



Puerto Rico Coral Reef Monitoring Program (PRCRMP) - Data Dictionary

*Submitted to the Department of Natural and Environmental Resources (DNER)
Puerto Rico Coastal Zone Management Program (PRCZMP) and the Coral Reef
Conservation and Management Program (CRCMP)*

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Puerto Rico Coral Reef Monitoring Program (PRCRMP) Data Abstract:

The Puerto Rico Coral Reef Monitoring Program data files include all raw data (by transect) for 86 stations where substrate cover by sessile-benthic categories and fish and motile megabenthic invertebrate taxonomic composition and densities have been characterized from 1999-2019. At present, 42 of these stations are permanent and are surveyed biannually. For the benthic characterization, at each reef station, a set of five 10 meters long permanent transects are surveyed. Sessile-benthic reef communities are characterized by the continuous intercept chain-link method, following the CARICOMP (1994) protocol. Demersal diurnal non-cryptic reef fish populations and motile megabenthic invertebrates are surveyed by sets of five 10 meters long by 3 meters wide (30 m²) belt-transects centered along the reference line of transects used for sessile-benthic characterizations at each reef station. Upon completion of the 10 meters belt-transect survey the diver swims along the same depth and physiographic reef zone for an extra 10 meters to identify fishes and megabenthic invertebrates of commercial value (snappers, groupers, hogfishes, barracuda, mackerels, sharks, lobsters and queen conch) and/or fish species that are considered important reef herbivores (parrotfishes, doctorfishes). For each fish individual within belt-transects, a visual total length (TL) estimate in centimeters was recorded. The cephalothorax length (measurement from the tip of the rostrum to end of the thorax), also known as carapace length (CL) in centimeters was used to report the size of lobsters (*Panulirus* spp., *Scyllarides* sp) within belt-transects. Queen conch (*Strombus gigas*) length was reported as the total (diagonal) shell length in centimeters. With the length-weight relationship information available in FishBase.org, biomass estimates have been calculated for commercially and ecologically important species. The PRCRMP data files also include a site classification spreadsheet with descriptors for each monitoring station, some of which can be used as spatial and temporal factors for statistical analyses. These descriptors include information about depth, habitat type, distance from shore, marine protected areas attributes, coordinates, and other metadata.

Monitoring Design Factors, Site Classification Descriptors, and Indicators

Factors, Descriptors, and Indicators Description:

The PRCRMP factors and descriptors include categorical variables and other metadata to stratify and/or classify monitoring stations based on spatiotemporal characteristics, sampling effort, and other descriptors relevant to assess management and biological condition questions. These are essential in evaluating the publication of the PRCRMP Database Compilation in a Geographical Information System (GIS) based platform as it includes coordinates for each monitoring station and attributes for data visualization related to distance from shore gradients, habitat types, depths, proximity to watersheds, stations within Marine Protected Areas (MPAs), etc. References used for some labels are included in the [references section](#).

In addition, the data files include a list of indicators that serve to classify or group species and categories. Indicators include the taxonomic classification of species to the lowest level possible (i.e., phylum, class, order, family, genus, and species) and other classifications like functional groups and/or targeted categories. Taxonomic classifications were obtained using the [World Register of Marine Species](#)

([WoRMS Taxon-Match Tool](#)) developed by Tony Rees, Michael Giddens, and Dmitry Mozzherin. These indicators allow for statistical analyses at the functional, community, and taxonomic levels.

The following list of label definitions apply to all PRCRMP datasets (sessile-benthic, fish and macroinvertebrates) and the PRCRMP Site Classification Database.

Factors, Descriptors, and Indicators Label Definitions:

