CAPE CANAVERAL, AREA 732, FEDERAL WATERS
South Atlantic	733	LAT/LONG 28 TO 29 N, 79 TO 80 W
South Atlantic	734	LAT/LONG 28 TO 29 N, 78 TO 79 W
South Atlantic	735	LAT/LONG 28 TO 29 N, 77 TO 78 W
South Atlantic	736	FORT PIERCE, AREA 736, OFFSHORE WATERS
South Atlantic	736.1	FORT PIERCE, INSHORE WATERS
South Atlantic	736.9	FORT PIERCE, FEDERAL WATERS

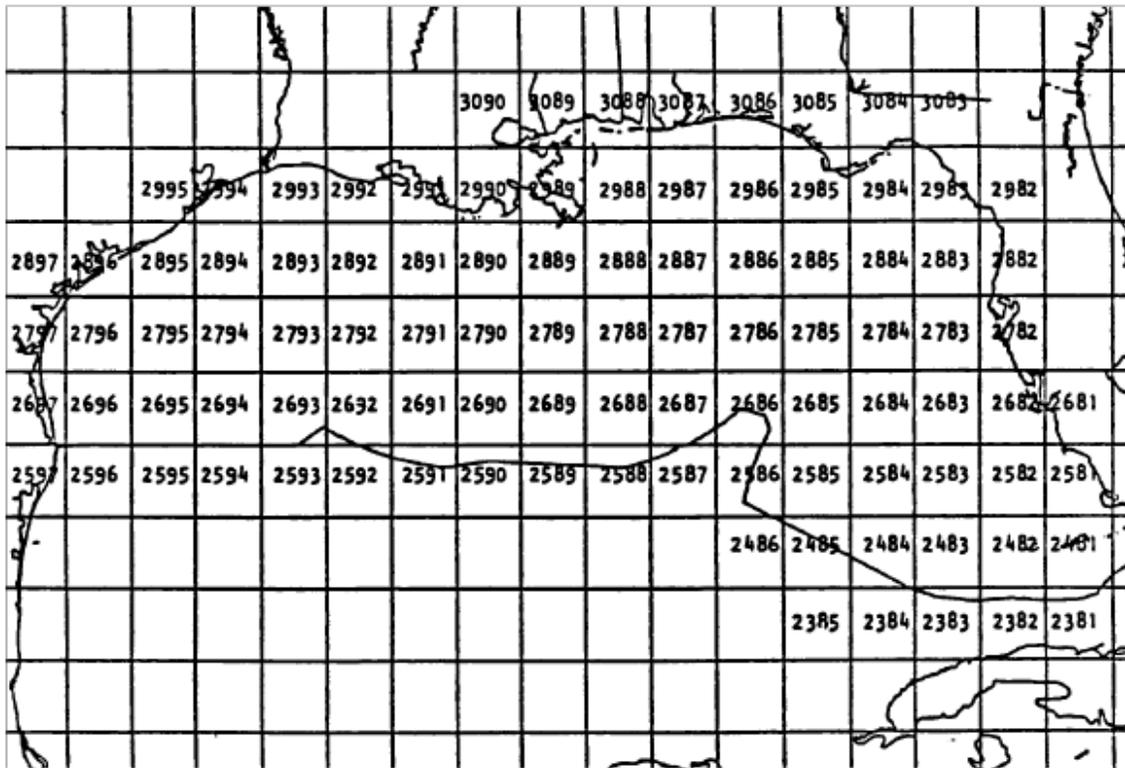
Region	Code	Area Name
South Atlantic	737	LAT/LONG 27 TO 28 N, 79 TO 80 W
South Atlantic	738	LAT/LONG 27 TO 28 N, 78 TO 79 W
South Atlantic	739	LAT/LONG 27 TO 28 N, 77 TO 78 W
South Atlantic	740	WEST PALM TO OKEECHOBEE, AREA 740
South Atlantic	740.1	LAKE WORTH & INTERCOASTAL EFFECTIVE 1978
South Atlantic	741	WEST PALM BEACH, AREA 741, OFFSHORE WATERS
South Atlantic	741.1	WEST PALM BEACH, INSHORE WATER
South Atlantic	741.9	WEST PALM BEACH, AREA 741, FEDERAL WATERS
South Atlantic	742	LAT/LONG 26 TO 27 N, 78 TO 79 W
South Atlantic	743	LAT/LONG 26 TO 27 N, 77 TO 78 W
South Atlantic	744	MIAMI, AREA 744, OFFSHORE WATERS
South Atlantic	744.1	MIAMI, FLORIDA BAY
South Atlantic	744.2	MIAMI, BISCAYNE BAY/CARD SOUND/BARNES SO
South Atlantic	744.3	MIAMI, AREA 744,Biscayne Bay (non-NP)
South Atlantic	744.4	MIAMI, AREA 744,Biscayne Bay NP (Inside)
South Atlantic	744.5	MIAMI, AREA 744,Biscayne Bay NP (Outside)
South Atlantic	744.6	MIAMI, AREA 744, Card Sound
South Atlantic	744.7	MIAMI, AREA 744, Barnes Sound
South Atlantic	744.8	MIAMI, AREA 744,Biscayne Bay NP (federal)
South Atlantic	744.9	MIAMI, AREA 744, FEDERAL WATERS
South Atlantic	745	LAT/LONG 25 TO 26 N, 79 TO 80 W
South Atlantic	746	LAT/LONG 25 TO 26 N, 78 TO 79 W
South Atlantic	747	LAT/LONG 25 TO 26 N, 77 TO 78 W
South Atlantic	748	MARATHON, SOUTH OF US 1, AREA 748
South Atlantic	748.1	MARATHON, NORTH OF US 1 (FLORIDA BAY)
South Atlantic	748.9	MARATHON, AREA 748, FEDERAL WATERS
South Atlantic	749	LAT/LONG 24 TO 25 N, 79 TO 80 W
South Atlantic	750	LAT/LONG 24 TO 25 N, 78 TO 79 W
South Atlantic	751	LAT/LONG 24 TO 25 N, 77 TO 78 W
South Atlantic	799.4	ATLANTIC UNKNOWN AREA
South Atlantic	41565	ATLANTIC, LATITUDE 15, LONGITUDE 65
South Atlantic	41780	ATLANTIC, LATITUDE 17, LONGITUDE 80
South Atlantic	42380	ATLANTIC, LATITUDE 23, LONGITUDE 80
South Atlantic	42468	ATLANTIC, LATITUDE 24, LONGITUDE 68
South Atlantic	42632	ATLANTIC, LATITUDE 26, LONGITUDE 32
South Atlantic	42733	ATLANTIC, LATITUDE 27, LONGITUDE 33
South Atlantic	42772	ATLANTIC, LATITUDE 27, LONGITUDE 72
South Atlantic	42832	ATLANTIC, LATITUDE 28, LONGITUDE 32
South Atlantic	42860	ATLANTIC, LATITUDE 28, LONGITUDE 60
South Atlantic	42968	ATLANTIC, LATITUDE 29, LONGITUDE 68
South Atlantic	43044	ATLANTIC, LATITUDE 30, LONGITUDE 44

Region	Code	Area Name
South Atlantic	43175	ATLANTIC, LATITUDE 31, LONGITUDE 75
South Atlantic	43176	ATLANTIC, LATITUDE 31, LONGITUDE 76
South Atlantic	43273	ATLANTIC, LATITUDE 32, LONGITUDE 73
South Atlantic	43275	ATLANTIC, LATITUDE 32, LONGITUDE 75
South Atlantic	43373	ATLANTIC, LATITUDE 33, LONGITUDE 73

Gulf of Mexico Grid Map

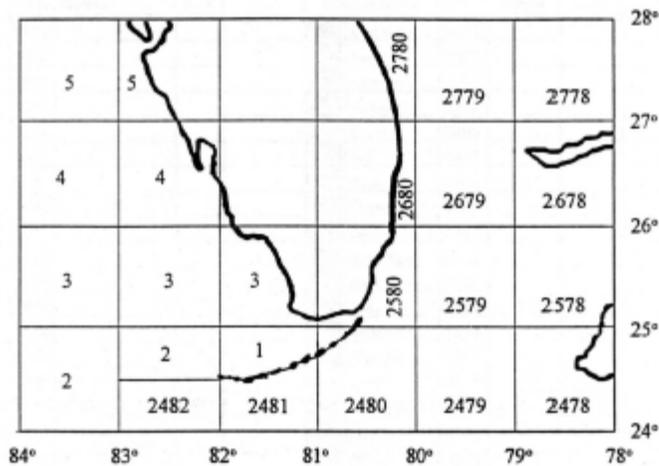


Gulf of Mexico Lat-Long Grid Map

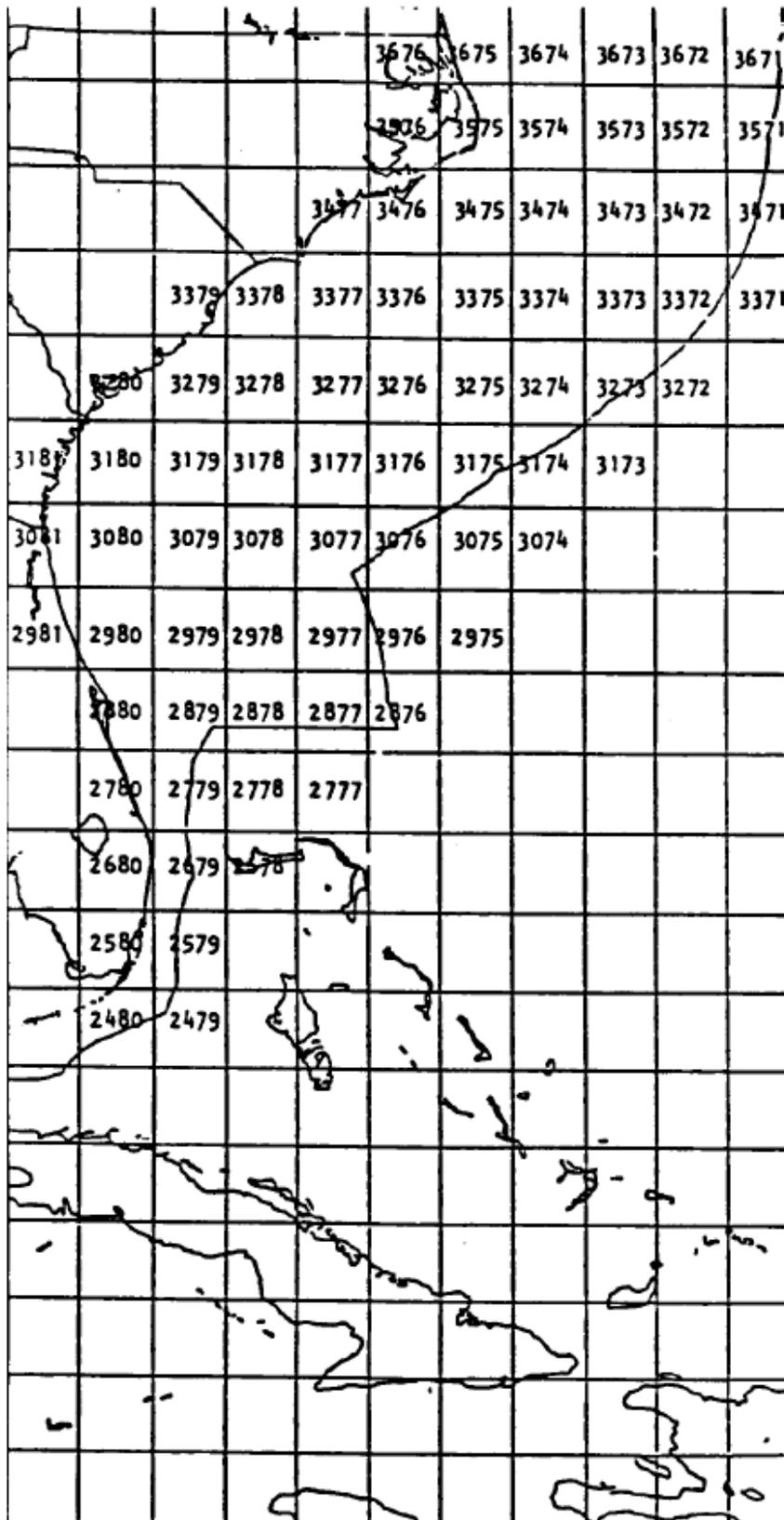


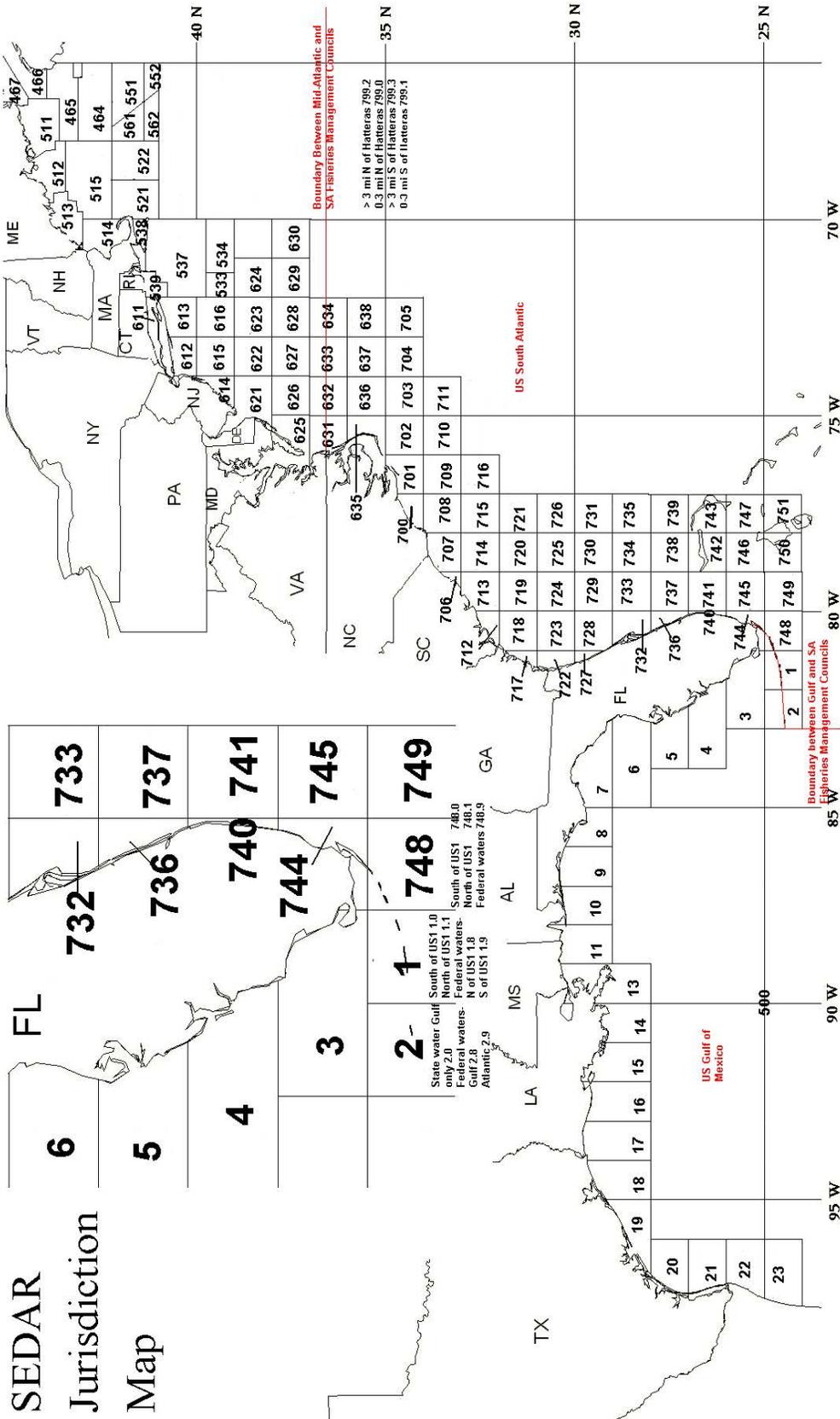
Statistical Grids for South Florida

The 4-digit codes are for the South Atlantic. The 3-digit codes are for the Gulf of Mexico.



South Atlantic Lat-Long Grid Map







FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

**Fish and Wildlife Research Institute
Marine Fisheries Trip Ticket Office**
100 8th Ave. SE, St. Petersburg, FL 33701-5020
Telephone 727/822-8783 Fax 727/894-6181
TOLL-FREE:
Telephone 866/447-5515 Fax 866/447-5514

Marine Fisheries Trip Ticket FISHING AREA CODE MAP

Fishery Management Regulations can be found at the following Web sites:

Federal Waters

South Atlantic Fishery Management Council www.safmc.net/
Gulf of Mexico Fishery Management Council www.gulfcouncil.org/
NOAA Fisheries www.nmfs.noaa.gov

National Marine Fisheries Service Southeast Regional Office <http://sero.nmfs.noaa.gov>

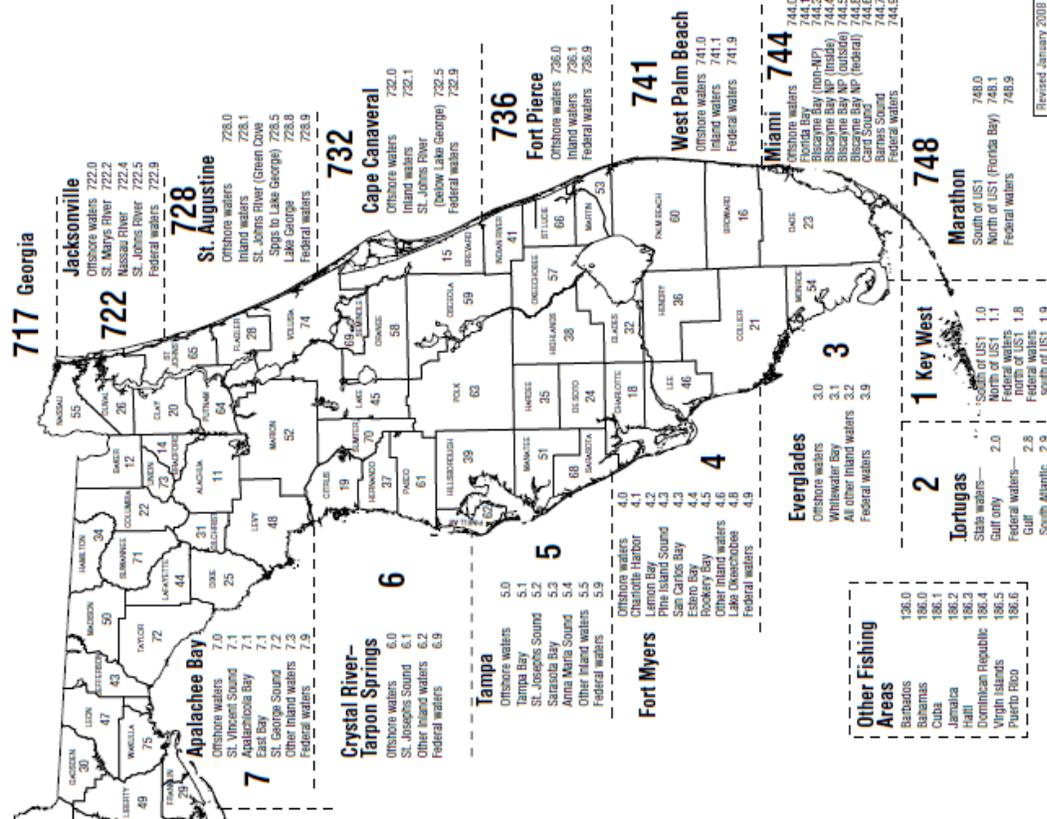
State Waters

Florida Fish and Wildlife Conservation Commission www.MyFWC.com

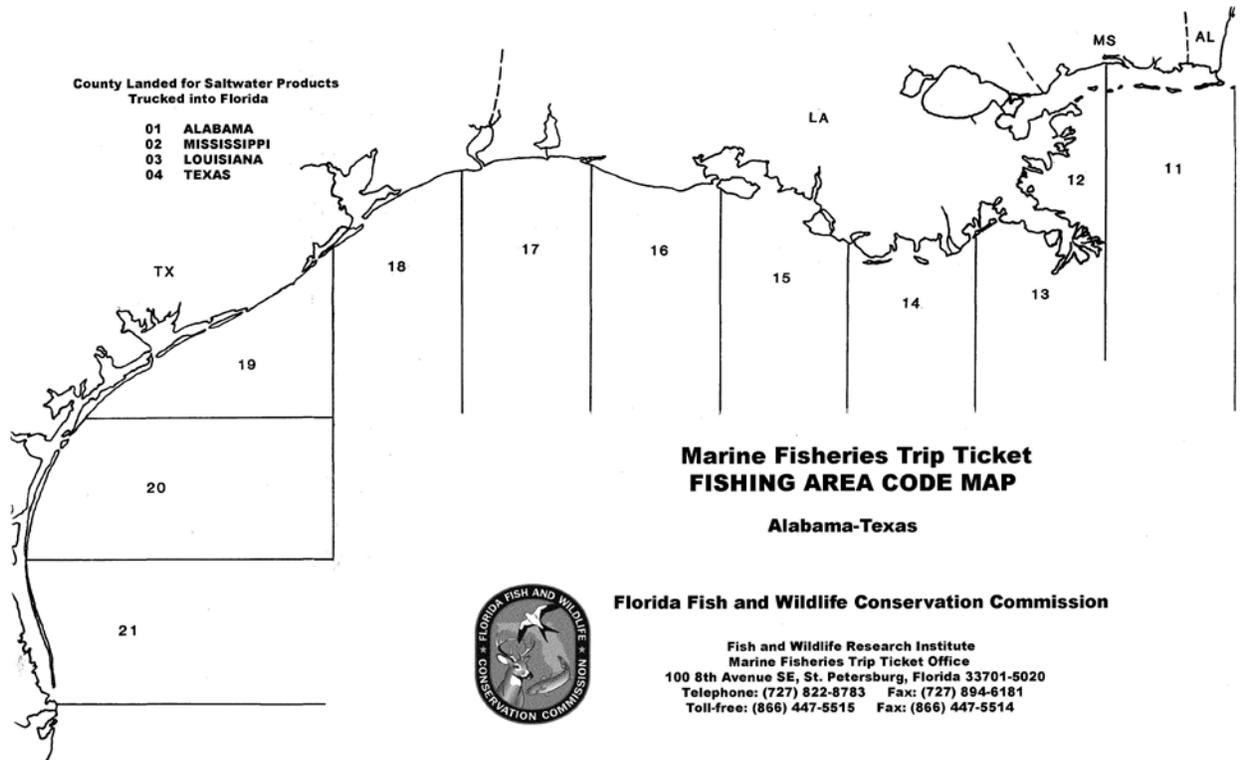
Our Website

Fish and Wildlife Research Institute <http://research.MyFWC.com>

FWC-FWRI St Petersburg	727/822-8783	National Marine Fisheries Service	727/824-5305
Marine Fisheries Trip Ticket Office	727/894-6181	St. Petersburg—Fisheries Mgmt.	727/824-5326
Trip Ticket Office Fax	866/447-5515	St. Petersburg—Permits	305/361-4581
Trip Ticket Office Toll-Free Telephone	866/447-5514	Miami—Logbooks	
Trip Ticket Office Toll-Free Fax	727/896-8626	Federal Councils	
Fish and Wildlife Research Institute		S. Atlantic Fishery Mgmt. Council	843/571-4366
FWC Tallahassee		Gulf of Mexico Fish. Mgmt. Council	813/348-1630
Division of Marine Fisheries	850/487-0554	Interstate Commissions	
Licenses and Permits Section	850/487-3122	Atlantic States Marine Fish. Comm.	202/289-6400
Marine Fisheries Management	850/488-6058	Gulf States Marine Fish. Comm.	228/875-5912
Marine Fisheries Services	850/922-4340	LAW ENFORCEMENT	



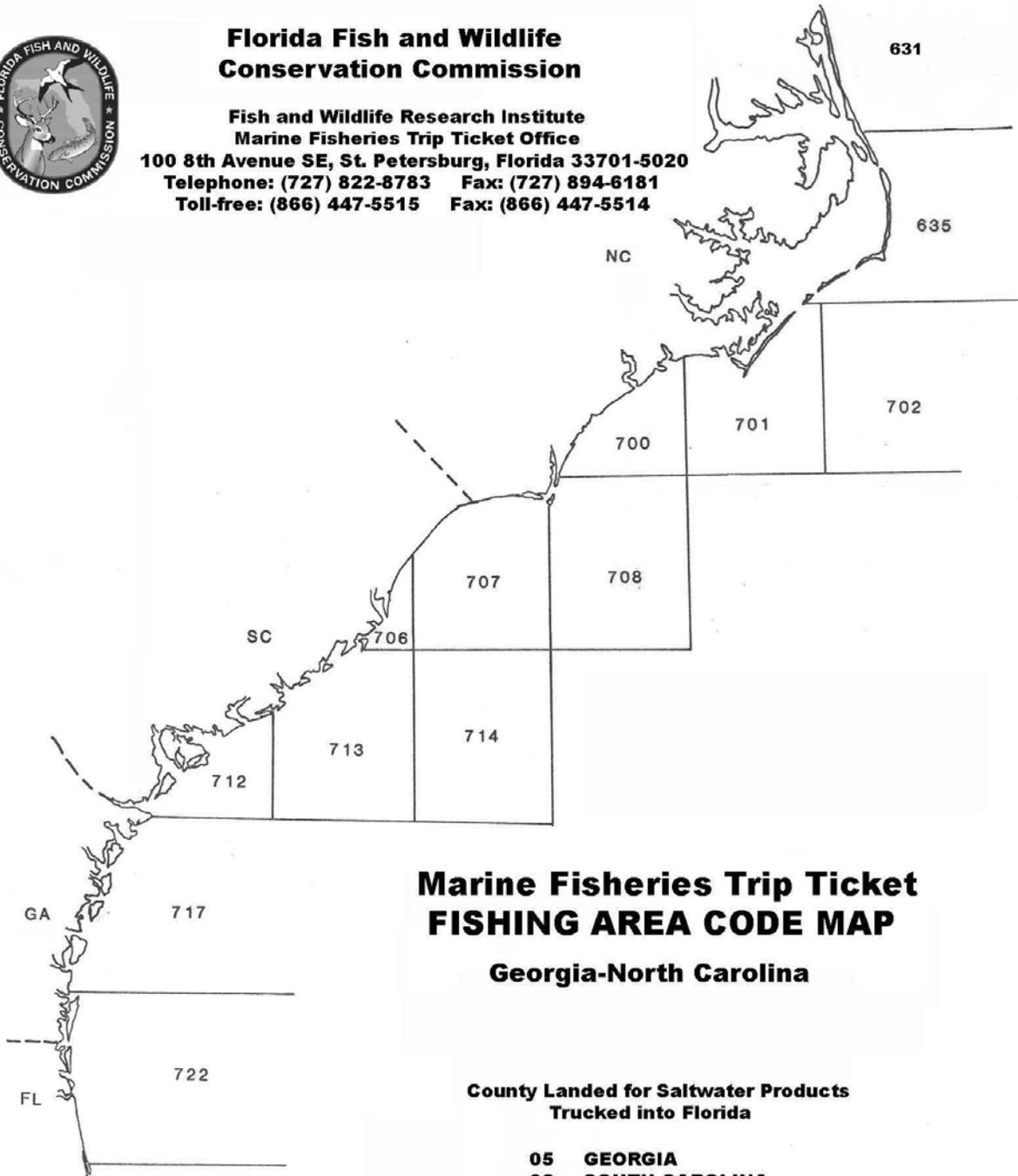
Revised January 2008





Florida Fish and Wildlife Conservation Commission

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Marine Fisheries Trip Ticket Office
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Marine Fisheries Trip Ticket FISHING AREA CODE MAP

Georgia-North Carolina

County Landed for Saltwater Products Trucked into Florida

- 05 GEORGIA
- 06 SOUTH CAROLINA
- 07 NORTH CAROLINA

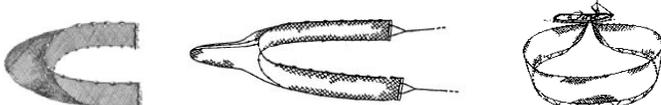
Appendix C

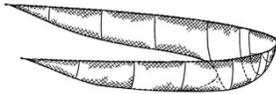
Gear Codes & Descriptions

All of the TIPOL Gear Codes, Names, and Descriptions, with Pictures or Illustrations.

