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## Sampling Guidelines

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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

- C the goal of the TIP
- C which fisheries to target
- C where to sample
- C selecting trips to sample
- C selecting the fish to measure or sample
- C recording data
- C safety and sanitation
- C sampling non-commercial fisheries

### A. The Goal of the TIP

The goal of TIP is to **obtain representative samples** from targeted fisheries. A representative sample is a sample that meets sound statistical criteria for (at minimum) describing a population. The populations are defined by fishery-time-area strata. For practical reasons area is defined here by area of landing, not the fishing area. Agents are assigned target numbers of measurements needed for stock assessment. Sampling targets will be assigned according to the historical landings within the fisheries.

### B. Which Fisheries to Target

As stated in the previous section, the primary focus of the TIP is to collect representative size frequency 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. These will be known as ‘**Priority Fisheries**’ for the purpose of this documentation. Of course, it is desirable to obtain data on all fisheries, but fisheries for assessment species must be prioritized until sampling targets are met. A list of "assessment species" for NOAA Fisheries is presented in the following table. Partners in the ACCSP and COMFIN will have their own lists of ‘priority fisheries’. Ultimately, prioritization for sampling of all fisheries will be coordinated by these two organizations.

**Table 1. Assessment Species**

<b>Common Name</b>	<b>Scientific Name</b>
<b>Red Snapper</b>	<b><i>Lutjanus campechanus</i></b>
<b>Vermilion Snapper</b>	<b><i>Rhomboplites aurorubens</i></b>
<b>Yellowtail Snapper</b>	<b><i>Ocyurus chrysurus</i></b>
<b>Mutton Snapper</b>	<b><i>Lutjanus analis</i></b>
<b>Lane Snapper</b>	<b><i>Lutjanus synagris</i></b>
<b>Gray Snapper</b>	<b><i>Lutjanus griseus</i></b>
<b>Red Grouper</b>	<b><i>Epinephelus morio</i></b>
<b>Cubera Snapper</b>	<b><i>Lutjanus cyanopterus</i></b>
<b>Black Grouper</b>	<b><i>Mycteroperca bonaci</i></b>
<b>Gag Grouper</b>	<b><i>Mycteroperca microlepis</i></b>
<b>Scamp</b>	<b><i>Mycteroperca phenax</i></b>
<b>Snowy Grouper</b>	<b><i>Epinephelus niveatus</i></b>
<b>Yellowedge Grouper</b>	<b><i>Epinephelus flavolimbatus</i></b>
<b>Warsaw Grouper</b>	<b><i>Epinephelus nigritus</i></b>
<b>Speckled Hind</b>	<b><i>Epinephelus drummondhayi</i></b>
<b>King Mackerel</b>	<b><i>Scomberomorus cavalla</i></b>
<b>Spanish Mackerel</b>	<b><i>Scomberomorus maculatus</i></b>
<b>Cobia</b>	<b><i>Rachycentron canadum</i></b>
<b>Dolphinfish</b>	<b><i>Coryphaena hippurus</i></b>
<b>Wahoo</b>	<b><i>Acanthocybium solandri</i></b>
<b>Red Drum</b>	<b><i>Sciaenops ocellata</i></b>

<b>Golden Tilefish</b>	<b>Lopholatilus chamaeleonticeps</b>
<b>Greater Amberjack</b>	<b>Seriola dumerili</b>
<b>Lesser Amberjack</b>	<b>Seriola fasciata</b>
<b>Banded Rudderfish</b>	<b>Seriola zonata</b>
<b>Almaco Jack</b>	<b>Seriola rivoliana</b>
<b>White Grunt</b>	<b>Haemulon plumieri</b>
<b>Red Porgy</b>	<b>Pagrus pagrus</b>
<b>Jolthead Porgy</b>	<b>Calamus bajonado</b>
<b>Littlehead Porgy</b>	<b>Calamus proridens</b>
<b>Margate</b>	<b>Haemulon album</b>
<b>Black Sea Bass</b>	<b>Centropristis striata</b>
<b>Gray Triggerfish</b>	<b>Balistes capriscus</b>
<b>Wreckfish</b>	<b>Polyprion americanus</b>
<b>Hogfish</b>	<b>Lachnolaimus maximus</b>
<b>Spiny Lobster</b>	<b>Panulirus argus</b>
<b>Golden Crab</b>	<b>Geryon fenneri</b>

As detailed in the following sections, fisheries which land species in this list on a regular basis should be considered priority targets for trip selection and sampling. In sampling landings from such trips, sample the species on the list first, then the rest of the catch as the situation permits.