Factors and Descriptors in PRCRMP data files and/or PRCRMP Site Classification Database	
<u>SAMPLE CODE</u>	A label that identifies each unique sample in the data files of the PRCRMP Database Compilation. It consists of the sample year, site name, and transect number.
<u>Site Name</u>	Name of monitoring stations. Each site name belongs to a specific coordinate. Specifications: Site names include a year in parenthesis if the station coordinates shifted over time because of transect re-establishment. Site names include depth (in meters) if there are multiple stations with the same site name at different depths. Site names include the location in parenthesis if there are stations with the same site name in different locations. The purpose of this site name nomenclature is to differentiate each monitoring station while being consistent with site names in PRCRMP reports. However, site names in PRCRMP reports do not make the specifications explained here.
<u>Site Code</u>	An abbreviation of site name. Specification: Site Code includes two letters representing the last 2 digits of the baseline year for the site, followed by four letters of the site name, followed by two numbers that represent station mean depth (standardized to CARICOMP depth intervals).
<u>Transect</u>	A spatial replicate within each site. From 2004-2013 Fish and Macroinvertebrate Size Frequency data was not replicated by transect because there was one Active Search Census (ASEC Survey) done per site.
<u>Fish-Benthic Match</u>	Whether there is a match between factor labels of the fish and invertebrate abundance and the benthic data that allows for biological correlation analyses.
<u>Location</u>	The geographical area where monitoring stations are located. Most locations are municipalities of Puerto Rico, others are oceanic islands of the Puerto Rican archipelago.
<u>Region</u>	The geographical area where monitoring stations cluster together considering potential bioregions in Puerto Rico (i.e. sites belonging to isolated oceanic islands, continuous reef systems of the insular platform isolated by a submarine canyon, etc.) as well as site replicates. Specification: There is a minimum of 2 current stations in the Southeast Region and a maximum of 14 current stations in the West Region, with an average of 6 (± 4) stations per Region.

<u>Geographic Zone</u>	The cardinal geographical area where monitoring stations are located. Specification: There are a minimum of 2 current stations in the North Geographic Zone and a maximum of 17 current stations in the West Geographic Zone, with an average of 8 (\pm 6) stations per Geographic Zone.
<u>Latitude</u>	Latitude of monitoring station in decimal degrees. Specification: Taken at the center (5m) of Transect 3.
<u>Longitude</u>	Longitude of monitoring station in decimal degrees. Specification: Taken at the center (5m) of Transect 3.
<u>Status</u>	Status of the monitoring station. Specification: Previous = monitoring station no longer visited; Current = monitoring station currently being monitored once every two years (biennial).
<u>Baseline Year</u>	Year when the station was first visited for a benthic characterization as part of PRCRMP surveys.
<u>Most Recent Survey</u>	Year of most recent PRCRMP survey. Specification: Latest revision in 2019.
<u># Surveyed Years</u>	# of visits or PRCRMP surveys since the station was first visited as part of PRCRMP. Specification: Latest revision in 2019.
<u>Surveyed Years</u>	Specific years that the stations have been visited (separated by commas).
<u>Insular Shelf Zone</u>	Station position relative to the Puerto Rico insular shelf as seen in bathymetric features when projecting monitoring stations on Esri's Ocean Basemap (2012) * and NOAA's Office of Coast Survey's Electronic [Nautical] Charts (ENC) (2014-2019) *.
<u>Reef Zonation</u>	Station position relative to the reef structure as determined by PRCRMP fieldwork contractor in PRCRMP reports * and/or satellite imagery.
<u>Mean Depth (m)</u>	All-years site average depth in meters. Specification: Mean depth is standardized to CARICOMP (2001) * fore reef depth intervals (0-5m, 5-10m, and >10m). For >10m mean depths, depth was standardized to 15, 20, and 30m depths ad hoc.
<u>Z – true (m)</u>	All-years site average depth in meters recorded in the field by DNER fieldwork contractor.
<u>Depth Zone</u>	Categorical depth range in meters selected based on the distribution of Z- true (m) across stations. Specification: Depth Zone levels were selected to have at least 24 stations level (except Mesophotic with n=5).
<u>Habitat Type</u>	Categorical station habitat description. Specification: Habitat Types are based on NCRMP habitat type definitions (Kendall et al., 2002; NCCOS, 2018) *, except "Spur and Groove", which is adapted from Morelock et al. (1977) * and Storlazzi et al. (2003) * to identify a [typical] shelf-sedge habitat in Puerto Rico. In addition, DNER fieldwork contractor provided the habitat type for some stations in the physical description narrative of PRCRMP reports *.
<u>Mean Rugosity (m)</u>	The all-years rugosity station average. It is an index or measure of topographic complexity for habitats intercepted by transects. It is estimated as the total length of the transect chain divided by the horizontal distance covered (10m). Specification: The method was adopted by DNER fieldwork contractor from the CARICOMP (2001) * protocol. The original reference for the method is Rogers et al. (1982) *.

