South Atlantic Reef Fish Observer Program Metadata

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I.   Description

The South Atlantic Reef Fish Observer Program (SARF) is responsible for collecting data on catch, bycatch, and discards of the reef fish fishery in the South Atlantic.

Voluntary observer coverage of the reef fish fishery began in 2007 under the Gulf and South Atlantic Fisheries Foundation (GSAFF). Mandatory observer coverage began in 2014 under a Marine Fisheries Initiative (MARFIN) grant by the National Marine Fisheries Service's (NMFS) Southeast Fisheries Science Center (SEFSC) Fisheries Statistics Division (FSD, previously under the Panama City Laboratory). This grant provided funding for 62 sea days of observer coverage, which was accomplished from February 2014 through January 2015. (Enzenauer et al, 2015)

In 2018, the observer program received funding from the Atlantic Coastal Cooperative Statistics Program (ACCSP) for mandatory observer coverage in the vertical line portion of the south Atlantic reef fish fishery in order to compare reported versus observed discard rates. Coverage of this fishery continues to present.

II.   Methodology

Reef fish vessels were selected for coverage by randomly choosing vessels from a pool of vessels each quarter based on the following criteria: (1) the vessel/owner possessed an active unlimited or limited snapper grouper permit, (2) the permit holder (i.e. vessel/owner) must have reported landings of reef fish with vertical line gear in the same quarter of the previous year, and (3) the permit holder must not have been selected for observer coverage for the prior three consecutive quarters.

Vessels were selected from three fishing regions: the Carolinas, Georgia/Florida, and southern Florida. The Carolinas was defined as North and South Carolina, Georgia/Florida as Georgia south to Cape Canaveral, FL, and southern Florida as Cape Canaveral, FL south to the Florida Keys. Beginning 2022, separating the vessel selection pools by the three regions was eliminated and one pool for the south Atlantic was used (i.e. collapsed stratified sampling allocation).

Additionally, effort data from the Coastal Logbook System for the years 2020-2021 was analyzed for 2022 selection. The vessels that had the top 80 % of species landings from the snapper-grouper complex were included in the selection pool. In January of 2022, bottom longline vessels with golden tilefish endorsements were included in the selection pool.

The FSD received funding to expand the coverage in the south Atlantic reef fish fishery from 180 sea days annually to 500 sea days. This expansion began in July of 2022 to continue for one year. It also expanded gear types covered from vertical line and bottom longline, to all gears used in the fishery. These new gear types included spear fishing, buoy, and trap. In July of 2023, all vessels with commercial snapper-grouper landings reported in Coastal Logbooks from July 1st to September 30th, 2022 were placed in a pool to be randomly selected for observer coverage. Once in the pool, vessels were placed into 3 groups based on their total snapper-grouper species complex landings. The top 25%, the middle 50%, and the bottom 25%. After vessels were placed

into these groups they were randomly selected. The number of vessels selected from each group was dependent on current coverage requirements and funding.

Selection letters requiring observer coverage were issued to the permit holder via U.S. Certified mail approximately one month prior to the upcoming fishing season. Upon receipt of the selection letter, the permit holder is required to make contact with the observer coordinator and indicate intent to fish during the upcoming fishing season. If the permit holder intended to fish, the observer coordinator deployed an observer to the port of departure. Vessels were required to pass a Coast Guard Vessel Safety Examination, as well as a safety evaluation by the observer prior to coverage.

While onboard the vessel, the observer completes three data forms: Longline Gear Characteristic Log, Longline Haul Log, and Individual Animal Log. The Longline Gear Characteristic Log is used to record, for example, the type and length of the mainline used, number and length of gangions, and make and model of hooks used. The Longline Haul Log is used to record the length, location, and time duration for each set and haul back, as well as environmental information and the type(s) of bait used. The Individual Animal Log records all species caught, condition of the catch (e.g. alive, dead, damaged, or unknown) when brought to the vessel, and the final disposition of the catch (e.g. kept, released, finned, etc.). When an animal is brought onboard the vessel, the observer records the species identification, sex (sharks only) and length information. In the event a protected resource (i.e. sea turtle or marine mammal) is encountered, the observer is also required to fill out additional sea turtle or marine mammal forms. If any species identification is questionable, the observer is instructed to take several digital pictures of the specimen in question for further review by SEFSC staff. Data from each trip are submitted to SEFSC staff on a per trip basis. The data are entered and reviewed by SEFSC staff and reviewed with observer contract staff to resolve any questions.