### **C. Where to Sample**

Reports will be provided listing landings of the NOAA Fisheries, SEFSC assessment species by county and month for the most recent available data. These reports will be on the TIP web site and are also available from the TIP Coordinator. Samplers can refer to these reports when making decisions concerning which areas to focus on. 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.

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. Dealers may handle landings differently from day to day. The preferred method is to sample the catch at the initial point of off-loading. This is really the only way the samplers can be sure at the time of sampling that they are seeing the entire catch. 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 catch of a particular species/market category from the trip.

Although it is preferred that the entire catch 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 catch of the sampled species/market category for a particular trip. **Do not take size-frequency samples of any given species/market category unless the entire catch of that species/market category is available.** This does not apply to non-random biological sampling such as for the taking of hard-parts, gonads and tissues. See the upcoming section on **Selecting Fish to Measure** for guidelines on what size samples to take.

#### D. Trip Selection

Selected 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. Trips should be primarily from the priority fisheries. Any time a sampler has left can be directed towards other fisheries.

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 will 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 will be provided with target guidelines initially by their respective agencies and eventually through the ACCSP and the COMFIN.** Timely knowledge of the sampler will often supercede 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 any historical landings the sampler may need to make target adjustments.

There are practical problems involved such as time considerations. 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 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. Cellular phones are preferred over radios as they offer direct contact as well as privacy. 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.

If there are questions regarding sampling priorities, contact your immediate supervisor. Feedback on the conditions and situations at the docks is very useful. If fishing patterns change so that certain priority 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 area supervisors.

#### E. Selecting Fish To Measure

Because trip selections are made on a priority basis from the Assessment List, the emphasis for selecting fish to measure is also related to the Assessment List. As with trip selection, the fish should be measured to provide data that are as representative as possible of the catch. **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'.

It is possible to introduce bias into the data by not selecting the fish randomly. Try to avoid selecting fish in a manner that will introduce biases, e.g., always selecting large or small fish. If the catch is sorted, the potential for size bias is reduced. If possible, the total number and/or weight of the sorted group should be recorded. **It is best not to begin taking individual measurements until the sample(s) have been separated from the catch.** Having the sample(s) already set aside and under the sampler's control will facilitate taking the individual measurements. It is not usually necessary to measure all of the fish of the same species from a trip. Measure 30 fish per species or as many as possible up to 30. It is best to follow some simple process like selecting every third or fifth fish to measure in order to avoid non-representative selection. Estimate the number of fish in the catch or sorted portion of the catch, divide by 30 and round down to obtain the order of selection. In the case of large catches, it may be desirable to measure more than 30, but it should not be necessary to measure more than 50 **as long as the selection is random. The emphasis in the TIP is on sampling more individual trips rather than taking a large number of measurements from a few trips; of course, the number of trips available within a set of strata will depend on the fishery.**

#### F. Recording the Data

Refer to **Section III - Data Entry and Reporting Form Procedures** for instructions on what to record. Refer to **Part II: Data Entry System** for instructions on how to enter the data on the PC. How the data are recorded in the field is left up to the sampler to some degree. The TIP Data Entry Form may be used or agents may devise their own standard forms for field use and transcribe the data to the Entry Form prior to data entry. The TIP Entry Forms can then be filed neatly away as a valuable hard-copy reference. TIP Data Entry Forms are available on the website or from the TIP coordinator. Several methods exist for recording data in the field. Field forms, a tape recorder(not standard issue), punch sheets, and electronic measuring boards(not standard issue) are among various field recording methods.

