Reef Fish Observer Program Metadata

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I. Description

The Reef Fish Observer Program (RFOP) was implemented in July 2006 in collaboration with the commercial fishing industry, the Gulf of Mexico Fishery Management Council (GMFMC), and the National Marine Fisheries Service's (NMFS) Southeast Fisheries Science Center (SEFSC). This mandatory observer program is responsible for characterizing the commercial reef fishery operating in the U.S. Gulf of Mexico (hereafter, the Gulf).

The continuing goal of the current observer program is to provide quantitative biological, vessel, and gear-selectivity information relative to the directed reef fish fishery. The specific objectives are to: 1) provide general fishery bycatch characterization for finfish species taken by this fishery; 2) estimate managed finfish discard and release mortality levels; 3) estimate protected species bycatch levels (NOAA SEFSC, 2019).

The RFOP database contains data collected from observers trained by NMFS Galveston staff and data collected from special projects. The primary gears fished in the Gulf include bottom longline, vertical line (bandit or handline), modified buoy, and spearfishing. The following sections provide detail for only the trips observed with the intent of collecting standard observer data within the specified commercial fishery. All other special projects stored in the observer database are excluded from this document, however Table 1 includes a brief description of additional projects.

Table 1. Summary of special projects within the RFOP database.

Trip Type	Description
Cooperative Shareholder Alliance	Data collected in September 2010.
Directed Shark	A one day shark longline trip collected in 2016.
Electronic Monitoring	Data collected in March and April 2008.
Hook Timer	Pilot study with voluntary vessels to investigate the potential of reducing gear soak times as a method to reduce sea turtle interactions and mortality on reef fish bottom longline trips. These data were collected between 8/19/2010 - 4/7/2013.
Oil Spill	Data collected in June and July 2010.
Pelagic Longline	A one day pelagic longline trip collected in 2008.

II. Methodology

NMFS observers were placed on reef fish vessels operating throughout the Gulf of Mexico based on randomized selection stratified by season, gear, and region. Proportional sampling effort, based on coastal logbook data, among seasons (January – March, April – June, July – September, and October – December) and gears in the eastern and western Gulf of Mexico was recommended by SEFSC stock assessment scientists in 2006 and used thereafter for vessel selection stratification purposes using annual updated effort data. Thus, proportional sampling

was used to direct coverage levels (based on sea days, the National metric for percent observer coverage levels) toward region and gear strata with higher levels of fishing effort, while continuing to sample strata with lower fishing effort. Reef fish permit holders were required to carry observers for a minimum of 7 days during a selection period when using longline gear, 3 days for bandit gear, and 2 days for handline (Scott-Denton and Williams, 2013).

Once deployed, vessel length, hull construction material, gross tonnage, engine horsepower, and crew size were obtained for each vessel. For each set (the location of gear placement at a defined time), the type, number, and construction material of the fishing gear were recorded. Latitude, longitude, depth, and environmental parameters including sea state and bottom type were recorded at the start of each set. The total time the gear remained in the water (soak or fishing time) was calculated.

Fishery data were obtained from each set. If a set could not be sampled due to time constraints or weather conditions, a minimum of location, depth, and fishing time were recorded. On some vertical line sets, due primarily to time constraints and the magnitude of the catch, not all reels were sampled for the set. The condition of fish when brought onboard was categorized into one of the following: 1) live—normal appearance, 2) live—stomach/air bladder protruding, 3) live—eyes protruding, 4) live—combination of 2 and 3, 5) dead on arrival, or 9) not determined.

Fate of fish after release was recorded as alive if it swam down or as discarded dead if it swam erratically, floated, or sank, or if undetermined. Non-target and undersized target species were processed first by recording length, weight, condition when brought onboard, and fate after release to provide an estimate of immediate mortality (number discarded dead divided by the number of total discards).

If venting occurred, air bladders of live discarded fish were punctured in the same manner as demonstrated by the captain and crew if requested. Retained species were processed by recording length, weight, condition when brought onboard, and if kept or retained for bait.