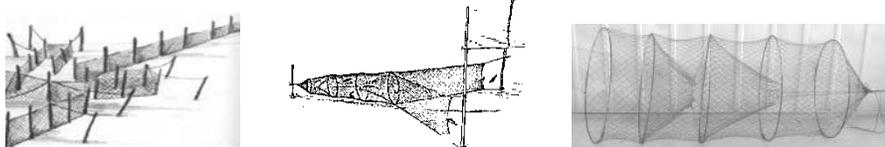
Gear Grouping	Page #
Seine Nets	107
Ring Nets	108
Trawl Nets	109
Pound Nets	110
Pots and Traps	110
Gill Nets	111
Hand Lines	112
Trolling Gear	113

Gear Grouping	Page #
Long Lines	114
Other Nets	114
Harpoons & Spears	115
Dredges	115
Tongs	116
Other Hand Gear	116
Dive Gear	117
Misc. Gear	117

GEAR NAME	CODE	DESCRIPTION
Not coded	000	Use when the gear used does not have a code.
Seine Nets		<p>'Surrounding Nets.' A long net that hangs vertically in the water with weights on the bottom edge and floats on the top edge, and is operated with two ends for herding and hauling fish.</p> 
Haul Seines, Beach	020	Seine nets deployed from the shore.
Haul Seines, Long	030	Extra-long seine net, typically pulled by two vessels.
Haul Seines, Long (Danish)	032	A seine net with a bag and long wings with towing ropes.
Stop Seines	040	
Stop Nets	050	
Encircling Nets (Purse)	100	Purse seine net deployed from a boat. Long wall of netting with floatline, leadline, and purse-line. The purse-line is a modified leadline with rings along the bottom and a line through them used to close the net like a purse.
Purse Seines, Anchovy	103	Purse seine used to target Anchovy.

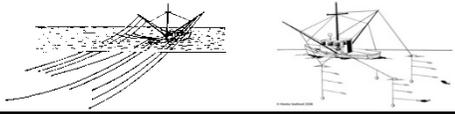
Purse Seines, Barracuda	105	Purse seine used to target Barracuda.
Purse Seines, Herring	110	Purse seine used to target Herring.
Purse Seines, Mackerel	120	Purse seine used to target Mackerel.
Purse Seines, Menhaden	125	Purse seine used to target Menhaden.
Purse Seines, Salmon	130	Purse seine used to target Salmon.
Purse Seines, Sardine	135	Purse seine used to target Sardine.
Purse Seines, Tuna	140	Purse seine used to target Tuna.
Purse Seines, Other	145	Purse seine used to target a species not previously associated with a purse seine gear code.
Ring Nets		<p>A surrounding net that is an intermediate hybrid between a purse seine and a lampara net: rings at the lower edge of the net, like on a purse seine, and a central bunt with a shorter leadline giving a spoon-shape like lampara net.</p> 
Nets Unc., Hawaii	150	Unclassified nets used in Hawaii.
Lampara & Ring Nets, Mackerel	155	Surrounding nets shaped like a spoon or dust pan where the leadline is much shorter than the floatline. Used for targeting Mackerel.
Lampara & Ring Nets, Sardine	160	Surrounding nets shaped like a spoon or dust pan where the leadline is much shorter than the floatline. Used for targeting Sardine.
Lampara & Ring Nets, Squid	165	Surrounding nets shaped like a spoon or dust pan where the leadline is much shorter than the floatline. Used for targeting Squid.
Lampara & Ring Nets, Tuna	170	Surrounding nets shaped like a spoon or dust pan where the leadline is much shorter than the floatline. Used for targeting Tuna.
Lampara & Ring Nets, Other	175	Surrounding nets shaped like a spoon or dust pan where the leadline is much shorter than the floatline. Used for targeting species not previously associated with a lampara net code.
Bag Nets	180	
Paranella Nets	185	
Butterfly Nets	189	A fixed, frame-mounted net. The open end of the net is attached to the frame, tapering back to the cod end.

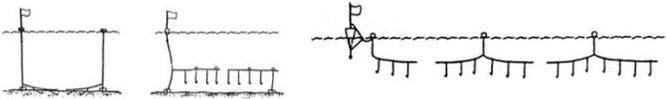
Trawl Nets		<p>Funnel- or cone-shaped nets closed by a bag or codend and extended at the opening by wings. Towed by one or two boats. The net's opening is maintained by beams, otter boards or the distance between the towing vessels. Floats and weights provide for the vertical opening. The mesh size in the codend is used to regulate the size and species to be captured.</p> 
Beam Trawls, Crab	191	Cone-shaped net with a beam holding the horizontal opening and two hoop-like pieces holding the vertical opening of the net. Used to target crabs.
Beam Trawls, Shrimp	192	Cone-shaped net with a beam holding the horizontal opening and two hoop-like pieces holding the vertical opening of the net. Used to target shrimp.
Beam Trawls, Other	193	Cone-shaped net with a beam holding the horizontal opening and two hoop-like pieces holding the vertical opening of the net.
Beam Trawls, Chopsticks	194	
Trawls, Unspecified	200	
Otter Trawl Bottom, Crab	205	
Otter Trawl Bottom, Fish	210	Trawls where the horizontal opening is controlled by otter boards, and is pulled in close to the seafloor, targeting fish.
Otter Trawl Bottom, Lobster	212	Trawls where the horizontal opening is controlled by otter boards, and is pulled in along the seafloor, targeting lobster.
Otter Trawl Bottom, Scallop	214	Trawls where the horizontal opening is controlled by otter boards, and is pulled in along the seafloor, targeting scallops.
Otter Trawl Bottom, Shrimp	215	Trawls where the horizontal opening is controlled by otter boards, and is pulled in close to the seafloor, targeting shrimp.
Otter Trawl Bottom, Other	220	Trawls where the horizontal opening is controlled by otter boards, and is pulled in along the seafloor.
Otter Trawl Midwater	230	Trawls where the horizontal opening is controlled by otter boards, and is pulled in midwater, not touching the bottom.
Trawl Midwater, Paired	233	Two funnel-shaped trawl nets pulled side-by-side in midwater.
Trawl Bottom, Paired	235	Two funnel-shaped trawl nets pulled side-by-side along the bottom.
Scottish Seine	240	Lightweight trawl without steel doors or cables.

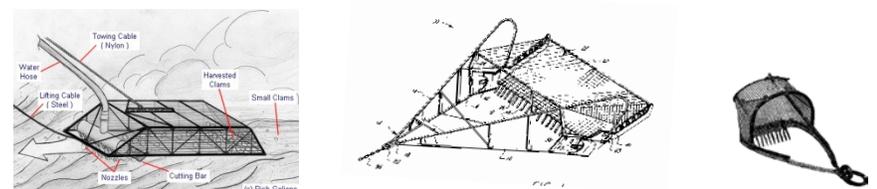
Weirs	250	A stationary net or obstruction designed to hinder the passage of fish.
Pound Nets		<p>Stationary net with net walls anchored or fixed on stakes, reaching from the bottom to the surface. Includes herding and retaining devices.</p> 
Pound Nets, Fish	275	Stationary net with walls reaching from the bottom to the surface. Used to target migrating fish.
Pound Nets, Crab	280	Stationary net with walls reaching from the bottom to the surface. Used to target crab.
Pound Nets, Horseshoe Crab	285	Stationary net with walls reaching from the bottom to the surface. Used to horseshoe crab.
Pound Nets, Other	289	Stationary net with walls reaching from the bottom to the surface.
Trap Nets	290	
Floating Traps (Shallow)	295	
Pots and Traps, Cmb.	300	A combination of both pots and traps.
Fyke and Hoop Nets, Crab	305	Cylindrical or cone-shaped net stretched over a series of rings/hoops. Targeting crabs.
Fyke and Hoop Nets, Fish	310	Cylindrical or cone-shaped net stretched over a series of rings/hoops. Targeting fish.
Fyke and Hoop Nets, Turtle	315	Cylindrical or cone-shaped net stretched over a series of rings/hoops. Targeting turtles.
Pots and Traps		<p>Non-tended gear</p> 
Pots and Traps, Conch	325	Non-tended gear designed for entrapment of conch.
Pots and Traps, Crab, Blue	330	Non-tended gear designed for entrapment of Blue Crabs.
Pots and Traps, Crab, Dungeness	331	Non-tended gear designed for entrapment of Dungeness Crab.
Pots and Traps, Crab, King	332	Non-tended gear designed for entrapment of King Crab.

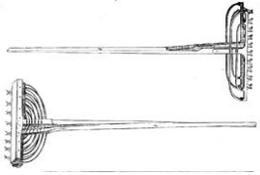
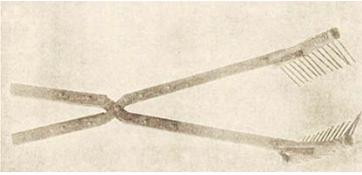
Pots and Traps, Crab, Other	333	Non-tended gear designed for entrapment of crabs. Includes traps for all crabs not already associated with a gear code.
Pots and Traps, Crayfish (Freshwater)	335	Non-tended gear designed for entrapment of crayfish in freshwater.
Pots and Traps, Eel	340	Non-tended gear designed for entrapment of eels.
Pots and Traps, Fish	345	Non-tended gear designed for entrapment of fish.
Pots and Traps, Lobster Inshore	350	Non-tended gear used inshore and designed for entrapment of lobsters. Typically Maine lobsters.
Pots and Traps, Lobster Offshore	351	Non-tended gear used offshore and designed for entrapment of lobsters. Typically Maine lobsters.
Pots and Traps, Spiny Lobster	355	Non-tended gear designed for entrapment of Spiny Lobsters. Typically wooden traps.
Pots and Traps, Octopus	360	Non-tended gear designed for entrapment of Octopus.
Pots and Traps, Periwinkle	365	Non-tended gear designed for entrapment of periwinkles.
Pots and Traps, Shrimp	370	Non-tended gear designed for entrapment of shrimp.
Pots and Traps, Turtle	375	Non-tended gear designed for entrapment of turtles.
Pots and Traps, Other	379	Non-tended gear designed for entrapment of species not previously associated with a gear code.
Pots and Traps, Box Trap	380	
Pots and Traps, Wire Baskets	385	
Pots, Unclassified	387	Unclassified pots.
Slat Traps (Virginia)	390	Elongated box made of wood-oak slats, designed with a funnel-shaped tapered inlet on one end.
Gill Nets		<p>A net set vertically in the water to trap fish by entanglement of their gills in the one or more layers of mesh.</p> 
Entangling Nets (Gill), Unspecified	400	A net set vertically in the water to trap fish by entanglement of their gills in the one or more layers of mesh.
Gill Nets, California	405	Gill nets used to target Halibut.

Halibut		
Gill Nets, Crab	410	Gill nets used to target Crabs.
Gill Nets, Salmon	415	Gill nets used to target Salmon.
Gill Nets, Sea Bass	420	Gill nets used to target Sea Bass.
Gill Nets, Other	425	Gill nets used to target a species other than those already associated with a gill net gear code.
Gill Nets, Drift, Barracuda	450	A string of gillnets kept more or less vertical by a floatline and leadline, that drift with the current. Used to target Barracuda.
Gill Nets, Drift, Salmon	455	A string of gillnets kept more or less vertical by a floatline and leadline, that drift with the current. Used to target Salmon.
Gill Nets, Drift, Sea Bass	460	A string of gillnets kept more or less vertical by a floatline and leadline, that drift with the current. Used to target Sea Bass.
Gill Nets, Drift, Shad	465	A string of gillnets kept more or less vertical by a floatline and leadline, that drift with the current. Used to target Shad.
Gill Nets, Drift, Other	470	A string of gillnets kept more or less vertical by a floatline and leadline, that drift with the current (not anchored down).
Gill Nets, Drift, Runaround	475	Gillnets set vertically, to encircle a school of fish.
Gill Nets, Stake	480	Gillnets set vertically attached to stakes.
Gill Nets, Gl Shoal	490	
Gill Nets, Gl 1-2 Inch	500	Gill nets with 1-2 inch mesh size.
Gill Nets, Gl 2-4 Inch	505	Gill nets with 2-4 inch mesh size.
Gill Nets, Gl 4-7 Inch	510	Gill nets with 4-7 inch mesh size.
Gill Nets, Gl 7-14 Inch	515	Gill nets with 7-14 inch mesh size.
Trammel Nets	530	Layers of netting material between a floatline and leadline, with layers of fine mesh and larger mesh to entrap or entangle fish.
Hand Lines	<p>All hook and line gear used for fishing vertically in the water column when the boat is not moving under its own power, but stationary or drifting over a fishing location.</p> 	

Troll & Hand Lines, Combined	600	A combination of trolling lines and vertical hook and line gear.
Lines Hand, Albacore	601	Hook and line gear targeting Albacore.
Lines Hand, Rockfish	605	Hook and line gear targeting Rockfish.
Lines Hand, Yellowfish	607	Hook and line gear targeting Yellowfish.
Lines Hand, Other	610	Fishing line held and powered by hand; no conventional reel.
Rod and Reel	611	Conventional handheld fishing rod with a manually operated reel. Hand-powered reel attached to a portable rod. Vertical hook and line gear.
Manual Reel	612	Large diameter reel/spool not mounted to a typical rod. Hand-powered. Aka 'Bandit Reel'. Vertical hook and line gear with rods that are attached to the vessel when in use.
Electric or Hydraulic Reel	613	Large diameter reel/spool that is powered electrically or by hydraulics. Aka powered 'bandit reel'. Vertical hook and line gear with rods that are attached to the vessel when in use.
Buoy (Vertical Longline)	614	Modified vertical long line. One long mainline suspended from a buoy/float at the surface with a series of gangions or branchlines with hooks.
Electric Rod and Reel (Hand)	616	Conventional handheld fishing rod with an electric reel. Vertical hook and line gear.
Lines Jigging Machine	621	Automatic jigging machine. Vertical line with hooks and sinker. Hauled automatically when a certain weight of fish is reached.
Trolling Gear		<p>Lines that are towed from a boat that is moving under its own engine power with the lines in the water trailing the boat. A variety of hook and line gear can be modified for trolling, typically with the use of downriggers and planars.</p> 
Lines Troll, Salmon	650	Trolling, lines trail behind the vessel which is in constant motion. Targeting salmon.
Lines Power Troll, Salmon	651	Trolling with an electric reel. Targeting salmon.
Lines Troll, Tuna	655	Trolling. Targeting tuna.
Lines Power Troll, Tuna	656	Trolling with an electric reel. Targeting tuna.
Lines Troll, Green-Stick	657	Trolling. Targeting tuna with 'green stick' gear. An actively trolled mainline attached to a vessel and elevated or suspended above the surface with no more than 10 hooks attached to the mainline.

Lines Troll, Other Top Waters	660	Trolling, no particular target species. Can troll with a variety of gears, usually in conjunction with outriggers to trail baits at the surface or a set depth behind the vessel.
Lines Power Troll, Other	661	Trolling with an electric reel. Not species-specific.
Lines Troll, Mackerel	665	Trolling, lines trail behind the vessel which is in constant motion. Targeting mackerel.
Long Lines		<p>Non-tended gear. A long line (>440 yd), deployed horizontally, consisting of a main line with three or more gangions or hooks, and retrieved by an electric or hydraulic hauler.</p> 
Lines Long Set With Hooks	675	Pelagic long lines; typically set in the top of the water column, suspended by floats. Line is usually monofilament.
Lines Long, Bottom, Reef Fish	676	Long lines with weights set close to the bottom for targeting reef fish. Line usually cable, sometimes monofilament.
Lines Long, Bottom, Shark	677	Long lines with weights set close to the bottom for targeting sharks. Line usually monofilament, sometimes cable.
Lines Long Drift With Hooks	678	Long lines that are not anchored or weighted down.
Lines Trot With Baits	680	Trotline. Line set horizontally, with hoop drops or gangions with hooks hanging down. Typically secured on both ends with anchors and floats.
Lines Snag	685	
Other Nets		
Dip Nets, Common	703	Hand-held net. A deep net fixed to a frame and attached to a handle.
Dip Nets, Bully	704	Hand-held net. Mouth of the net is perpendicular to the handle/pole. Typically used for catching spiny lobster.
Dip Nets, Drop	705	Hand-held drop net.
Brail or Scoop	710	A bag-net used to scoop fish out of the water. The deep bag is held open by a frame around the opening.
Lift Nets	715	Horizontal nets hanging from a frame. They are submerged with the opening facing upward, then raised or lifted out of the water.
Reef Nets	720	Unique to Puget Sound. Reef nets are fixed to one location and only catch migrating adult salmon that swim through their gear.

Push Nets	725	Scoop nets that are pushed over the bottom in shallow water. The net bag is fixed on cross-sticks to keep open.
Wheels	730	A wheel complete with baskets and paddles is attached to a floating dock. The wheel rotates due to the current of the stream it is placed into and the baskets capture fish.
Cast Nets	735	A circular net that is weighted around its perimeter and thrown by hand.
Harpoons & Spears		
Harpoons, Swordfish	751	Harpoons used to target Swordfish.
Harpoons, Turtle	752	Harpoons used to target Turtles.
Harpoons, Whale	753	Harpoons used to target Whales.
Harpoons, Other	754	Harpoons used to capture a species not already associated with a gear code.
Spears	760	Includes all muscle-powered spears and gigs. Usually equipped with a trigger mechanism and a spear with a tip designed to penetrate and retain fish. The fisherman may be free diving or using SCUBA gear.
Powerheads (Bangsticks)	765	Explosive firearm attached to a long pole or spear shaft used underwater in direct contact with the fish.
Scrapes	770	
Water Pump, Sand Shrimp	781	
Barge Kelp	785	
Dredges		
Dredges, Clam, Hydraulic	802	Hydraulic jet dredge used to wash out clams from the seabed.
Dredges, Clam	803	Metal frame with teeth, connected to a wire holding bag. Used to collect clams.
Dredges, Conch	804	Metal frame with teeth, connected to a metal mesh holding bag. Used to collect conch.
Dredges, Crab	805	Wide metal frame with teeth, connected to a metal mesh bag. Used to collect crabs.

Dredges, Mussel	810	Metal frame connected to a metal mesh holding bag. Used to collect mussels.
Dredges, Oyster Common	815	Metal frame with metal teeth, connected to a holding bag of metal rings. Used to collect oysters.
Dredges, Oyster Suction	820	Metal frame and catch bag with a suction pump. Used to collect oysters.
Dredges, Scallop, Bay	823	Wide metal frame with teeth and metal mesh holding bag. Used to collect bay scallops.
Dredges, Scallop, Sea	825	Wide metal frame with teeth and metal mesh holding bag. Used to collect sea scallops.
Dredges, Other	830	Miscellaneous dredges used to collect a species not previously associated with a dredge code.
Tongs		 
Tongs & Grabs, Oyster	840	Two long handles with rakes on the end. Used to collect oysters.
Tongs Patent, Oyster	841	Patented oyster tongs.
Tongs & Grabs, Other	845	Tongs consisting of two long handles with grabs, forks, teeth, or rakes at the ends.
Tongs Patent, Clam, Other	846	Patented clam tongs. Two long handles with metal rakes and collection bags on the ends. Used to collect clams.
Other Hand Gear		  
Rakes, Oyster	853	Rake with a long handle and metal bag with teeth. Used to collect oysters.
Rakes, Other	855	Rakes with long handles. Some have collection bags.
Hoes	860	
Forks	865	
Shovels	870	
Picks	875	

Brush Traps	880	
Crowfoot Bars	890	
Frog Grabs	895	
Hooks, Sponge	925	
Hooks, Abalone	930	
Hooks, Other	935	
Dive Gear		
Diving Outfits, Abalone	941	Diving to collect Abalone.
Diving Outfits, Sponge	942	Diving to collect Sponge.
Diving Outfits, Other	943	
Misc. Gear		
By Hand, Oyster	951	Collect oysters by hand
By Hand, Other	955	
Other Gear, Hawaii	966	
Various Gear, Fishponds Hawaii	967	
Unspecified Gear	989	Gear was not specified by the dealer or fisherman
Combined Gears	999	

Appendix D

Condition Types

ID	CONDITION TYPE	DESCRIPTION
0	UNKNOWN	Did not handle the fish, do not know the condition
1	ROUND (WHOLE)	Dead, but otherwise as caught
2	LIVE	Species is alive
4	HEADS	Fish heads
7	CHEEKS	Fish cheeks
8	BELLY FLAPS	Fish belly strips (typically for bait)
9	TAILS	Fish (shark) tails
10	FINS	Fish (shark) fins
11	FINS FRESH	Shark fins fresh
12	FINS DRIED	Shark fins dried
13	LIVERS	Fish livers
14	GIZZARDS	Fish gizzards
17	WITH ROE	Fish contains roe
18	ONLY ROE	Roe only
19	WHITE ROE	White roe only
21	RACKS	Fish skeletons or 'frames' with head on.
23	GUTTED - HEAD ON	Gutted with head on
24	GUTTED - HEAD OFF	Gutted with head off
25	CORE	Gutted, Head off, Tail off
30	FILLETS	
40	LOINS	
42	CHUNKS	
43	SURIMI	Imitation Crab or Lobster
44	MINCED	Minced (usually otherwise unprocessed fish parts)
46	SALTED AND SPLIT	Split, soaked in brine, and layered with salt
47	BUCK	Male of species (typically for shad)
48	DRAWN	Gutted, not scaled.
49	DRESSED	Headed, gutted, scaled and bled.
50	EGGER	Female with eggs
51	ELVER	Juvenile eel
52	FALL	Harvested in Fall (Oysters)
53	FINS FROZEN	shark fins frozen
54	GLASS	Juvenile eels

ID	CONDITION TYPE	DESCRIPTION
56	HARD	Hard shell crab
59	INDUSTRIAL	
58	HEAD OFF	Fish head removed
60	HEADS ON (SHRIMP)	Shrimp in whole condition
61	HEADS OFF (SHRIMP)	Shrimp head is removed
62	CULLS, LOBSTER	American Lobster
63	NEW SHELLS, LOBSTER	American Lobster
64	HARD SHELLS,LOBSTER	American Lobster
65	CLAWS	
66	PEELER(CRAB)	
67	SOFT (CRAB)	Soft-shell crab
68	SPONGE (CRAB)	
70	MEATS (MOLLUSCAN SHELLFISH)	Meat of shellfish
71	TUBES/MANTLES	Squids only
72	TENTACLES	Squids only
73	NOTCHED(DISCARD)	
74	ROE	
75	SEED	Shellfish planting stage (tiny)
76	SPAWN(ROE)	
78	SPRING	Harvested in Spring (Oysters)
79	TUBE	Headed, Guttled, Fins off, Tail off
80	MEAL	
81	OIL	
82	SHELLS, NO MEAT	Used in NC
83	MIXED ROE	

Appendix E

Biological Sampling Illustrations

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Section 1. Measurements

Fish lengths should be measured on a standard-issue fish measuring board with a built in measuring scale or with a meter stick (Figure 1.1). Measurements are made with the fish lying on its right side, with the mouth closed and snout to the left against the headpiece of the board (Figure 1.2). The length of the fish is read from the board and written on the TIP field data sheet. Fish lengths can also be recorded with an electronic measuring board or with a measuring tape (laid flat on the ground) if the fish is longer than the board. The punch board system is no longer used by TIP samplers to record incremental lengths or length frequency data.

