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**Description of the Southeast Fisheries Science Center's
Logbook Program for Coastal Fisheries**

John Poffenberger
Sustainable Fisheries Division
Southeast Fisheries Science Center
75 Virginia Beach Drive
Miami, FL 33149

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The Southeast Fisheries Science Center (SEFSC) currently manages two vessel logbook programs. The one program principally covers vessels that use pelagic longline gear, but also includes vessels that use other types of gear (harpoon and handline) that target pelagic species in the highly migratory species fishery management plan. This logbook program was initiated in 1986, and has continued uninterrupted since then. In 1990, the SEFSC initiated a logbook program for vessels that held a federal vessel permit to fish in the Gulf reef fish fishery. A similar program was initiated for vessels with federal permits in the snapper-grouper fishery in the South Atlantic region. These two programs combine to form the basis of the coastal fisheries logbook program. In 1993, this program was expanded to include vessels with federal permits in the shark fishery and in 1999 it was expanded to include vessels with commercial vessel permits in the king and Spanish mackerel fisheries. The purpose of this report is to document how the SEFSC implemented and manages the logbook program for the coastal fisheries.

Although this report is limited to the history and description of the coastal fisheries logbook program, it is worth a brief explanation of the difference between the coastal fisheries logbook program and the pelagic longline logbook program. Because the pelagic program supports assessments that require catch per unit effort data for individual sets, the design of this program focuses on data for individual set. Whereas, the coastal fisheries are multiple gear fisheries in which gear are deployed too frequently to require that fishermen report the data for each set or gear deployment. Thus, the coastal fisheries logbook program requires reporting catch and effort data for the entire trip and does not require reporting for individual gear deployments.

The report is divided into two sections. The first section presents a chronology of the coastal fisheries logbook program and how the logbook forms were modified over time. The second section provides a description of the record layout and data elements for the coastal fisheries logbook data.

Logbook Program and Form Description

The coastal fisheries logbook program began in April 1990 with the implementation of the vessel logbook for vessels that were issued a Federal permit for the Gulf of Mexico reef fish fishery. The logbook was a single page form printed on an 8 ½ x 11 sheet, with a duplicate copy provided for the fishermen's records. Booklets were mailed to fishermen (permit holders) that were issued a federal vessel permit by the Permits and Regulations Branch, Southeast Regional Office (SERO). The selected fishermen (vessel owners) were instructed to return the completed logbook forms to the SEFSC in Miami, FL.

The reporting regulations that cover the coastal fisheries logbook program are promulgated in 50 CFR 622.5 and require that all fishermen (vessel owners) that are selected to

report must complete a form provided by the SEFSC and return it to the SEFSC. Under this authority, a sample of the total population of the Gulf reef fish permit holders were selected to report. For permit holders with a mailing address in Florida, a 20% sample was selected to report, i.e., every fifth permit application that was received by the SERO, was selected to report. The reason for this selection procedure was the availability of trip data in Florida because of the state's trip ticket program and the data for the sampled vessels could be used in conjunction with the trip ticket data to expand to the total universe. For permit holders with a mailing address outside Florida, every applicant was select to report, i.e., a 100% sample.

As noted above, the logbook form was printed on a letter size form. The top portion of the form included information on the trip (i.e., vessel id. number, location and dealer where trip were landed, date trip was landed, type/quantity of gear). To report fishing area and depth, the form provided space for the fishermen to report up to three (3) areas and three (3) average depths. Fishing area is reported by the statistical grid system used for the Gulf of Mexico shrimp fishery and a map is provided with the logbook instructions that shows these statistical grids. In the lower portion of the form, the fishermen were asked to reported the landed weight of the catch for each species and the condition of the landed catch, i.e., gutted weight or whole weight. The form allowed for up to four (4) types of gear - trap, bottom longline, bouy gear and hook & line. This logbook design was used during 1990 and 1991.

The sampling strategy was changed for trips that began in January 1992. The 20% sample selection was dropped and 100% of the vessel with a Gulf of Mexico reef fish permit were selected to report. The 100% sample selection criterion has remained in effect since then. On May 8, 1992, a permit moratorium was initiated for the reef fish fishery in the Gulf. From that date no new permits were issued for the Gulf reef fish fishery. Vessels could only enter the fishery by purchasing a permit from a vessel that already had a Federal permit for this fishery.