III. Temporal coverage

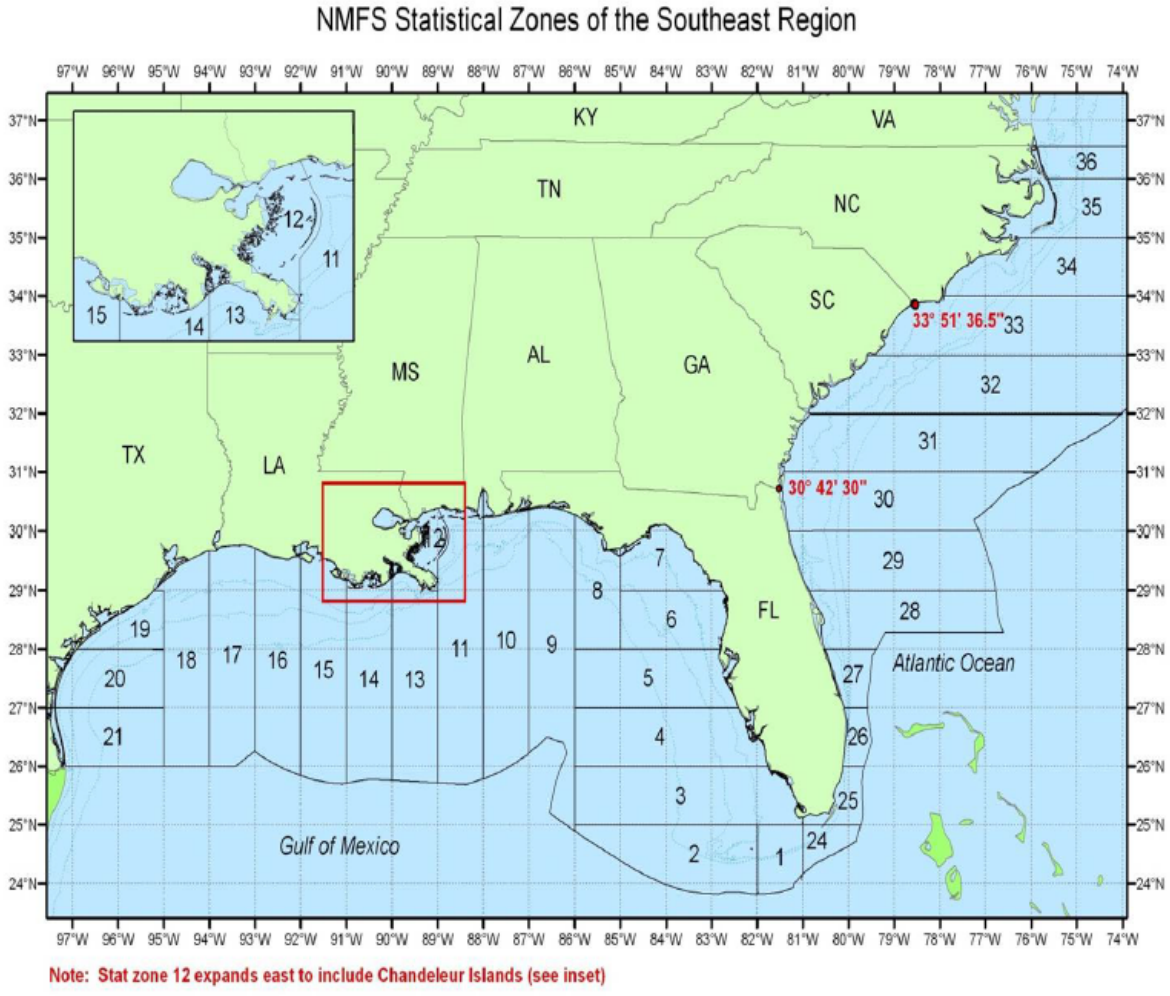
The mandatory RFOP in the Gulf was implemented in July 2006 with the first full year of data in 2007. Since the launch of the observer program, bottom longline and vertical line (bandit or handline) trips are targeted gears and have been reported every year. In February 2009, increased coverage was directed toward the bottom longline fishery in the eastern Gulf to monitor for sea turtle interactions (Scott-Denton et al. 2011). The collection of modified buoy trips began in 2009 in response to the bottom longline closure inside 50 fathoms of the eastern Gulf. While not a targeted gear type, spearfishing trips have been reported since 2007.

During periods of reduced coverage, this was because of issues with funding. However in 2019, observer coverage was reduced because of an observer contract and in 2020, coverage was reduced because of COVID restrictions.

IV. Spatial coverage

Spatial coverage in the Gulf spans from the Florida Keys to Texas. The Gulf region was stratified into eastern and western sub zones. The map below shows the statistical zones used by the observers when reporting a fishing area (Figure 1). Statistical zones 1-12 indicate the eastern Gulf and 13-21 represent the western Gulf. Additional bottom longline and vertical line trips were targeted for the Eastern Gulf with western Florida having the most observer coverage in the region. There is less observer coverage in the Western Gulf and only contain bottom longline, vertical line, and some modified buoy trips.

Figure 1: Fishing areas (NOAA SEFSC, 2020).



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: Elizabeth Scott-Denton
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VI. Field Descriptions

Field descriptions were organized based on general trip level data and gear specific data for longline, bandit, jug, and spearfishing. Many of the set and catch level data for each gear are duplicated across tables. 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 removed from the collection forms.

VII. References

NOAA SEFSC. 2020. Characterization of the US Gulf of Mexico and Southeastern Atlantic Otter Trawl and Bottom Reef Fish Fisheries: Observer Training Manual. Galveston: National Marine Fisheries Service, Southeast Fisheries Science Center, Galveston Laboratory.