**G. 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). Any ice used by the sampler should also be from a treated source. 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.

**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 shoes with adequate traction. When sampling on a 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. Sampling may be done on board a moving vessel as the captain permits. 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 manner to their supervisor. Such incidents should be well documented.

**H. 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 the area 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 or individual license number are required. Trip landing date, MRFSS site, gear, and primary area of catch are 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 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 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, primary area of catch required.

**Scientific Survey:** This means fishery independent data. Vessel ID, sampling date if done on board vessel, landing date if shore based, gear, area of catch. 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.

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## DATA ENTRY INTERVIEW SCREEN

This section provides elements of the interview such as date, vessel id number, trip ticket, 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 agency and 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 Entry is assisted by drop-downs and pop-up tables throughout this and subsequent screens.

**Interview Number:** The interview number is a unique identifier in the TIP data base and in subsequent databases. This is a program generated number and appears at the top of the screen upon insert of the record. Users must make sure to record this number upon the hard-copy of the data entry form for future reference.

**Agency:** The Agency collecting the interview is entered using a drop-down menu.

**Agent:** Enter the user name of the agent who took the interview. Enter the name directly or select from a pop-up table. In some cases, you can use the side bar of the pop-up to scroll the table for the name. If the records in the table exceed scroll capacity, use the Find filter on the top of the pop-up to locate the name. This filter includes a field where any portion of the agent's user name can be entered. Enclose the typed portion of the user name with a % symbol. This is a 'wildcard' symbol. When the Find button is then clicked, all agent user names having the enclosed typed characters will be selected. Then select the agent by clicking on the user name in the table.

**Interview Date:** This is the date that the interview/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 a left and right arrow which can be used to scroll the calendar from month to month. This is useful in entering recent interview dates. Two drop-downs which identify the month and year are also displayed. Click on the drop-down buttons to the right of each field to display menus of months and years from which the desired calendar month may be selected. Once the correct month is displayed, click on the day of the interview.

**Fishing Mode:** Commercial Fishing is the primary mode of TIP; however, useful biological data may be obtained from other modes. This field indicates whether the data were collected from a source other than commercial fishing. The modes are defined as follows:

- **Commercial:** Vessel involved in fishing specifically to sell the catch.
- **Charter/Party:** Fishing vessel rented for a finite period of time, and at least one of the activities on board is recreational fishing.
- **Head Boat:** Vessel engaged in recreational fishing, in which individuals pay by the person for the opportunity to fish off the vessel.
- **Private/Recreational:** Fishing vessel owned by a member of the party engaged in recreational fishing. Usually the fishing party is smaller than the charter or head boat party.
- **Tournament:** An organized recreational fishing competition with prizes or trophies.
- **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 to indicate the source of the sampling information. If the landings and effort information is obtained after data entry occurs, samplers will need to update this field when they add that information to their interviews:

- **Sales records:** Commercial dealer trip ticket(s) or other records were used to collect the landings portion of the TIP interview.

- **Logbooks:** A NOAA Fisheries Logbook report was used to collect the landings and effort portions of the TIP interview.
- **Site sampling:** No landings records were available or trip was non-commercial.
- **Sales records & interview:** Sampler obtained landings data from the dealer and interviewed captain of vessel for effort information.
- **Observer data:** Sampler collected landings and effort data from observer records.
- **Sales records / Observation:** Sampler collected landings data from dealer records and effort data from observer records.
- **Interview with no landings:** Sampler interviewed captain for effort data but landings records were not available.

**Interview Type:** The purpose of this field is to identify the person or persons interviewed for the trip. The following codes are to be used to specify the type of interview:

**Fisherman sample:** If some or all of the catch and effort information for the interview were provided by captain or crew, code the interview type as a Fisherman Sample. Logbook information would come under this heading.