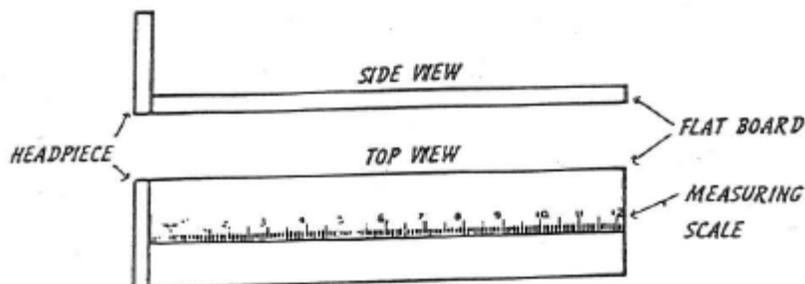


Figure 1.1 Conventional fish measuring board.

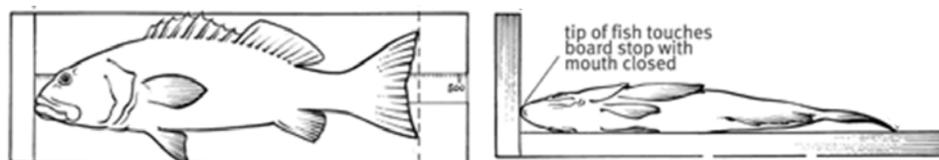


Figure 1.2 Positioning a fish on a measuring board.

The standard procedure for collecting the primary length (first length recorded for each observation) in a TIP sample is to measure the fork (centerline) length of all fish. Fork length is equivalent to centerline length and should be measured along the midline of the fish from the anterior-most extremity (tip of the snout) to the posterior end of the middle caudal rays (center of the end of the tail); regardless of tail shape (Figure 1.4). Measurements should be taken in millimeters or in centimeters to the nearest tenth centimeter.

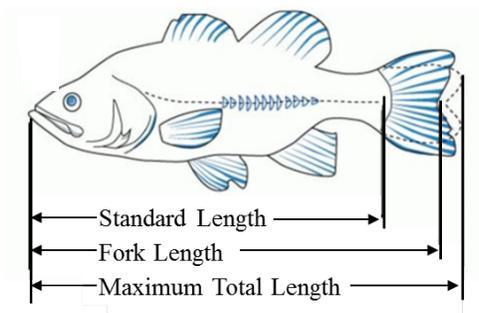


Figure 1.3 The three most common length measurements taken from fish.

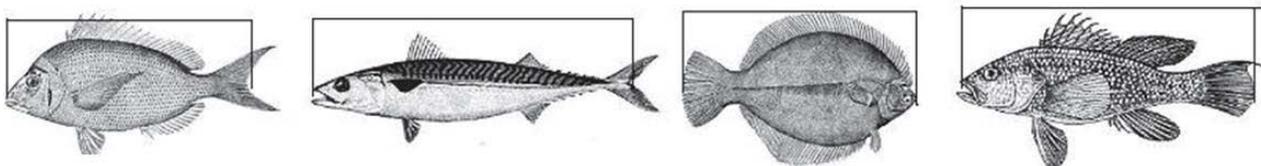


Figure 1.4 Fork Length (Centerline)

The length of the fish measured along the midline of the fish from the anterior-most extremity (tip of the snout) to the posterior end of the middle caudal rays (center of the fork or center of the end the tail), regardless of caudal fin morphology. Fork length is equivalent to the 'Centerline' measurement. Lengths should be taken with the specimen parallel to the board or tape. Fishes should not have the tail 'squeezed' or 'pinched'. Frozen samples should be bent to approximate this position. Illustration modified from the Atlantic Coast Fisheries Data Collection Standards (ACCSP, 2012).

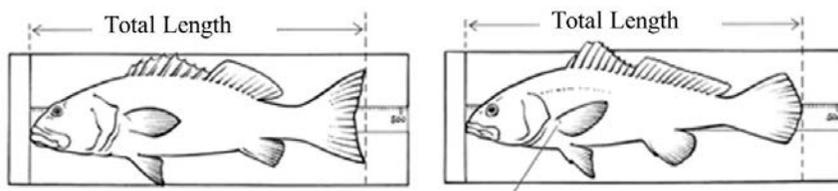


Figure 1.5 Total Length (Natural)

Measure the natural total length of the whole body, from the most anterior to the most posterior point, in a straight line (not over the curve of the body). Do not pinch the tail and do not include any trailing tendrils. Illustration modified from Queensland Department of Agriculture, Fisheries and Forestry's 'Measuring finfish' website.

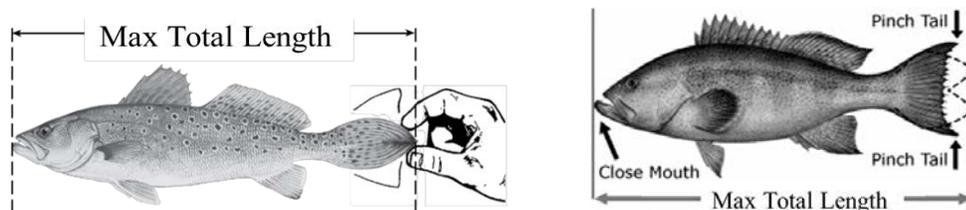


Figure 1.6 Maximum Total Length

Measure the maximum length of the whole body, from the most anterior to the most posterior point, in a straight line (not over the curve of the body) with the lobes of the caudal fin moved together for maximum length. This is the maximum ‘pinched tail’ length, where the caudal rays allow the tail to be compressed easily. Measure to the end of whichever lobe, tendril, or caudal fin projection is longer. Illustrations modified from the Louisiana Department of Fish and Wildlife’s ‘How to Measure a Fish’ guide (LDWF, 2012) and the Florida Fish and Wildlife Commission’s ‘Saltwater Fish Measurement Guidelines’ website.

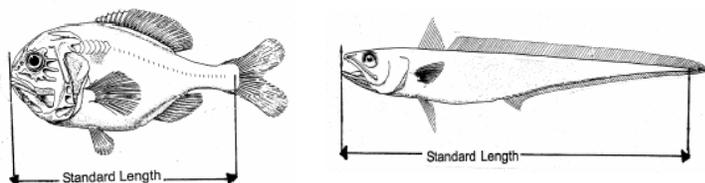


Figure 1.7 Standard Length

The measurement from the most anterior tip of the body to the midlateral posterior end of the vertebral column / base of the caudal peduncle. The base of the caudal fin is determined by flexing the tail up while the caudal peduncle is held down. The resultant wrinkle or caudal flexure indicates the caudal base. Sometimes the last caudal vertebrae may be marked by a shallow vertical groove near the extremity of the fleshy part of the tail.

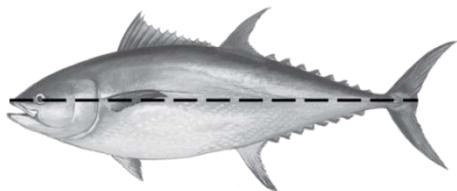


Figure 1.8 Curved Fork Length

Measure the centerline length along the contour of the middle of the fish from the tip of the snout or upper jaw to the center of the end of the tail, regardless of tail shape. Lengths should be taken with the measuring tape stretched over the body (touching the pectoral fin and caudal keel). Fishes should not have the tail ‘squeezed’ or ‘pinched’. Frozen samples should be bent to this position. Typically used for large curve-shaped fishes (tunas, sharks, and billfish).



Figure 1.9 Core Length

Head and fins removed with the measurement from the cut at the head (cut varies from the point of the isthmus to right before the caudal fin) to the caudal peduncle (or to where the caudal fin is cut off). Also known as the swordfish measurement of CK (cleithrum to caudal keel). This measurement is typically taken from highly migratory species (tunas, swordfish, and sharks) in the dressed, core, or tube conditions. Note that generally trips targeting highly migratory species are not needed for TIP sampling.



Figure 1.10 Log Length

Same as 'Core Length'. The length type of 'Log' is no longer in use.

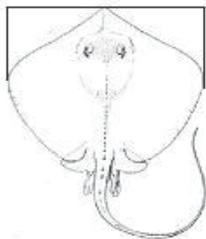


Figure 1.11 Wingtip To Wingtip.

For skates and rays, distance between the furthest opposite points of the wings; also known as disc width. Illustration modified from ACCSP, 2012.

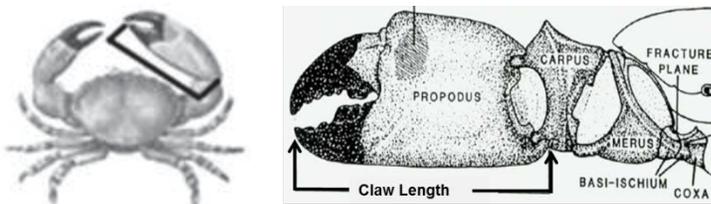


Figure 1.12 Claw Length.

From the tip of the lower claw finger to the back of the prodopus (elbow). Illustrations modified from ACCSP, 2012 and from the Florida Fish and Wildlife Stone crab sampling procedures (FWC, 2012).

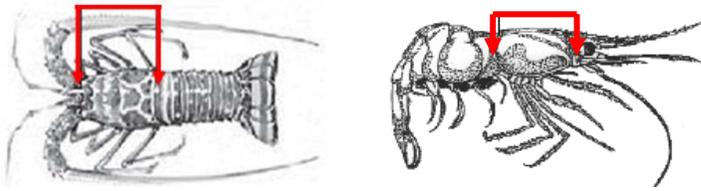


Figure 1.13 Carapace Length

Anterior to posterior measurement along the dorsal surface of the carapace, from the rear margin of the eye to the posterior edge of the carapace. For spiny lobster, the carapace should be measured from the orbital notch (the inside the eye socket), in a line parallel to the lateral rostral sulcus, to the posterior margin of the cephalothorax. Illustrations modified from ACCSP, 2012.

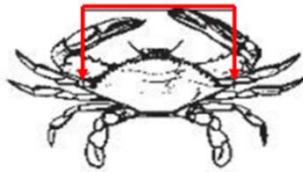


Figure 1.14 Carapace Width

Lateral measurement across the carapace at the widest point, including marginal spines (crab). Illustration modified from ACCSP, 2012.

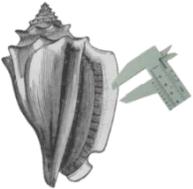


Figure 1.15 Lip Thickness, Conch

Lip thickness of adult conch is measured in the mid-lateral region of the shell lip with a caliper.

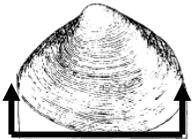


Figure 1.16 Shell Diameter

For bivalves: The greatest distance in a dorsoventral direction, usually at a right angle to the axis of the hinge; aka shell width.

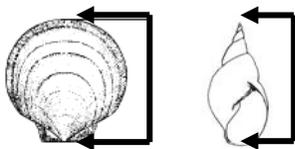


Figure 1.17 Shell Length

For bivalves: The distance from the hinge to the mouth / bill edge, usually parallel to the axis of the hinge. For gastropods: The maximum measurement from the tip of the whorl to the tip of the shell.

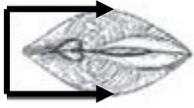


Figure 1.18 Shell Thickness

For bivalves: The depth of the shell over the umbo (raised portion where the two valves connect) at the widest part.

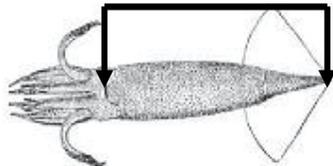


Figure 1.19 Mantle length

Body length of a squid, not including the tentacles. Straight line measurement from the tip of the fin to the base of the mantle. Illustration modified from ACCSP, 2012.

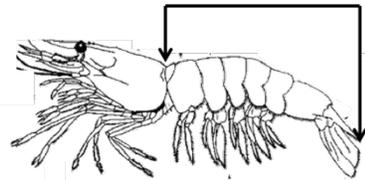


Figure 1.20 Tail Length

For shrimp. Distance from the anterior margin of the first abdominal segment to the tip of the telson.

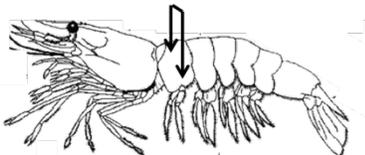


Figure 1.21 Tail Width

For Shrimp. Lateral measurement across the tail at the widest point.

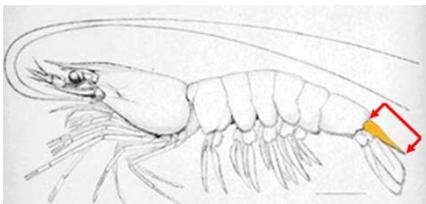


Figure 1.22 Telson Length

For shrimp. Distance from the base of the telson (at the posterior end of the abdomen) to the posterior tip of the telson.

Section 2. Otolith Removal

There are several methods for removing otoliths. The method used will depend on the size of the fish and whether the appearance of the fish needs to be preserved. The following three methods have been used: (1) horizontal cut, (2) vertical cut, (3) hidden cut (Figure 2.1). The most commonly used method is the hidden cut because it is the least destructive and usually the quickest of the three methods.

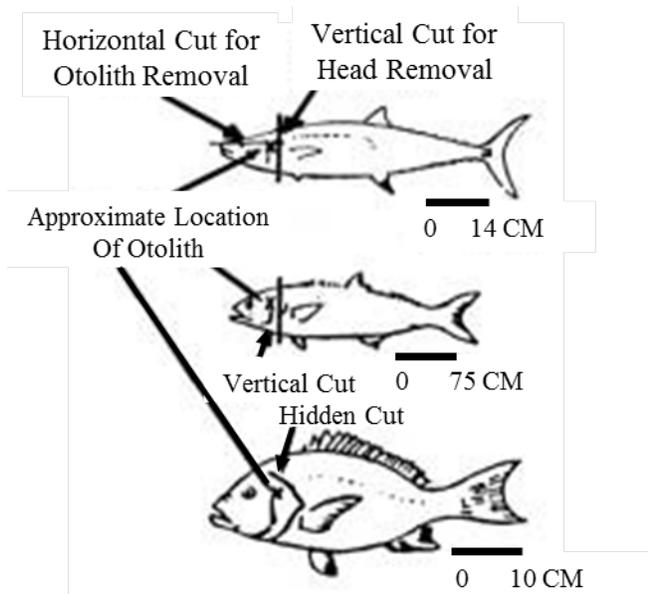


Figure 2.1 Three methods for otolith removal: Horizontal Cut, Vertical Cut, and Hidden Cut.

Horizontal Cut

This method is useful for large fish and can only be used when preservation of the fish's head is not needed. Otolith exposure is accomplished by making a horizontal incision with a sharp knife or saw from the top of the eye posteriorly to the trunk (Figure 2.1). This can be done more efficiently by removing the head, and placing it on a solid object so that the snout is pointing upward, cut to expose the top of the cranial cavity. Use forceps to remove the two otoliths which are located posteriorly in the otic vesicles on both sides of the cranial cavity (Figure 2.1).

Vertical Cut

The vertical cut can only be used when preservation of the fish is not needed. This method is useful when removing the head for later isolation of the otoliths. After making the vertical cut, remove any organs still attached to the head, and place head in bag and freeze. This incision allows otoliths to be removed from small fish by making a vertical cut behind the eye near the edge of the preopercle (Figure 2.2). The otic vesicles should appear as two small cavities on either side of the midline. If they are not visible, shave anteriorly until they appear. Use forceps to remove otoliths.

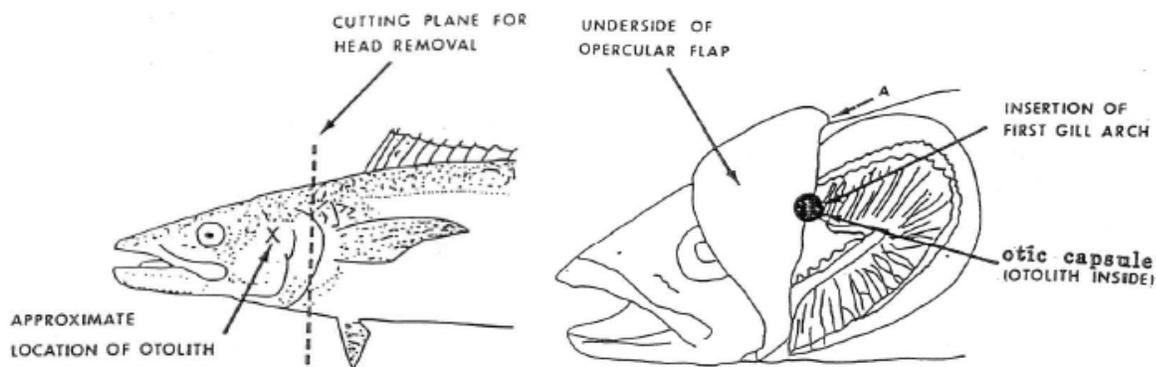


Figure 2.2 Approximate location of otolith and cutting plane for head removal.

Hidden Cut

When the appearance of the fish is important, the hidden cut should be used. This is the most commonly used method because it is the least destructive and usually the quickest of the three methods. This method is also known as the ‘under the gills’ method because the otic capsule is accessed by lifting the operculum and pulling down the gill arch. Typically, the otic capsule is removed with the use of a woodworking chisel; however tools such as gouge chisels and slime knives may also be used. See Appendix K for a complete list of tools used for otolith removal.

For illustrations and photographs of each step of this method refer to Figure 2.3 and Figure 2.4, respectively. Procedure: First, on the left side of the fish, lift the operculum as far as possible; a small cut made at the top of the operculum where it meets the body will allow for increased space and is generally unnoticeable. Then, cut or pull down the top of the gill arch, and in the area immediately anterior of the upper end of the first gill arch, scrape away the muscle-tissue from the otic vesicle (Figure 2.4A). In most fish a slight "bump" will coincide with the distal (outside) surface of the otic capsule (Figure 2.3C). Gently remove the thin layer of bone using a sharp chisel to shave it off a little at a time (Figures 2.3D and 2.4B). This is typically done with the chisel's flat side down. When the capsule is open, a cavity will appear with a visible white otolith (Figures 2.3E and 2.4C). Gently remove the otolith with forceps (Figures 2.3F and 2.4D).

Species-specific otolith removal techniques and photographs can be found in:

VanderKooy, S.J. 2009. A Practical Handbook for Determining the Age of Gulf of Mexico Fishes Second Edition. Gulf States Marine Fisheries Commission. Ocean Springs, MS.
[http://www.gsmfc.org/publications/GSMFC Number 167.pdf](http://www.gsmfc.org/publications/GSMFC%20Number%20167.pdf)

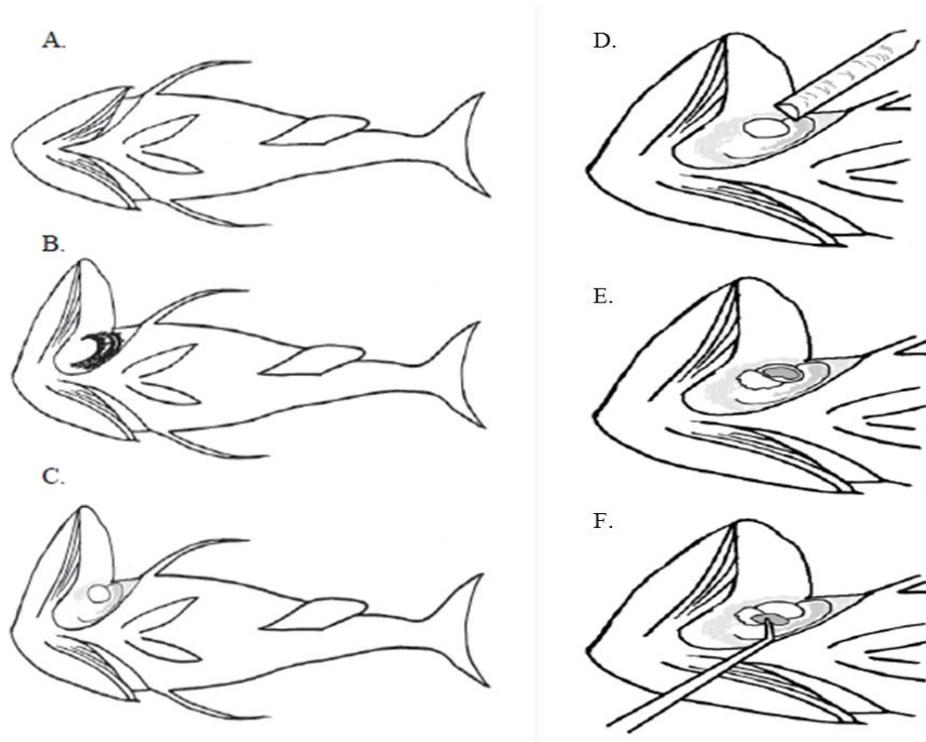


Figure 2.3 Illustration of the ventral view of otolith removal by the ‘Hidden Cut’ method through the gill arches under the operculum. Modified from Vanderkooy 2009 figures 3.1 and 3.2. A. Ventral view of fish. B. Gill cover and operculum flared exposing the gill arches. C. gill cover flared with gills removed exposing the otic capsule. D. Utilization of a chisel or other sharp object to scrape or shave off capsule surface. E. Open otic capsule with otolith exposed. F. Otolith removal with forceps.

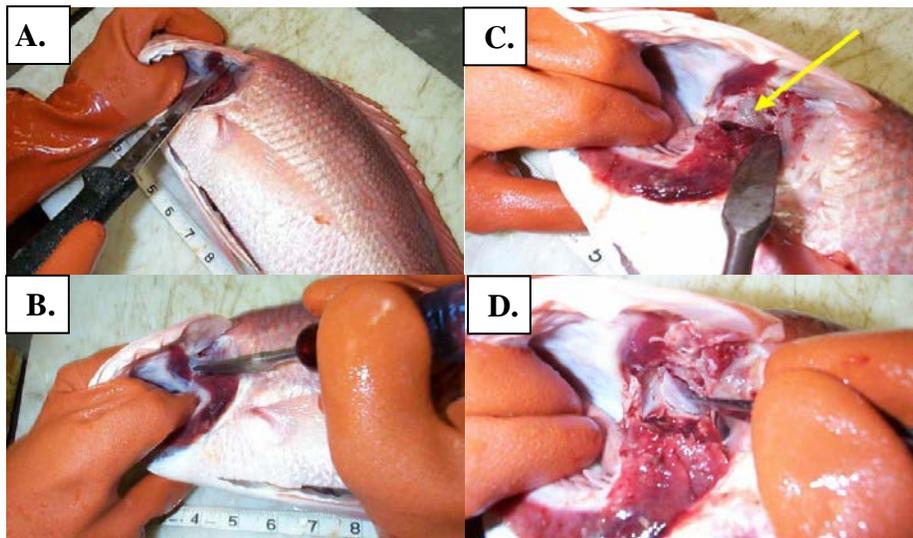


Figure 2.4 Photographs of otolith removal by the ‘Hidden Cut’ method through the gill arches under the operculum. Modified from Lombardi, 2013. A. Operculum opened and gill arches cut at their insertion. B. Utilization of a chisel to scrape away the tissue from the otolith capsule. C. Open otic capsule with otolith exposed. D. Otolith removal with forceps.