NOAA SEFSC. 2019. Gulf of Mexico Reef Fish and Shrimp Observer Program. Retrieved from NOAA Fisheries: https://www.fisheries.noaa.gov/southeast/fisheries-observers/gulf-mexico-reef-fish-and-shrimp-observer-program.

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VIII. Appendix

Trip Information

Field Name	Description	First Year Used	Last Year Used
TRIPNUMBER	First character for organization (G = NMFS Galveston; SS or SB = South Atlantic Fisheries Foundation). Second character for gear or project (B = bandit; C = cooperative shareholder alliance; E = electronic monitoring; F = hook timer; H = handline; J = buoy; K = directed shark; L = longline; O = oil spill; P = pelagic longline; S = spearfishing; T = trap)	2006	Present
TRIPTYPE	Bandit reel, jug, longline, spearfishing	2006	Present
STARTDATE	Start date of the trip	2006	Present
ENDDATE	End date of the trip	2006	Present
SEADAYS	Total number of days at sea for a single trip	2006	Present
SAMPLEDSETS	Number of sets that were sampled by observer	2006	Present
UNSAMPLEDSETS	Number of sets which were not sampled by the observer	2006	Present
PORTOFORIGIN	City where vessel departed	Retroactively entered 2020	Present
PORTOFORIGIN_STATE	State where vessel departed	Retroactively entered 2020	Present
VESSELCODE	Three character unique identifier assigned to each vessel by observer	2006	Present
NAME	Vessel's full name	2006	Present
VESSELID	State or federal registration number	2006	Present
LENGTH	Length of vessel in feet	2006	Present
YEARBUILT	Year vessel built	2006	Present
TYPE	Freezer or Ice boat	2006	Present
HULLCONSTR	Material of hull construction (Fiberglass, Steel, or Wood)	2006	Present
GROSSTON	Gross tonnage	2006	Present
ENGINEHP	Horsepower of engine	2006	Present
CREWSIZE	Number of people in crew (not including captain)	2006	Present

Vertical Line Information

Data Level	Field Name	Description	First Year Used	Last Year Used
Set	SETNUMBER	Assigned number for the set sampled by observer for each trip. Set numbers over 900 indicate unsampled set information.	2006	Present
Set	OBSERVER	Three character observer code	2006	Present
Set	DATE	Date the set started	2006	Present
Set	TIMEIN	Time the first hook enters the water (datetime)	2006	Present
Set	TIMEOUT	Time when the last hook leaves the water (datetime)	2006	Present
Set	LATIND	Latitude in degrees	2006	Present
Set	LATINM	Latitude in minutes	2006	Present
Set	LATINS	Latitude in seconds	2006	Present
Set	LONIND	Longitude in degrees	2006	Present
Set	LONINM	Longitude in minutes	2006	Present
Set	LONINS	Longitude in seconds	2006	Present
Set	STATZONE	Statistical zones within water at set time in (1-9 = Gulf Florida; 10-12 = Alabama and Mississippi; 13-17 = Louisiana; 18-21 = Texas; >21 = East Coast	2006	Present
Set	SEASTATE	Wave height (1 = 0-2 feet; 2 = 3-5 feet; 3 = 6-8 feet; 4 = 8+ feet)	2006	Present
Set	TOTALREELS	Total number of reels USED during the set (including reels sampled and unsampled)	2006	Present
Set	VESSELSTATE	Drifting, on anchor, trolling, or unknown	2006	Present
Set	FISHINGTIME	TimeIn minus TimeOut	2006	Present
Set	HAULINTIME	Average haul in time based on for reels sampled	2006	Present
Set	PREDSHARKS	Sharks observed (0 = predator not present; 1 = observed but not feeding; 2 = observed feeding on bait; 3 = feeding on captures; 4 = feeding on captures and bait; 5 = observed but could not determine if feeding; 6 = feeding on discard captures; 7 = feeding on discard bait; 8 = feeding on discard captures and bait; 9 = not observed)	2006	Present
Set	PREDDOLPHINS	Dolphins observed	2006	Present
Set	PREDOTHERFISH	Other predatory fish observed	2006	Present
Set	PREDSEABIRDS	Predatory seabirds observed	2006	Present
Set	WATERDEPTH	Bottom depth in feet	2006	Present

