Coastal Fisheries Logbook Program Metadata

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I. Description

The Magnuson-Stevens Act requires that NMFS and regional fishery management councils prevent overfishing and achieve the optimum yield from federally managed fish stocks on a continuing basis. These mandates are intended to ensure that fishery resources are managed for the greatest overall benefit to the nation. As the need for conservation of the Nation's marine resources increases the need for more and better quality data on how these resources are utilized also increases.

In 1990, the Coastal Fisheries Logbook Program (CLFP) logbook reporting was initiated for the vessels catching species of the Gulf of Mexico Reef Fish Fishery Management Plan (Gulf of Mexico Fishery Management Council). Similar to the logbook program for reef fish, a CFLP program for vessels catching species of the South Atlantic Snapper-Grouper Fishery Management Plan (South Atlantic Fishery Management Council) was initiated in 1992. In 1993, a comprehensive CFLP logbook was initiated for the federally managed shark fisheries (Highly Migratory Species, National Marine Fisheries Service). In 1999, CFLP logbook reporting was initiated for vessels catching king mackerel, Spanish mackerel, Dolphin, and Wahoo (Gulf of Mexico and South Atlantic Fishery Management Councils). In 2002, the CFLP form was modified to collect economic data. In 2001 a supplemental discard and interaction form was added to the CFLP to collect gear interaction with protected species as well as discards of target species.

II. Methodology

The CFLP records the commercial fishing and non-fishing activity of fishermen who are selected by the Southeast Fisheries Science Center's (SEFSC) science and research director for required reporting of their fishing activity via logbooks submitted for each trip or each month they did not make commercial fishing trips.
The following permit types are considered for selection:

- South Atlantic Snapper and Grouper
- Gulf of Mexico Reef Fish
- King Mackerel
- Spanish Mackerel
- Atlantic Dolphin and Wahoo

Selected permit holders are sent a carbonless carbon paper logbook of approximately 100 pages containing 3 sections (instructions, Fishing trip reporting forms, and no monthly activity reporting forms) along with postage paid return envelopes. Permit holders are instructed to report trip level fishing activity within 7 days after finishing a trip or after a month without activity and mail the federal copy of the form to the SEFSC. Permit holders are instructed to maintain the carbon copy of the form for their personal records.

The CFLP has evolved over time to provide data from the commercial fishing fleet to meet the increased need for better temporal, spatial, and essential fisheries data, see a) – f).

a) Information such as name and address of a vessel operator and owner is used to identify the respondent and the legal entity controlling the fishing practices of the vessel. The legal entity requirement is essential in monitoring the compliance of the reporting requirement, where revocations of the operators permit or fines are involved. Because many vessels are owned by corporations, identification of an owner and operator on the logbook form allows NMFS to sanction the company as well as the individual vessel operator as necessary or required by the regulations. Information on the permit is essential to monitoring reporting compliance.

b) Data on date of departure, date returned, days fished, duration of tows or sets, units of gear and mesh size used are all designed to quantify actual fishing effort. Fishing effort is needed to standardize differences in productivity among vessels or fishing grounds by establishing a rate of catch per unit time. These data allow comparisons over time, area and gear type of catches made by a variety of harvesters. Comparisons of catch and catch per unit effort (CPUE) over time are significant indicators of the biological status of the fisheries. Declining CPUE, especially if data on fishing effort are sufficiently detailed to adjust for changes in effort, can provide critical information on the status of the stock, i.e., that the level of harvest is beyond the level that is sustainable by growth and reproduction of the stock.

c) Area fished and depth of fishing are variables that are used to establish fishing locations. This information can be related to other oceanographic and biological information to predict species availability and likely future abundance. For example, location of capture can be correlated to sea surface temperature measured by satellite to predict possible migration patterns. In addition, area or zone fished is used to cross reference locations where fishing is not permissible (such as closed spawning areas).