Figure 2.5 Removal of Spanish mackerel otolith through under the operculum ('Hidden Cut' method). Photo from Vanderkooy 2009 figure 5.78.



Figure 2.6 Removal of vermillion snapper otolith through under the operculum ('Hidden Cut' method). Photo from Vanderkooy 2009 figure 5.120.

Section 3. Spine Removal

*Protocol for extraction of the first dorsal spine of gray triggerfish, *Balistes capriscus**

It is critical to remove the entire spine, including the condyle or ‘knuckle’ (where the spine connects to the backbone), as this structure is aged using the most basal portion (Figure 3.1). There are two methods commonly used for triggerfish spine removal. The first method is less likely to physically alter the fish, and thus be more acceptable to a dealer.

1. Cut the membrane between the first and second dorsal spine toward the joint where the condyle articulates with the first basal pterygiophore using a heavy knife (Figure 3.2 from Ingram 2001, Line A). Insert the knife anteroventrally into the condyle socket at the posteroventral base of the first dorsal spine. Remove excess connective tissue. Applying distal pressure to the posterior surface of the spine, move the spine anteriorly until the condyle “pops” out of the socket (Figure from Ingram 2001; Line B). Remove the excess tissue/flesh. Dry and store in coin envelope or plastic bag.

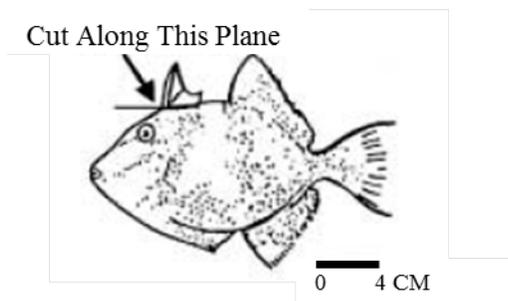


Figure 3.1 Triggerfish spines should be removed at the base.

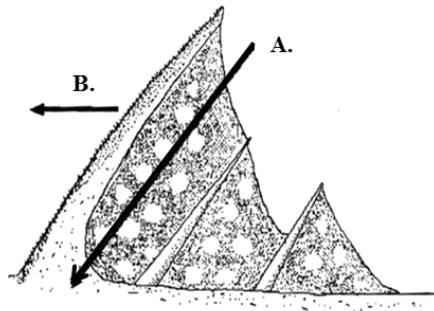


Figure 3.2 Gray Triggerfish spine removal; A) Cutting plane and B) direction of pull for removal of the first dorsal spine.

2. Make 3 cuts around the spine (Figure 3.3): 2 on either side of the base of the spine to detach it from the muscle tissue, and a third directly behind the spine through the membrane toward the joint. The spine with the ‘knuckle’ intake should then be pulled forward until it ‘pops’ out of the socket.

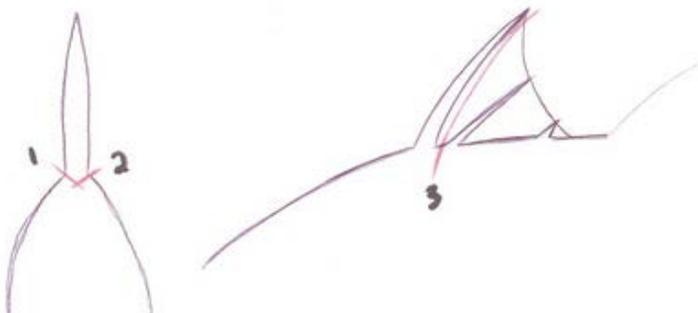


Figure 3.3 Three cuts around the first dorsal spine of triggerfish for spine removal.

Protocol for extraction of dorsal spines of common dolphin, *Coryphaena hippurus*

If dorsal spines are to be sampled from dolphinfish, collect the first 6 spines from the dorsal fin, cutting as close to the base as possible and from the leading edge of the dorsal fin (Figure 3.4).

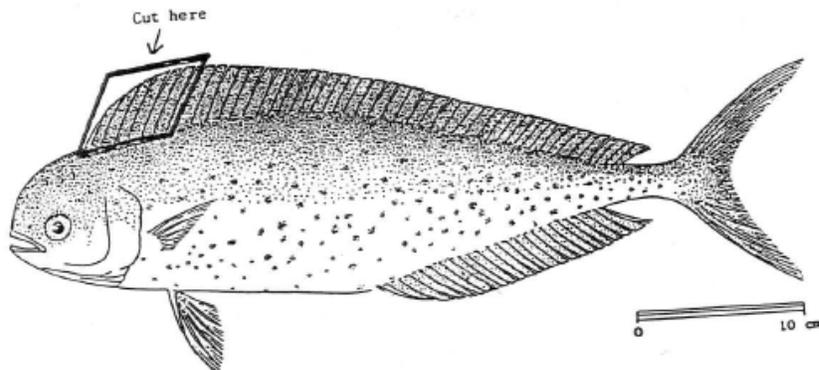


Figure 3.4 Dolphin dorsal spines including area to be sampled.

Species-specific spine removal techniques and photographs can be found in:

VanderKooy, S.J. 2009. A Practical Handbook for Determining the Age of Gulf of Mexico Fishes Second Edition. Gulf States Marine Fisheries Commission. Ocean Springs, MS. [http://www.gsmfc.org/publications/GSMFC Number 167.pdf](http://www.gsmfc.org/publications/GSMFC%20Number%20167.pdf)

Section 4: Sex Identification

Reproduction by marine fishes may be of three classifications: gonochorists, protogynous hermaphrodites, or protandrous hermaphrodites. Gonochorists are fish that are born as one gender, either male or female, and remain that gender throughout their lifetime. Examples of gonochoristic fish studied by this laboratory include snappers and mackerels. Protogynous hermaphrodites are fish that are born as females and change to males. Therefore, all immature fish of these species are female. Examples of protogynous hermaphrodites studied by this laboratory include the majority of groupers and porgies. Protandrous hermaphrodites are fish that are born as males and change to females. Examples of protandrous hermaphrodites include damselfish and snook.

The gonads are the only bi-lobed organ in the abdominal cavity dorsal to the anus, and are attached to the abdominal wall.

The ovaries are paired, sausage-shaped organs. They are round to elliptical in cross-section and contain a central cavity or lumen into which ripe ova are shed. The color of ovaries varies from white to pink, or yellow-orange in ripening and ripe adults. As the ovaries become highly vascularized (many blood vessels) to accommodate increased blood flow during reproductive season, very ripe or spent ovaries take on a reddish color. Ovarian texture varies from smooth to slightly granular in young fish to grossly granular in ripe fish. See figures 4.1 through 4.6 for photographs of fish ovaries.

The testes are paired and elongate and thin, tapering to a point. They can be elliptical to triangular in cross section and are without a lumen characteristic of ovaries. They vary in color from clear in the young to creamy-white in ripe adults. Their texture is smooth and the testes are frequently lobed in mature adults. See figures 4.7 through 4.12 for photographs of fish testes.

Maturity Stage - Macroscopic Class Descriptions

Macroscopic identification of maturity stage within sex can be determined for some gonochoristic species if the entire gonads are intact for observation. If the sex and maturity stage are unable to determine because the gonads are not intact or because the sampler does not have access to the body cavity, both the sex and maturity should be reported as Unknown.

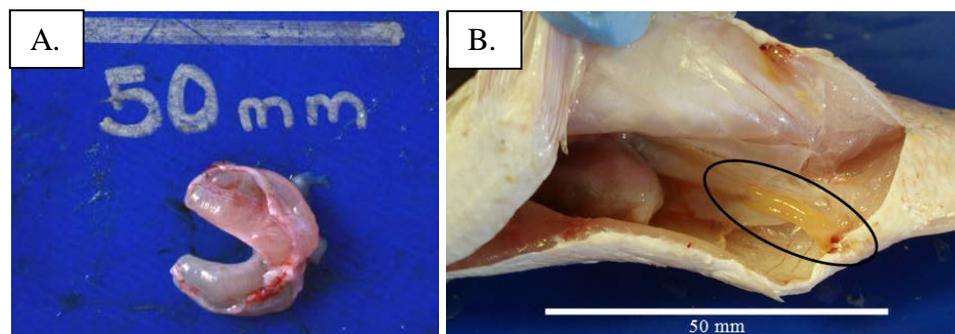
Below are examples of macroscopic classes, gonads may look different depending on species or reproductive type, i.e. gonochoristic, protogynous hermaphrodite, or protandrous hermaphrodite. For any gonad that upon examination cannot be categorized into a particular class, a note should be made regarding the unusual or unknown characteristics in the comments.

Table 4.1 Female Macroscopic Class Descriptions and Characteristics.

Class	Characteristics
Immature	Ovaries are small or ribbon-like, opaque and jellied grayish color. No oocytes visible to naked eye.
Maturing (Developing)	Class includes gonads with small opaque oocytes, barely seen with naked eye and large, granulated gonads with oocytes easily seen with naked eye.
Ripe (Hydrated)	Some clear, hydrated oocytes seen through the tunic.
Spent	Ovaries are slack and flaccid, often reddish or bloody in color. Gonads may contain residual oocytes.
Inactive (Regressed)	Macroscopic distinctions between inactive (regressed) and immature ovaries can be imprecise, but the regressed ovary is likely more opaque and jellied with a more reddish-grey cast than the immature ovary. Class also includes skipped spawners.

Class IM, Immature Female

Gonad small, occupies about 1/3 or less of the body cavity; cigar or ribbon-like in appearance; opaque, amber, red or pink in color; no visible oocytes to the naked eye. Ovaries are small or ribbon-like, opaque and jellied grayish color. No oocytes visible to naked eye. This class can be difficult to distinguish from inactive, regressed class in smaller fish.

**Figure 4.1** Immature female; A. yellowedge grouper ovary and B. red snapper ovary.

Class MA, Maturing Female (Developing)

This class includes gonads with small opaque oocytes, barely seen with naked eye and large, granulated gonads with oocytes easily seen with naked eye. Oocyte color may vary.

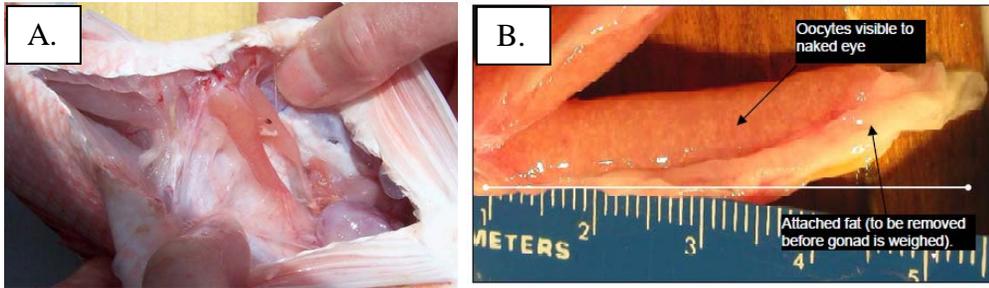


Figure 4.2 Maturing gonochoristic female; A. small opaque oocytes barely seen with naked eye, B. large granulated ovaries with oocytes visible with the naked eye. Red snapper ovaries are pictured.

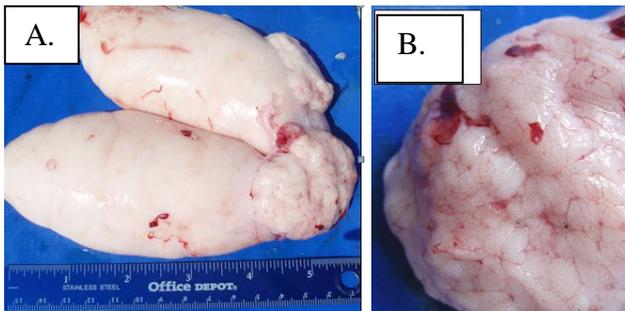


Figure 4.3 Maturing protogynous hermaphrodite. A. small oocytes barely seen with naked eye, B. oocytes are granulated and easily visible. Yellowedge grouper ovaries are pictured.

Class RR, Running Ripe, Hydrated, or Spawning Female

This class is characterized by some clear, hydrated oocytes seen through the tunica (gonad tissue covering).

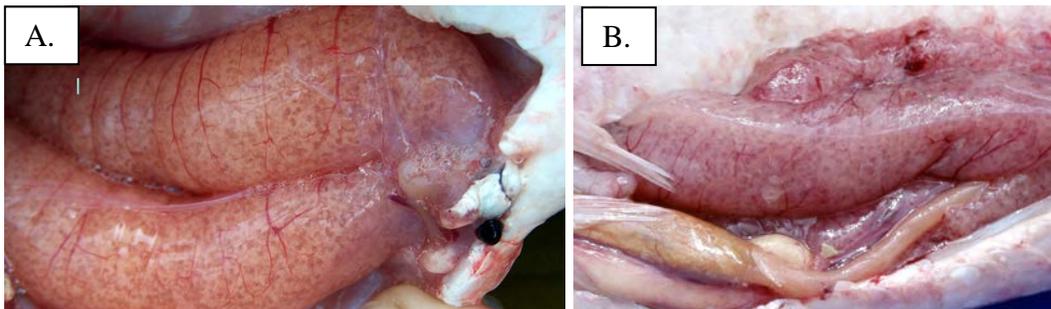


Figure 4.4 Ripe ovaries; hydrated oocytes are clear and jelly-like. A. red snapper, B. lizardfish.

Class ST, Spent Female (Post)

Ovaries are slack and flaccid, often reddish or bloody in color. Gonads may contain residual oocytes.



Figure 4.5 Spent female; King mackerel ovary pictured.

Class IA, Inactive Female (regressed)

Macroscopic distinctions between inactive (regressed) and immature ovaries can be imprecise, but the regressed ovary is more likely opaque in appearance and a jellied consistency with a more reddish-grey cast than the immature ovary.

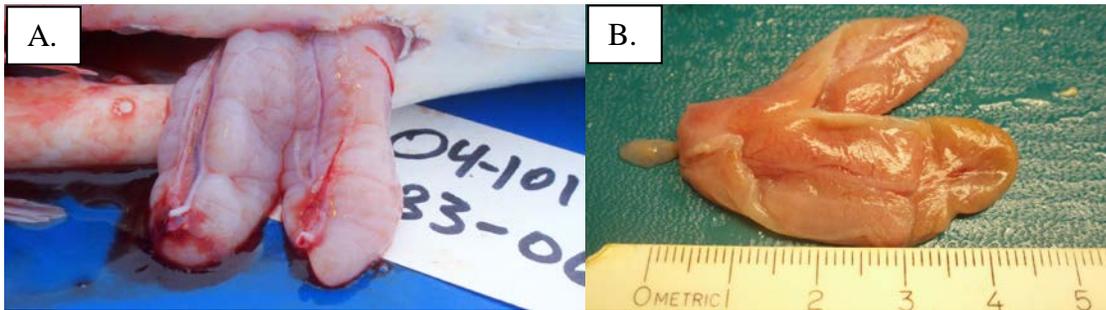


Figure 4.6 Inactive ovaries. A. red snapper and B. yellowedge grouper.

Table 4.2 Male Macroscopic Class Descriptions and Characteristics.

Class	Characteristics
Immature	Testis is small, thin, string-like, often translucent or pink in color. No spermatozoa are evident.
Maturing (Developing)	Testis is larger, firm, white and often triangular shaped. Spermatozoa not released when testis is cut.
Ripe	Testis is often thick and white. Spermatozoa (milt) are observed in the lumen or ducts when testis is cut. Spermatozoa are often released when pressure applied to abdomen.
Spent	Testis is elongated, flaccid, and may be reddish or blood stained. No spermatozoa released when cut.
Inactive (Regressed)	Testis is ribbon-like but usually larger than the testis of an immature fish. No spermatozoa are present.

Class IM, Immature Male

Testes are small, thin, string-like, often translucent or pink in color. No spermatozoa are evident. May be difficult to distinguish from resting in smaller fish.

**Figure 4.7** Immature male red snapper.***Class MA, Maturing Male (Developing)***

Testes are large, firm, white and often triangular shaped (gonochoristic species). Hermaphroditic male testes retain the shape of ovaries. Spermatozoa not released when testes are cut.

**Figure 4.8** Maturing (Developing) male red snapper.

Class RR, Running Ripe, Spawning Male

Testes are often thick and white. Spermatozoa (milt) are observed when testes cut. Spermatozoa are often released when pressure applied to abdomen.

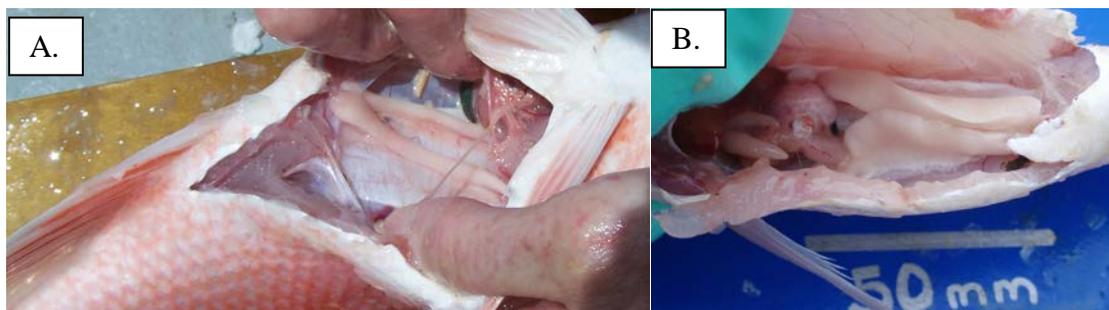


Figure 4.9 Ripe, Spawning red snapper testes. A. sperm released when testes are cut, and B. milt (sperm) evident as milky fluid.

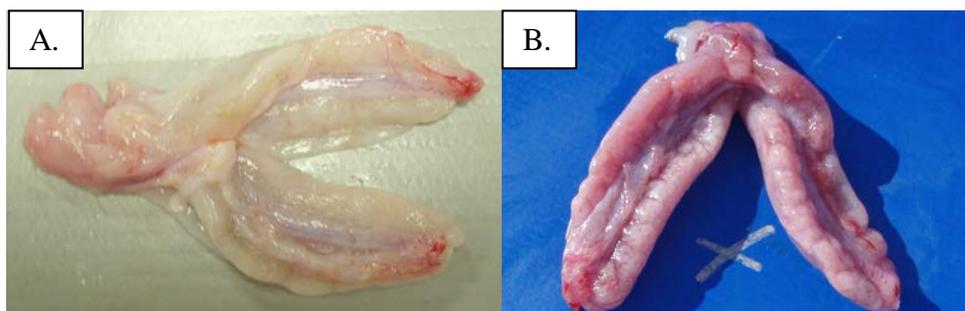


Figure 4.10 Ripe, Spawning protogynous hermaphroditic male testes from yellowedge grouper. Protogynous hermaphroditic male testes often retain the shape of ovaries and tend to look used. A. testes are white and full of sperm, and B. milt (sperm) evident as milky fluid.

Class ST, Spent Male (Post)

Testes are elongated, flaccid, and may be reddish or blood stained. No spermatozoa released when cut.



Figure 4.11 Spent herring testes. Photo Credit: ICES, 2007. Report of the Workshop on Sexual Maturity Sampling (WKMAT), 15-19 January 2007, Lisbon, Portugal. ICES CM 2007/ACFM:03. 85 pp

Class IA, Inactive Male (Regressed)

Testes are ribbon-like but usually larger than the testes of an immature fish. No spermatozoa are present.



Figure 4.12 Inactive testes of a golden tilefish male.

Distinguishing Fat from Gonad Tissue

Large quantities of fat are often attached to the gonad during the spawning season. Fat can easily be confused for testes and often females are mistaken for males due to the large quantities of attached fat.

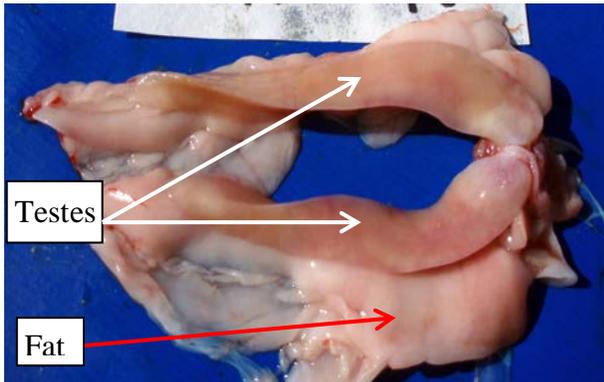


Figure 4.13 Male testes with fat attached.

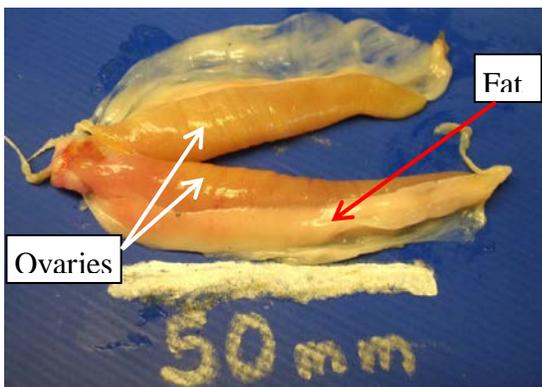


Figure 4.14 Female ovaries with fat attached.

Secondary Sex Characteristics

A secondary sex characteristic is defined as a difference (morphological or outer appearance, and color phases) between the sexes that relate to structures other than the reproductive organs (ovary or testes) and gametes (eggs or sperm).



Figure 4.15 The gag grouper (*Mycteroperca microlepis*) female (top) has no pigmentation on abdomen, while the male has a black pigmentation on the abdomen (bottom). This characteristic is seen throughout the species' distribution.

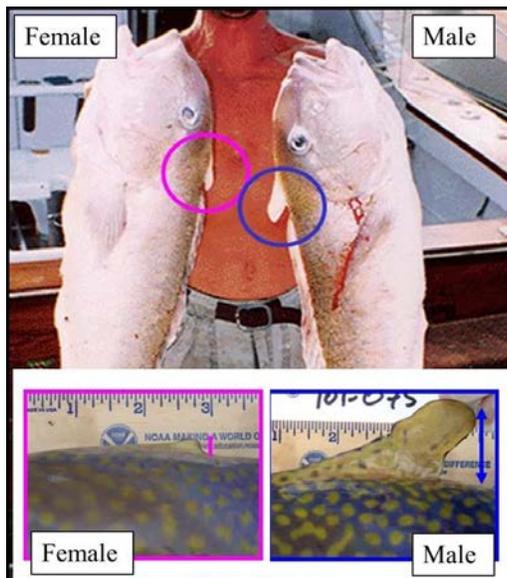


Figure 4.16 For golden tilefish (*Lopholatilus chamaeleonticeps*) larger than 500 mm fork length, the female (left) has a short (<10 mm) pre-dorsal ridge flap, while the male (right) has a tall (>10 mm) pre-dorsal ridge flap. This characteristic is seen throughout the species' distribution.

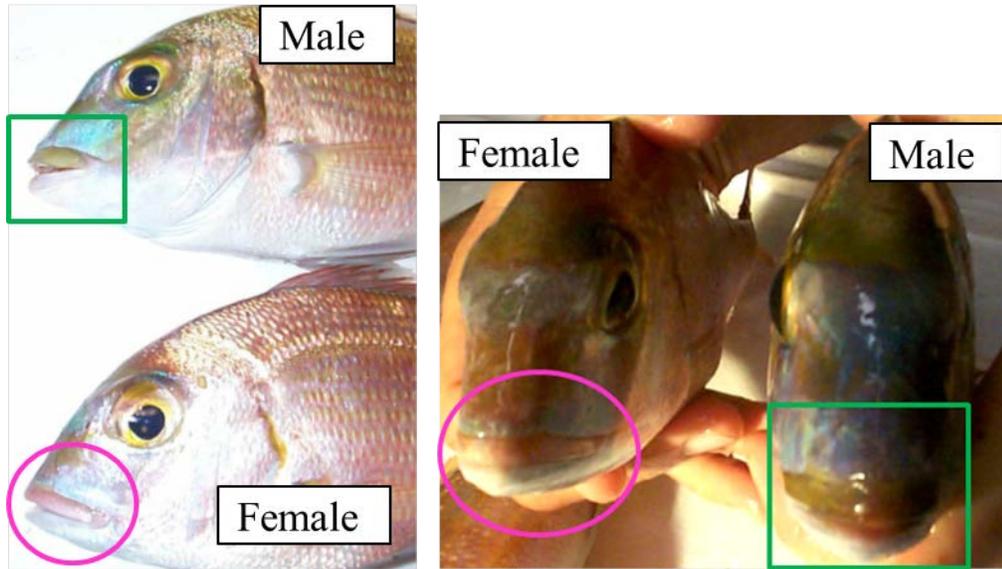


Figure 4.17 The red porgy (*Pagrus pagrus*) male has green lips (green squares), while the female has pink lips (pink circles). This has been confirmed for red porgy in the northeastern Gulf of Mexico.