- **Dealer sample:** If ALL of the catch and effort information for the interview came from the dealer or processor or if no such information was provided, code it as a Dealer Sample.
- **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.
- **Observer trip:** If the interview information were provided as a result of being an on board observer, or from another observer, then select observer trip.

**Landing State:** Enter the landing state as the state 2 character abbreviation or select from a pop-up table. Use the 'Find' filter in the way previously described for the 'Agent' field. 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.

**Landing County:** 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 dependant. Make sure that the county is within the state of landing as some county names will duplicate. The county of landing is the county where the product first passes from water to land.

**Landing Place Code:** Enter the place of landing as a 5 digit FIPS code. Place codes are state and county dependant. 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.

**Sampling Area State:** Enter the sampling state as the 2 character state abbreviation or select from a pop-up table. This is the state the sampling actually occurred in. It may be a different state than the landing state described above.

**Sampling Area County:** Enter the sampling county as the 3 digit FIPS code. If the code is not known, it can be selected from the pop-up table. 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 dependant. Make sure that the county is within the state of sampling as some county names will duplicate.

**Sampling Area Place:** Enter the place of sampling as a 5 digit FIPS code. Place codes are state and county dependant. 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 sampling is within the county of sampling selected as some place names will duplicate.

**Dealer:** Enter the code for the dealer. Dealer codes are state dependant and may be county dependant 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.

**# of Vessels:** Ideally samples should come from a single trip; however, there may be cases where a sampler will obtain samples from inseparable catch by multiple vessels. The field is included for this reason.

**Trip #:** Ideally samples should come from a single trip; however, there may be cases when catch is combined for multiple trips by a single vessel. In this case, enter the number of trips which make up the catch.

**Landing Type:** This field 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. The sampler is to select one of these four types from the drop-down menu:

- **Complete landings (weight)**
- **Incomplete landings**
- **No landings - Use where no landings report filled out (recreational trips).**
- **No fish caught**

**Effort Data Collected:** This checkbox indicates whether any on-board person (captain, crew, or observer) was interviewed for effort information. When the box is checked it allows entry of data in the optional effort section.

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

**Bias Type:** This field is used to identify interviews that are known by the sampler to be biased and therefore not truly representative of the fishery. Select a bias type from the drop-down menu. The bias types are:

- **No bias:** Data are representative of fishery in fisherman's opinion.
- **Size bias:** Not all size groups of the catch are available for sampling. This does not include situations when fish are discarded due solely to legal restrictions.
- **Effort bias:** Trips where the primary effort was directed toward a species group and/or market category not included in the sample.
- **Size/Effort bias:** Interviews where size and effort bias both occur (see above definitions).
- **No information:** Use if no interview was obtained for the trip.
- **Targeting sex bias:** Effort is directed toward a particular sex.

**Termination:** Specify the reason the fishing trip ended. Choose one of these from the drop-down menu:

- **Unknown**
- **Normal Return**
- **Weather**
- **Equipment failure or crew injury**
- **No Fish**
- **Predators** (ie. Sharks) in area prohibit fishing
- **Weigh In** - when it is necessary to return to dock prior to season closure or at the end of a tournament.
- **Out of Bait**
- **Quota reached** - when trip limits or bag limits have been obtained.

**Time of Data Collection:** Use this field to record the sampling period or time required to complete the trip interview, from beginning to end. The time should be recorded in military time. 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 is hh:mm. Agents are encouraged to complete this field, but it is not required. This field may be of use where burden on industry is a concern.

**Trip Dates - Start:** Enter the date the vessel left the dock as the start date of the trip. The date can be entered directly in YYYY-MM-DD format or selected from the pop-up calendar. See 'Interview Date' for a description of how to use the pop-up calendar.

**Trip Dates - End:** Enter the date the vessel off-loaded as the end date of the trip. The date can be entered directly in YYYY-MM-DD format or selected from the pop-up calendar. See 'Interview Date' for a description of how to use the pop-up calendar.

**Days Out:** Record the number of days rounding up if necessary. (24 hrs = 1.0 days, 31 hrs = 1.30 days) from the day of departure to the day of return for unloading, i.e., the number of days that the boat was away from the dock.