d) Species landing information is the basic measure of fishing success, from which fishermen, biologists and economists infer conclusions about the status of the fishery along with discard and sizes of fish. Landings information is also needed because controlling the quantity of fish harvested is often the means for ensuring that harvests can be replenished over time.

e) The name of a buyer, dealer number, and port of landing are data used to cross reference the quantity of fish caught with the quantity that is handled (processed) by the market. The important cross reference is between the total amount of catch, and the respective sizes of individual fish. It would be impossible for fishermen to measure individual fish as they are being caught and stored on board the vessels. However, many species of fish, especially the large pelagic species, are individually weighted by the dealers and these weights are recorded as part of the sales transactions. By knowing the dealer that purchased the fish, cross references can be made between data submitted by the dealers and the data from the logbooks. Combining the data in this manner provides greater precision on the CPUE estimates and more information on the sizes of catches by location and time.

f) A separate form or response is required when a vessel does not fish during an entire calendar month or another defined period. These no-fishing report forms are necessary to assure NMFS that the vessel did not fish instead of failing to report. The information on the no-fishing form is minimal, i.e., only the vessel ID, vessel name, the month or other period in which the vessel did

not fish, and the federal permits that vessel has been issued (a check box is provided for ease of identifying the permits).

III. Temporal coverage

A working paper published by Poffenberger (2003) documents changes to the coastal logbook forms over time. This chronology begins in 1990 with the first coastal logbook form to 2003. Changes after 2003 are less documented.

IV. Spatial coverage

The CFLP spans the Gulf of Mexico and Atlantic. The Gulf of Mexico and South Atlantic region assignment is defined by the fishery management council boundary in the Florida Keys (**Figure 1**). Since the first implementation of the CFLP, the fishing areas reported on the logbook form adopted the shrimp statistical areas in the Gulf of Mexico (**Figure 2**). In 2013, the fishing areas in the Gulf of Mexico changed to match the fishing areas in the South Atlantic (**Figure 3**). The current fishing areas are one-degree grids with the latitude and longitude degrees concatenated for each grid cell.

Figure 1: Gulf of Mexico Fishery Management Council and South Atlantic Fishery Management Council boundary (FWC).