Set	REELSSET	Total number of reels set at location. For example, if the vessel set reel 1A, 8 times and reel 5B, 2 times then the reels set = 10	2006	Present
Set	REELSSAMPLED	Total number of set reels that were sampled at location	2006	Present
Set	HOOKSSET	Total number of hooks set at location	2006	Present
Set	HOOKSSAMPLED	Total number of hooks sampled at location	2006	Present
Set	FISHINGDEPTH	Approximate fishing depth in ft. If more than one fishing depth, average given.	2006	Present
Set	SECCHIDISK	Water clarity in feet	2013	2013
Set	BOTTOMTYPE	BD = boulders; CL = clay; CO = coral; G = gravel; GR = grass; M = mud; OZ = ooze; RK = rock	2006	Present
Set	SCALETYPE	Type of scale used (D = digital; M = mechanical; B = both; U = unknown)	2006	Present
Set	OBSERVERCOMMENTS	Observer comments on station sheet	2006	Present
Set	GENSP	Unique truncated genus species name for species targeted for that set	2006	Present
Set	BAITTYPE	Type of bait used for set	2006	Present
Set	WHOLE	Binary (1 = whole)	2006	Present
Set	CUT	Binary (1 = cut)	2006	Present
Set	FRESH	Binary (1 = fresh)	2006	Present
Set	FROZEN	Binary (1 = frozen)	2006	Present
Set	SALTED	Binary (1 = salted)	2006	Present
Set	LIVE	Binary (1 = live)	2006	Present
Reel	REELNO	Reel number sampled for the set for only vertical line gears.	2006	Present
Reel	REELSSET	Total number of drops for that reel	2006	Present
Reel	REELSSAMPLED	Number of drops sampled for that reel	2006	Present
Catch	GEARCODE	Arbitrary A, B, C, etc. that observer designates to a particular gear configuration if configurations are different between reels	2006	Present
Catch	GENSP	Shortened genus species name	2006	Present
Catch	LENGTH	in mm	2006	Present
Catch	LENGTHCODE	01 = fork; 02 = standard; 18 = maximum total; 22 = disc; 23 = anal; 88 = not measurable; 99 = no data	2006	Present
Catch	WEIGHT	in kg	2006	Present
Catch	WEIGHTCODE	1 - whole weight; 2 = dressed/cleaned; 8 = not measurable; 9 = no data	2006	Present
Catch	CONDCODE	Condition as brought on board (1 = live normal appearance; 2 = live air bladder/stomach protruding; 3 = live eyes protruding; 4 = live combination of 2 and 3; 5 = dead on arrival; 9 = no data or unknown)	2006	Present

Catch	FATECODE	Disposition (K = kept; D = discarded dead; A'= discarded alive; B = kept for bait; U = discarded unknown whether dead or alive; X = fate undetermined or unknown)	2006	Present
Catch	TAGGED	0 = not tagged; 1 = fish tagged and released	2006	Present
Catch	AIRBLADDER	0 = not vented; 1 = vented	2006	Present
Gear	GEARDESC	Additional gear description filled out by observer	2006	Present
Gear	DATE	Starting set number date, or the date changes occurred to the gear	2006	Present
Gear	RODMOUNT	FIXED; PORTABLE	2006	Present
Gear	REELTYPE	HAND; ELECTRIC; HYDRAULIC; OTHER (if other, explanation in Comments Section)	2006	Present
Gear	MAINLINELEN	Length in feet of main line	2006	Present
Gear	MAINLINEMAT	MONO; POLY; NYLON; CABLE; OTHER (if other, explanation in Comments Section)	2006	Present
Gear	MAINLINETEST	The test of breaking strength of the main line in pounds	2006	Present
Gear	SUBLINE1LEN	Lines off the main line - measure in feet from the hook's eye to the line's end	2006	Present
Gear	SUBLINE2LEN	Lines off the main line - measure in feet from the hook's eye to the line's end	2006	Present
Gear	CONSTRUCTION	Construction of the lines off the main line (TWISTED; TANGLED)	2006	Present
Gear	SUBLINEMAT	Material of the lines off the main line (MONO; POLY; NYLON; CABLE; WIRE; OTHER (if other, explanation in Comments Section)	2006	Present
Gear	SUBLINETEST	Test or breaking strength of the lines off the main line in pounds	2006	Present
Gear	SUBLINECOUNT	Number of lines off the main line (If mainline is attached straight to the hook, the number of lines = 1)	2006	Present
Gear	HOOKCOUNT	Total number of hooks associated with this gear configuration	2006	Present
Gear	HOOKTYPE	J-HOOK; CIRCULAR; OTHER; etc. (multiple hook types)	2006	Present
Gear	HOOKSHAPE	STRAIGHT; OFFSET; OTHER (if other, explanation in Comments Section)	2006	Present
Gear	HOOKSIZE	Hook size, for example 10/0	2006	Present
Gear	HOOKMANUFACTURER	Manufacturer of hook	2006	Present
Gear	DEGREESOFFSET	Degrees Offset	2006	Present
Gear	HOOKSHAFTLEN	Distance (in inches) from hook eye to the point of maximum curvature on the bent portion of the hook	2006	Present
Gear	HOOKPOINTTOSHAFT	Shortest distance (in inches) from the point of the hook to the shaft of the hook	2006	Present