<u>Topographic Complexity</u>	Categorical rugosity range for each station selected based on the distribution of Rugosity (m) across stations. Specification: Ranges were selected to have at least 20 stations per Topographic Complexity Level.
<u>Coral Biotope</u>	Categorical coral community site descriptor that incorporates before and after the 2005 coral bleaching event data, if available. The purpose of the all-years average in the rules is to identify what type of coral community can describe the station, not only in terms of recent data but considering historical data as well. To see the sites which Coral Biotope descriptor includes data from before and after 2005 bleaching event, verify column Surveyed Years. Specification: Coral Biotope levels are defined by the all-years (1999-2018) site average cover % of the following coral hierarchical rules: O. annularis complex = O. ann >16%; A. palmata = A. palmata >25%; High-Moderate Hard Coral = total hard coral >15% + O. ann <16% + A. palmata <25%; Octocoral canopy = >20 col/10m ² + <15% O.ann + <20% A.pal + <15 hard coral%; Low Coral = <15% hard coral + <20 col/10m ² octocoral. Definitions were established by contractor Miguel G. Figuerola Hernández during the creation of the PRCRMP Site Classification Database.
<u>Coral cover % change since baseline</u>	The site percent change in coral cover since the baseline survey (1999-2018). Specification: % Cover Change = [(most recent survey average cover %) - (baseline survey average cover %)] / baseline survey average cover %
<u>Distance from PR Shoreline (km)</u>	The minimum linear distance between site and shoreline of P.R. mainland. Specification: For stations located in oceanic islands (Mona, Desecheo, Caja de Muertos, Vieques, and Culebra) the distance from PR Shoreline is the minimum linear distance of the station to the P.R. “mainland”.
<u>Distance from PR Shoreline (km)[Binned]</u>	The categorical minimum linear distance between station and shoreline of P.R. mainland.
<u>Distance Nearest River Mouth (km)</u>	The minimum linear distance between the station and the nearest river mouth. Specification: Nearest river mouth might be upstream or downstream from the station.
<u>Distance Nearest River Mouth (km) [Binned]</u>	The categorical minimum linear distance between the station and the nearest river mouth.
<u>Nearest River Mouth Direction</u>	Cardinal direction from the station to the nearest river mouth.
<u>Nearest Main Watershed</u>	Name of nearest main watershed associated with the monitoring station.
<u># of Waterways Inputs (<10km)</u>	The # of "river mouths" or waterways inputs 10km or less from the station. Specification: Calculated using measurement tools of ArcGIS online and HOTOSM PRI Waterways shapefile (HOTOSM PRI, 2017) *.
<u># of Waterways Inputs (<10km) [Binned]</u>	Categorical number of river mouths or waterways inputs 10km or less from the station. Specification: Calculated using measurement tools of ArcGIS online and HOTOSM PRI Waterways shapefile (HOTOSM PRI, 2017) *. w = waterways.
<u>Watershed Region</u>	The geographical descriptor of regions with monitoring stations with a higher number (#) of Waterways Inputs (<10km).