III. Temporal coverage

Observer data for the SARF (collected by the SEFSC Observer Program) is available from February 2014 through January 2015 and January 2018 to present. Vessels were selected on a quarterly basis. Between 2002 and 2005, the objective of vessel selection was to achieve a 5% level of coverage of the total fishing effort in each fishing area and season. Target coverage in this fishery has been maintained at approximately 1%.

IV. Spatial coverage

The SARF is exclusively in the South Atlantic. Observers record the beginning and ending latitude and longitude coordinates for each set and haul on a trip. Observer coverage occurs off of each state from North Carolina to the Florida Keys.

V.   Data Source Contact

National Oceanic and Atmospheric Administration (NOAA)
National Marine Fisheries Service (NMFS)
Southeast Fisheries Science Center (SEFSC)
Fisheries Statistics Division (FSD)
Observer Program Branch
Contact Person: Gary Decossas
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VI.   Field Descriptions

Field descriptions were organized based on observer forms: Trip Log, Gear Log, Haul Log, and Animal Log. These tables containing field names as they appear in the database can found in the Appendix. Additional columns, such as first year used and last year used, provide more detail on temporal changes to the database when fields were added or no longer on the forms as well.

VII.   References

Enzenauer M.P., S.J.B. Gulak, B.M. Deacy, and J.K. Carlson. 2015. Characterization of the southeastern U.S. Atlantic mid-shelf and deepwater reef fish fisheries. NOAA Technical Memorandum NMFS-SEFSC-679, 18 p.

VIII.   Appendix

Trip Information

Field Name	Description	First Year Used	Last Year Used
TRIP_LOG_ID	Identifier assigned to the trip	2014	Present
TRIP_TYPE_CODE	BLL = bottom longline, BVL = bottom & vertical line, VL = vertical line	2014	Present
VESSEL_ID	The vessel ID or a FK to VESSEL table, in the case that this vessel does not have a permit and not on file at SERO.	2014	Present
VESSEL_NAME	Vessel name as it was when this trip took place	2014	Present
CAPTAIN_NAME	Captain name of the vessel	2014	Present
VESSEL_OWNER_NAME	Vessel owner name	2014	Present
DEPARTURE_DATE	Date the vessel left for the trip	2014	Present
DEPARTURE_CITY	City in which the trip started	2014	Present
DEPARTURE_STATE	State in which the trip started	2014	Present
LANDING_DATE	Date the vessel returned from the trip	2014	Present
LANDING_CITY	City in which the trip ended	2014	Present
LANDING_STATE	State in which the trip ended	2014	Present
SEA_DAYS	Days at sea for this trip	2014	Present
SEASON_FISHED	Year and quarter indication for each fishing season (ex. 81 = 2008, 1st quarter)	2014	Present
TARGET_CATEGORY_ID	FK to TARGET_CATEGORY	2014	Present
CREW_SIZE	Number of crew on the vessel during this trip	2014	Present
INCIDENTAL_TAKE	The sets/hauls in which there were incidental takes	2014	Present
NUMBER_OF_HAULS	Total number of hauls made this trip	2014	Present
LAB_CODE	PAN = Panama City Laboratory; MIA = Miami Laboratory	2014	Present
STATUS_CODE	Trip status code: Valid, Pending, Invalid	2014	Present
STANDBY_DAYS	Total number of days the observer was forced to wait to complete a trip due to bad weather, etc.	2016	Present
COMMENTS	Trip-level related comments	2014	Present
TRIP_DESIGNATION	Mix-reef fish bottom longline and shark bottom longline; mix-reef fish vertical line and shark bottom longline; reef fish bottom longline; shark bottom longline trip	Retroactively categorized 2020	Present