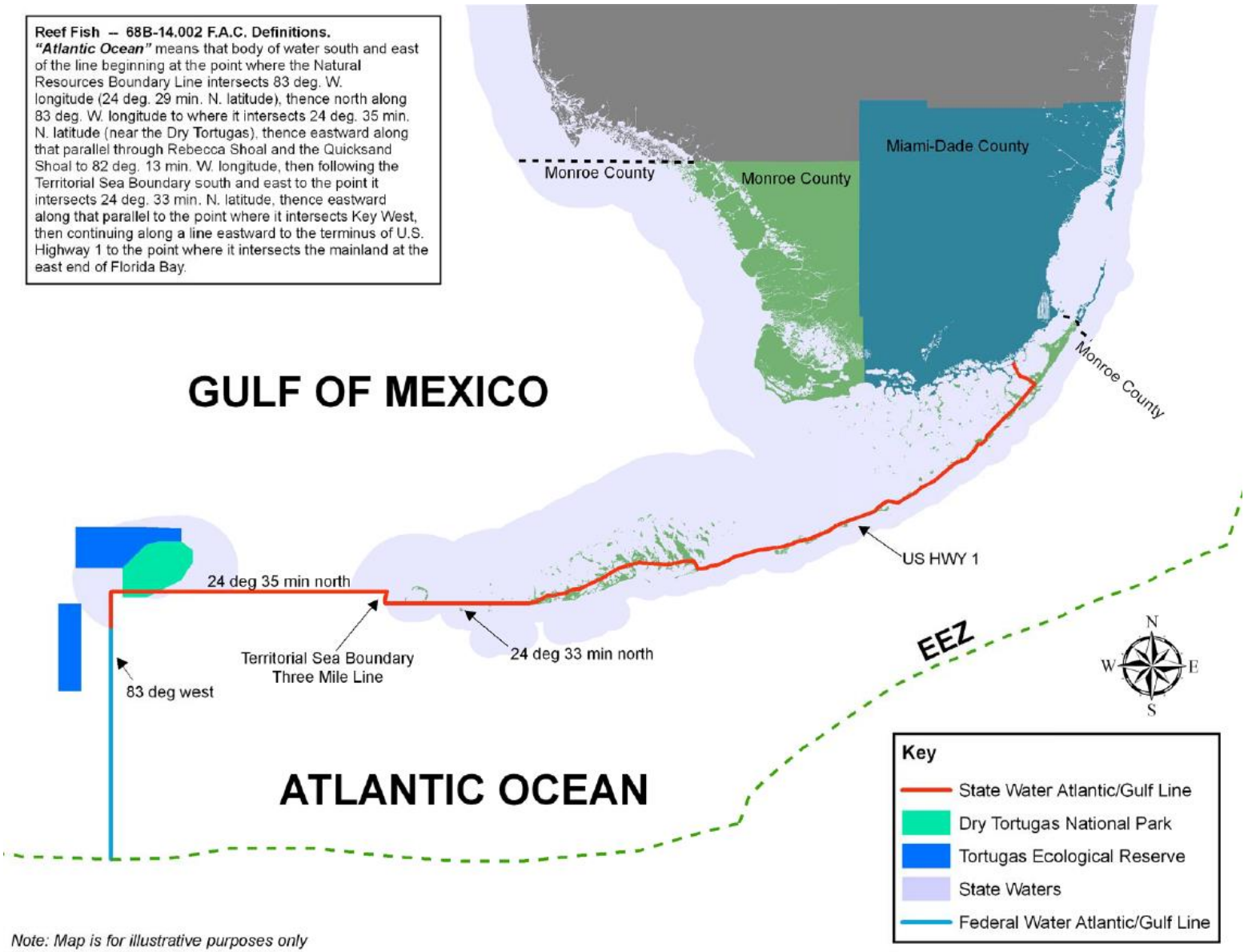


Figure 2. Coastal Fisheries Logbook Program fishing areas from 1990 – 2012.