Gear	HOOKMATERIAL	STEEL; STAINLESS STEEL; OTHER (if other, explanation in Comment Section)	2006	Present
Gear	COMMENTS	Observer comments for gear specification	2006	Present

Bottom Longline Information

Data Level	Field Name	Description	First Year Used	Last Year Used
Set	SETNUMBER	Assigned number for the set sampled by observer for each trip. Set numbers over 900 indicate unsampled set information.	2006	Present
Set	GEARCODE	Arbitrary A, B, C, etc. that observer designates to a particular gear configuration if configurations are different between reels	2006	Present
Set	OBSERVER	Three character observer code	2006	Present
Set	DATE	Date the set started	2006	Present
Set	SETTIMESTART	Military time when first hook is set (first hook in)	2006	Present
Set	SETTIMEEND	Military time when last hook is set (last hook in)	2010	Present
Set	HAULTIMESTART	Military time when first hook is retrieved	2010	Present
Set	HAULTIMEEND	Military time when last hook is retrieved	2006	Present
Set	LATIND	Latitude in degrees	2006	Present
Set	LATINM	Latitude in minutes	2006	Present
Set	LATINS	Latitude in seconds	2006	Present
Set	LONIND	Longitude in degrees	2006	Present
Set	LONINM	Longitude in minutes	2006	Present
Set	LONINS	Longitude in seconds	2006	Present
Set	STATZONE	Statistical zones within water at set time in (1-9 = Gulf Florida; 10-12 = Alabama and Mississippi; 13-17 = Louisiana; 18-21 = Texas; >21 = East Coast	2006	Present
Set	SEASTATE	Wave height (1 = 0-2 feet; 2 = 3-5 feet; 3 = 6-8 feet; 4 = 8+ feet)	2006	Present
Set	PREDSHARKS	Sharks observed (0 = predator not present; 1 = observed but not feeding; 2 = observed feeding on bait; 3 = feeding on captures; 4 = feeding on captures and bait; 5 = observed but could not determine if feeding; 6 = feeding on discard captures; 7 = feeding on discard bait; 8 = feeding on discard captures and bait; 9 = not observed)	2006	Present
Set	PREDDOLPHINS	Dolphins observed	2006	Present
Set	PREDOTHERFISH	Other predatory fish observed	2006	Present

Set	PREDSEABIRDS	Predatory seabirds observed	2006	Present
Set	SOAKTIME	SetTimeStart minus HaulTimeEnd (in hours)		
Set	HOOKSSET	Total number of hooks set at location	2010	Present
Set	HOOKSLOST	Total number of hooks lost during set due to predation, hangs, etc.	2010	Present
Set	APPROXHOOKSLOST	Approximate number of hooks lost during set due to predation, hangs, etc.	2006	2009
Set	FISHINGDEPTH	Approximate fishing depth in ft. If more than one fishing depth, average given.	2006	Present
Set	SECCHIDISK	Water clarity in feet	Always Null	Always Null
Set	BOTTOMTYPE	BD = boulders; CL = clay; CO = coral; G = gravel; GR = grass; M = mud; OZ = ooze; RK = rock	2006	Present
Set	SCALETYPE	Type of scale used (D = digital; M = mechanical; B = both; U = unknown)	2006	Present
Set	REVERSEHAUL	1 = gear was hauled back in reverse (i.e. started haul back from the last buoy set); 0 = the first buoy or hook set was also the first hauled	2010	Present
Set	MAINLINEPARTED	1 = mainline parted during set and fishermen forced to haul from the opposite end; 0 = mainline not parted	2010	Present
Set	OBSERVERCOMMENTS	Observer comments on station sheet	2006	Present
Set	GENSP	Unique truncated genus species name for species targeted for that set	2006	Present
Set	BAITTYPE	Type of bait used for set	2006	Present
Set	WHOLE	Binary (1 = whole)	2006	Present
Set	CUT	Binary (1 = cut)	2006	Present
Set	FRESH	Binary (1 = fresh)	2006	Present
Set	FROZEN	Binary (1 = frozen)	2006	Present
Set	SALTED	Binary (1 = salted)	2006	Present
Set	LIVE	Binary (1 = live)	2006	Present
Catch	GENSP	Shortened genus species name	2006	Present
Catch	LENGTH	in mm	2006	Present
Catch	LENGTHCODE	01 = fork; 02 = standard; 18 = maximum total; 22 = disc; 23 = anal; 88 = not measurable; 99 = no data	2006	Present
Catch	WEIGHT	in kg	2006	Present
Catch	WEIGHTCODE	1 - whole weight; 2 = dressed/cleaned; 8 = not measurable; 9 = no data	2006	Present