**Days Fished:** Record the number of days the vessel was actively engaged in fishing. Once again, round up as necessary.

**Individual License #:** Enter the state-issued license number for the individual fisherman. This applies to commercial trips only. This field or the vessel id are required for commercial trips.

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

**Vessel #:** This must be recorded for all size-frequency samples 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 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. If it is USCG registered, omit the DO prefix and enter the number only. The vessel may also be selected from the pop-up table.

**Name:** Record the name of the vessel. This is useful for validating against the permit lists. It is not required.

**Trip Ticket #:** Record the number of the trip ticket which holds the landings information for that trip or portion of the trip sampled. This is generally a pre-printed number on the trip ticket form.

**Ticket Agency:** Record the primary agency which 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).

**Comment:** This field is for comments agents may have which pertain to the interview/sample. 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. The comment field is not meant to serve as a means for industry to communicate with NOAA or the Councils concerning issues such as regulation.

## DATA ENTRY LANDINGS SCREEN

This section is designed for the entry of landings data. The landings are entered as they are recorded in the trip ticket filled out by the dealer. The trip ticket is not always available at the time of sampling; however it can usually be obtained later. Please remember to update this section with the trip ticket information and fill in the 'market species' and 'market size' in the next section (Sample Section) if data are entered prior to getting the trip ticket information.

**Gear:** Select the gear used for the species caught. If more than 1 gear was used for a given landings record, record the primary gear. Gear can be entered manually or selected from the pop-up table.

**Area:** Select the area fished for the landings record. If more than 1 area was fished for a given landings record, select the primary area. Area can be entered manually or selected from the pop-up table..

**Region:** Select the region fished for the landings record. If more than one region was fished for a given record, select the primary region. Region is selected from the drop-down menu.

**Market Species and Size:** Enter the species or species group and the size as they are described on the landings record (trip ticket). 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.

**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. Select from the drop-down menu.

**Qty (Quantity):** Enter the number of individuals in the landings for the given record if known (do not enter an estimate).

**Total Weight:** Enter the weight of the landings for a given record.

**Unit:** Enter the weight unit for a given record. This field must be filled if a weight is entered.

**Condition:** Enter the landed condition for a given record. This must be done if a weight is entered.

**Volume and Volume Unit:** Some landings may be described in volume rather than weight. If this is the case, enter those here.

**Ripe:** This piece of information is a general observation and must be obtained from the fishermen or an observer if it is determined at all. It is a general description of the reproductive state of the species. Ripe refers to the state of the gonads just prior to reproduction.

**Aggregated:** This piece of information is a general observation and must be obtained from the fishermen or an observer if it is determined at all. It is a general description of the spatial distribution of fish on the fishing grounds and indicates whether the catch were all tightly bunched together or widely disbursed.

**Comment:** Enter any additional information as it relates to a particular landings record. Comments about the overall trip should be entered in the 'Interview' comments.

## DATA ENTRY EFFORT SCREEN

The purpose of this section is to allow for entry of detailed information on gear, fishing effort and the 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. Because this type of data may not always be available, the Effort section is not a required part of the interview. This 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. The rest of the fields

**Gear:** Gear code can be entered directly or selected from the pop-up menu. Some gear codes indicate a combination of gears or are generic in nature. Try to use as specific a gear code as possible. Contact the program coordinator if there is no available code for the gear you wish to enter. Provide a full description of the gear so that a proper code may be assigned.

**Qty (Quantity):** Enter the total number of gear fished in this field. This would be # of nets, # of lines, # of main lines (long line), # divers, and # of traps hauled.

**Usage/Frequency:** Enter the number of times the gear was used. This would be the # of hauls for nets, the # of tows for trawl nets, the # of drops for hook and line, the # of sets for long line, the # of dives, the # of hauls per trap.

**Size:** For Nets or Traps, enter the diagonal mesh or slot size in inches. When measuring nets stretch the mesh closed.