<u>PRASA Wastewater Treatment Plant in Near Waterway Inputs</u>	Presence/absence of a PRASA Wastewater Treatment Plant in one of the Near Waterways Inputs (<10km). Specification: Information retrieved from an Esri's ArcGIS online dataset compiled by Sarah Spalding, containing data on wastewater treatment plants, based on EPA's Facility Registry Service (FRS) (EPA, 2015) *.
<u>Station Within MPA?</u>	Identifies stations inside MPAs. Specification: Yes = station is located within MPA boundaries; No = station is outside MPA boundaries. MPA boundaries obtained from GIS file Natural Protected Areas of Puerto Rico (CLCC and DNER, 2016) * and NOAA's Marine Protected Areas Inventory [GIS Data] (revised in 2017) *.
<u>Distance to nearest MPA (km)</u>	The minimum linear distance between the station and the nearest MPA boundary. Specification: MPA boundaries obtained from GIS file Natural Protected Areas of Puerto Rico (CLCC and DNER, 2016) * and NOAA's Marine Protected Areas Inventory [GIS Data] (revised in 2017) *.
<u>Nearest MPA Name</u>	The name of MPA near monitoring station. Specification: In the case of monitoring station inside an MPA, the MPA name is provided.
<u>MPA Designation Year</u>	MPA designation year. Specification: Taken from Table 2 in Aguilar-Perera et al. (2006) *, DNER Office of Coastal Zone Management (2009) *, and the NOAA's Marine Protected Areas Inventory [GIS Data] (revised in 2017) *.
<u>MPA Years Since Designation</u>	Years since MPA designation year. Specification: Latest revision in 2019.
<u>MPA Seafloor Surface Area (Km^2)</u>	MPA Seafloor Surface Area in km^2. Specification: Taken from Table 2 in Aguilar-Perera et al. (2006) * and the NOAA's Marine Protected Areas Inventory [GIS Data] (revised in 2017) *.
<u>MPA Fishing Restrictions</u>	Fishing restrictions within MPA boundaries. Specification: Identified in NOAA's Marine Protected Areas Inventory [GIS Data] (revised in 2017) *
<u>MPA Level of Protection</u>	Level of Protection within MPA boundaries. Specification: Defined in NOAA's Definition & Classification System for U.S. Marine Protected Areas (2011) *
<u>Transect Coordinates</u>	If transect coordinates are available for the station. Specification: Yes = Transect coordinated have been provided by fieldwork contractor; PENDING = Transect coordinates have not been provided by fieldwork contractor yet
<u>T1 (Lat''Lon)</u>	Transect 1 coordinates. Specification: Taken at the center [5m] of the benthic transect
<u>T2 (Lat''Lon)</u>	Transect 2 coordinates. Specification: Taken at the center [5m] of the benthic transect
<u>T3 (Lat''Lon)</u>	Transect 3 coordinates. Specification: Taken at the center [5m] of the benthic transect
<u>T4 (Lat''Lon)</u>	Transect 4 coordinates. Specification: Taken at the center [5m] of the benthic transect
<u>T5 (Lat''Lon)</u>	Transect 5 coordinates. Specification: Taken at the center [5m] of the benthic transect
Indicators in PRCRMP data files (sessile-benthic, fish, and macroinvertebrates)	
<u>Phylum</u>	Phylum of benthic, fish, and macroinvertebrate individuals

<u>Class</u>	Class of benthic, fish, and macroinvertebrate individuals
<u>Order</u>	Order of benthic, fish, and macroinvertebrate individuals
<u>Family</u>	Family of benthic, fish, and macroinvertebrate individuals
<u>Genus</u>	Genus of benthic, fish, and macroinvertebrate individuals
<u>Species</u>	Species of benthic, fish, and macroinvertebrate individuals
<u>Benthic Indicator</u>	Classification of functional groups and the main category of benthic cover percentage or colony count measurements
<u>Com-Eco</u>	Classification of [targeted] commercially and ecologically important fish species. Ex. groupers, snappers, and parrotfishes.

[*References](#)

Sessile-Benthic Communities

Benthic Data Description:

The PRCRMP benthic data file includes 10-meter chain transect substrate cover percentage data of sessile-benthic reef communities for all surveyed stations. Data units are in cover percent, but some benthic categories and their species (octocorals and stony corals) are reported as the number of colonies as well. When the number of colonies is reported, the data label will include the “#col.” characters. Blank cells in this data file represent missing values. Missing values are present because since the beginning of the surveys in 1999 not all benthic categories have been identified to the species level. Also, some benthic categories and/or species have not been considered during benthic surveys at specific years, so the years when they were not considered, they will appear with missing values in the data file (blank cells). That is, this data file includes blank cells, representing species not considered during the survey and transects or stations not completed.

For data collection field methodologies see the Puerto Rico Coral Reef Monitoring Program Database Report (August 2019).

Benthic Data Label Definitions:

<i>Rugosity (m)</i>	It is an index or measure of topographic complexity for habitats intercepted by transects. It is estimated as the total length of the transect chain divided by the horizontal distance covered (10m). Specification: The method was adapted by DNER fieldwork contractor from the CARICOMP (2001) * protocol. The original reference for the method is Rogers et al. (1982) *.
<i>Reef overhang</i>	Substrate cover percentage by the abiotic subcategory Reef overhang
<i>Rubble</i>	Substrate cover percentage by the abiotic subcategory Rubble
<i>Sand</i>	Substrate cover percentage by the abiotic subcategory Sand