Catch	CONDCODE	Condition as brought on board (1 = live normal appearance; 2 = live air bladder/stomach protruding; 3 = live eyes protruding; 4 = live combination of 2 and 3; 5 = dead on arrival; 9 = no data or unknown)	2006	Present
Catch	FATECODE	Disposition (K = kept; D = discarded dead; A'= discarded alive; B = kept for bait; U = discarded unknown whether dead or alive; X = fate undetermined or unknown)	2006	Present
Catch	TAGGED	0 = not tagged; 1 = fish tagged and released	2006	Present
Catch	AIRBLADDER	0 = not vented; 1 = vented	2006	Present
Gear	DATE	Date the set started or the date the changes in gear occurred	2006	Present
Gear	MAINLINELEN	Mainline length	2006	Present
Gear	MAINLINELENUNITS	Mainline length units (nautical miles or miles)	2006	Present
Gear	MAINLINEMAT	Material of the mainline (cable, bronze, mono, or other)	2006	Present
Gear	MAINLINEDIAM	Diameter of the mainline in inches	2006	Present
Gear	MAINLINETEST	Breaking strength of the gangion material in pounds	2006	Present
Gear	GANGLINEMAT	Material of gangion (mono, poly, nylon, cable, or other)	2006	Present
Gear	GANGLINETEST	Breaking strength of the gangion material in pounds	2006	Present
Gear	GANGCOLOR	Color of gangion line	2006	Present
Gear	GANGCONSTRUCTION	Construction of gangion (twisted or single)	2006	Present
Gear	GANGLENGTH	Gangion length in feet	2006	Present
Gear	APROXHOOKCOUNT	Approximate number of hooks used on the longline	2006	2009
Gear	HOOKCOUNT	Number of Hooks on Board (per Captain)	2010	Present
Gear	HOOKDISTANCE	Approximate distance between hooks in feet	2006	Present
Gear	HOOKTYPE	Circular v. J-hook	2006	Present
Gear	HOOKSHAPE	Straight v. Offset	2006	Present
Gear	HOOKSIZE	Value/0	2006	Present
Gear	HOOKMANUFACTURER	Manufacturer of hook	2006	Present
Gear	DEGREESOFFSET	Degrees offset	2006	Present
Gear	HOOKSHAFTLEN	Distance in inches from hook eye to the point of the maximum curvature on the bent portion of the hook	2006	Present
Gear	HOOKPOINTTOSHAFT	Shortest distance in inches from the point to the shaft of the hook	2006	Present
Gear	HOOKMATERIAL	Material of hook (steel, stainless steel, or other)	2006	Present
Gear	COMMENTS	Comments if necessary about longline gear	2006	Present

Modified Buoy Information

Data Level	Field Name	Description	First Year Used	Last Year Used
Set	SETNUMBER	Assigned number for the set sampled by observer for each trip. Set numbers over 900 indicate unsampled set information.	2010	2016
Set	OBSERVER	Three character observer code	2010	2016
Set	DATE	Date the set started	2010	2016
Set	SETTIMESTART	Military time when first hook is set (first hook in)	2010	2016
Set	SETTIMEEND	Military time when last hook is set (last hook in)	2010	2016
Set	HAULTIMESTART	Military time when first hook is retrieved	2010	2016
Set	HAULTIMEEND	Military time when last hook is retrieved	2010	2016
Set	LATIND	Latitude in degrees	2010	2016
Set	LATINM	Latitude in minutes	2010	2016
Set	LATINS	Latitude in seconds	2010	2016
Set	LONIND	Longitude in degrees	2010	2016
Set	LONINM	Longitude in minutes	2010	2016
Set	LONINS	Longitude in seconds	2010	2016
Set	STATZONE	Statistical zones within water at set time in (1-9 = Gulf Florida; 10-12 = Alabama and Mississippi; 13-17 = Louisiana; 18-21 = Texas; >21 = East Coast	2010	2016
Set	SEASTATE	Wave height (1 = 0-2 feet; 2 = 3-5 feet; 3 = 6-8 feet; 4 = 8+ feet)	2010	2016
Set	PREDSHARKS	Sharks observed (0 = predator not present; 1 = observed but not feeding; 2 = observed feeding on bait; 3 = feeding on captures; 4 = feeding on captures and bait; 5 = observed but could not determine if feeding; 6 = feeding on discard captures; 7 = feeding on discard bait; 8 = feeding on discard captures and bait; 9 = not observed)	2010	2016
Set	PREDDOLPHINS	Dolphins observed	2010	2016
Set	PREDOTHERFISH	Other predatory fish observed	2010	2016
Set	PREDSEABIRDS	Predatory seabirds observed	2010	2016
Set	SOAKTIME	SetTimeStart minus HaulTimeEnd (in hours)	2010	2016
Set	JUGSSET	Total number of jugs set by setnumber	2010	2016
Set	JUGSSAMPLED	Total number of jugs sampled by setnumber	2010	2016
Set	HOOKSSET	Number of hooks set	2010	2016
Set	HOOKSSAMPLED	Total number of hooks lost during set due to predation, hangs, etc.	2010	2016