Figure 4.18 The dolphin fish (*Coryphaena hippurus*) male has a prominent, very steep forehead (top), while the female has a rounded head, typically smaller than males. This characteristic is seen throughout the species' distribution.

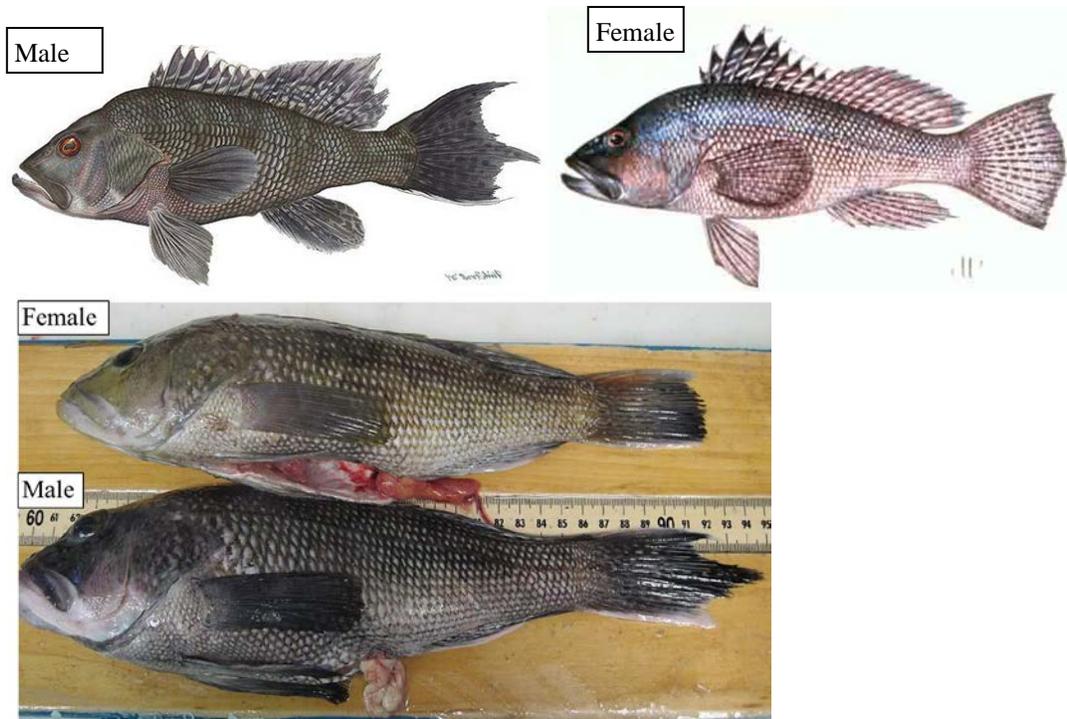


Figure 4.19 Black sea bass males have a bulbous forehead (an adipose hump on the nape), elongated caudal fin rays, and white streamer extensions on the caudal fin and dorsal fin.



Figure 4.20 Hogfish (*Lachnolaimus maximus*) males (top) have an elongated snout, dark 'mask' or stripe down the forehead (from the dorsal fin to the tip of the snout), and elongated filaments on the dorsal, anal and caudal fins.

Invertebrate Sex & Maturity Stage Identification

To determine the sex of a spiny lobster, examine the shape of the abdominal appendages (pleopods) and the underside of the cephalothorax. The distinguishing features for males are: (1) sperm ducts at the base of the fifth pair of walking legs (Figure 4.22A), (2) the second set of walking legs are much longer than the others, and (3) the pleopods (abdominal appendages beneath the tail section) are single and leaf-like or paddle-like (Figure 4.21A). The distinguishing features for females are: (1) the fifth pair of walking legs has hook-like structures at the tips (Figure 4.21B), (2) all walking legs are the same length, and (3) the pleopods have two lobes or segments, one that is leaf-like or paddle-like and one that is rod-like or resembles small pincers (Figure 4.21A). If a female lobster is visibly carrying eggs (orange to dark brown colored eggs held underneath the tail by the pleopods; Figure 4.22B), the maturity stage should be classified as 'Berried'. If a female lobster has tar spots (mail sperm) on the underside of the tail, the maturity stage should be classified as 'Tar'.

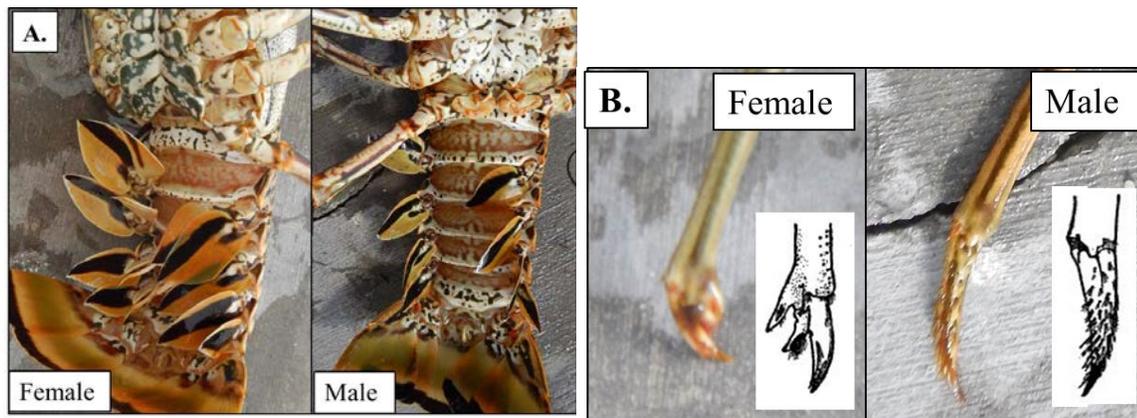


Figure 4.21 Spiny lobster (*Panulirus argus*) abdominal appendages for sex identification. A. female and male pleopods, B. tips of the fifth pair of walking legs.

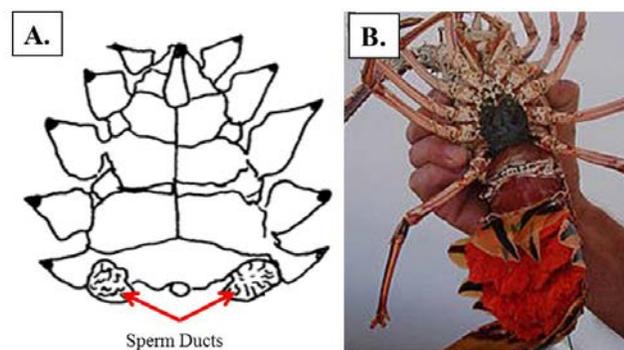


Figure 4.22 Spiny lobster (*Panulirus argus*) abdominal appendages for sex identification. A. male sperm ducts, and B. female with eggs.

To determine the sex of a crab, examine the shape of the abdomen that is folded against the ventral surface (belly/underside). Males are distinguished by tall, narrow abdomens that are tower-like (Figure 4.22A) and sometimes form an inverted 'T' shape (Figure 4.23A). Females have broad, wide abdomens, forming an inverted 'V' or 'U' shape (Figures 4.23B, 4.23C, 4.24B). If a female crab is visibly carrying eggs, held underneath the abdomen, the maturity stage should be classified as 'Berried' (Figures 4.23D, 4.23C, 4.24D).

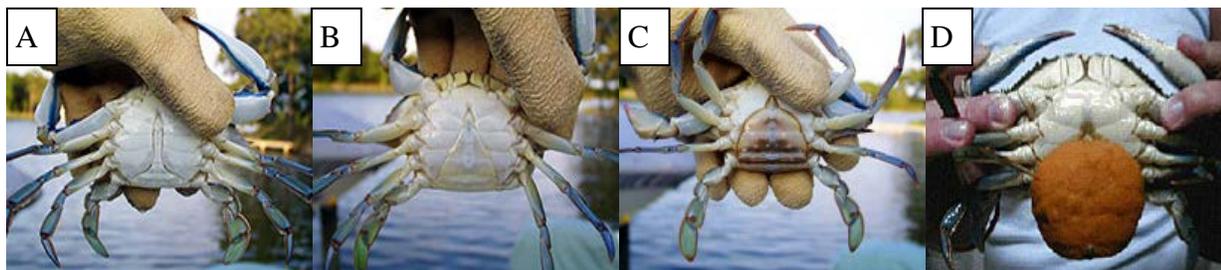


Figure 4.23 Blue crab (*Callinectes sapidus*) ventral surface and abdomen for sex identification. A. male, B. immature female, C. mature female, and D. female with eggs. Photos from Steven C. Zinski <http://www.bluecrab.info/identification.html>.



Figure 4.24 Florida stone crab (*Menippe mercenaria*) ventral surface and abdomen for sex identification. A. male, B. female, C. female with orange eggs, and D. female with brown eggs. Photos from Florida Fish and Wildlife Commission <http://myfwc.com/research/saltwater/crustaceans-marine-arthropods/stone-crabs/faq/>.

Section 5: Gonad Sampling

Note: if asked to sample gonads from a species that is generally landed whole in your area, please ask the dealer before cutting into the fish.

Gonad Removal (Figure 5.1)

1. Use a sharp knife and insert its tip just inside the anus.
2. Make a shallow cut through the ventral abdomen from the anus up to the base of the pelvic fin. Care should be taken not to cut into the gonads.
3. The gonad will be the only bi-lobed organ in the abdominal cavity that is attached to the upper-rear abdominal wall, dorsal to the anus.
4. Grab the two lobes and carefully pull them away from the abdominal wall.
5. Cut the posterior end from the abdominal wall without cutting any of the lobes.



Figure 5.1 Gonad removal.

Gonad Subsampling (Figure 5.2)

- 6A. If the gonad is small enough to fit in the provided vial, then:
 - Make a small incision in the gonad and submerge the entire gonad in the prefilled vial.
- 6B. If the gonad is too large to fit in the provided vial, then weigh the entire gonad.
 - Next, use a knife to remove two small samples of gonad tissue about the size of a sugar cube from the posterior part of the gonad.
 - Place both samples along with gonad sample label in the same sample vial.
7. Using a PERMANENT MARKER, write the following information on the outside of the vial: Species Abbreviation and Complete Tag Number.
8. Place all gonads from a single trip-interview in a Zip-loc bag. Label the bag with the Interview Date.
9. After samples are entered into the TIP Online database, record the complete tag number and species abbreviation for each gonad sample (in pencil) on a gonad label and insert into the sample vial.
10. Write the following information on the provided pre-stamped gonad bag label (use PENCIL) and place in the Zip-loc bag: Agent Name, Interview Number, Interview Date.

NEVER PLACE GONADS IN FREEZER OR ON ICE.



Figure 5.2 Gonad subsampling. Bottles are filled with 10% neutral buffered formalin.

Appendix F

TIP Data Entry Forms

The TIP Data Entry Forms are:

The Reporting Form for the Trip Interview Program (TIP).....	p147
The Field Data Sheet (Option 1) for the Trip Interview Program (TIP).....	p150
The Field Data Sheet (Option 2) for the Trip Interview Program (TIP).....	p151

Data Collected Pursuant to OMB APPROVAL 0648-0013 - Expires 12/31/2001

REPORTING FORM FOR THE TRIP INTERVIEW PROGRAM (TIP)												
Next Row is for Data Entry Personnel Use Only												
PC Data Entry by:		Date:		Batch		Interview #:						
SECTION I												
Interview Number												
Fishery Codes	CP	RF	OP		IN	ML	BF		EG	MX	SL	
Trip Type	030	100	200	300	400	600	675	676	735	900		
Agent Code or Name	OR											
Date of Interview												
	Month		Day		Year							
Reporting Area of Landings												
	Reporting State				Reporting County				Reporting Area Zipcode			
Sampling Site												
	State		County		Zipcode		Sampling Location Code (Dealer or MRFSS)					
Start / End Date of Trip												
	Start Month		Start Day		Start Year		End Month		End Day		End Year	
Information Source												
	SR	LB	CI	SS		SI		OD		SO		
Fishing Mode												
	CM	CP		HB		PR		TR		SS		
Time of Data Collection -24hr												
	Begin	:		End	:							
Bias Type												
	NB	SB		EB		SE		NI				
Interview Type												
	FS		DS		TS		AT					
Landings Type												
	CL		IL		NL		NF					
Crew Size												
	(The number of crew including the captain)											
Total Effort												
	---	---	UK	NR	WR	EQ	NF	SA	WI	OB	QR	
Vessel Information												
	Vessel ID				Vessel Length (feet)				Vessel Name			
SECTION II												
Gear Information						Effort / Location						
Code	Number	Quantity	Other			Soak Time (Hours)	Area Fished		Depth Range (Fathoms)			
---	---	---	---			---	---		---/---			
---	---	---	---			---	---		---/---			
---	---	---	---			---	---		---/---			
---	---	---	---			---	---		---/---			
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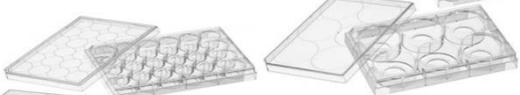
Appendix G

Sampling Gear List

Suggested Sampling Gear for Commercial Port Samplers; Sorted by Necessity Ranking.

Gear	Necessity
Antibacterial Soap	Required
Chisels	Required
Coin envelopes	Required
Data sheet or notepad	Required
Fish ID Book	Required
Fish measuring board (standard or electronic)	Required
Gloves	Required
Hat	Required
Knife (thick filet blade)	Required
Measuring tape (for larger fish)	Required
Pencils	Required
Towel / rag	Required
Tweezers	Required
ZipLoc bags	Required
24 or 12-well plastic containers with lids	Recommended
Clipboard	Recommended
Rubber bands	Recommended
Permanent marker	Recommended
Scale	Recommended
Sharpening stone	Recommended
Squirt bottle & water	Recommended
Stamp to label coin envelopes	Recommended
Table (folding, locking, adjustable height)	Recommended
Write-in-the-rain paper	Recommended
Apron, Bib or Coveralls	Optional
Camera	Optional
Cart (gear storage)	Optional
Cutting pliers	Optional
Head Lamp	Optional
Fish basket(s)	Optional
Knee pad	Optional
Milk crate (gear storage)	Optional
Plastic paper (waterproof & reusable)	Optional
Sand paper	Optional

Optional Tools for Otolith Removal	
Serrated knife	
Slime knife	
Straight gouge chisel	
Sweep gouge tool (chisel)	
Wide Jaw Diagonal Cutting Pliers	
Woodworking chisel	

Optional Gear for Otolith Storage	
Pill container	
Tackle storage box (small compartments)	
Well containers with lids	
Wooden block with holes	
Write-in-the-rain envelopes	

Appendix H

Nomenclature for Containers

Descriptions of the various types of containers used to transport and store fish.

Common Name	Other Names	Capacity (lb)	Picture(s)
Basket		50	
Box	Crate	50 - 100	 
Tote	Bin, Box, Crate	100 - 150	 
Tub	Cart, Large Bin, Dump Tub	600 – 700	 
Vat		1,000	 

<p>Tall Vat</p>		<p>1,000</p>		
<p>Short Vat</p>		<p>1,250</p>		
<p>Cardboard Vat</p>		<p>1,250</p>		

Appendix I

Examples

Sampling Scenarios and Associated TIPOL Codes

Samplers should contact the TIP Coordinator if they encounter a sampling scenario that is not described in the TIP User's Guide or accompanying appendices.

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1. Dockside, Unsorted, Conveyor Belt

Dockside Scenario

Sampling took place during the initial offload. The sampler interviewed the captain for fishing effort information, sampled the fish as they were offloaded, and recorded the landing weights from the dealer's trip ticket after the offload was complete.

Effort and Landings Information

The fishermen used 5 electric bandit reels with 30 hooks per line, for about 7 hours each day for 2 days. They were away from the dock for a total of 3 days, and made a normal return to port. The primary species landed was red snapper (2,000 lb), followed by vermilion snapper (700 lb), gray snapper (20 lb), greater amberjack (100 lb), and gray triggerfish (60 lb).

Fish Selection

Fish came off the vessel unsorted on a conveyor belt. Sampler set up near a fixed point on the belt, and randomly selected fish as they passed by that spot. Fish were selected continuously throughout the entire offload. All species randomly selected were sampled; red snapper were sampled for both length frequency and biosampling separately (collecting otoliths from every third fish selected), lengths and otoliths were sampled from vermilion snapper, gray snapper and greater amberjack, and lengths and spines were sampled from gray triggerfish.

Data Entry

Interview	
Information Source	Sales, Interview
Interview Type	Fisherman Sample
Landing Type	Complete
Days Out	3
Days Fished	2
Effort Data	Yes

Effort	
Gear	613
Qty (# lines)	5
Gear Avg Info (#hooks/line)	30
Soak Time	14 hours
Other information to enter:	
Region, Area, Depth, Distance to Shore	

Interview Information:

- ◆ Other Interview Information to enter: Landing Area, Sampling Area, # vessels (1), # trips (1), # crew, termination type (normal), time of data collection, trip start & end dates, vessel license agency, individual license #, vessel #, ticket agency, trip ticket #

Landings Information:

- ◆ Enter all landings information from the dealer's record (trip ticket)
- ◆ The red, vermilion and gray snapper were gutted, Condition is 'Gutted Head On'
- ◆ The amberjack and triggerfish were landed whole; Condition is 'Round'

Sample Information:

- ◆ Each sample record should be linked to the appropriate landing record.
- ◆ All samples: Sample Method: Landed Unsorted; Full Catch: No; Random (check the box)
- ◆ Sample Counts fall within the following ranges:
 - Red snapper: 30 otoliths, 30-70 lengths
 - Vermillion snapper: 5-15 otoliths, 5-25 lengths
 - Gray Snapper, Greater Amberjack, Gray Triggerfish: 0-1 otoliths/spines, 0-3 lengths

Observation Information:

- ◆ Centerline lengths were measured for all species and reported as fork length.
- ◆ The red, vermilion and gray snapper were gutted; Sex is reported as 'N' No Gonads.
- ◆ The amberjack and triggerfish were landed whole; access to the body cavity was not allowed; Sex is reported as 'D' (Did not attempt).

2. Dockside, Unsorted, Baskets/Bins

Sampling took place during the initial offload. Fish came off the vessel unsorted in baskets and totes, separated by species (one species at a time). The sampler randomly selected a basket or tote, then randomly selected 3-5 fish from it, sampled them for lengths and otoliths, and returned them to the same basket or tote. This sampling process was repeated from as many containers as possible throughout the entire offload and for each species landed. The sampler obtained a full interview with effort information, landing weights, and trip ticket. This day trip vessel (left the dock at 5 am, returned at 4 pm) landed 400 lbs of yellowtail snapper, 150 lbs of mutton snapper, and 80 lbs of grunts. They fished 4 conventional rods and reels, with 1-3 hooks per line, for about 8 hours.

Data Entry

Interview	
Information Source	Sales, Interview
Interview Type	Fisherman Sample
Landing Type	Complete
Days Out	1
Days Fished	1
Effort Data	Yes

Effort	
Gear	611
Qty (# lines)	4
Gear Avg Info (#hooks/line)	2
Soak Time	8 hours
Other information to enter:	
Region, Area, Depth, Distance to Shore	

Interview Information:

- ◆ Enter all other available interview information

Landings Information:

- ◆ Enter the area, species, landings weights, and conditions as they are reported on the trip ticket
- ◆ Report the correct gear code (trip ticket has 610 instead of 611 for rod and reel)

Sample Information:

- ◆ All samples: Random, with Sample Method = 'Landed Unsorted' and Full Catch = No
- ◆ Sample Counts should be similar to: 30 yellowtail, 10 mutton, 5 grunts
- ◆ All species have a Condition of 'Gutted Head On' and a Sex of 'N'

3. Dockside, Unsorted, Baskets/Bins, species mixed

Sampling took place during the initial offload. Fish came off the vessel unsorted in baskets and totes, with all species mixed together. Sampler obtained a full interview with effort information and a copy of the trip ticket. Sampler randomly selected a basket or tote, then randomly select 2-5 fish from it, sampled them and returned them to the same basket or tote. The sampler tried not to purposefully select one species over another. Randomly selected another basket or tote and repeated the process, sampling from as many containers as possible throughout the entire offload.

Data Entry

- ◆ Information Source: Sales, Interview
- ◆ Landings Type: Complete
- ◆ Interview Type: Fisherman Sample
- ◆ All fish: Sample Method: Unsorted

4. Dockside, Unsorted, Baskets/Bins, separating species as they offload

Similar to scenario 2. Sampling took place during the initial offload. The vessel's dockside was lined with baskets or totes, and crew members separated the fish by species as they offloaded (1 or 2

totes per species). Once a tote was filled it was brought to the truck or inside the dealer's location to be weighed. The sampler selected fish continuously throughout the offload. Two possible locations for the sampler to set up: (1) dockside, sampling fish directly from the totes prior to weigh-out, or (2) near the scale, sampling the fish after they are weighed. Samples are randomly selected and representatively of the species & sizes landed. Do not focus on only 1 species, unless it is the majority (>80%) of the landings. Randomly select 1-2 fish from each species bin to sample then return them and repeat throughout the offload.

Variations for Scenarios 1-4

- a. Instead of an interview for the effort information, the captain provided the sampler with the vessel's logbook to copy effort and landings information. Information Source: Logbook
- b. The vessel's logbook was used for effort information and the trip ticket was used for landings information. Information Source: Sales, Logbook
- c. The vessel's logbook was used for landings information and the captain was interviewed for effort information. Information Source: Logbook, Interview
- d. The sampler interviewed the captain, but was unable to obtain the landing weights.
 - ◆ Information Source: Interview Only
 - ◆ Interview Type: Fisherman Sample
 - ◆ Landings Type: No Landings Record
- e. Small landings: collect lengths and otoliths from all fish randomly selected
- f. Large landings: collect lengths and otoliths from all fish randomly selected, the primary catch species also has lengths measured without otolith collection (randomly selected)

5. Dockside, Unsorted, Baskets/Bins, with a Fisherman-requested sample

This is similar to scenario 3: dockside, fisherman sample, unsorted, mixed species with samples randomly selected throughout the offload. While randomly sampling the landings, a crew member brought the sampler a very large gray snapper and requested that it be sampled so he can learn how old it is. Sampling should be conducted in a similar fashion to that described in scenario 3.

Data Entry

- ◆ The Interview, Effort, and Landings information should be recorded similar to scenario 3.
- ◆ The special request gray snapper should be marked with a Sample Method = Quota Sample and the Random Sample checkbox should be unchecked, with a comment of "fisherman requested sample from this large fish"

5.a. Landings included 500 lbs of red snapper, 300 lbs of vermillion snapper, 50 lbs of gray triggerfish, and 23 lbs of gray snapper.

Data Entry

- ◆ All species except gray snapper: Sample Method = Landed Unsorted; Check the Random Sample checkbox; Full Catch = No
- ◆ Gray snapper sample: Sample Method = Quota Sample; Uncheck the Random Sample checkbox; Full Catch = Yes; Comments "fisherman requested sample from this large fish"

5.b. Landings included 500 lbs of red snapper, 300 lbs of vermillion snapper, 270 lbs of gray snapper, and 100 lbs of gray triggerfish

Data Entry

- ◆ All species (including gray snapper that were randomly sampled): Sample Method = Landed Unsorted; Check the Random Sample checkbox; Full Catch = No
- ◆ Except for the 1 gray snapper that was sampled at the request of a fisherman. This should have its own sample record with: Sample Method = Quota Sample; Uncheck the Random Sample checkbox; Comments “fisherman requested sample from large fish”; Full Catch = No

6. Dockside, Sorted, Baskets/Bins

Sampling took place during the initial offload. The fish were sorted dockside as they were offloaded. Prior to sampling the sampler asked the captain for an estimate of the pounds per species. The captain thought that there were about 50 lbs of smalls, 200 lbs of mediums, 100 lbs of larges, and 50 lbs of jumbos. The sampler estimated the number of fish in each size category then determined the sample size for each category to sample proportionally to the number of fish in each category. Fish were then selected randomly from each category. The sampler obtained a full interview with effort information and landing weights from the dealer's record.

Fish Selection

Perform a rough mental calculation of the number of fish in each size category. Number of Pounds divided by approximate fish size = approximate number of fish.