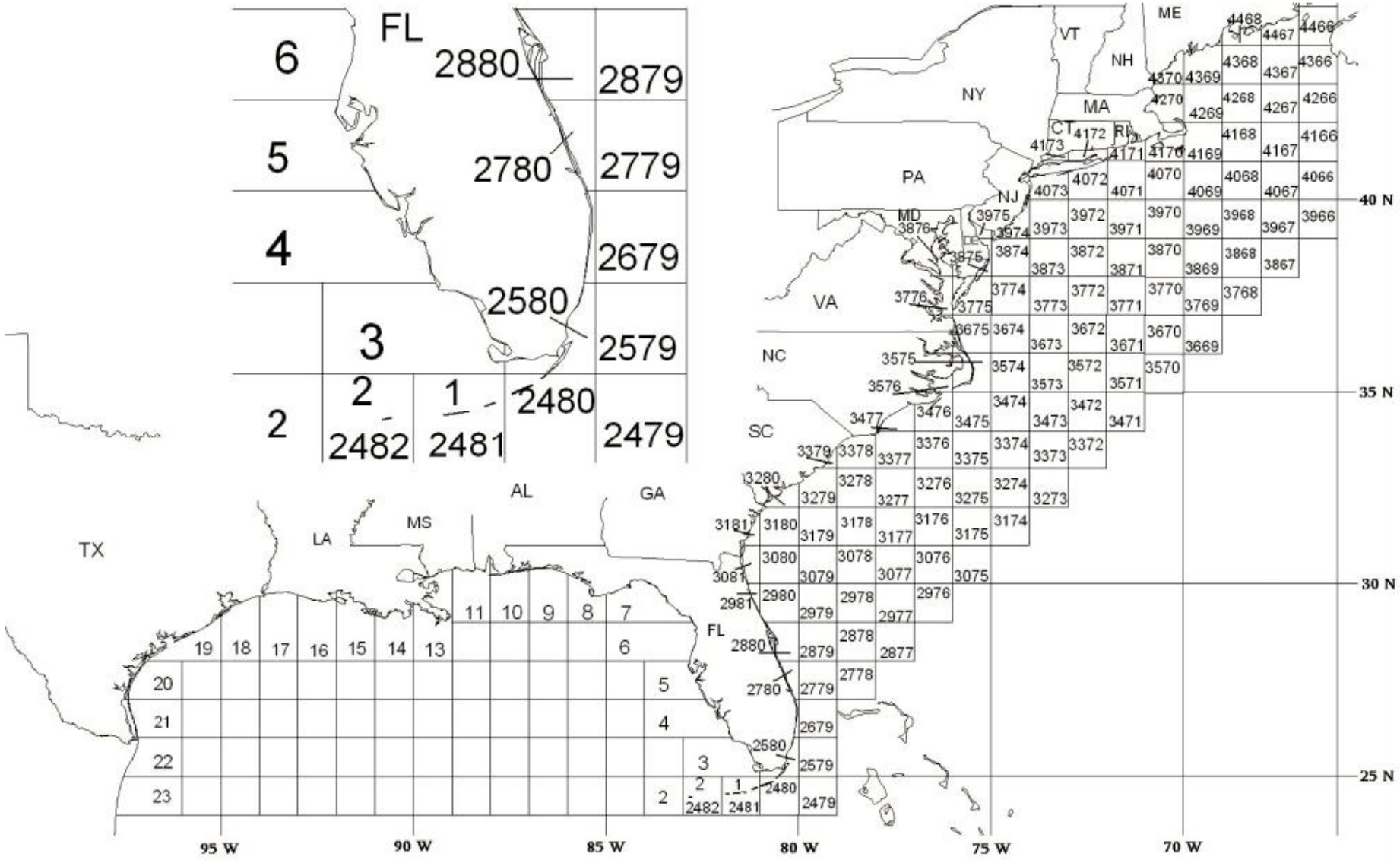
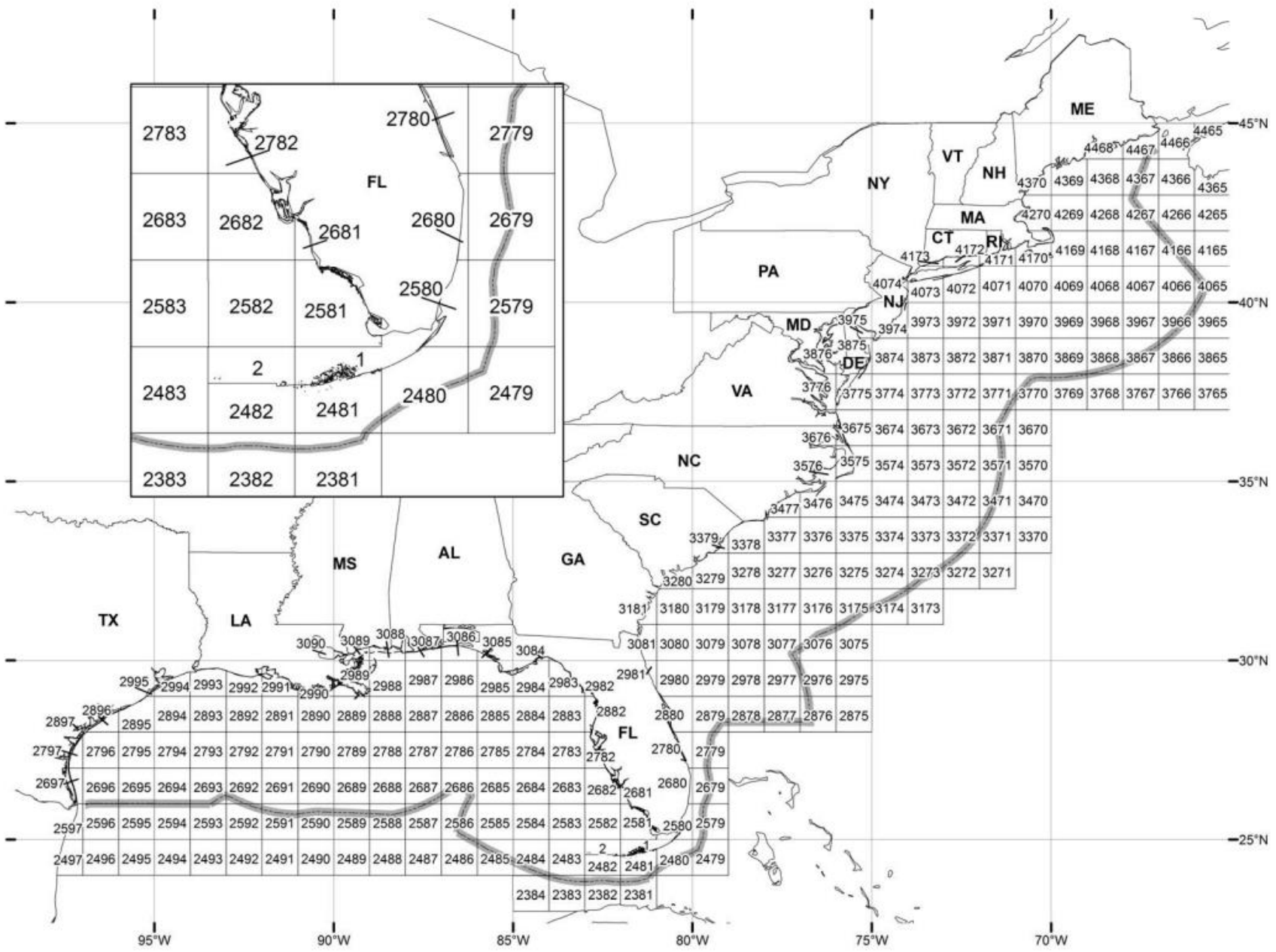