Also in 1992 the design of the logbook form was modified and expanded to a legal size form. The top portion of the form continued to collect the information on the fishing trip (i.e., vessel id. number, location and dealer where trip were landed, date trip was landed, type/quantity of gear). One change to this portion of the form is a space was added to the form for fishermen to report the days away from port. Another change that was made to this part of the form was to eliminate the fishing area spaces. The types of gear were changed slightly, i.e., trolling gear replaced by buoy gear on the form. Buoy gear was a hybrid gear that was similar to longline gear, but one end was attached to a float buoy and the other end was attached to an anchor so the line hung vertically in the water column.

The bottom portion of the form also had several changes. To collect fishing area information, a separate column was added to the bottom or catch portion of the form, so that fishermen could report a fishing area for each species. The limitation of this design is that only a single fishing area can be reported for a single species. Thus, if fish were caught in multiple areas during the same trip, only one of the areas can be reported. In addition, a column was added for the fishermen to report the type of gear for each species. This design also results in the same constraint as reporting the fishing area, i.e., only one type of gear for each species.

Separate columns were added for gutted and whole quantity. This form design also necessitated the elimination of the average fishing depth.

Also beginning in 1992, the coastal fisheries logbook program was expanded to include vessels with Federal permit in the South Atlantic snapper-grouper fishery. As with the Gulf reef fish program, the logbook program for the snapper-grouper vessels was initiated with a 20% sample of the vessels that were issued a permit in this fishery. The Permits and Regulations Branch, SERO selected every fifth permit applicant to report. Logbook forms were mailed by the Permits and Regulations Branch personnel to the vessel owner of record.

Separate logbook forms were printed for the Gulf reef fish and the South Atlantic snapper-grouper fisheries. However, there were only two differences between the two forms, i.e., (1) the snapper-grouper had a different heading - SOUTH ATLANTIC REEF FISH LOGBOOK TRIP REPORT FORM, compared to the heading of the logbook form used for Gulf reef fish and (2) some of the pre-coded species listed on the two forms were different to reflect the predominate catches in the two areas.

In addition to differences in the forms, fishermen were instructed to return their completed forms to two separate groups within the SEFSC. Vessels with a snapper-grouper permit were asked to return their completed logbook forms to the Beaufort Laboratory and vessels with a Gulf of Mexico reef fish permit were asked to return their forms to the Miami. The data from the two logbook forms were processed by the two groups and the data entered into separate databases; however, structure of the databases was essentially the same and the data could easily be combined.

In 1993 the design of the form was changed in several ways.

1. The column for fishing areas was replaced with a column for the fishermen to report the number of discards. Fishing area was reported for all catches, i.e., the form did not allow fishermen to report catches by area. The form allowed fishermen to report up to three separate fishing areas. This design was essentially the same as the initial design used in 1990 and 1991.
2. Two additional gear types were added - spearfishing and other.
3. The field for permit was removed. The Permit and Regulations Branch discontinued the use of a permit number or code. The decision was made to use the vessel id. number for the official permit number. The decision was also made to change the permit renewal date from once a year (January 1) to the end of the month in which the vessel owner's birthday occurred.
4. One important change was made to the reporting instructions. Fishermen were instructed to switch from average time per set for traps and longline gear to total time. This creates some problem with the data because it took several years for

fishermen to discontinue using the old forms with the old instructions. Thus, it is unclear what the data in the time fished field means (i.e., are fishermen reporting average or total time). A description of this change, along with criteria that can be used to identify when average versus total fishing time are provided in separate documentation.

Beginning in January 1993, the 20% selection criteria was eliminated for the snapper-grouper permitted vessels and all vessels were selected to report for every trip. This change made the selection criterion the same for both the Gulf of Mexico reef fish and the South Atlantic snapper-grouper fisheries. Consequently, the most complete data set includes data that begin with trips that have a landed date of January 1, 1993 or later.

Another change that was implemented in 1993 was the initiation of permit requirements for vessels that fish for the sharks under the authority of the fishery management plan for Highly Migratory Species. In accordance with the reporting requirements in the fishery management plan, logbooks were required for vessels that were issued shark permits. The logbook form for these vessels was substantially different from the coastal fisheries logbook form. In addition, fishermen that received the shark logbook form were instructed to return them to the Panama City Laboratory. These forms were processed by the Panama City Lab and entered into a separate database. Although these logbook data are similar to the coastal fisheries data, the structure of the PC Lab database is sufficiently different from the structure of the coastal fisheries database the data from the two databases are not easily merged.