Size Category	# Pounds Landed	Approximate Fish Size	Calculated # Fish
Smalls	50 lbs	< 1 lb	50
Mediums	200 lbs	2 lb	100
Larges	100 lbs	4 lb	25
Jumbos	50 lbs	>5 lb	10

Calculate the number of age samples needed per category for proportional sampling.

Size Category	# Fish	Approximate % All Fish	Sample Size
Smalls	50	27%	8
Mediums	100	54%	16
Larges	25	14%	4
Jumbos	10	5%	2
TOTAL	185		30

Count the number of containers per size category, divide the sample size by the number of bins and randomly select the appropriate number of from each bin to reach the determined sample sizes.

Data Entry

Interview Information:

- ◆ Information Source: Sales, Interview
- ◆ Interview Type: Fisherman Sample
- ◆ Landing Type: Complete
- ◆ Report all Interview & Effort data

Landings Information:

- ◆ Separate records for each sorted category, include condition and size

Sample Information:

- ◆ Separate sample records for each species and sorted category
- ◆ Sample Method: Landed Sorted
- ◆ Random Samples: Yes, check the box
- ◆ Full Catch: No

6.a. Dockside, Sorted, Baskets/Bins, no landing weights

Similar dockside scenario to example 6: The sampler randomly sampled the sorted landings in approximate proportion to the number of fish in each category. The sampler interviewed the fisherman for effort information but was unable to obtain a trip ticket or landings weights.

Data Entry

Interview Information:

- ◆ Information Source: Interview Only
- ◆ Interview Type: Fisherman Sample
- ◆ Landing Type: No Landings Record
- ◆ Report all Interview & Effort data

Landings Information:

- ◆ Separate landings records for each species and sorted category, include condition and size, leave weights blank

Sample Information:

- ◆ Separate sample records for each species and sorted category
- ◆ Sample Method: Landed Sorted
- ◆ Random Samples: Yes, check the box
- ◆ Full Catch: No

7. Dockside, Sorted by Fishermen, different than dealer sorting

The fishermen sorted the landings as they unloaded them from the vessel. The sampler randomly selected fish to sample from each sorted bin throughout the offload. However, the sampler knew that the initial sorting by the fishermen might not be the same as the final sorting and weighed categories by the dealer. Three days later, the sampler received a copy of the trip ticket from the dealer. The trip ticket listed more sorted categories than were included in the initial sort by the fishermen, thus the sampler was unable to link each sample to the proper sorted category.

Data Entry

Interview Information:

- ◆ Information Source: Sales & Interview
- ◆ Interview Type: Fisherman Sample
- ◆ Landing Type: Complete
- ◆ Report all other Interview information

Effort Information:

- ◆ Report all effort information given by the fishermen

Landings Information:

- ◆ Report 1 landing record for the species that was sorted. The Size should be set to 'Mixed/Unsize' and the Weight should be a summation of the weights of all of the sorted categories for that species.
- ◆ Report all other Landing information available: gear, region, area, condition

Sample & Observation Information:

- ◆ Sample Method: Landed Unsorted
- ◆ Random Sample: Yes, check the box
- ◆ Full Catch: No
- ◆ Report all other Sample information available: Size (mixed/unsized), condition, weight, count

7.a. Dockside, Sorted by Fishermen, similar to dealer's sort

The fishermen sorted the landings into three sizes as they unloaded the fish from the vessel. The sampler randomly selected fish to sample from each sorted bin throughout the offload. The sampler also noted the size category for each sample on the datasheet. After receiving a copy of the trip

ticket and talking with the dealer, the sampler was confident that only a small amount of resorting occurred. The trip ticket listed the same three size categories that the fishermen sorted at the dock.

Data Entry

Interview Information:

- ◆ Information Source: Sales & Interview
- ◆ Interview Type: Fisherman Sample
- ◆ Landing Type: Complete
- ◆ Report all other Interview information

Effort Information:

- ◆ Report all effort information given by the fishermen

Landings Information:

- ◆ 3 landing records for the sorted species (one for each size category lists on the trip ticket)
- ◆ Report all other Landing information available: gear, region, area, condition

Sample & Observation Information:

- ◆ Three sample records, each linked to the appropriate sorted landing record
- ◆ Sample Method: Landed Sorted
- ◆ Random Sample: Yes, check the box
- ◆ Report all other Sample information available: size, condition, weight, count; Full Catch =No

7.b. Dockside, Sorted by Fishermen, not sorted by dealer

Similar to example 7. The fishermen sorted the landings into three sizes as they unloaded the fish from the vessel. The sampler randomly selected fish to sample from each sorted bin throughout the offload. The sampler also noted the size category for each sample on the datasheet. After receiving a copy of the trip ticket, the sampler saw that none of the sorted sizes were listed. The sampler spoke with the dealer and learned that the dealer offered the same price for fish regardless of size, so the landing weight was a total weight and the size reported was mixed/unsized.

Data Entry

Interview Information:

- ◆ Information Source: Sales & Interview
- ◆ Interview Type: Fisherman Sample
- ◆ Landing Type: Complete
- ◆ Report all other Interview information

Effort Information:

- ◆ Report all effort information given by the fishermen

Landings Information:

- ◆ Report the 1 landings record for this species that was listed on the trip ticket. The Size is 'Mixed/Unsize'd'.
- ◆ Report all other Landing information available: gear, region, area, condition

Sample & Observation Information:

- ◆ Sample Method: Landed Unsorted
- ◆ Random Sample: Yes, check the box
- ◆ Report all other Sample information: Size (mixed/unsized), condition, count; Full Catch=No

8. Dockside, Partial Sorting

Sampling took place during the initial offload. The primary catch species was sorted as it was offloaded. There were three sorted categories (small, medium, large) and one mixed/unsized category. The crew was unable to give the sampler an estimate of the amount of fish that would be sorted into each category. The sampler randomly sampled fish from each sorted category and the mixed/unsized category.

Data Entry

8.a. If the sampler was able to link the sampled fish to the appropriate size categories:

- ◆ Report each size category as a separate landing record and link each sample record to the appropriate landing record
- ◆ For all sample records: Sample Method = Landed Sorted (including the mixed/unsized record)

8.b. If the sampler was unable to link the sampled fish to the appropriate size categories:

- ◆ Report one landing record for the species as mixed/unsized with the landing weight equal to the summation of the landing weights for each of the categories.
- ◆ One sample record with Sample Method = Landed Unsorted

9. Dockside, Unsorted, species separated, Targeting a species

9.a. Sampled only targeted species, full catch,

The fish were offloaded unsorted at the dock and the sampler had access to the entire landings. The fish were separated by species as they were offloaded. Prior to the day's offload, the sampler received a data request for samples from a particular species. The sampler purposely selected the species of interest to sample and ignored the other fish in the landing. The sampler was able to sample all of the fish of the target species but did not sample any other fish.

Data Entry

- ◆ Report all Interview, Effort, Landings, and Sample Information available

Sample Information:

- ◆ Full Catch: Yes
- ◆ Sample Method: Quota Sampling
- ◆ Random Sample: Yes

This is a random sample because all individuals of the species were selected and sampled.

9.b. Sampled only targeted species, Not full catch

Similar to 9.a. The sampler targeted a particular species to sample and ignored the other species in the landing. However, the sampler did not measure every fish of the target species and selected individual fish because of their size.

Data Entry

- ◆ Report all Interview, Effort, Landings, and Sample Information available

Sample Information:

- ◆ Full Catch: No
- ◆ Sample Method: Quota Sampling
- ◆ Size: mixed/unsized
- ◆ Random Sample: No, Uncheck the box and record in the Comments section 'sampling targeted for species and size'

9.c. Sampled full catch targeted species, and a few other species not from entire landings

Sampler received a data request for samples from a particular species. The sampler purposefully sampled all of the fish of the target species. After sampling the target species, other species were still being offloaded. The sampler sampled a few of the other species at the end of the offload. However, the samples were not selected from the entire landings of those species.

Data Entry

- ◆ Report all Interview, Effort, and Landings Information available
- ◆ Sample Information:

	Targeted Species:	Other Species:
Full Catch:	Yes	No
Sample Method:	Quota Sampling	As Available
Random Sample:	Yes, Check the box	No, Uncheck the box
Sample Comments:	None	Samples not selected from entire landings

9.d. Sampled targeted species (not full catch) and a few other species (not entire landings)

The sampler purposefully sampled fish of the target species but was unable to sample all of them. After sampling the target species, samples were taken from a few of the other species at the end of the offload. However, the samples were not selected from the entire landings of those species.

Data Entry

- ◆ Report all Interview, Effort, and Landings Information available
- ◆ Sample Information:

	Targeted Species:	Other Species:
Full Catch:	No	No
Sample Method:	Quota Sampling	As Available
Random Sample:	No, Uncheck the box	No, Uncheck the box
Sample Comments:	Targeted sampling for species	Samples not selected from entire landings

9.e. Sampled targeted species (not full catch) and sampled other species randomly

The sampler purposefully sampled fish of the target species but was unable to sample all of them. The sampler was able to randomly sample the other species from the entire landings.

Data Entry

- ◆ Report all Interview, Effort, and Landings Information available
- ◆ Sample Information:

	Targeted Species:	Other Species:
Full Catch:	No	No
Sample Method:	Quota Sampling	Landed Unsorted
Random Sample:	No, Uncheck the box	Yes, Check the box
Sample Comments:	Targeted sampling for species	None

10. Dockside, Partial Catch, Split Landings, Interview

10.a. Sampled and landings records from only 1 dealer

Sampling occurred at the initial offload at the dealer's dockside location. The landings included four species (red snapper, vermilion snapper, gray triggerfish, red porgy). During the interview, the captain mentioned that they also caught greater amberjacks, but they were planning to sell them to another dealer, along with some triggerfish. The sampler was only able to sample the fish at the original offload location and only able to obtain landing weights from the original offload.

Data Entry

Interview Information:

- ◆ Information Source = Sales & Interview
- ◆ Interview Type: Fisherman Sample
- ◆ Interview Comments = 'Catch sold to multiple dealers'
- ◆ Landing Type = Incomplete Landings
- ◆ Report the trip ticket number and dealer information for the dealer where sampling occurred

Sample Information:

- ◆ Red snapper, vermilion snapper, red pogy: Sample Method = Landed Unsorted; Random
- ◆ Gray triggerfish: Sample Method = As Available; Non-Random (uncheck the box); Comments: "triggerfish catch sold to multiple dealers"
- ◆ All Samples: Full Catch = No

10.b. Sampled and landings records from all dealers

Sampling occurred at the initial offload at the dealer's dockside location. The landings included two species (yellowtail snapper, mutton snapper). During the interview, the captain mentioned that they also caught greater amberjacks, but they sold them to another dealer. The sampler was able to obtain landings weights from both of the dealers, randomly sample the fish at both dealers, and confirm that the dealers had all of the fish they purchased from the vessel.

Data Entry

Interview Information:

- ◆ Information Source = Sales & Interview
- ◆ Interview Type: Fisherman Sample
- ◆ Landing Type = Complete Landings
- ◆ Interview Comments = 'Catch sold to multiple dealers'; list the information for each dealer
- ◆ Report the trip ticket number and dealer information for the dealer where sampling occurred

Landings Information:

- ◆ Report the landing records from both dealers
- ◆ Landing Page Comments: report the dealer and trip ticket number in the comments section for each landing record

Sample Information:

- ◆ For all three species: Sample Method = Landed Unsorted; Random Sample; Full Catch = No

10.c. Sampled 1 species from 1 dealer, landing records from all dealers

Sampling occurred at the initial offload, at one dealer's dock. The fishermen sold the complete catch of one species to the dockside dealer, saving the entire catch of the other species to sell to a different dealer. The sampler only sampled randomly from the one species at the initial offload. The sampler was able to obtain trip tickets with landing weights from both dealers.

Data Entry

Interview Information:

- ◆ Information Source = Sales & Interview
- ◆ Interview Type: Fisherman Sample
- ◆ Landing Type = Complete Landings
- ◆ Interview Comments = 'Catch sold to multiple dealers'; list the information for each dealer
- ◆ Report the trip ticket number and dealer information for the dealer where sampling occurred

Landings Information:

- ◆ Report the landing records from both dealers
- ◆ Landing Page Comments: report the dealer in the comments section for each landing record

Sample Information:

- ◆ Sample Method = Landed Unsorted; Full Catch = No; Random Sample (Check the box); because sampler was able to confirm with the vessel that all of the landings for that one species sampled were available to sample from

10.d. Sampled a portion of the landings from 1 dealer, landing records from all dealers

Sampling occurred at the initial offload, at one dealer's dock. During the interview, the captain said that those landings were not the full catch from the trip. They planned to sell some of the catch of each species to another dealer as well. The sampler was able to go to the other dealer and copy the sales record for the species and landing weights, however the fish were sold and the sampler was unable to sample the fish at the second dealer.

Data Entry**Interview Information:**

- ◆ Information Source = Sales & Interview
- ◆ Interview Type: Fisherman Sample
- ◆ Landing Type = Complete Landings
- ◆ Interview Comments = 'Catch sold to multiple dealers'; list the information for each dealer
- ◆ Report the trip ticket number and dealer information for the dealer where sampling occurred

Landings Information:

- ◆ Report the landing records from both dealers; combine the landing weights from the two trip tickets for each species that was sold to both dealers
- ◆ Landing Page Comments: report the dealer and trip ticket number in the comments section for each landing record

Sample Information:

- ◆ For all species sampled: Sample Method = As Available; Non-random sample (uncheck the box); Full Catch = No; Sample Comments: 'species landings sold to multiple dealers'

11. Dockside, Combined Trips (Trip Survey)

At the dealer's dock, several vessels offloaded at the same time or one right after the other. The fish were offloaded directly into large vats. As soon as one vessel finished offloading and the vat was weighed, the catch from the next vessel was added to the vat. After a vat was filled, the landings were put in another vat and so on until all of the vessels offloaded. The sampler was unable to randomly sample each vessel's catch before the next landings were added to it. The sampler had access to all of the vats and was able to randomly sample fish from each (during and after the offload). The sampler counted the number of vessels (4) but was unable to talk to each captain for crew and effort information. The sampler obtained a total weight for all of the fish landed.

Data Entry**Interview Information:**

- ◆ Information Source: Sales Record
- ◆ Interview Type: Trip Survey
- ◆ Landing Type: Complete
- ◆ # Crew: Leave Blank
- ◆ Comments: Multiple vessels, offloaded into the same vats
- ◆ Report all other Interview information available

Landings Information:

- ◆ Report 1 landings entry for the species that was landed with the total landing weight.
- ◆ Report all other Landing information available: gear, region, area, condition

Sample & Observation Information:

- ◆ Sample Method: Landed Unsorted
- ◆ Random Sample: Yes, check the box
- ◆ Report all other Sample information available: Size, condition, weight, count, Full Catch = No

11.a. Dockside, Combined trips, limited access

Similar to scenario 11. However there were five vessels that offloaded and the sampler was only able to sample fish from one of the three vats.

Data Entry

Interview, Effort & Landing Information: Same as Scenario 11

Sample & Observation Information:

- ◆ Sample Method: As Available
- ◆ Random Sample: No, check the box
- ◆ Report all other Sample information available: Size), condition, weight, count, Full Catch = No

11.b. Dockside, Combined trips, no landing weights

Similar to scenario 11. Except that the sampler was unable to obtain landing weights.

Data Entry

Interview Information:

- ◆ Information Source: Site Sampling
- ◆ Interview Type: Trip Survey
- ◆ Landing Type: No Landings Record
- ◆ Comments: Multiple vessels, offloaded into the same vats
- ◆ Report all other Interview information available

Landings Information:

- ◆ Report 1 landings entry for the species that was landed. Report the gear, species and area. Leave the landing weight blank.

Sample & Observation Information:

- ◆ Sample Method: Landed Unsorted
- ◆ Random Sample: Yes, check the box
- ◆ Report all other Sample information available: Size, condition, weight, count, Full Catch = No

12. Dockside, Sampling Location Dealer is not the purchasing dealer

Offload and sampling occurred at one dealer's dock. However, that dealer did not purchase the fish. The fish were loaded onto a truck and purchased by another dealer. The sampler was able to randomly sample the landings before they were packed on the truck. The sampler was also able to obtain a copy of the trip ticket from the purchasing dealer.

Data Entry

- ◆ SAMPLING AREA: Dealer: Enter the code for the dealer's location where sampling occurred. It is okay that this is not the purchasing dealer.
- ◆ Trip Ticket: Enter the trip ticket number and Ticket Agency
- ◆ Interview Comments: Purchasing dealer was not the same as the sampling location dealer. The purchasing dealer was [dealer's name or code].

13. Dockside, some landings kept for personal consumption

For any dockside scenario where the sampler was present for the initial offload and sampled fish that were not sold or listed on the trip ticket. The sampler should talk with the fishermen and/or dealer. If the sampler is informed that the fish not listed on the trip ticket were kept for personal consumption, then: For the species that was kept for personal consumption: the Grade on the Landing, Sample, and Observation Pages should be recorded as 'Personal Use'. No Landing Weight is required for species with a Grade of 'Personal Use'. If the sampler has a scale and weighs these fish, this information should be reported on the Sample and Observation pages.

14. Dealer, Unsorted, complete landings, species separated

At the dealer's location, after the initial offload and weigh-outs were completed. Sampler is allowed access to the entire landings, which are separated into totes by species. The landings include are yellowedge grouper (50%) and tilefish (30%), followed by snowy grouper (10%) and warsaw grouper (5%), with a few silk snapper, scamp and gag grouper. The sampler counts the number of totes per species and randomly selects fish from each tote, totaling: 40 yellowedge grouper (30 for age and length, 10 for length), 30 tilefish (age & length), 10 snowy grouper, and 2 of each of the other species for age and length sampling. Later, the dealer provided a copy of the trip ticket with effort information for number of crew, gear type, quantity, and depth fished.

Data Entry

- ◆ Information Source: Sales Record
- ◆ Landings Type: Complete
- ◆ Effort and Landing Information Reported by the dealer on the trip ticket
- ◆ Sample Method for all species: Landed Unsorted
- ◆ Interview Type: Dealer Sample
- ◆ Other Interview Information available
- ◆ Random Sample: Yes for all species

15. Dealer, Sorted, 1 species, complete landings

At the dealer's location, after the initial offload and weigh-outs were completed. Prior to sampling, the sampler receives a copy of the trip ticket. The trip only landed one species which was sorted into market size categories by the dealer. The dealer did not provide any effort information besides the area and gear type that were reported on the trip ticket.

Fish Selection

Perform a rough mental calculation of the number of fish in each size category. Number of Pounds divided by approximate fish size = approximate number of fish.

Size Category	# Pounds Landed	Approximate Fish Size	Calculated # Fish
Smalls	500 lbs	1 lb	500
Mediums	600 lbs	2-3 lb	250
Larges	500 lbs	5 lb	100

Calculate the number of age samples needed per category for proportional sampling.

Size Category	# Fish	Approximate % All Fish	Sample Size
Smalls	500	60%	18
Mediums	250	30%	9
Larges	100	10%	3
TOTAL	850		30

Count the number of containers per size category, divide the sample size by the number of bins and randomly select the appropriate number of from each bin to reach the determined sample sizes.

Data Entry

- ◆ Information Source: Sales Record
- ◆ Landings Type: Complete
- ◆ No Effort information
- ◆ Interview Type: Dealer Sample
- ◆ Sample Method: Landed Sorted
- ◆ Full Catch: No

15.a. Dealer, sorted, 1 species, complete landings, dealer provides effort information

The scenario is similar to that described in scenario 15; however, the dealer's records include effort information from the fishermen, such as gear, gear quantity, soak time, area, and depth.

Data Entry

- ◆ Information Source: Sales Record
- ◆ Landings Type: Complete
- ◆ Effort Information as reported by the dealer on the trip ticket
- ◆ Interview Type: Dealer Sample
- ◆ Sample Method: Landed Sorted

16. Dealer, Sorted, Partial Catch

Sampling occurred at the dealer's location, after the initial offload and sorting. One species was landed and sorted. Prior to sampling, the dealer provided the sampler a copy of the trip ticket with the landing weights for the sorted categories. When the sampler asks if the entire catch is available to sample from, the dealer recalls that some of the fish have already been sold but that the majority of the fish from each category are still there. The sampler uses the landing weights and category sizes to estimate the number of samples to take from each category for proportional sampling (similar to example 15). The sampler randomly selects fish from the available categories to sample.

Data Entry

Interview Information:

- ◆ Information Source: Sales Record
- ◆ Landings Type: Complete
- ◆ Interview Type: Dealer Sample

Effort Information: Report this information if it was reported by the dealer on the trip ticket.

Landings Information: Report this information from the trip ticket.

Sampling Information:

- ◆ Sample Method: As Available
- ◆ Sample Comments: Sorted, some of the landings were sold prior to sampling
- ◆ Random Sample: No, Uncheck the box

16.a. 1 species sorted into 4 size categories, only 2 categories available

Sampling occurred at the dealer's location, after the initial offload and sorting. One species was landed and sorted into four categories (small, medium, large, extra-large) prior to sampling. The dealer provided the sampler a copy of the trip ticket with the landing weights for the sorted categories. However, only two of the four categories were available for sampling. The sampler randomly selected fish from the available categories to sample.

Data Entry

Interview Information:

- ◆ Information Source: Sales Record
- ◆ Landings Type: Complete
- ◆ Interview Type: Dealer Sample

Effort Information: Report this information if it was reported by the dealer on the trip ticket.

Landings Information: Report this information from the trip ticket.

Sampling Information: 2 sample records, both should have:

- ◆ Sample Method: Landed Sorted
- ◆ Random Sample: No, Uncheck the box
- ◆ Sample Comments: Sorted; all of the smalls and extra-larges were sold prior to sampling, non-random because samples were only collected from the medium and large size categories

16.b. 1 species sorted into 3 size categories, varied sampling and availability

Sampling occurred at the dealer's location, after the initial offload and sorting. One species was landed and sorted into three categories (small, medium, large) prior to sampling. The dealer provided the sampler a copy of the trip ticket with the landing weights for the sorted categories. All of the fish in the small size category were sold prior to the sampler's arrival. The sampler randomly selected fish from the medium and large categories to sample. All of the large fish were sampled.

Data Entry

Interview Information:

- ◆ Information Source: Sales Record
- ◆ Landings Type: Complete
- ◆ Interview Type: Dealer Sample

Effort Information: Report this information if it was reported by the dealer on the trip ticket.

Landings Information: Report this information from the trip ticket.

Sampling Information:

- ◆ Size: Medium
- ◆ Full Catch: No
- ◆ Sample Comments: Sorted; all of the smalls were sold prior to sampling, non-random because samples were only collected from the medium and large size categories
- ◆ Sample Method: Landed Sorted
- ◆ Random Sample: No, Uncheck the box
- ◆ Size: Large
- ◆ Full Catch: Yes
- ◆ Sample Comments: Sorted; all of the smalls were sold prior to sampling, non-random because samples were only collected from the medium and large size categories; all of the large fish were sample
- ◆ Sample Method: Landed Sorted
- ◆ Random Sample: No, Uncheck the box

17. Dealer, Separated by Species, Partial Catch, one species not available

Sampling occurred at the dealer's location, after the initial offload. Three species were landed (greater amberjack, red snapper, vermillion snapper) but the amberjack were sold prior to the sampler's arrival. Sampler has full access to randomly sample the other two species. The red snapper were sorted and into market size categories prior to sampling. The vermillion snapper were not sorted. The dealer provided a copy of the trip ticket. No effort information was available. The sampler converted the pounds of red snapper per size category into numbers of fish to determine the proportions and sample numbers per category (similar to scenario 15).

Data Entry

Interview Information:

- ◆ Information Source: Sales Record
- ◆ Interview Type: Dealer Sample

- ◆ Landings Type: Complete

Landings Information:

- ◆ Report this information from the trip ticket. The greater amberjack and vermillion snapper each have one landing record (mixed/unsized). The red snapper has four landing records, one for each market category.

Sample Information:

- ◆ All sample records: Random Sample: Yes, Check the box
- ◆ Red Snapper: Sample Method: Landed Sorted. 4 sample records (1 for each landing record)
- ◆ Vermillion Snapper: Sample Method: Landed Unsorted. 1 sample record

18. Dealer, Separated by Species, Partial Catch of all species

Sampling occurred at the dealer's location, after the initial offload. Four species were landed. The full catch of the gag and scamp were available to sample. Only partial landings of the red grouper and red porgy were available because some of the fish were sold immediately after the weigh-out. Prior to sampling, the sampler received a copy of the trip ticket. Fish were randomly selected from each container for sampling.