**Average Gear Info:** Enter the average length per net in yards for all nets except trawl nets. Enter the average hooks per line for hook and line. Enter the average hooks per set for long lines.

**Number Set:** Enter number of traps set.

**Total Line Length:** Enter the total lead line length for trawls.

**Average miles per set:** Enter the average miles per set for long line gear.

**Soak time:** Enter the amount of time the gear is in the water fishing. Record soak time in hours. Record soak times for all gear types fished. If two or more units of the same gear were fished in the same area at the same depth for different soak times, record the average soak time.

**Region:** Enter the region that the fishing occurred in from the drop down menu.

**Area:** Enter the area that the fishing occurred in. Enter the area code directly or select the area from the pop-up menu. Area codes can be region-dependant.

**Quadrant:** Enter the code for the area quadrant as the following: 1=NW, 2=NE, 3=SW, and 4=SE.

**10 min:** Enter the 10 minute square within the area fished. (This is used in NE and Head boat survey).

The program allows for entry of latitude and longitude to the second. 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.

**Longitude Hemisphere:** Select East or West from the drop-down menu.

Enter numbers only for degrees, minutes, seconds. Do not enter symbols such as “ or ‘.

**Distance to Shore:** Measure the distance to the nearest point of land in miles.

**Min and Max Depth:** The depth or depths at which fishing occurred. Record depths in fathoms (1 fathom = 6 feet). Depth can be recorded several different ways. If only one depth is obtained, enter it in the first field. It will be assumed that this is either an actual or an average depth. If a minimum and maximum depth are provided, record the minimum depth in the first field and the maximum depth in the second field. Depth is

recorded from the surface to the bottom 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.

**Comments:** Enter comments on factors affecting the effort. 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'.

## DATA ENTRY SAMPLE SCREEN

The purpose of this section is to provide sample summary data. It is important to note that from this stage forward are chiefly scientific in nature. That is; there is little input from any source other than the samplers obtain through observation and measurements.

**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 record. The table will include detail that will permit identification of the record. It is important to relate the sample to a landings record for the following reasons:

1. Samples need to be related back to landings to determine the size of the landings they are attempting to land (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 in general or market-influenced descriptions.

### SAMPLE INFORMATION

**Sample Method:** This shows whether the sample was taken at sea or at the dock, and from sorted or unsorted landings. The following are valid codes :

LU	1	Landed Unsorted
LS	2	Landed Sorted
SU	3	At Sea Unsorted
AA	4	As Available - when some, but not all landings have been sorted.
QS	5	<b>Quota Sampling</b> - Use this designation for non-random samples; that is, samples that were taken to fill biological hard-part or tissue needs and were taken from specific landings because of their size or sex while ignoring other fish in the landings. The preferred method is to pick random samples from the landings, and then pick fish from the randomly selected sample to fill the quota needs (samplers will have to guard against bias when making the initial random selection). In this case the designation would be Quota Sampling, since the original sample was randomly selected. There will be cases; however, where the sampler will need to select fish on a non-random basis because random sampling does not produce enough fish to fill the quotas for all sizes. <b>is very important that these samples are properly identified.</b>

**Species:** This will be the sample species as identified by the sampler. This may be different from the species or group identified by the dealer in the previous section. If the sample is composed of multiple species, the sampler should enter the highest level of detail that includes them all. Specific information for individuals can be addressed in the individual record section.

**Full Catch:** This check box is used to record whether or not the sample is equal to the total catch. This refers to the sample separately. In other words, if the sample contains all the snowy grouper in the catch, check the box for full catch even though the entire catch (of all species) was not sampled. If more than one sample of the snowy grouper was taken and they add up to the total catch of snowy grouper, check the box for each of those records.

**Size:** Select the market size of the fish in the sample from the drop-down menu. This is generally as the dealer would size the fish; however, sampling may occur before the fish have been sized. In this case, Ungraded or Unknown would be entered.

**Condition:** Select the condition of the fish at the time of sampling from the drop-down menu. This field refers to the state of processing the fish has undergone and is essential for entering the weight of the fish.