Figure 3. Coastal Fisheries Logbook Program fishing areas from 2013 to present.



V. Data Source Contact

National Oceanic and Atmospheric Administration (NOAA)
National Marine Fisheries Service (NMFS)
Southeast Fisheries Science Center (SEFSC)
Fisheries Statistics Division (FSD)
Commercial Fisheries Monitoring Branch
Contact Person: Ray Mroch
Email Address: ray.mroch@noaa.gov

VI. Field Descriptions

Field descriptions are organized based on general trip, gear, and catch level data. The Appendix contains tables of the field names and descriptions available from the Oracle database for coastal logbook data. These tables are organized into trip, gear, and catch information.

VII. References

Boundary Maps and Management Zones. Florida Fish And Wildlife Conservation Commission. (n.d.). https://myfwc.com/fishing/saltwater/recreational/maps/.

Poffenberger, J. 2003. Description of the Southeast Fisheries Science Center's Logbook Program for Coastal Fisheries. SEDAR4-WP-29. SEDAR, North Charleston, SC. 9 pp.

VIII. Appendix

Trip Information

Field Name	Field Description
LOGBOOK_KEY	Sequence number automatically generated by the system to uniquely identify each row in the table. Since these keys are not data dependent, if any element of data is changed, the links to the other tables in the system are not broken.
SCHEDULE_NUMBER	A number stamped on each logbook form.
BATCH_NUMBER	When logbooks are picked up at the post office, they are processed together in batches. Each piece of paper is stamped with a unique schedule number. These pieces of paper may be in different formats because although new logbooks are issued every year to each permit holder, we may get information written on logbooks printed as early as 1994. When this batch of records are sent to the contractor that enters them, since there records are entered using an electronic scanner, the logbooks must be culled by year so that the scanner can correctly interpret the image it is reading. Hence, for each year, we have a separate file. All of the files that form part of a batch are loaded together so that the schedule numbers can be checked. If any are missing or out of bounds, an error is reported.
ID_NUMBER	A reference number used by the data entry contractors that enables them to uniquely identify each record.
VESSEL_ID	The ID of the vessel for which the logbook has been completed.
DEPARTURE_DATE	Date when the vessel left port to begin the fishing activity. This field is now called START DATE on the form.
LANDING_DATE	Date when the catch was unloaded at a dealer. This field is now called UNLOAD DATE on the form. If the