No major changes were made to the logbook forms in 1994. However, the South Atlantic Fishery Management Council (SAFMC) requested that the designation for diving gear be expanded to distinguish between the fishing activity by fishermen using spearguns and those using power heads. A survey was conducted by Beaufort Lab logbook personnel to identify the fishermen that used power heads and those that used spearguns. The design of the logbook form was changed to allow the fishermen to identify which type of diving gear they used during each trip. This change went into effect for calendar year 1996.

In 1995 the form was modified to include a 'target' field to allow fishermen to identify which type of permit the logbook form was intended to be credited (Gulf reef fish, South Atlantic snapper-grouper, or shark). The information in this field was also used to determine which group (Miami and Beaufort) processed which type of form, i.e., the Gulf reef fish and shark forms were processed by Miami and the snapper-grouper forms were processed by Beaufort personnel. No other changes were made to the logbook form.

Another significant change that was made in 1995 was to change the data processing for the shark form from the Panama City Laboratory to Miami. In addition, the shark form was discontinued and the coastal fisheries form was issued to shark fishermen that fish for coastal shark species. Those fishermen that fish for pelagic shark species were sent the pelagic longline form and instructed to report to that program.

For 1996, several changes were made to the design of the logbook forms.

1. The discard column was replaced with a column to report fishing area.
2. A more detailed map was added to the logbook booklet for the Florida Keys to allow fishermen to report fishing in the Keys more accurately.
3. A separate reporting form for no-fishing was initiated. Prior to 1996, a space was provided on the logbook form to indicate that no fishing activity for Gulf reef fish was made during a calendar month. In 1996, the no-fishing space was removed from the form and it was replaced with a separate “no-fishing” form.
4. The form was modified to report separate methods to report spearfishing and power heads under the diving gear category in response to the request from the South Atlantic Fishery Management Council. In addition, separate letter codes were provided for fishermen to report other, cast net and gillnet fishing under the other gear category.
5. The logbook form also included a space at the top of the form to allow the fishermen to specify which fishery (S. Atlantic snapper-grouper, Gulf reef fish or shark) the logbook was to be credited to. Fishermen were instructed to check only one of the three options.

When the forms are processed by personnel at the respective locations, a unique number is assigned to each logbook form. However, different methods were used to number the logbook forms by the Beaufort Lab and Miami. The Beaufort personnel numbered each form sequentially beginning with 1. The Miami personnel numbered the forms sequentially but it was prefaced with the year. Thus, the first logbook received in 1990 was numbered 9000001. These numbers are called the ‘schedule’ number and are used to associate the computer record in the database with the actual paper copy of the logbook form.

When the data were entered, the date that the form was received was entered into the logbook database. This date was entered in the field labeled, ‘opened’. The date received was always stamped on the form, but it was not entered. The date that the record was entered into the database was automatically entered in the ‘received’ field.

The logbook form did not change between 1996 and 1997. However, a change was made in the way the logbook data were processed. An additional field was added to the database to identify the ‘fishery’ that the logbook form is assigned to. The input to this field was entered automatically by the computer program based on the species composition and area of catch. For example, if a species in the snapper-grouper complex and the fishing area is in the south Atlantic, then the fishery was labeled as “snapper-grouper”.

Because it was confusing for fishermen to determine whether to mail the logbook forms to Beaufort or Miami, the decision was made in 1996 to have all fishermen mail the logbook forms to Miami, i.e., both the South Atlantic snapper-grouper forms and the Gulf reef fish forms were to be mailed to Miami. However, the South Atlantic snapper-grouper forms were sent to the Beaufort Lab for processing; whereas the Gulf reef fish and shark forms were retained at Miami and processed by the Science and Research Division, Miami. Any forms that were received by the ‘wrong’ group were mailed to the ‘correct’ group. Forms for vessels that had both South Atlantic snapper-grouper and Gulf reef fish or shark permits that were received in Miami were photocopied and mailed to Beaufort. Data from these forms were entered into both the snapper-grouper and reef fish databases.

The logbook form was not changed between 1996 and 1997. A field was added to the snapper-grouper logbook database to specify which fishery (South Atlantic snapper-grouper, Gulf reef fish or shark) the form applied to. This field was labeled, ‘fishery’. The information in this field was filled in by a program based on the species that were reported on the form and the area of catch.