**Grade:** Select the grade of the fish at the time of sampling. 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 the quality of product. Select from the drop-down menu.

**Total Weight:** Record the total weight of the sample.

**Unit:** Select the weight unit from the drop-down menu. This must be selected where weight is entered.

**Count/Qty:** Enter the number of individuals in the sample.

**Random Sample:** Check the box if the sample was taken by a random sampling method as opposed to a non-random or targeted method.

**SUB-SAMPLE INFORMATION:** This section is used to record the weight, number and type of measurement in the same manner that is described under 'Sample Information' only if the sampler is UNABLE to measure all of the fish in the sample.

**Total Weight:** Record the total weight of the sub-sample.

**Unit:** Select the weight unit of the sub-sample from the drop-down menu. This must be selected where weight is entered.

**Count/Qty:** Enter the number of individuals in the sub-sample.

**Random Sample:** Check the box if the sample was taken by a random sub-sampling method as opposed to a non-random or targeted method.

**Comment:** Record any additional information pertinent to the sample section here.

## DATA ENTRY OBSERVATION SCREEN

This section is for entering data from observations of individual fish or invertebrates.

**Sample:** This 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. 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 record. The table will include detail that will permit identification of the record. 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 (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. Sample identification may not be specific where observations of individuals should be.

**Species:** Enter the species code directly or select the code from the pop-up table. Avoid entry of generic types such as for 'Amberjacks'. Enter the specific code for the individual observation.

**Size:** Select the market size of the fish in the sample from the drop-down menu. This is generally as the dealer lists it; however, sampling may occur before the fish have been sized. In this case, Ungraded or Unknown would be entered as the size.

**#Fish:** The number of fish that have the same length or weight is to be recorded in this field. If only one fish was measured at the respective length, enter 1. The usual entry is 1. This field has been included to allow for entry of "punch-board" data where many observations may fit within a measurement.

**Sex:** Select the sex of the individual from the drop-down menu. It is not always possible to determine sex. In this case, record the sex as 'Unknown' not 'none'. Some fish change sex as they mature. In cases where the gonads exhibit both male and female appearance, label the fish as 'Transitional'.

**Maturity Stage:** Select the stage of sexual activity as it can be determined by gross observation of the gonads in the field.

**Sample Method:** This shows whether the observation was taken at sea or at the dock, and from sorted or unsorted landings. Enter the following from the drop down menu:

- Landed Unsorted
- Landed Sorted
- At Sea Unsorted
- As Available - when some, but not all landings have been sorted.

**Quota Sampling** - Use this designation for non-random samples; that is, samples that were taken to fill biological hard-part or tissue needs and were taken from specific fish because of their size or sex while ignoring other fish in the landings. The preferred method is to pick random samples from the landings, and then pick fish from the randomly selected sample to fill the quota needs (samplers will have to guard against bias when making the initial random selection). In this case the designation would **not** be Quota Sampling, since the original sample was randomly selected. There will be cases; however, where the sampler will need to select fish on a non-random basis because random sampling does not produce enough fish to fill the quotas for all sizes. **It is very important that these samples are properly identified.**

**Length:** The screen permits multiple length measurements (3) per specimen. Enter the length here, the column accommodates many places.

**Length Unit:** Enter the unit of the length measurement from the drop-down menu.

**Length Type:** Enter the type of length measured from the drop-down menu. Fork Length is considered to be equivalent to centerline length for the purpose of this field. **Length Unit and Length Type are required for each length entered.**

**Total Weight:** Record the weight of the observation.

**Unit:** Select the weight unit from the drop-down menu. This must be selected where weight is entered.

**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.

**Comment:** Enter any pertinent information as it relates to an individual observation. Do not enter general observations on the trip or the landings. Put those in previous sections.

**Tagged Samples** It is here that the biological sample data are recorded as being collected. To bring up this portion of the entry screen, insert the Observation record. When the record list comes up, select the record number from the list. 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 to the right of those entry fields. This will automatically associate biological samples with their original specimen.