Set	FISHINGDEPTH	Approximate fishing depth in ft. If more than one fishing depth, average given.	2010	2016
Set	BOTTOMTYPE	BD = boulders; CL = clay; CO = coral; G = gravel; GR = grass; M = mud; OZ = ooze; RK = rock	2010	2016
Set	SCALETYPE	Type of scale used (D = digital; M = mechanical; B = both; U = unknown)	2010	2016
Set	OBSERVERCOMMENTS	Observer comments on station sheet	2010	2016
Set	GENSP	Unique truncated genus species name for species targeted for that set	2010	2016
Set	BAITTYPE	Type of bait used for set	2010	2016
Set	WHOLE	Binary (1 = whole)	2010	2016
Set	CUT	Binary (1 = cut)	2010	2016
Set	FRESH	Binary (1 = fresh)	2010	2016
Set	FROZEN	Binary (1 = frozen)	2010	2016
Set	SALTED	Binary (1 = salted)	2010	2016
Set	LIVE	Binary (1 = live)	2010	2016
Jug	JUGSSET	Number of jugs set by gear configuration	2010	2016
Catch	GENSP	Shortened genus species name	2010	2016
Catch	LENGTH	in mm	2010	2016
Catch	LENGTHCODE	01 = fork; 02 = standard; 18 = maximum total; 22 = disc; 23 = anal; 88 = not measurable; 99 = no data	2010	2016
Catch	WEIGHT	in kg	2010	2016
Catch	WEIGHTCODE	1 - whole weight; 2 = dressed/cleaned; 8 = not measurable; 9 = no data	2010	2016
Catch	CONDCODE	Condition as brought on board (1 = live normal appearance; 2 = live air bladder/stomach protruding; 3 = live eyes protruding; 4 = live combination of 2 and 3; 5 = dead on arrival; 9 = no data or unknown)	2010	2016
Catch	FATECODE	Disposition (K = kept; D = discarded dead; A'= discarded alive; B = kept for bait; U = discarded unknown whether dead or alive; X = fate undetermined or unknown)	2010	2016
Catch	TAGGED	0 = not tagged; 1 = fish tagged and released	2010	2016
Catch	AIRBLADDER	0 = not vented; 1 = vented	2010	2016
Gear	DATE	Date the set started or the date the changes in gear occurred	2010	2016
Gear	MAINLINELEN	Mainline length	2010	2016
Gear	MAINLINELENUNITS	Mainline length units (nautical miles or miles)	2010	2016
Gear	MAINLINEMAT	Material of the mainline (cable, bronze, mono, or other)	2010	2016

Gear	MAINLINEDIAM	Diameter of the mainline in inches	2010	2016
Gear	MAINLINETEST	Breaking strength of the gangion material in pounds	2010	2016
Gear	GANG1LENGTH	Length of first gangion line in feet	2010	2016
Gear	GANG2LENGTH	Length of second gangion line in feet	2010	2016
Gear	GANGLINEMAT	Material of gangion (mono, poly, nylon, cable, or other)	2010	2016
Gear	GANGLINETEST	Breaking strength of the gangion material in pounds	2010	2016
Gear	GANGCOLOR	Color of gangion line	2010	2016
Gear	GANGCONSTRUCTION	Construction of gangion (twisted or single)	2010	2016
Gear	HOOKCOUNT	Number of Hooks on Board (per Captain)	2010	2016
Gear	HOOKDISTANCE	Approximate distance between hooks in feet	2010	2016
Gear	HOOKCOUNTPERJUG	Total number of hooks per jug	2010	2016
Gear	HOOKTYPE	Circular v. J-hook	2010	2016
Gear	HOOKSHAPE	Straight v. Offset	2010	2016
Gear	HOOKSIZE	Value/0	2010	2016
Gear	HOOKMANUFACTURER	Manufacturer of hook	2010	2016
Gear	DEGREESOFFSET	Degrees offset	2010	2016
Gear	HOOKSHAFTLEN	Distance in inches from hook eye to the point of the maximum curvature on the bent portion of the hook	2010	2016
Gear	HOOKPOINTTOSHAFT	Shortest distance in inches from the point to the shaft of the hook	2010	2016
Gear	HOOKMATERIAL	Material of hook (steel, stainless steel, or other)	2010	2016
Gear	COMMENTS	Comments if necessary about longline gear	2010	2016