	catch was unloaded at more than one dealer, this date represents the date when the catch was unloaded at the first dealer.
UNLOAD_DATE	Date when the vessel unloaded the catch at the landing site.
OPENED_DATE	Date stamped on the logbook report. The RMD stamps this date on the form when they are retrieved from the post office and opened.
DAYS_AWAY_FROM_PORT	Number of days spent away from port. Includes traveling time to and from the fishing area. Any fraction of a day counts as a whole day. If a vessel left in the morning and returned any time before midnight, fishers are instructed to report 1 day away from port.
LOAD_DATE	Date on which the file was loaded into the Fisheries Logbook System.
ACTIVITY_TYPE	Distinguishes between fishing and no fishing reports. This column is set automatically by the loading program, depending on the menu selection made by the user.
POST_MARK_DATE	Date that is stamped by the post office on the logbook. It is unlikely that this column will be used. If it is used, it must be entered by the data managers.
RETURNED_TO_PERMIT_HOLDER	Reason why the data managers returned a logbook to a permit holder. This column must be entered by the person sending the logbook back.
RETURNED_TO_PERMIT_HOLDER_DATE	Date on which a logbook is returned to the permit holder for corrections. Sometimes the fishers omit important information from the form that cannot be corrected by the data managers. There are also errors that can only be corrected by the permit holder. In this case, the logbook is mailed back to the permit holder with a letter indicating what is wrong with the logbook and an envelope to return the corrected form.
RETURNED_BY_PERMIT_HOLDER_DATE	Date on which the permit holder returned a logbook that needed corrections. This date must be entered by the data manager

	that received the logbook and adds it to a batch for processing.
SENT_TO_DATA_ENTRY_DATE	Date on which the logbook forms were sent to the data entry contractor for scanning.
RETURNED_FROM_DATA_ENTRY_DATE	Date when the files of data scanned by the contractor were received at the SEFSC.
MOVED_TO_MASTER_DATE	Date on which the data has been completely validated and edited and moved into the master tables. When data are first scanned by the data entry contractor, they are loaded into Scanned Data tables that have a format less restrictive than the master tables. After editing, the data are distributed to the Master tables. This date is inserted automatically by the loading programs.
LOGBOOK_IMAGE_FILE	When data are scanned, two products are obtained: data files, where the image is converted to characters and numbers that can be loaded into tables and queries, and the actual image or picture of the logbook as written out by the permit holder. This image can be accessed on line by the data managers to assist in editing logbooks with invalid data. Sometimes the human eye is a more efficient tool at discerning handwritten data. For example, it is very difficult for the scanner to distinguish between a handwritten letter O and a hand written zero.
SOURCE_FILE	Name of the file that is loaded into the system.
TRIP_TICKET	Trip Ticket Number associated with Landings portion of related record
FORMTYPE	Form used to collect the data. The first number is the month in which the form was created, except when 13 is used to indicate an unknown month. The second number is the two digit year in which the form was used.
QC_VAL_TRIP_ID	FK to UDP Validation and Trip logging table