<i>Sand and rubble</i>	Substrate cover percentage by the abiotic subcategory Sand and rubble
<i>Gaps/Holes</i>	Substrate cover percentage by the abiotic subcategory Gaps/Holes
<i>Abiotic (total)</i>	Substrate cover percentage by all abiotic subcategories
<i>Lebrunia neglecta</i>	Substrate cover percentage by the Anemone species Lebrunia neglecta
<i>Phymanthus crucifer</i>	Substrate cover percentage by the Anemone species Phymanthus crucifer
<i>Ricordea florida</i>	Substrate cover percentage by the Anemone species Ricordea florida
<i>Anemone spp.</i>	Substrate cover percentage by the Anemone species Anemone spp. (unidentified)
<i>Anemones (total)</i>	Substrate cover percentage by all Anemone species
<i>Eudistoma spp.</i>	Substrate cover percentage by the Ascidian species Eudistoma spp. (unidentified)
<i>Trididemnum solidum</i>	Substrate cover percentage by the Ascidian species Trididemnum solidum
<i>Ascidian spp.</i>	Substrate cover percentage by the Ascidian species Ascidian spp. (unidentified)
<i>Tunicata (total)</i>	Substrate cover percentage by all Tunicata species
<i>CCA (total)</i>	Substrate cover percentage by all Crustose Coraline Algae, excluding encrusting algae from the family Peyssonneliaceae
<i>Cyanobacteria (total)</i>	Substrate cover percentage by Cyanobacteria
<i>Thalassia testudinum</i>	Substrate cover percentage by the Seagrass species Thalassia testudinum
<i>Seagrass (total)</i>	Substrate cover percentage by all Seagrass species
<i>Amphiroa spp.</i>	Substrate cover percentage by the Macroalgae species Amphiroa spp. (unidentified)
<i>Asparagopsis taxiformis</i>	Substrate cover percentage by the Macroalgae species Asparagopsis taxiformis
<i>Asparagopsis taxiformis on Ramicrusta</i>	Substrate cover percentage by the Macroalgae species Asparagopsis taxiformis on Ramicrusta
<i>Caulerpa racemosa</i>	Substrate cover percentage by the Macroalgae species Caulerpa racemosa
<i>Caulerpa spp.</i>	Substrate cover percentage by the Macroalgae species Caulerpa spp. (unidentified)
<i>Caulerpa spp. on Ramicrusta</i>	Substrate cover percentage by the Macroalgae species Caulerpa spp. (unidentified) on Ramicrusta
<i>Dichotomaria marginata</i>	Substrate cover percentage by the Macroalgae species Dichotomaria marginata

<i>Dictyota spp.</i>	Substrate cover percentage by the Macroalgae species Dictyota spp. (unidentified)
<i>Dictyota spp. on Ramicrusta</i>	Substrate cover percentage by the Macroalgae species Dictyota spp. (unidentified) on Ramicrusta
<i>Galaxaura spp.</i>	Substrate cover percentage by the Macroalgae species Galaxaura spp. (unidentified)
<i>Galaxaura spp. on Ramicrusta</i>	Substrate cover percentage by the Macroalgae species Galaxaura spp. (unidentified) on Ramicrusta
<i>Gracilaria spp.</i>	Substrate cover percentage by the Macroalgae species Gracilaria spp. (unidentified)
<i>Halimeda discoidea</i>	Substrate cover percentage by the Macroalgae species Halimeda discoidea
<i>Halimeda spp.</i>	Substrate cover percentage by the Macroalgae species Halimeda spp. (unidentified)
<i>Halimeda spp. on Ramicrusta</i>	Substrate cover percentage by the Macroalgae species Halimeda spp. (unidentified) on Ramicrusta
<i>Halimeda tuna</i>	Substrate cover percentage by the Macroalgae species Halimeda tuna
<i>Jania spp.</i>	Substrate cover percentage by the Macroalgae species Jania spp. (unidentified)
<i>Lobophora spp.</i>	Substrate cover percentage by the Macroalgae species Lobophora spp. (unidentified)
<i>Lobophora variegata</i>	Substrate cover percentage by the Macroalgae species Lobophora variegata
<i>Lobophora variegatus on Ramicrusta</i>	Substrate cover percentage by the Macroalgae species Lobophora variegatus on Ramicrusta
<i>Martensia pavonia</i>	Substrate cover percentage by the Macroalgae species Martensia pavonia
<i>Padina spp.</i>	Substrate cover percentage by the Macroalgae species Padina spp. (unidentified)
<i>Sargassum hystrix</i>	Substrate cover percentage by the Macroalgae species Sargassum hystrix
<i>Sargassum natans</i>	Substrate cover percentage by the Macroalgae species Sargassum natans
<i>Styopodium spp.</i>	Substrate cover percentage by the Macroalgae species Styopodium spp. (unidentified)
<i>Styopodium zonale</i>	Substrate cover percentage by the Macroalgae species Styopodium zonale
<i>Udotea spp.</i>	Substrate cover percentage by the Macroalgae species Udotea spp. (unidentified)
<i>Valonia ventricosa</i>	Substrate cover percentage by the Macroalgae species Valonia ventricosa