Gear Information

Field Name	Description	First Year Used	Last Year Used
GEAR_LOG_ID	Primary Key (PK)	2014	Present
STRING_NUMBER	Consecutive number assigned to each gear configuration	2014	Present
NUMBER_OF_HAULS_THIS_STRING	The number of hauls that used this gear configuration	2014	Present
MAINLINE_DIAMETER	Diameter of the mainline used on this gear configuration, in millimeters	2014	Present
MAINLINE_STRENGTH	Mainline test breaking strength for the mainline used in this gear configuration, in pounds	2014	Present
MAINLINE_STRANDS	Number of strands used in the mainline that was used in this gear configuration	2014	Present
MAINLINE_LENGTH	AVG length of the mainline used in this gear configuration, in Nautical Miles	2014	Present
GEAR_COMP_ITEM_MLINE_COLOR_ID	FK to GEAR_COMPONENT_ITEM for mainline color information	2014	Present
NUMBER_OF_HOOKS_AT_START	The total number of hooks onboard at the start of the trip	2014	Present
GEAR_COMP_ITEM_MLINE_MAT_ID	FK to GEAR_COMPONENT_ITEM for mainline material information	2014	Present
GEAR_CODE	Gear code of the gear used in this configuration; FK to UDP.FLS_GEAR_CODES_NMFS	2014	Present
HYBRID_TRIP_TYPE	Used for trips in which both vertical line and bottom longline gear was used (BVL). BLL = bottom longline data for that trip, VL = vertical line data for that trip	2014	Present
COMMENTS	Gear configuration related comments	2014	Present
REELS_USED_ID	Primary Key (PK)	2014	Present
GEAR_HOOK_LINE_LOG_ID	FK to GEAR_HOOK_LINE_LOG	2014	Present
GEAR_COMP_ITEM_REEL_COLOR_ID	FK to GEAR_COMPONENT_ITEM for reel leader color	2014	Present
REEL_MOUNT_LOCATION_ID	FK to REEL_MOUNT_LOCATION for reel mount location	2014	Present
IS_REEL_WEIGHTED	Was a weight used on this reel?	2014	Present
IS_SPREADER_USED	Was a spreader bar used for this reel?	2014	Present
NUMBER_OF_SWIVELS	Number of swivels used on this reel	2014	Present
NUMBER_OF_HOOKS	Number of hooks used for this reel	2014	Present
REEL_STRENGTH	Pound test or dry breaking strength of the leader used for this reel	2014	Present
REEL_DIAMETER	Leader diameter used on this reel, in millimeters	2014	Present

NUMBER_OF_LEADERS	Number of leaders used with this reel	2014	Present
GEAR_COMP_ITEM_REEL_MAT_ID	FK to GEAR_COMPONENT_ITEM for reel leader material information	2014	Present
REELS_USED_LENGTH_ID	Primary Key (PK)	2014	Present
LENGTH	Length of the leader used for this reel, in feet	2014	Present

Haul Information

Field Name	Description	First Year Used	Last Year Used
HAUL_LOG_ID	Primary Key (PK)	2014	Present
HAUL_NUMBER	Sequential number that tracks the number of hauls made with a particular gear configuration; always starts at 1 for gear GEAR_LOG_ID	2014	Present
IS_HAUL_OBSERVED	Was this haul observed?	2014	Present
IS_CATCH	Was there catch for this haul?	2014	Present
IS_INCIDENTAL_TAKE	Was an incidental take witnessed during this haul?	2014	Present
IS_EXPERIMENT	Was this an experimental haul?	2014	Present
WEATHER_DESCRIPTION_ID	FK to WEATHER_DESCRIPTION; the state of the weather at the star of the haul.	2014	Present
WIND_SPEED	Wind speed at the start of the haul, in knots	2014	Present
WIND_DIRECTION	Wind direction at the start of the haul, compass degrees	2014	Present
WAVE_HEIGHT	Maximum wave height at the start of the haul, in ft	2014	Present
HAUL_BEHAVIOR_ITEM_ID	FK to HAUL_BEHAVIOR_ITEM	2014	Present
TARGET_CATEGORY_ID	FK to TARGET_CATEGORY	2014	Present
BEGIN_SET_DATE	Date in which the setting of the gear started	2014	Present
END_SET_DATE	Date in which the setting of the gear ended	2014	Present
BEGIN_SET_LATITUDE	Begin Set Latitude Degrees	2014	Present
BEGIN_SET_LATITUDE_MINUTES	Begin Set Latitude Minutes	2014	Present
BEGIN_SET_LATITUDE_HEM	Begin Set Latitude Hemisphere	2014	Present
BEGIN_SET_LONGITUDE	Begin Set Longitude Degrees	2014	Present
BEGIN_SET_LONGITUDE_MINUTES	Begin Set Longitude Minutes	2014	Present
BEGIN_SET_LONGITUDE_HEM	Begin Set Longitude Hemisphere	2014	Present
END_SET_LATITUDE	End Set Latitude Degrees	2014	Present