Data Entry

Interview Information:

- ◆ Information Source: Sales Record
- ◆ Landings Type: Complete
- ◆ Interview Type: Dealer Sample

Landings Information:

- ◆ Report this information from the trip ticket

Sample Information:

- ◆ For the 2 species where only partial catch was available to sample: Sample Method = As Available; Uncheck the 'Random Sample' checkbox
- ◆ For the 2 species where the full landings were available to sample from and fish were randomly selected: Sample Method = Landed Unsorted; Check the 'Random Sample' checkbox

19. Trip Survey, Dealer, Unsorted, Combined Trip, Multiple Vessels

19.a. All trip tickets / landing weights

Sampling occurred at the dealer's location, after the initial offload. Prior to the sampler's arrival, the dealer stored the landings from multiple vessels together in two vats. The sampler was given access to both vats but was unable to determine which fish came from which vessel. The dealer provided copies of all the trip tickets with information on trip dates, crew, gear, and area fished for each vessel. The sampler randomly sampled fish from both vats, selecting fish from as many layers as possible in each.

Data Entry

Interview Information:

- ◆ Information Source: Sales Record
- ◆ Landings Type: Complete
- ◆ Days Out: Total #, summation of all trips
- ◆ Interview Type: Trip Survey
- ◆ # Vessels: Total # of all vessels
- ◆ # Trips: Total # of all trips

- ◆ Days Fished: Total #, summation of all trips
- ◆ Trip Dates: Leave Blank
- ◆ Interview Comments: multiple vessels; report the license information for each vessel; report the Trip Ticket number for each vessel and trip

Effort Information:

- ◆ Report separate effort records for each vessel and trip, include all effort information provided by the dealer
- ◆ Effort Comments: vessel identification information

Landings Information:

- ◆ One landing record for each species landed, with the landing weight equal to the summation of the landing weights for that species from each trip

Sampling Information:

- ◆ Sample Method: Landed Unsorted
- ◆ Random: Yes, check the box

19.b. All trip tickets / landing weights, different fishing areas or different gears

Similar to the scenario in 19.a. except that the vessels used different fishing gear or fished in multiple areas. The interview information reported will be the same as in 20.a. The Effort information page should include separate entries for each gear and area fished, identifying the vessel and trip in the Effort Comments sections. The landings weights should still be reported as a summation of the trips. The primary area and gear should be reported, i.e. the area and gear that is associated with the largest portion of the landed weights.

19.c. No trip tickets / landing weights

Similar to scenario 19.a. except that the dealer was unsure which vessels' catch are stored in the vats and cannot provide landing records. The sampler was allowed to measure the fish but could not track them to a trip ticket or landing record. The sampler was unable to obtain a total weight.

Data Entry

Interview Information:

- ◆ Information Source: Site Sampling
- ◆ Landings Type: No Landings Record
- ◆ Leave the follow fields blank: trip information, trip dates, vessel information
- ◆ Interview Comments: landings combined from multiple trips, no landing records available

Landings Information:

- ◆ Report a landing record for each species. Landing weights are not required.

20. Trip Survey, Dealer, Unsorted, One Vessel, Multiple Trips, Combined landings

Sampling occurred at the dealer's location, after the initial offloads. The dealer has stored the landings from one vessel in a large vat. The vat contains the landings of three day trips made consecutively by one vessel. The sampler was able to interview the captain for effort information from all three trips but was unable to determine which fish came from which trip. For two of the trips, the captain had 1 crew member and for the first trip he had 2 crew members. The dealer provided copies of all the trip tickets. The sampler randomly sampled fish from the vat, selecting fish from as many layers as possible in each.

Data Entry

Interview Information:

- ◆ Information Source: Sales, Interview
- ◆ Landings Type: Complete
- ◆ # Crew: 7
- ◆ Trip Dates: Date of first trip to date of last trip
- ◆ Days Out: 3 (summation of all trips)
- ◆ Interview Comments: one vessel, multiple trips; trip ticket numbers for each trip
- ◆ Interview Type: Trip Survey
- ◆ # Vessels: 1
- ◆ # Trips: 3
- ◆ Days Fished: 3 (summation of all trips)

Effort Information:

- ◆ Separate effort record for each trip
- ◆ Effort Comments: trip ticket number

Landings Information:

- ◆ One landing record for each species landed, with the landing weight equal to the summation of the landing weights for that species from each trip

Sampling Information:

- ◆ Sample Method: Landed Unsorted
- ◆ Random: Yes, check the box

21. Dealer, Partial Catch, Quota Sampling, dealer saved one species for sampling

Sampler arrived at the dealer's location after the vessel offloaded. The dealer previously processed the landings but set aside the entire landings of one species of concern/importance (ex. red snapper in the South Atlantic) and requested sampling. The dealer also had a record of the fisherman's effort information and the trip ticket for the entire trip. All of the fish were sampled.

Data Entry

Interview Information:

- ◆ Information Source: Sales Record
- ◆ Landings Type: Complete
- ◆ Interview Type: Dealer Sample
- ◆ Report all Interview information

Effort & Landings Information: Report all information available on the trip ticket.

Sampling Information:

- ◆ Sample Method: Quota Sampling
- ◆ Random: No, uncheck the box
- ◆ Full Catch: Yes
- ◆ Comments: dealer requested sampling

22. Sampled Unsorted, Trip ticket lists sorted categories

The sampling occurred prior to the dealer's weigh-out. The fish were mixed and unsorted during sampling. The trip ticket listed sorted size categories. For data entry: report only one landing record for the species that was sorted after sampling. The Size should be 'Mixed/Unsorted' and the Landing Weight for that record should be equal to the summation of all of the weights for the sorted categories on the trip ticket. The Sample Method should be Landed Unsorted and linked to the one landing record.

22.a. One species sampled unsorted, trip ticket has one record with a size category

The sampling occurred prior to the dealer's weigh-out. Only one species was landed and the fish were fairly similar in size. The fish were mixed and unsorted when sampling occurred. The trip ticket listed one landing record for this species; however, the size category was 'Mediums' instead

of 'Mixed/Unsorted'.

For data entry: report the one landing record for the species that was sorted after sampling. The Landing Size and the Sample Size should be 'Mediums'. The Landing Weight should be exactly as it was on the trip ticket. The Sample Method should be Landed Unsorted and the sample record should be linked to the one landing record.

22.b. One species landed and sampled, all sorted into one category

Only one species was landed and the fish were fairly similar in size. The dealer's crew sorted the fish prior to sampling; however all of the fish were determined to be in the same size category. Samples were randomly selected from all of the fish that were landed. The trip ticket listed one landing record for this species with the size category '6-8 lbs'.

For data entry: report the one landing record for the species exactly as it was reported on the dealer's record (trip ticket). The Landing Size and Sample Size should be '6-8 lbs and the Landing Weight should be exactly as it was on the trip ticket. The Sample Method should be Landed Unsorted and linked to the one landing record.

23. Trip Ticket has multiple records per species (not sorted by size)

The trip ticket lists multiple records for one species and the records are not sorted by size category, they are sorted by price.

- A. If no samples were taken, list each record separately with landing comments about the different prices.
- B. Samples were taken before the species was sorted for pricing. Then report one landing record with the landing weight equal to the sum of all of the landing weights for that species.
- C. Samples were taken after the species was sorted for pricing. If samples were taken from each price category, list each record on the landing page and link the appropriate sample record. The sample method is Landed Sorted with a comment that the fish were sorted by price not size.
- D. Samples were taken after the species was sorted for pricing, but samples were not taken from each sort. Sample method is As Available and samples are Non-Random. Sample Comments: fish were sorted for different prices and samples were only taken from one of the sorted price categories.

24. Small landings, full catch sampled randomly

The sampler was present for the initial offload. The landings were fairly small, with about 80 pounds of yellowtail snapper, 10 pounds of grunts, and 15 pounds of gray snapper. The fish were offloaded in baskets and the sampler randomly selected fish from each basket to sample. The sampler measured 35 yellowtail snapper, 5 grunts and 8 gray snapper. After sampling, the sampler interviewed the captain for effort information, received a copy of the trip ticket from the dealer and confirmed that there were only 8 gray snapper landed.

Data Entry

Interview Information:

- ◆ Information Source: Sales & Interview
- ◆ Landings Type: Complete
- ◆ Interview Type: Fisherman Sample
- ◆ Report all Interview information

Effort Information: Report all effort information given by the captain

Landings Information: Report all information available on the trip ticket.

Sampling Information:

- ◆ Yellowtail Snapper: Sample Method: Landed Unsorted; Full Catch: No; Random (check box)
- ◆ Grunts: Identify to species level; Sample Method: Landed Unsorted; Full Catch: No; Random
- ◆ Gray Snapper: Sample Method: Landed Unsorted; Full Catch: Yes; Random (check box)

Appendix J

Exporting Data from TIPOL

Exporting the data from one interview in TIPOL

Select EXPORT button

Enter Selection Criteria

- To export a particular interview enter the *Agency, Agent, and Interview Number* or *From Date and To Date*

Select SEARCH

Select EXPORT RECORDS

- Exported data tables will be listed under the record (See Figure J.1)

Save the exported data

- Wait for the page to fully load before printing or saving
- To Print:
 - Click on drop down for FILE
 - Select PAGE SETUP
 - Select Landscape [then Okay]
 - Select PRINT
 - Select Printer, then Print
- To Save:
 - Click on drop down for FILE
 - Select SAVE AS
 - Select the directory where you want to store the file
 - Name the file
 - Save as a text file type – .TXT

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 **TIP Online** Ver 1.0

home data entry export tools help logout

User: _____

Selection Criteria [Help](#)

Agency: NMFS-SER From Date: 2013-01-01 Landing State: ALL
 Agent: PSAMPLER To Date: 2013-01-07 Sample State: ALL
 Status: ALL Interview Nbr: _____ Tag Nbr: _____
 Vessel Name: _____ Vessel Nbr: _____
 Fishing Mode: ALL

Species: _____ Std Species: _____
 Gear: _____ Std Gear: _____

Created/Modified: At any time Get Records: Non-deleted

Search **Export Records** Clear

Export Output Files: Separate Files Combined File

Order results by: INTERVIEW NUMBER Asc Desc

Rec#	Interview	Agent	Date	Landing State	Sample State	Trip Start	Trip End	Status	
1	326410	PSAMPLER	2013-01-03	Florida	Florida	2012-12-31	2013-01-03	Valid	Details Wide View

» Click for: [Interview Export](#).
 » Click for: [Effort Export](#).
 » Click for: [Landing Export](#).
 » Click for: [Sample Export](#).
 » Click for: [Observation Export](#).
 » Click for: [Observation Sample Export](#).

Figure J.1. TIPOL Export Records screen shot once selection criteria have been searched for and *Export Records* button has been selected.

The screenshot shows a table with columns: Rec#, Interview, Agent, Date, Landing State, Sample State, Trip Start, Trip End, Status. Below the table is a list of actions: Click for: Interview Export, Click for: Effort Export, Click for: Landing Export, Click for: Sample Export, Click for: Observation Export (circled in red), Click for: Observation Sample Export (with a red arrow pointing to it).

REC#	INTERVIEW	AGENT	DATE	LANDING STATE	SAMPLE STATE	TRIP START	TRIP END	STATUS
1	326410	PSAMPLER	2013-01-03	Florida	Florida	2012-12-31	2013-01-03	Valid

» Click for: [Interview Export.](#)
» Click for: [Effort Export.](#)
» Click for: [Landing Export.](#)
» Click for: [Sample Export.](#)
» Click for: [Observation Export.](#)
» Click for: [Observation Sample Export.](#)

Figure J.3. Selecting the Observation Export link in the list of exported records will produce output similar to this one.

The screenshot shows a table with columns: Rec#, Interview, Agent, Date, Landing State, Sample State, Trip Start, Trip End, Status. Below the table is a list of actions: Click for: Interview Export, Click for: Effort Export, Click for: Landing Export, Click for: Sample Export, Click for: Observation Export, Click for: Observation Sample Export (circled in red and pointed to by a red arrow).

REC#	INTERVIEW	AGENT	DATE	LANDING STATE	SAMPLE STATE	TRIP START	TRIP END	STATUS
1	326410	PSAMPLER	2013-01-03	Florida	Florida	2012-12-31	2013-01-03	Valid

» Click for: [Interview Export.](#)
» Click for: [Effort Export.](#)
» Click for: [Landing Export.](#)
» Click for: [Sample Export.](#)
» Click for: [Observation Export.](#)
» Click for: [Observation Sample Export.](#)

Figure J.4. Selecting the Observation Sample Export link in the list of exported records will produce output similar to this one.

Exporting the data from TIPOL by Species and/or Gear

Select EXPORT button

Enter Selection Criteria

- To export interviews for a particular species or gear, enter the *Species* code and select *Show: Just This Species*, enter the *Gear* and select *Show: Just this gear*

Select SEARCH

Select EXPORT RECORDS

- Exported data tables will be listed under the record (See Figure J.5)
- Select an individual table to export, example: observations (for printing labels)
- Or select 'Details' for printing the entire TIPOL record for that interview

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TIP Online Ver 1.0

User: PSAMPLER

Selection Criteria [Help](#)

Agency: NMFS-SER
 Agent: PSAMPLER
 Status: ALL

From Date: 2014-08-01
 To Date: 2014-08-31
 Landing State: ALL
 Sample State: ALL

Interview Nbr: _____
 Tag Nbr: _____
 Vessel Name: _____
 Vessel Nbr: _____

Fishing Mode: ALL

Species: 3760
 Std Species: _____

Gear: 611
 Std Gear: _____

Created/Modified: At any time
 Get Records: Non-deleted

Search Export Records Clear

Export Output Files:
 Separate Files Combined File

Order results by:
 INTERVIEW NUMBER Asc Desc

Rec#	Interview	Agent	Date	Landing State	Sample State	Trip Start	Trip End	Status
1	333916	PSAMPLER	2014-08-08	Florida	Florida	2014-08-08	2014-08-08	Pending

[Click for: Interview Export.](#)
[Click for: Effort Export.](#)
[Click for: Landing Export.](#)
[Click for: Sample Export.](#)
[Click for: Observation Export.](#)
[Click for: Observation Sample Export.](#)

Figure J.5. TIPOL Export Records screen shot with arrows showing the species and gear search options.

How to make tags for otolith envelopes with the Export Function in TIPOL

OPTION A.

1. In TIP Online:

- Select the EXPORT button
- Enter *date* (from and to) and *interview number* that you are printing tags for. If printing tags for the whole month, just enter the FROM and TO dates.
- Select the EXPORT RECORDS button. The tip interview shows up in a box. There will be a list below in blue or purple letters.
- Click for OBSERVATION SAMPLE EXPORT (this is the file that has tag numbers).
- Once the data for the OBSERVATION section is on the screen:
 - Click on drop down for FILE
 - Save as -> Name your file – such as tip_tags -> Change the Save as type to .TXT
 - (Be sure you have the correct directory showing where you will be storing your file)

2 In WORD:

- After opening Word, Choose the Mailings tab, then:
 - Start Mail Merge
 - Labels
 - Select label vendor and number you use (example 5260) then Click OK
- Select Recipients
 - Use Existing list
 - Select file you created from TIPOL – (example c:\my documents\tip tags\tip_tags.txt)
 - Set the 'Field Delimiter' to (tab) and the 'Record Delimiter' to (enter).
- Update Labels (Figures J.6 and J.7)
 - This is where you will create your labels and place the fields where you want them.
 - Click on the first field and then 'Insert Merge Field'. Select the column names, hitting enter in between each one. The preferred label order is:
 - Interview_ID
 - Tag1
 - Standard_Spc_Name
 - Then select the *update labels* button. (Figure J.7)
 - Use the HOME tab to adjust the line spacing, center information, or change font size.
- Sort the Labels (Figure J.7)
 - On the Mailing tab, Select 'Edit Recipient List' → Sort
 - Then select the column headers and sorting order you prefer (such as tag number or species then tag number)
- Preview Results
 - If acceptable click FINISH & MERGE
- Print Labels
 - Use the print documents option from the pull down list

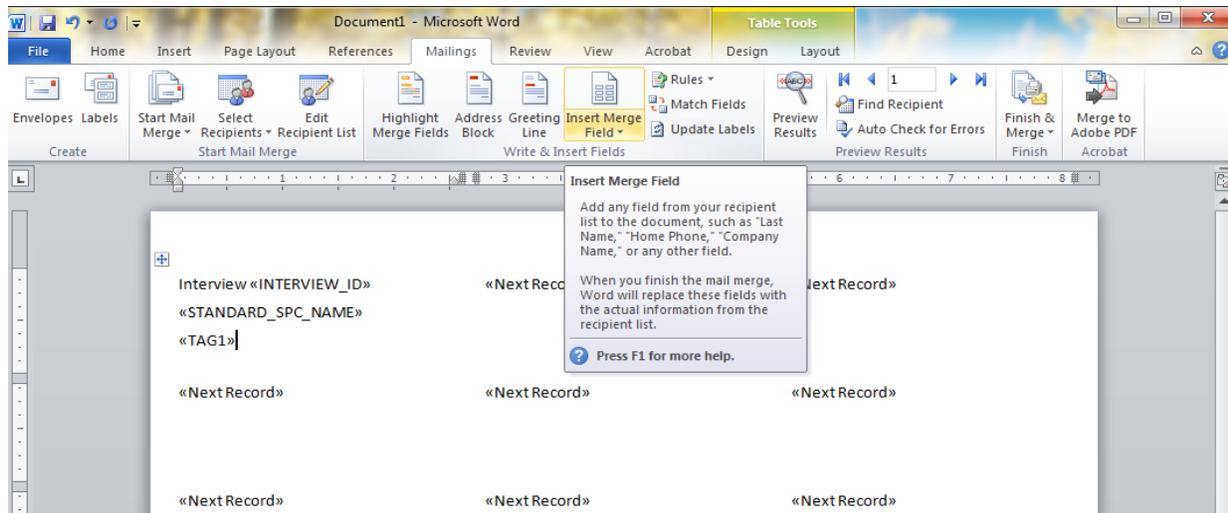


Figure J.6. Use the 'Insert Merge Field' to select the column names. You can add text before the fields (optional); in this example 'Interview' was added before the interview_id field. Hitting the enter key between each column name will place them each on their own line.

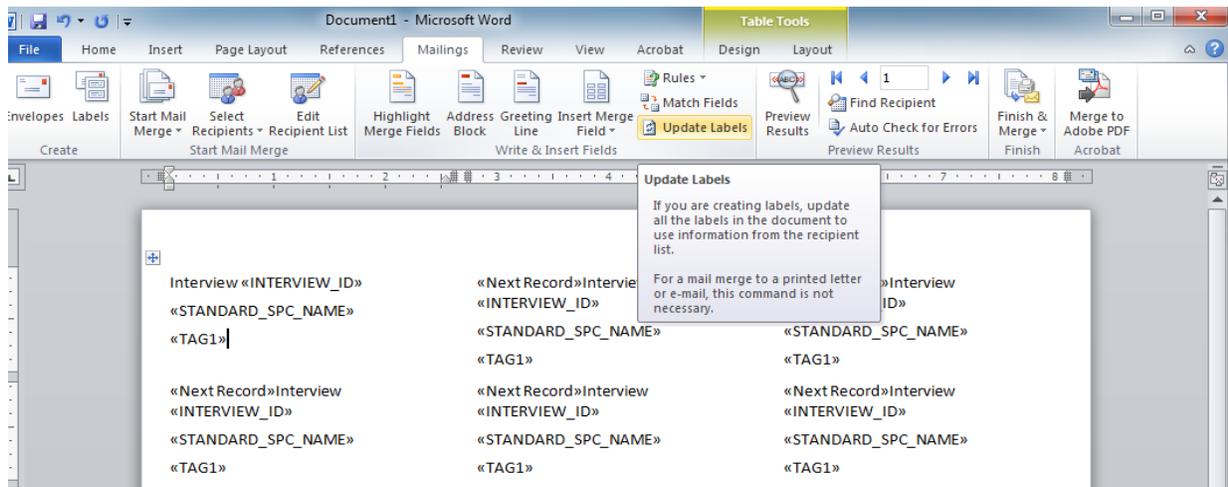


Figure J.7. To apply the inserted fields to all labels select 'Update Labels'.

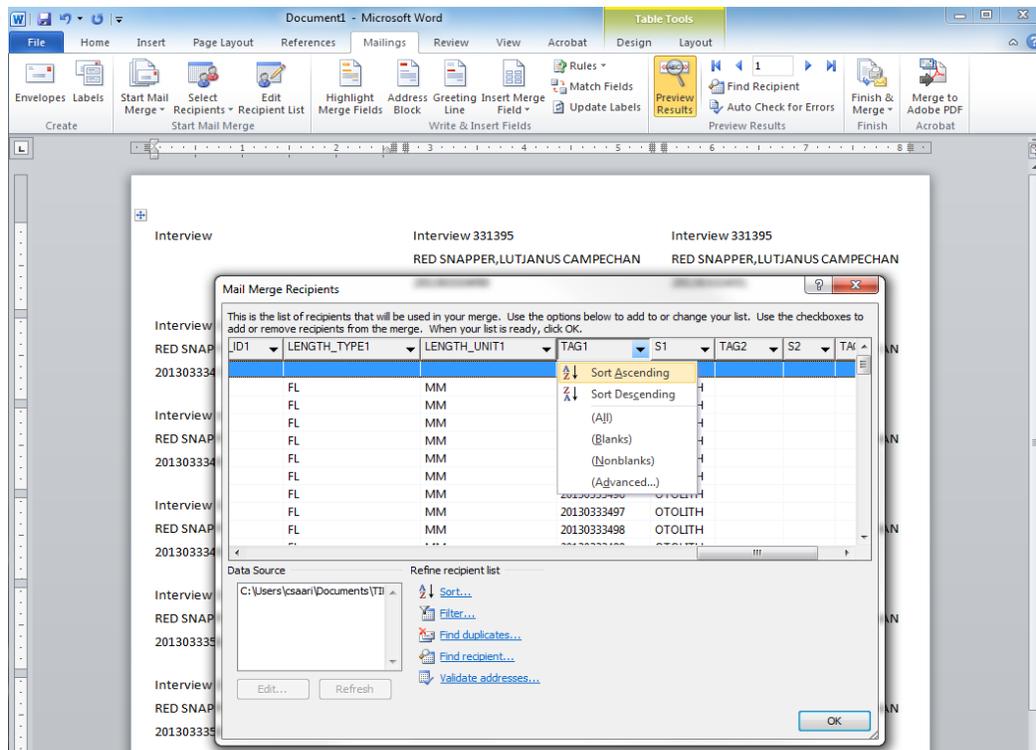


Figure J.8. To sort the labels, select ‘Preview Results’ then ‘Edit Recipient List’. Scroll to the right until you see the ‘Tag1’ column header. Then click on the drop-down arrow to the right of ‘Tag1’ and select ‘Sort Ascending’. Then select ‘OK’.

OPTION B.

1. In TIP Online:

- Select the EXPORT button
- Enter *date* (from and to) and *interview number* that you are printing tags for. If printing tags for the whole month, just enter the FROM and TO dates.
- Select the EXPORT RECORDS button. The tip interview shows up in a box. There will be a list below in blue or purple letters.
- Click for OBSERVATION SAMPLE EXPORT (this is the file that has tag numbers).
- Once the data for the OBSERVATION section is on the screen:
 - Click on drop down for FILE
 - Save as -> Name your file – such as tip_tags -> Change the Save as type to .TXT
 - (Be sure you have the correct directory showing where you will be storing your file)

2. In EXCEL:

- When opening the file in Excel, adjust Type of Files so that the .txt files will appear
- Open file, click NEXT 2 times then click FINISH
- DELETE ALL columns *except*: INTERVIEW_ID, STANDARD_SPC_NAME, SEX, LENGTH1, LENGTH_TYPE1, TAG1

- EXPAND the TAG1 column, so the full tag number appears
 - If the tag numbers are not in numerical order, SORT the file by tag number
- DELETE all rows that do not have tag numbers and the very first row that is blank.
- SAVE file as a CSV file
 - File – Save As – SAVE as type – select CSV (comma delimited)
- Your file is now ready to use in Word to print labels

3. In WORD:

- After opening Word, Choose the Mailings tab, then:
 - Start Mail Merge
 - Labels
 - Select label vendors and number you use (example 5260) then Click OK
- Select Recipients
 - Use Existing list
 - Select file you created in excel – (example c:\my documents\tip tags\tip_tags.csv)
 - Set the 'Field Delimiter' to *tab* and the 'Record Delimiter' to *enter*
- Update Labels
 - This is where you will create your labels and place the fields where you want them.
 - Click on the first field and then 'Insert Merge Field'. Select the column names. The preferred label order is:
 - Interview_ID
 - Tag1
 - Standard_Spc_Name
 - Then select the *update labels* button again.
 - Use the HOME tab to adjust the line spacing, center information, or change font size.
- Preview Results
 - If acceptable click FINISH & MERGE
- Print Labels
 - Use the print documents option from the pull down list

Appendix K

Instructions for Cross-Checking Data in TIPOL

Cross-checking within TIP Online:

- 1) Login to TIPOL under your own USER NAME as you normally would to enter an interview.
- 2) Select data entry from the options at top of page.
- 3) Select the AGENT ID of the port agent that entered the interviews you will be cross- checking. It should be the only other AGENT ID available to you.
- 4) Enter a recent date range or enter a specific interview number. You can further restrict to just those interviews that have not been checked with the “CHECKED” drop down list. Then press search.