<i>Wrangelia bicuspidata</i>	Substrate cover percentage by the Macroalgae species <i>Wrangelia bicuspidata</i>
<i>Macroalgae spp.</i>	Substrate cover percentage by the Macroalgae species <i>Macroalgae spp.</i> (unidentified)
<i>Macroalgae (total)</i>	Substrate cover percentage by all Macroalgae species
<i>Ramicrusta spp.</i>	Substrate cover percentage by the Peyssonneliaceae species <i>Ramicrusta spp.</i> (unidentified)
<i>Peyssonnelia spp.</i>	Substrate cover percentage by the Peyssonneliaceae species <i>Peyssonnelia spp.</i> (unidentified)
<i>Peyssonneliaceae (total)</i>	Substrate cover percentage by all Peyssonneliaceae species
<i>Turf (mixed) on Ramicrusta</i>	Substrate cover percentage by Turf algae growing on <i>Ramicrusta</i>
<i>Turf (mixed) with sediment</i>	Substrate cover percentage by Turf algae with sediment
<i>Turf Algae (total)</i>	Substrate cover percentage by all Turf Algae subcategories
<i>Antillogorgia acerosa</i>	Substrate cover percentage by the Octocoral species <i>Antillogorgia acerosa</i>
<i>Antillogorgia americana</i>	Substrate cover percentage by the Octocoral species <i>Antillogorgia americana</i>
<i>Antillogorgia bipinnata</i>	Substrate cover percentage by the Octocoral species <i>Antillogorgia bipinnata</i>
<i>Antillogorgia rigida</i>	Substrate cover percentage by the Octocoral species <i>Antillogorgia rigida</i>
<i>Eunicea calyculata</i>	Substrate cover percentage by the Octocoral species <i>Eunicea calyculata</i>
<i>Eunicea flexuosa</i>	Substrate cover percentage by the Octocoral species <i>Eunicea flexuosa</i>
<i>Eunicea mammosa</i>	Substrate cover percentage by the Octocoral species <i>Eunicea mammosa</i>
<i>Eunicea pallida</i>	Substrate cover percentage by the Octocoral species <i>Eunicea pallida</i>
<i>Eunicea spp.</i>	Substrate cover percentage by the Octocoral species <i>Eunicea spp.</i> (unidentified)
<i>Eunicea succinea</i>	Substrate cover percentage by the Octocoral species <i>Eunicea succinea</i>
<i>Eunicea tourneforti</i>	Substrate cover percentage by the Octocoral species <i>Eunicea tourneforti</i>
<i>Gorgonia mariae</i>	Substrate cover percentage by the Octocoral species <i>Gorgonia mariae</i>

<i>Gorgonia ventalina</i>	Substrate cover percentage by the Octocoral species Gorgonia ventalina
<i>Muricea atlantica</i>	Substrate cover percentage by the Octocoral species Muricea atlantica
<i>Muricea elongata</i>	Substrate cover percentage by the Octocoral species Muricea elongata
<i>Muricea muricata</i>	Substrate cover percentage by the Octocoral species Muricea muricata
<i>Muricea pinnata</i>	Substrate cover percentage by the Octocoral species Muricea pinnata
<i>Muriceopsis flavida</i>	Substrate cover percentage by the Octocoral species Muriceopsis flavida
<i>Plexaura homomalla</i>	Substrate cover percentage by the Octocoral species Plexaura homomalla
<i>Plexaura kukenthali</i>	Substrate cover percentage by the Octocoral species Plexaura kukenthali
<i>Plexaura spp.</i>	Substrate cover percentage by the Octocoral species Plexaura spp. (unidentified)
<i>Plexaurella nutans</i>	Substrate cover percentage by the Octocoral species Plexaurella nutans
<i>Pseudoplexaura flagellosa</i>	Substrate cover percentage by the Octocoral species Pseudoplexaura flagellosa
<i>Pseudoplexaura spp.</i>	Substrate cover percentage by the Octocoral species Pseudoplexaura spp. (unidentified)
<i>Pseudoplexaura wagnaari</i>	Substrate cover percentage by the Octocoral species Pseudoplexaura wagnaari
<i>Pterogorgia guadalupensis</i>	Substrate cover percentage by the Octocoral species Pterogorgia guadalupensis
<i>Pterogorgia spp.</i>	Substrate cover percentage by the Octocoral species Pterogorgia spp. (unidentified)
<i>Octocoral spp.</i>	Substrate cover percentage by the Octocoral species Octocoral (unidentified)
<i>Octocorals (total erect)</i>	Substrate cover percentage by all erect or branching Octocoral species
<i>Briareum asbestinum</i>	Substrate cover percentage by the Octocoral species Briareum asbestinum
<i>Erythropodium caribaeorum</i>	Substrate cover percentage by the Octocoral species Erythropodium caribaeorum
<i>Octocoral spp. (encrusting)</i>	Substrate cover percentage by the Octocoral species Octocorals (encrusting) unidentified
<i>Octocorals (total encrusting)</i>	Substrate cover percentage by all encrusting Octocoral species