The most significant change made in 1997 was the decision to process all logbook forms in Miami. Thus, beginning in September 1997 all forms were retained in Miami and processed by Miami personnel.

A moratorium was promulgated for the issuance of snapper-grouper commercial vessel permits on December 14, 1998, and new permits were not issued for this fishery. The only way a vessel could enter this fishery is to purchase a permit from another vessels. To further decrease fishing effort, the moratorium requires that a fishermen must purchase two snapper-grouper vessel permits in order to acquire a permit for an new entry into the fishery.

*** Need to verify that the logbook form for 1997 is not any different from the 1998 form*****

Although not significant, several changes were made to the coastal fisheries logbooks between 1998 and 1999. Perhaps the most notable change was a clarification to the definition of handline gear. In 1999, the instructions were changes to clarify the distinction between handline gear and trolling gear. The use of handline gear refers to rod and reel type gear that are used from a stationary vessel, although it may be drifting; whereas, trolling gear refers to gear that is pulled behind a moving vessel.

The only substantive change that was made to the logbook form was to add a space for the fishermen to enter the date the trip started. This change was made to bring the forms into compliance with the Atlantic Coastal Cooperative Statistics Program (ACCSP) standard for data collection. The term for the date when the trip was landed was changed from, “ landed date “ to “ unload date “.

In 1997, the SEFSC began outsourcing the logbook data entry to a private vendor that

employed optical scanning techniques. Previously, the SEFSC outsourced the logbook data entry to a private vendor that used key entry, but the turn-around time for that vendor was too long to meet the SEFSC and SERO's requirements for reporting compliance.

There were no substantive changes to the logbook form between 1999 and 2000; however, like the previous year, some modifications to the design of the form were made to help accommodate the scanning process.

The only change that was made to the logbook form from 2000 to 2001 was to add a space for the fishermen to record the trip ticket number. Several of the states in the southeast, (North Carolina, Georgia, Florida, Alabama and Louisiana) have trip ticket programs that require dealers to report all purchases (landings) of seafood products for each trip. Because the trip ticket data correspond closely to logbook data, it is often desirable to compare these two data sets. To help accommodate these comparisons, fishermen are asked to record the pre-printed trip ticket number for the sale of the catch for a trip on the logbook form for the corresponding trip.

Two significant changes were made to the coastal fisheries logbook program during 2001. In July 2001, the SEFSC initiated a new data collection program to help provide better estimates of the numbers of fish/shellfish that are discarded. Second, a new program was initiated in January 2002 to collect data on the expenditures associated with each fishing trip. The SEFSC implemented these two new programs using slightly different procedures.

The discard data are collected using a supplemental form that is sent to a 20% stratified, random sample of the active permit holders. The selected permit holders are required to complete the discard form for a 12 month period. The sample selections are made in July of each year and the selected fishermen (vessels) are required to complete and submit the discard form for the trips they make during August through July of the following year. Fishermen are not selected for the next four years after they have submitted the discard form for a year. However, if fishermen are selected to report and do not comply, they are selected the following year and if they fail to report their discards the second year, sanctions are levied against their permit renewal. A separate report is available on the results of the discard reporting during the first year of the program, August 2001 through July 2002.

To collect data on the costs incurred for each fishing trip, the SEFSC modified the 2001 logbook form by adding questions at the bottom of the form for the fishermen to report the most frequently occurring trip-related (or variable) costs. Information on the amount and cost of fuel, ice, bait and groceries, along with the wages or shares for the crew and captain are the costs that are requested. In addition, a column was added to the form for the fishermen to report the price per pound for each species that was landed for the trip.

In addition to these major program changes, a couple of changes were made to the standard catch-effort logbook form. A separate gear category was added for bandit rig (electric reels). On previous forms, fishermen were asked to record the gear parameter data (i.e., number of lines, average number of hooks per line, and an estimate of the total fishing time) for this type

of gear in the “Handline” category. Because of the importance of this gear type for certain fisheries, a separate column was added to increase the accuracy of data for this gear type. The other change that was made was to provide space for the fishermen to record the state-issued licence number for the dealer where the fish were sold. On previous forms, only the name of the dealer was included. For many situations, the fishermen know the dealer’s license number and can record it. This additional information increases the likelihood that the correct dealer will be included in the coastal fisheries database.

The only changes that were made to the logbook forms between 2002 and 2003 were modifications to the economic portion of the form. Certain of the questions were changed, as well as the instructions, to make the information that is needed clearer to the fishermen.