NOAA - SEFSC Trip Interview Program

TIP Online Ver 1.0

User:

Selection Criteria

Agency: NMFS-SER From Date: Landing State: ALL

Agent: PAGENT To Date: Sample State: ALL

Status: PAGENT Interview Number: Tag Number:

Checked: ALL Vessel Name: Vessel Number:

Search Clear New Interview Order results by: INTERVIEW NUMBER Asc Desc

Rec#	Interview	Agent	Date	Landing State	Sample State	Trip Start	Trip End	Status
1	299057	PAGENT	2010-04-05	Florida	Florida			Valid Open
2	299056	PAGENT	2010-04-05	Florida	Florida	2010-04-02		Valid Open
3	299054	PAGENT	2010-03-25	Florida	Florida			Valid Open
4	299051	PAGENT	2010-03-18	Florida	Florida	2010-03-16	2010-03-17	Valid Open
5	299049	PAGENT	2010-03-15	Florida	Florida	2010-03-11	2010-03-15	Valid Open
6	299037	PAGENT	2010-03-15	Florida	Florida			Valid Open
7	299034	PAGENT	2010-03-11	Florida	Florida	2010-03-08	2010-03-11	Valid Open
8	299031	PAGENT	2010-03-11	Florida	Florida		2010-03-09	Valid Open
9	299026	PAGENT	2010-03-10	Florida	Florida			Valid Open
10	297961	PAGENT	2010-03-10	Florida	Florida	2010-03-07	2010-03-09	Valid Open
11	297953	PAGENT	2010-03-09	Florida	Florida			Valid Open
12	297714	PAGENT	2010-03-09	Florida	Florida	2010-03-07	2010-03-08	Valid Open
13	297713	PAGENT	2010-03-09	Florida	Florida	2010-03-06	2010-03-08	Valid Open
14	297592	PAGENT	2010-03-01	Florida	Florida	2010-02-26	2010-02-27	Valid Open
15	297591	PAGENT	2010-02-26	Florida	Florida		2010-02-24	Pending Open

- 5) Select the interview you wish to cross-check. Those interviews that have been checked will have a green checkmark next to the status column.

NOAA - SEFSC Trip Interview Program

TIP Online Ver 1.0

User: CHECKER

Selection Criteria

Agency: NMFS-SER From Date: 2010-01-01 Landing State: ALL

Agent: PAGENT To Date: 2010-02-15 Sample State: ALL

Status: ALL Interview Number: Tag Number:

Checked: ALL Vessel Name: Vessel Number:

Search Clear New Interview Order results by: INTERVIEW NUMBER Asc Desc

Rec.#	Interview	Agent	Date	Landing State	Sample State	Trip Start	Trip End	Status
1	297451	PAGENT	2010-02-12	Florida	Florida	2010-02-11	2010-02-11	Valid Open
2	297450	PAGENT	2010-02-12	Florida	Florida	2010-02-11	2010-02-11	Valid Open
3	297449	PAGENT	2010-02-12	Florida	Florida	2010-02-11	2010-02-11	Valid Open
4	297393	PAGENT	2010-02-08	Florida	Florida	2010-02-08	2010-02-08	Valid Open
5	297392	PAGENT	2010-02-08	Florida	Florida	2010-02-07	2010-02-07	Valid Open
6	297390	PAGENT	2010-02-08	Florida	Florida	2010-02-07	2010-02-07	Valid Open
7	297389	PAGENT	2010-02-08	Florida	Florida	2010-02-07	2010-02-07	Valid Open
8	297387	PAGENT	2010-02-08	Florida	Florida	2010-02-07	2010-02-07	Valid Open
9	297385	PAGENT	2010-02-08	Florida	Florida	2010-02-07	2010-02-07	Valid Open
10	297278	PAGENT	2010-01-29	Florida	Florida	2010-01-28	2010-01-28	Valid Open
11	297171	PAGENT	2010-01-21	Florida	Florida	2010-01-20	2010-01-20	Valid Open
12	297170	PAGENT	2010-01-21	Florida	Florida	2010-01-20	2010-01-20	Valid Open
13	297169	PAGENT	2010-01-21	Florida	Florida	2010-01-20	2010-01-20	Valid Open
14	297168	PAGENT	2010-01-21	Florida	Florida	2010-01-20	2010-01-20	Valid Open
15	297167	PAGENT	2010-01-21	Florida	Florida	2010-01-20	2010-01-20	Valid Open

Navigation: < << >> >

6) After reviewing the interview, press the “Checked-Yes” button at the bottom of the Interview page.

* If an interview has mistakenly been marked “Checked-Yes”, you can go back into the interview and press “Checked-No”. If an interview should no longer be required to be checked, then you can go into the interview and press “Checked-NA”.

7) The page will not show the updated "Is Checked?" field until after you press the refresh button on the browser or press F5 to refresh or select refresh from the browser menu- View Refresh.

8) Return to the data entry page and select the next interview to cross-check. The interview you just cross-checked will now have a green checkmark.

9) Once an interview has been checked, send all errors that need to be addressed back to the sampler that entered the data. This may be done by hand or by annotating the PDF document. Once the corrections are noted on the field sheet and returned, the sampler that collected the data should review TIP Online, make any necessary changes, and revalidate the interview.

Reviewing TIP Online data for changes:

1) Log in to TIPOL under your own User Name and go to the data entry page. Select the AGENT ID for the data you wish to review and set the restrictions (date, interview number, checked), then press Export (at the top of the page).

NOAA - SEFSC Trip Interview Program

TIP Online Ver 1.0

User: CHECKER

Selection Criteria

Agency: NMFS-SER From Date: 2010-01-01 Landing State: ALL

Agent: PAGENT To Date: 2010-02-15 Sample State: ALL

Status: ALL Interview Number: Tag Number:

Checked: ALL Vessel Name: Vessel Number:

Search Clear New Interview Order results by: INTERVIEW NUMBER Asc Desc

Rec#	Interview	Agent	Date	Landing State	Sample State	Trip Start	Trip End	Status
1	297451	PAGENT	2010-02-12	Florida	Florida	2010-02-11	2010-02-11	Valid Open
2	297450	PAGENT	2010-02-12	Florida	Florida	2010-02-11	2010-02-11	Valid Open
3	297449	PAGENT	2010-02-12	Florida	Florida	2010-02-11	2010-02-11	Valid Open
4	297393	PAGENT	2010-02-08	Florida	Florida	2010-02-08	2010-02-08	Valid Open
5	297392	PAGENT	2010-02-08	Florida	Florida	2010-02-07	2010-02-07	Valid Open
6	297390	PAGENT	2010-02-08	Florida	Florida	2010-02-07	2010-02-07	Valid Open
7	297389	PAGENT	2010-02-08	Florida	Florida	2010-02-07	2010-02-07	Valid Open
8	297387	PAGENT	2010-02-08	Florida	Florida	2010-02-07	2010-02-07	Valid Open
9	297385	PAGENT	2010-02-08	Florida	Florida	2010-02-07	2010-02-07	Valid Open
10	297278	PAGENT	2010-01-29	Florida	Florida	2010-01-28	2010-01-28	Valid Open
11	297171	PAGENT	2010-01-21	Florida	Florida	2010-01-20	2010-01-20	Valid Open
12	297170	PAGENT	2010-01-21	Florida	Florida	2010-01-20	2010-01-20	Valid Open
13	297169	PAGENT	2010-01-21	Florida	Florida	2010-01-20	2010-01-20	Valid Open
14	297168	PAGENT	2010-01-21	Florida	Florida	2010-01-20	2010-01-20	Valid Open
15	297167	PAGENT	2010-01-21	Florida	Florida	2010-01-20	2010-01-20	Valid Open

2) Select the details for the interview you wish to check for changes to the data.

NOAA - SEFSC Trip Interview Program

TIP Online Ver 1.0

User: PAGENT

Selection Criteria Help

Agency: NMFS-SER From Date: 2010-01-01 Landing State: ALL

Agent: PAGENT To Date: 2010-01-15 Sample State: ALL

Status: ALL Interview Nbr: Tag Nbr:

Vessel Name: Vessel Nbr:

Fishing Mode: ALL

Species: Std Species:

Gear: Std Gear:

Show: Just this species All Species for trips with this species

Show: Just this gear All Gears for trips with this gear

Created/Modified: At any time Get Records: Non-deleted

Search Export Records Clear Export Output Files: Separate Files Combined File Order results by: INTERVIEW NUMBER Asc Desc

Rec#	Interview	Agent	Date	Landing State	Sample State	Trip Start	Trip End	Status
1	297120	PAGENT	2010-01-15	Florida	Florida	2010-01-14	2010-01-14	Valid Details Wide View
2	297119	PAGENT	2010-01-12	Florida	Florida	2010-01-11	2010-01-11	Valid Details Wide View
3	297118	PAGENT	2010-01-12	Florida	Florida	2010-01-11	2010-01-11	Valid Details Wide View
4	297117	PAGENT	2010-01-12	Florida	Florida	2010-01-11	2010-01-11	Valid Details Wide View
5	297116	PAGENT	2010-01-12	Florida	Florida	2010-01-11	2010-01-11	Valid Details Wide View
6	297115	PAGENT	2010-01-12	Florida	Florida	2010-01-11	2010-01-11	Valid Details Wide View
7	297055	PAGENT	2010-01-08	Florida	Florida	2010-01-07	2010-01-07	Valid Details Wide View
8	297054	PAGENT	2010-01-07	Florida	Florida	2010-01-06	2010-01-06	Valid Details Wide View
9	297052	PAGENT	2010-01-07	Florida	Florida	2010-01-06	2010-01-06	Valid Details Wide View
10	297051	PAGENT	2010-01-08	Florida	Florida	2010-01-07	2010-01-07	Valid Details Wide View
11	297050	PAGENT	2010-01-08	Florida	Florida	2010-01-07	2010-01-07	Valid Details Wide View
12	297049	PAGENT	2010-01-08	Florida	Florida	2010-01-07	2010-01-07	Valid Details Wide View
13	297048	PAGENT	2010-01-08	Florida	Florida	2010-01-07	2010-01-07	Valid Details Wide View
14	297047	PAGENT	2010-01-08	Florida	Florida	2010-01-07	2010-01-07	Valid Details Wide View
15	297046	PAGENT	2010-01-08	Florida	Florida	2010-01-07	2010-01-07	Valid Details Wide View
16	297045	PAGENT	2010-01-08	Florida	Florida	2010-01-07	2010-01-07	Valid Details Wide View
17	297044	PAGENT	2010-01-08	Florida	Florida	2010-01-07	2010-01-07	Valid Details Wide View
18	297043	PAGENT	2010-01-08	Florida	Florida	2010-01-07	2010-01-07	Valid Details Wide View

3) Details are exported as a text file and any changes are reported at the bottom of the file under the heading “The following changes were made to this data:”

```

=====
INTERVIEW SECTION
=====
USERNAME      : FSDAMPLER          INTERVIEW      : 000297120      INTERVIEW DATE : 2010/01/15
MODE          : COMMERCIAL        INFO          : SITE SAMPLING  TYPE          : TRIP SURVEY
LANDED       : FLORIDA           COUNTY        : ST LUCIE      PLACE        : FORT PIERCE
SAMPLED     : FLORIDA           COUNTY        : INDIAN RIVER PLACE        : SEBASTIAN
DEALER      : ARIEL SEAFOOD INC-SEBASTIAN CODE         : WD0005157     #VESSELS     : 00
TRIF#       : 02                CREW SIZE     : 000          HAS EFFORT?   : N
LANDING TYPE : UNKNOWN          BIAS TYPE    : NO BIAS KNOWN TERMINATION   : NORMAL
START TIME  : 00:00            END TIME      : 00:00
START DATE  : 2010/01/14       END DATE      : 2010/01/14
DAYS OUT    : 00.00            DAYS FISHED   : 00.00
LICENSE AGENCY : NONE          LICENSE       :
VESSEL      : 000000000        NEW NAME      :
TICKET AGENCY : NONE          TICKET        : NONE
COMMENTS    :

=====
EFFORT SECTION
=====
No effort information entered for this interview.

=====
LANDING SECTION
=====
LAND_ID  GEA AREA  SPECIES_CODE NAME  SIZE  GRADE  NUMBER WEIGHT  UNIT  CONDITION  MIN MAX
-----
1046998  660  736.9000 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  462.00 POUNDS  GUTTED - HEAD O

=====
SAMPLE SECTION
=====
LAND_ID  SAMP_ID  SPECIES_CODE NAME  SIZE  GRADE  NUMBERWEIGHT  UNIT  CONDITION  C SAMPLE_TYPE  R
-----
1046998  626704 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  52  NO WEIGHT  GUTTED - HEAD O Y LANDED UNSORT Y

=====
SUB-SAMPLE SECTION
=====
No sub-sample information entered for this interview.

=====
OBSERVATION SECTION
=====
SAMP_ID  OBS_ID  SPECIES_CODE NAME  SIZE  GRADE  SEX NUM WEIGHT  UNIT  CONDITION  LENGTH1 TYPE1  LENGTH2 TYPE2  LENGTH3 TYPE3
-----
626704  5586600 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 78.50 FL CM  NL NL  NL NL
626704  5586601 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  M 1 .000 NW GUTTED - HEAD O 76.20 FL CM  NL NL  NL NL
626704  5586602 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 76.80 FL CM  NL NL  NL NL
626704  5586603 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  M 1 .000 NW GUTTED - HEAD O 71.40 FL CM  NL NL  NL NL
626704  5586604 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 76.00 FL CM  NL NL  NL NL
626704  5586605 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 82.10 FL CM  NL NL  NL NL
626704  5586606 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 78.00 FL CM  NL NL  NL NL
626704  5586607 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 77.40 FL CM  NL NL  NL NL
626704  5586608 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 71.10 FL CM  NL NL  NL NL
626704  5586609 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  M 1 .000 NW GUTTED - HEAD O 77.70 FL CM  NL NL  NL NL

=====
OBSERVATION SAMPLE SECTION
=====
OBS_ID  SPECIES_CODE NAME  SIZE  GRADE  SEX NUM WEIGHT  UNIT  CONDITION  LENGTH1 TYPE1  TAG1  S1 TAG2  S2 TAG3  S3
-----
5586600 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 78.50 FL CM 20100270068 O
5586601 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  M 1 .000 NW GUTTED - HEAD O 76.20 FL CM 20100270069 O
5586602 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 76.80 FL CM 20100270070 O
5586603 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  M 1 .000 NW GUTTED - HEAD O 71.40 FL CM 20100270071 O
5586604 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 76.00 FL CM 20100270072 O
5586605 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 82.10 FL CM 20100270073 O
5586606 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 78.00 FL CM 20100270074 O
5586607 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 77.40 FL CM 20100270075 O
5586608 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 71.10 FL CM 20100270076 O
5586609 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  M 1 .000 NW GUTTED - HEAD O 77.70 FL CM 20100270077 O
5586610 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  M 1 .000 NW GUTTED - HEAD O 76.40 FL CM 20100270078 O
5586611 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 87.40 FL CM 20100270079 O
5586612 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 74.20 FL CM 20100270080 O
5586613 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 84.50 FL CM 20100270081 O
5586614 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 76.50 FL CM 20100270082 O
5586615 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 69.20 FL CM 20100270083 O
5586616 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 77.80 FL CM 20100270084 O
5586617 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 80.80 FL CM 20100270085 O
5586618 1939  KING MACKEREL  MIXED/UNSIZE NO GRADE  F 1 .000 NW GUTTED - HEAD O 74.00 FL CM 20100270086 O

```

This report contains information for all sections of TIPONLINE.

The following changes were made to this data:

```

=====
INTERVIEW.Id[297120]
=====
LANDING.INTERVIEW_ID[297120] - ID[1046998]
=====
On 2010-01-19 13:07:46 changed AREA_ID..... [736.1 => 736.9]
On 2010-01-19 13:07:46 changed LAND_AREA_NAME..... [INVALID AREA => FORT PIERCE, FEDERAL WATERS]
On 2010-01-19 13:07:46 changed STANDARD_AREA_ID..... [null => 736.9998]
On 2010-01-19 13:07:46 changed LAND_STANDARD_AREA..... [null => FORT PIERCE, AREA 736, FEDERAL WATERS]
=====

```

To print set orientation to landscape in page setup.

Appendix L

Setting Defaults in TIPOL

This Appendix includes instructions for changing some of the default settings in TIPOL as well as your password.

Select TOOLS button at the top of the TIP Online page
 Select the table 'USER_PROFILE' in the drop down list of Tables Available
 Then Select SUBMIT



TIP Maintenance Code Tables

Selection Criteria

Select the table that you want to work with:

Tables Available:

Filter the data to specify which rows to show. If you do not want to filter do not enter any:

And Or

Specify how you want your data sorted. If you do not want sort the data, click the Submit button:

Sort by:

1 - Ascending Descending

2 - Ascending Descending

Tips

- **To Insert a new record**, choose the table and click Submit button. A list of the table will be showed, press the button 'Add New Record'.
- **To Edit a record**, select the table, filter the data and press submit. A list of the rows specified will be showed. Select the record that you want to edit and click on the 'Edit' hyperlink.
- **To View data**, select the table, filter the data and press submit. If you want to see all the rows do not enter any filter option.
- **To Filter the data**, select the Column Name, the Relational Operator, and the value. Two conditions can be enter joined by the Logical Operators AND/OR.
- **To Sort the data**, select the Column Name and specify if it will be on ascending or descending order. Until two columns can be selected but the priority of the sort will be the same that showed on the screen.

A table listing your username and agency id should appear. Select EDIT to the right of the table.



TIP Maintenance Code Tables - Select

Table: USER_PROFILE Add New Record View Filtered Back to Search Page

USERNAME	AGENCY ID	
AGENT	18	Edit View

Here you can set your defaults and change your password.

NOAA - SEFSC Trip Interview Program

 **TIP Online** Ver 1.0

[home](#) [data entry](#) [export](#) [tools](#) [help](#) [logout](#)

User: AGENT

TIP Maintenance Code Tables - Edit

Edit Table USER_PROFILE

AGENCY_ID: 18

USERNAME:

PASSWORD:

DEFAULT_SAMPLE_STATE_ID: ▼

DEFAULT_LANDING_STATE_ID: ▼

DEFAULT_TERMINATION_TYPE_ID: ▼

DEFAULT_FISHING_MODE_ID: ▼

DEFAULT_LICENCE_AGENCY_ID: ▼

DEFAULT_TICKET_AGENCY_ID: ▼

DEFAULT_INFORMATION_SOURCE_ID: ▼

DEFAULT_INTERVIEW_TYPE_ID: ▼

DEFAULT_AGENT_ID:

AGENT_CODE:

DEFAULT_REGION_ID: ▼

DEFAULT_NUMBER_OF_VESSELS:

DEFAULT_BIAS_TYPE_ID: ▼

DEFAULT_LENGTH_UNIT_ID1: ▼

DEFAULT_LENGTH_TYPE_ID1: ▼

DEFAULT_WEIGHT_UNIT_ID: ▼

NBR_OBSERVATION_RECORD_INSERT:

DEFAULT_LENGTH_INCREMENT:

DEFAULT_SEX:

Select each default you'd prefer from the drop down menus.

Example: Setting the default Termination Type:

NOAA - SEFSC Trip Interview Program

 **TIP Online** Ver 1.0

[home](#) [data entry](#) [export](#) [tools](#) [help](#) [logout](#)

User:AGENT

TIP Maintenance Code Tables - Edit

Edit Table USER_PROFILE

AGENCY_ID: 18

USERNAME: AGENT

PASSWORD: PASSWORD

DEFAULT_SAMPLE_STATE_ID: FL

DEFAULT_LANDING_STATE_ID: FL

DEFAULT_TERMINATION_TYPE_ID:

DEFAULT_FISHING_MODE_ID:

DEFAULT_LICENCE_AGENCY_ID:

DEFAULT_TICKET_AGENCY_ID:

DEFAULT_INFORMATION_SOURCE_ID:

DEFAULT_INTERVIEW_TYPE_ID:

DEFAULT_AGENT_ID:

AGENT_CODE:

DEFAULT_REGION_ID:

DEFAULT_NUMBER_OF_VESSELS:

DEFAULT_BIAS_TYPE_ID:

DEFAULT_LENGTH_UNIT_ID1: 7

DEFAULT_LENGTH_TYPE_ID1:

DEFAULT_WEIGHT_UNIT_ID:

NBR_OBSERVATION_RECORD_INSERT: 15

DEFAULT_LENGTH_INCREMENT:

DEFAULT_SEX: D

0 UNKNOWN

1 NORMAL

2 WEATHER

3 EQUIPMENT FAILURE

4 NO FISH AVAILABLE

5 PREDATOR DAMAGE

6 WEIGH IN OR END OF SEASON

7 OUT OF BAIT

8 TRIP OR BAG LIMIT REACHED

9 OUT OF ICE

10 EMERGENCY OR HEALTH ISSUE

11 OTHER - SEE COMMENTS

After selecting all of your defaults from the drop down menus, you can type in the default number of vessels, number of observation records, and sex id.

TIPOnline normally has 10 records appear when entering in new observations. If you'd prefer to enter more than 10 at a time, type that number into the box for the NBR_OBSERVATION_RECORD_INSERT.



TIP Maintenance Code Tables - Edit

Edit Table USER_PROFILE

AGENCY_ID: 18

USERNAME:

PASSWORD:

DEFAULT_SAMPLE_STATE_ID:

DEFAULT_LANDING_STATE_ID:

DEFAULT_TERMINATION_TYPE_ID:

DEFAULT_FISHING_MODE_ID:

DEFAULT_LICENCE_AGENCY_ID:

DEFAULT_TICKET_AGENCY_ID:

DEFAULT_INFORMATION_SOURCE_ID:

DEFAULT_INTERVIEW_TYPE_ID:

DEFAULT_AGENT_ID:

AGENT_CODE:

DEFAULT_REGION_ID:

DEFAULT_NUMBER_OF_VESSELS: ←

DEFAULT_BIAS_TYPE_ID:

DEFAULT_LENGTH_UNIT_ID1:

DEFAULT_LENGTH_TYPE_ID1:

DEFAULT_WEIGHT_UNIT_ID:

NBR_OBSERVATION_RECORD_INSERT: ←

DEFAULT_LENGTH_INCREMENT:

DEFAULT_SEX: ←

To finalize your defaults, select SUBMIT. Then OK in the popup window. Then select FINISH.

IMPORTANT:

After you have finished setting your defaults, you will need to log out of TIPOL and close the internet browser, reopen the internet browser and TIPOL, and sign in again for the changes to take effect.

Appendix M

References

- ACCSP. 2012. Atlantic Coast Fisheries Data Collection Standards. Atlantic Coastal Cooperative Statistics Program. Arlington, VA.
- FIN Committee. 2002. Program Design Document for the Fisheries Information Network in the Southeast Region (FIN). Gulf States Marine Fisheries Commission. Ocean Springs, MS.
- FIN Committee. 2006. FIN Biological Sampling Manual. Gulf States Marine Fisheries Commission. Ocean Springs, MS.
- Hoese and Moore 1998. Fishes of the Gulf of Mexico, Texas, Louisiana and Adjacent Waters. Texas A&M University Press, College Station, TX.
- Kells and Carpenter. 2011. A Field Guide to Coastal Fishes; From Maine to Texas. The Johns Hopkins University Press, Baltimore, MD.
- Lagler, K.F. 1971. Capture, sampling and examination. Pp7-44 in: W.E. Ricker (ed.), Methods for Assessment of Fish Production in Fresh Waters. IBP Handbook No 3. 2nd ed. Blackwell Scientific Publications, Oxford, England.
- Robins, Ray and Douglass 1999. A Field Guide to Atlantic Coast Fishes: North America. Houghton Mifflin Company, Boston, MA.
- VanderKooy, S.J. 2009. A Practical Handbook for Determining the Age of Gulf of Mexico Fishes Second Edition. Gulf States Marine Fisheries Commission. Ocean Springs, MS.

TIP Website: <http://www.sefsc.noaa.gov/interview/>

TIP Online Application: <http://www.sefsc.noaa.gov/tip/>

TIP Data Entry Viewlets:

http://www.sefsc.noaa.gov/Viewlets/Tiponline_Data_Entry_Viewlets.html

South Carolina Department of Natural Resources. Identification Guide to South Carolina Fishes.

<http://dnr.sc.gov/pubs/SaltwaterFishID.pdf>

Texas A&M University. Identification Guide to Marine Organisms of Texas.

<http://txmarspecies.tamug.edu/>

Shark Identification Guides: <http://sharkid.com/sharkguides.html>