END_SET_LATITUDE_MINUTES	End Set Latitude Minutes	2014	Present
END_SET_LATITUDE_HEM	End Set Latitude Hemisphere	2014	Present
END_SET_LONGITUDE	End Set Longitude Degrees	2014	Present
END_SET_LONGITUDE_MINUTES	End Set Longitude Degrees	2014	Present
END_SET_LONGITUDE_HEM	End Set Longitude Hemisphere	2014	Present
SET_DURATION	Time it took to set the gear, in hours; historic column; calculated field - only historical values are loaded; new values are calculated	2014	Present
BEGIN_SET_TIME	Time the set started, in 24hr	2014	Present
END_SET_TIME	Time the set ended, in 24hr	2014	Present
COMMENTS	Haul related comments	2014	Present
TOTAL_TIME_FISHING	Total amount of time spent fishing in hours. Currently determined by observers for vertical line trips	2014	Present
REELS_CONFIGURATION_ID	Primary Key (PK)	2014	Present
PERCENTAGE	Proportion of reel identified by this HAUL_LOG_ID used during the haul	2014	Present
HAUL_HOOKS_DETAIL_ID	Primary Key (PK)	2014	Present
TOTAL_HOOK_HOURS	Total hook hours fished for this haul	2014	Present
AVG_NUMBER_OF_HOOKS	Average number of hooks used in this haul	2014	Present
HAUL_REELS_DETAIL_ID	Primary Key (PK)	2014	Present
AVG_NUMBER_OF_REELS	Average number of reels for this haul	2014	Present
HAUL_DEPTH_DETAIL_ID	Primary Key (PK)	2014	Present
HOOK_DEPTH	Gear depth reading for this haul, in feet	2014	Present
BOTTOM_DEPTH	Bottom depth reading during this haul, in feet	2014	Present

Catch Information

Field Name	Description	First Year Used	Last Year Used
ANIMAL_LOG_ID	PK	2014	Present
ANIMAL_ITEM_TAG_ACT_ID	FK to ANIMAL_ITEM for tag action information	2014	Present
TAG_NUMBER	Tag number	2014	Present
CARCASS_TAG_NUMBER	Carcass tag number / Specimen Number	2014	Present
TARGET_CATEGORY_ID	FK to TARGET_CATEGORY	2014	Present
ANIMAL_ITEM_SEX_ID	FK to ANIMAL_ITEM for sex information	2014	Present
ANIMAL_ITEM_BOARDING_ID	FK to ANIMAL_ITEM for animal status information	2014	Present
ANIMAL_ITEM_DISPO_ID	FK to ANIMAL_ITEM for animal disposition information	2014	Present
ANIMAL_ITEM_RELEASE_ID	FK to ANIMAL_ITEM for animal status information	2014	Present
PAGE_NUMBER	The page number that this animal's information was recorded on	2014	2010
ANIMAL_ITEM_DAM_SRC_ID	FK to ANIMAL_ITEM for damage source type information. This code is the source of damage (their old PRED_TYPE column)	2014	Present
ANIMAL_ITEM_GEAR_INTERACT_ID	FK to GEAR_INTERACTION_TYPE	2014	Present
IS_ENTANGLED	Was the animal entangled in any gear?	2014	Present
HOOKS_USED_ID	Type of hook the animal was caught on; FK to HOOKS_USED	2014	Present
VENTED	Was the animal properly vented by crew or observer before being released alive?	2014	Present
ANIMAL_ITEM_MATURITY_ID	FK to ANIMAL_ITEM for maturity stage information	2014	Present
IS_PRED	Is this animal a predator?	2014	Present
IS_PREY	Is the animal prey?	2014	Present
ANIMAL_ITEM_DAM_AMT_ID	FK to ANIMAL_ITEM for damage amount information. This code is the amount of damage (their old DCODE column)	2014	Present
PRED_SPEC_NUM	Specimen number for predator if predator was another animal caught on the line	2014	Present
IS_OTOLITH_TAKEN	Was an otolith sample taken?	2014	Present
IS_VERTEBRAE_TAKEN	Was a vertebrae sample taken?	2014	Present
IS_REPRODUCTIVE_TAKEN	Was a reproductive organ taken?	2014	Present
REPRODUCTIVE_WEIGHT	Weight of the reproductive organ taken, in grams	2014	Present
IS_STOMACH_TAKEN	Was a stomach sample taken?	2014	Present
IS_FIN_TAKEN	Was a fin clip sample taken?	2014	Present
IS_PHOTO_TAKEN	Was a photo taken?	2014	Present

IS_SAMPLE_CHECKED_IN	Has the sample been checked in?	2014	Present
LENGTH_MEASUREMENT_1	First length measurement taken, in CM. For Panama City, it is a fork length measurement.	2014	Present
LENGTH_MEASUREMENT_2	Second length measurement taken, in CM. For Panama City, it is a total length measurement.	2014	2012
WEIGHT_KG	Animal weight, in kilograms	2014	Present
WEIGHT_TYPE_ID	FK to WEIGHT_TYPE	2014	Present
IS_TAGGED	Was this animal tagged (Y/N)	2014	Present
COMMENTS	Any comments regarding the animal	2014	Present
IS_DESCENDING_DEVICE	Was a descending device used?	2014	Present