VAL_DATE	Initial Validation Date. Date Validation was run on this trip for the first time
BATCH_RUN_ID	Initial Batch run ID. An ID for all the validations run on all the param_id in one pass. Identifies all the params validated in a run.
IS_SEND_BACK	Flag for Send back
MOVED_TO_MASTER_BATCH_ID	Batch ID that identifies when was this logbook moved to master
QC_DATA_CATEGORY_ID	1 = Coastal Logbook; 2 = Economic Cost; 3 = HMS Logbook; 4 = No Fish Report; 5 = Discard Logbook
LOAD_JOB_ID	FK to loading job, keep the link with the load from the scanning facility
IS_SEND_BACK_COASTAL	Flag for Send back - Coastal Section
DELETED_DATE	Date the trip was marked as deleted
IS_ON_HOLD	Flag for Logbook with bad date information, this flag will be managed automatically by the validation on the date fields
IS_SEND_BACK_DUP	Flag for Send back - For potential duplicate. 1. Users believe this logbook is a duplicate. However, we did not hear from the fisher after send a SENDBACK. (This action is planned) we will movie the trips to master with this flag of 1 so we know we thought it was a dup but it was never confirmed by the fisher Rules for moving a 1 to master: Matching days away (must be 1) and matching start and unload values. So, one day with two reports. 2. Users believe this logbook is a duplicate. A send back report was sent to vessel/permit holder. 3. The system believes this is a potential duplicate and it should not be moved-to-master until reviewed (or system changes it to a 1)
IS_SEND_BACK_FT	Flag for Send back Full Trip (FT) - The documents sent to permit holder for a send back (0 - Set Form, 1 - Full Trip)
VESSEL_ID	Vessel Identifier
VESSEL_NAME	Name of the vessel that matches the vessel id.

TELEPHONE	Phone number that appears on the logbook.
DAYS_FISHED	Number of days during which fishing occurred.
DAYS_AWAY	Number of days from, departure to landing, the vessel was away from port.
LANDING_DATE	Date when the catch was unloaded at a dealer
NUMBER_OF_CREW	Number of personnel engaged in fishing during the trip.
ERRORS_IN_THIS_TABLE	Validation errors in this record?
ERRORS_IN_THIS_LOGBOOK	Indicates whether there were any rows with errors in any of the main data tables that hold data for a specific logbook
OPERATOR_NAME	Operator Name
OPERATOR_NUMBER	Operator Number
MULTIPLE_DEALERS	Multiple dealers
VTR_NUMBER	Added to coastal logbooks in 2012; pre-printed number on logbook
AREA_FISHED_1	The legacy pc field, area1 is computed as the area_fished in Master Table, FLS_CATCHES, with the highest sum of total_whole_pounds. Thus area1 is a grid number that represents a body of water where fishing occurred.
AREA_FISHED_2	The legacy pc field, area2 is computed as the area_fished in Master Table, FLS_CATCHES, with the second highest sum of total_whole_pounds. Thus area2 is a grid number that represents a body of water where fishing occurred.
AREA_FISHED_3	The legacy pc field, area3 is computed as the area_fished in Master Table, FLS_CATCHES, with the third highest sum of total_whole_pounds. Thus area3 is a grid number that represents a body of water where fishing occurred.
PORT_CODE_FIPS	FIPS port code. Leading zeroes were added to make it compatible with the standard FIPS place codes upon which it is based.
COUNTRY_CODE_FIPS	Country where the dealership is located.

COUNTY_CODE_NMFS	The official three digit NMFS county code. The code is left padded with zeroes.
STATE_CODE_NMFS	State where the Area Fished Code is valid. The State Codes are assigned and maintained by the National Marine Fisheries Service.

Gear Information

Field Name	**Field Description**
FISHING_ACTIVITY_KEY	A link to the FLS_FISHING_ACTIVITIES table. This key establishes the relationship between the gear that was used during the fishing trip and the fishing activity during which this gear was used. This key is used internally by the forms or screens and reports used to manipulate the data. It should not be necessary for the user to be familiar with this link.
GEAR_FISHED_KEY	A link to the Gear Fished table. This key establishes the relationship between the gear that was used during the fishing trip and the catch that was made using this gear. This key is used internally by the forms or screens and reports used to manipulate the data. It should not be necessary for the user to be familiar with this link.
GEAR_CODE_NMFS	A code that represents the gear fished. Gear is reported at the catch level indicating the gear used for the majority of the catch.
GEAR_QUANTITY	How many units of the specified gear were fished? Each of the gears is described in the table FLS_INT_GEAR_DESCRIPTIONS.
GEAR_QUALIFIER	What the units are of the specified gear
GEAR_NAME	Gear Name
GEAR_CLASS	The code for the classification of the gear. This enables the program to check whether certain gear parameters are appropriate for that type of gear. The gear class is provided by the distribution programs when a particular gear is selected.
FLS_GEAR_CODE_NMFS_ID	PK Sequence
GEAR_DESCRIPTION_KEY	Sequence number automatically generated by the system to uniquely identify each row in the table. Since these keys are not data dependent,