<i>Antillogorgia acerosa</i> (# col.)	Number of colonies of the Octocoral species <i>Antillogorgia acerosa</i>
<i>Antillogorgia americana</i> (# col.)	Number of colonies of the Octocoral species <i>Antillogorgia americana</i>
<i>Antillogorgia bipinnata</i> (# col.)	Number of colonies of the Octocoral species <i>Antillogorgia bipinnata</i>
<i>Antillogorgia spp.</i> (# col.)	Number of colonies of the Octocoral species <i>Antillogorgia</i> spp. (unidentified)
<i>Briareum asbestinum</i> (# col.)	Number of colonies of the Octocoral species <i>Briareum asbestinum</i>
<i>Erythropodium caribaeorum</i> (# col.)	Number of colonies of the Octocoral species <i>Erythropodium caribaeorum</i>
<i>Eunicea asperula</i> (# col.)	Number of colonies of the Octocoral species <i>Eunicea asperula</i>
<i>Eunicea calyculata</i> (# col.)	Number of colonies of the Octocoral species <i>Eunicea calyculata</i>
<i>Eunicea flexuosa</i> (# col.)	Number of colonies of the Octocoral species <i>Eunicea flexuosa</i>
<i>Eunicea lacinata</i> (# col.)	Number of colonies of the Octocoral species <i>Eunicea lacinata</i>
<i>Eunicea laxispica</i> (# col.)	Number of colonies of the Octocoral species <i>Eunicea laxispica</i>
<i>Eunicea mammosa</i> (# col.)	Number of colonies of the Octocoral species <i>Eunicea mammosa</i>
<i>Eunicea spp.</i> (# col.)	Number of colonies of the Octocoral species <i>Eunicea</i> spp. (unidentified)
<i>Eunicea succinea</i> (# col.)	Number of colonies of the Octocoral species <i>Eunicea succinea</i>
<i>Eunicea tourneforti</i> (# col.)	Number of colonies of the Octocoral species <i>Eunicea tourneforti</i>
<i>Gorgonia ventalina</i> (# col.)	Number of colonies of the Octocoral species <i>Gorgonia ventalina</i>
<i>Muricea atlantica</i> (# col.)	Number of colonies of the Octocoral species <i>Muricea atlantica</i>
<i>Muricea elongata</i> (# col.)	Number of colonies of the Octocoral species <i>Muricea elongata</i>
<i>Muricea laxa</i> (# col.)	Number of colonies of the Octocoral species <i>Muricea laxa</i>
<i>Muricea muricata</i> (# col.)	Number of colonies of the Octocoral species <i>Muricea muricata</i>
<i>Muricea spp.</i> (# col.)	Number of colonies of the Octocoral species <i>Muricea</i> spp. (unidentified) (# col).