Spearfishing Information

Data Level	Field Name	Description	First Year Used	Last Year Used
Set	SETNUMBER	Assigned number for the set sampled by observer for each trip. Set numbers over 900 indicate unsampled set information.	2007	Present
Set	DIVERNO	Dive number sampled for set		
Set	OBSERVER	Three character observer code	2007	Present
Set	DATE	Date the set started	2007	Present
Set	LATIND	Latitude in degrees	2007	Present
Set	LATINM	Latitude in minutes	2007	Present
Set	LATINS	Latitude in seconds	2007	Present

Set	LONIND	Longitude in degrees	2007	Present
Set	LONINM	Longitude in minutes	2007	Present
Set	LONINS	Longitude in seconds	2007	Present
Set	STATZONE	Statistical zones within water at set time in (1-9 = Gulf Florida; 10-12 = Alabama and Mississippi; 13-17 = Louisiana; 18-21 = Texas; >21 = East Coast	2007	Present
Set	SEASTATE	Wave height (1 = 0-2 feet; 2 = 3-5 feet; 3 = 6-8 feet; 4 = 8+ feet)	2007	Present
Set	VESSELSTATE	Drifting, on anchor, trolling, or unknown	2007	Present
Set	PREDSHARKS	Sharks observed (0 = predator not present; 1 = observed but not feeding; 2 = observed feeding on bait; 3 = feeding on captures; 4 = feeding on captures and bait; 5 = observed but could not determine if feeding; 6 = feeding on discard captures; 7 = feeding on discard bait; 8 = feeding on discard captures and bait; 9 = not observed)	2007	Present
Set	PREDDOLPHINS	Dolphins observed	2007	Present
Set	PREDOTHERFISH	Other predatory fish observed	2007	Present
Set	PREDSEABIRDS	Predatory seabirds observed	2007	Present
Set	DIVINGTIME	Total diving time in hours	2007	Present
Set	WATERDEPTH	Bottom depth in feet	2007	Present
Set	FISHINGDEPTH	Approximate fishing depth in ft. If more than one fishing depth, average given.	2007	Present
Set	NUMDIVES	Total number of dives during the set	2007	Present
Set	DIVESSAMPLED	Total number of dives sampled	2007	Present
Set	DIVINGDEPTH	Average diving depth of dives in feet	2007	Present
Set	SECCHIDISK	Water clarity in feet	Always Null	Always Null
Set	BOTTOMTYPE	BD = boulders; CL = clay; CO = coral; G = gravel; GR = grass; M = mud; OZ = ooze; RK = rock	2007	Present
Set	SCALETYPE	Type of scale used (D = digital; M = mechanical; B = both; U = unknown)	2007	Present
Set	OBSERVERCOMMENTS	Observer comments on station sheet	2007	Present
Set	GENSP	Unique truncated genus species name for species targeted for that set	2007	Present
Dive	DIVENUMBER	Diver sampled	2007	Present
Dive	TIMEIN	Military time when dive started	2007	Present
Dive	TIMEOUT	Military time when dive ended	2007	Present
Dive	DIVETIME	TimeIn - TimeOut in hours	2007	Present

Catch	GENSP	Shortened genus species name	2007	Present
Catch	LENGTH	in mm	2007	Present
Catch	LENGTHCODE	01 = fork; 02 = standard; 18 = maximum total; 22 = disc; 23 = anal; 88 = not measurable; 99 = no data	2007	Present
Catch	WEIGHT	in kg	2007	Present
Catch	WEIGHTCODE	1 - whole weight; 2 = dressed/cleaned; 8 = not measurable; 9 = no data	2007	Present
Catch	CONDCODE	Condition as brought on board (1 = live normal appearance; 2 = live air bladder/stomach protruding; 3 = live eyes protruding; 4 = live combination of 2 and 3; 5 = dead on arrival; 9 = no data or unknown)	2007	Present
Catch	FATECODE	Disposition (K = kept; D = discarded dead; A'= discarded alive; B = kept for bait; U = discarded unknown whether dead or alive; X = fate undetermined or unknown)	2007	Present
Catch	TAGGED	0 = not tagged; 1 = fish tagged and released	2007	Present
Catch	AIRBLADDER	0 = not vented; 1 = vented	2007	Present
Gear	GEARDESC	Additional gear description filled out by observer	2007	Present
Gear	DATE	Starting set number date, or the date changes occurred to the gear	2007	Present
Gear	GUNBRAND	Brand of the spear gun that applies to gear configuration	2007	Present
Gear	GUNMODEL	Model number of gun	2007	Present
Gear	SHAFTLENGTH	Shaft length in inches	2007	Present
Gear	SHAFTDIAMETER	Shaft diameter in inches	2007	Present
Gear	NUMSHAFTSUSED	Total number of shafts used during fishing	2007	Present
Gear	FIRINGMECH	Firing mechanism (rubber, pneumatic, explosive, or other)	2007	Present
Gear	GEARDESC	Detailed description of gear	2007	Present