	if any element of data is changed, the link to the other tables in the system are not broken.
GEAR_PARAMETER_CODE	Measurable characteristic of a gear such as line length, number of hooks, etc.
PARAMETER_VALUE	Value of the parameter that is being measured.
PARAMETER_VALUE_MSU	Identifies the measurement unit in which the parameter value was reported.
GEARDESC_COMMENT	A description of the gear that could not be coded, or additional effort information.
PARAMETER_DESCRIPTION	Description of the gear parameter.
MEASUREMENT_CLASS	Code that represents a category or class of measurement units. For example the category Small Length Measurement Unit (i.e. SMLU) includes units such as millimeter, inch, etc., but excludes miles and kilometers. This enables us to control the allowable values depending on the item that is being described. If I am measuring an animal, I want to be able to display a reasonable set of measurement units: it would not reasonable to measure an animal in nautical miles or fathoms, although these are valid measurement units. On the other hand, millimeters is not a reasonable measurement unit for DEPTH.
ENABLED	Flag that indicates whether a parameter is being used.
MINIMUM_VALUE	Minimum acceptable value for a gear parameter.
MAXIMUM_VALUE	Maximum acceptable value for a gear parameter.
MEASUREMENT_UNIT_CODE	Code that represents the measurement unit, e.g., FT-feet, FM-fathoms, etc.
IS_GEAR_QUANTITY	Should this parameter code update FLS_GEARS_FISHED.GEAR_QUANTITY? Added in 2019 to ensure that gears that historically populated FLS_GEARS_FISHED.GEAR_QUANTITY are still updated if there was a change to a parameter code that represents quantity information.
COMMENTS	Any related comments/notes regarding this gear parameter code

Catch Information

Field Name	Field Description
CATCH_KEY	Sequence number automatically generated by the system to uniquely identify each row in the table. Since these keys are not data dependent, if any element of data is changed, the link to the other tables in the system are not broken.
SPECIES_CODE_NMFS	Four digit NMFS code that identifies each species.
TOTAL_WHOLE_POUNDS	Total Whole (Round) Weight in Pounds to the nearest tenth of a pound. The value for this field is derived from the table FLS_CATCH_DESCRIPTIONS and it is the sum of all of the pounds for the corresponding rows in that table reported as whole pounds plus the gutted pounds converted to whole weight. The conversion factors are stored in the table FLS_SPECIES_RANGES. This process is necessary because the fishers may report the catch for the same species in both Gutted and Whole pounds.
AREA_FISHED	Grid number that represents a body of water where fishing occurred.
GEAR_FISHED_KEY	A link to the Gear Fished table. This key establishes the relationship between the gear that was used during the fishing trip and the catch that was made using this gear. This key is used internally by the forms or screens and reports used to manipulate the data. It should not be necessary for the user to be familiar with this link.
DEPTH	Depth Fish was Caught (ft)
CATCH_DESCRIPTION_KEY	Sequence number automatically generated by the system to uniquely identify each row in the table. Since these keys are not data dependent, if any element of data is changed, the link to the other tables in the system are not broken.
WEIGHT	Weight of the individuals caught. Catches are reported in pounds for the trip based logbook reports.
WEIGHT_TYPE	Identifies whether the weight reported is for the whole individual, the individual after it is gutted, finned, cored, etc.