<i>Muriceopsis flavida</i> (# col.)	Number of colonies of the Octocoral species <i>Muriceopsis flavida</i>
<i>Plexaura homomalla</i> (# col.)	Number of colonies of the Octocoral species <i>Plexaura homomalla</i>
<i>Plexaura kukenthali</i> (# col.)	Number of colonies of the Octocoral species <i>Plexaura kukenthali</i>
<i>Plexaura kuna</i> (# col.)	Number of colonies of the Octocoral species <i>Plexaura kuna</i>
<i>Plexaura</i> spp. (# col.)	Number of colonies of the Octocoral species <i>Plexaura</i> spp. (unidentified)
<i>Plexaurella dichotoma</i> (# col.)	Number of colonies of the Octocoral species <i>Plexaurella dichotoma</i>
<i>Plexaurella nutans</i> (# col.)	Number of colonies of the Octocoral species <i>Plexaurella nutans</i>
<i>Plexaurella</i> spp. (# col.)	Number of colonies of the Octocoral species <i>Plexaurella</i> spp. (unidentified)
<i>Pseudoplexaura flagellosa</i> (# col.)	Number of colonies of the Octocoral species <i>Pseudoplexaura flagellosa</i>
<i>Pseudoplexaura porosa</i> (# col.)	Number of colonies of the Octocoral species <i>Pseudoplexaura porosa</i>
<i>Pterogorgia citrina</i> (# col.)	Number of colonies of the Octocoral species <i>Pterogorgia citrina</i>
<i>Pterogorgia guadalupensis</i> (# col.)	Number of colonies of the Octocoral species <i>Pterogorgia guadalupensis</i>
<i>Pterogorgia</i> spp. (# col.)	Number of colonies of the Octocoral species <i>Pterogorgia</i> spp. (unidentified)
Octocoral (total # col.)	Total number of Octocoral colonies
<i>Agelas citrina</i>	Substrate cover percentage by the Sponge species <i>Agelas citrina</i>
<i>Agelas clathrodes</i>	Substrate cover percentage by the Sponge species <i>Agelas clathrodes</i>
<i>Agelas conifera</i>	Substrate cover percentage by the Sponge species <i>Agelas conifera</i>
<i>Agelas dispar</i>	Substrate cover percentage by the Sponge species <i>Agelas dispar</i>
<i>Agelas sceptrum</i>	Substrate cover percentage by the Sponge species <i>Agelas sceptrum</i>
<i>Agelas</i> spp.	Substrate cover percentage by the Sponge species <i>Agelas</i> spp. (unidentified)
<i>Agelas sventres</i>	Substrate cover percentage by the Sponge species <i>Agelas sventres</i>

<i>Agelas tubulata</i>	Substrate cover percentage by the Sponge species <i>Agelas tubulata</i>
<i>Aiolochoiria crassa</i>	Substrate cover percentage by the Sponge species <i>Aiolochoiria crassa</i>
<i>Amphimedon compressa</i>	Substrate cover percentage by the Sponge species <i>Amphimedon compressa</i>
<i>Amphimedon viridis</i>	Substrate cover percentage by the Sponge species <i>Amphimedon viridis</i>
<i>Aplysina archeri</i>	Substrate cover percentage by the Sponge species <i>Aplysina archeri</i>
<i>Aplysina cauliformis</i>	Substrate cover percentage by the Sponge species <i>Aplysina cauliformis</i>
<i>Aplysina fistularis</i>	Substrate cover percentage by the Sponge species <i>Aplysina fistularis</i>
<i>Aplysina fulva</i>	Substrate cover percentage by the Sponge species <i>Aplysina fulva</i>
<i>Aplysina lacunosa</i>	Substrate cover percentage by the Sponge species <i>Aplysina lacunosa</i>
<i>Aplysina spp.</i>	Substrate cover percentage by the Sponge species <i>Aplysina spp.</i> (unidentified)
<i>Biemna caribea</i>	Substrate cover percentage by the Sponge species <i>Biemna caribea</i>
<i>Biemna spp.</i>	Substrate cover percentage by the Sponge species <i>Biemna spp.</i> (unidentified)
<i>Callyspongia armigera</i>	Substrate cover percentage by the Sponge species <i>Callyspongia armigera</i>
<i>Callyspongia fallax</i>	Substrate cover percentage by the Sponge species <i>Callyspongia fallax</i>
<i>Callyspongia plicifera</i>	Substrate cover percentage by the Sponge species <i>Callyspongia plicifera</i>
<i>Callyspongia spp.</i>	Substrate cover percentage by the Sponge species <i>Callyspongia spp.</i> (unidentified)
<i>Callyspongia tenerrima</i>	Substrate cover percentage by the Sponge species <i>Callyspongia tenerrima</i>
<i>Callyspongia vaginalis</i>	Substrate cover percentage by the Sponge species <i>Callyspongia vaginalis</i>
<i>Chondrilla caribensis</i>	Substrate cover percentage by the Sponge species <i>Chondrilla caribensis</i>
<i>Chondrosia collectrix</i>	Substrate cover percentage by the Sponge species <i>Chondrosia collectrix</i>
<i>Cinachyrella apion</i>	Substrate cover percentage by the Sponge species <i>Cinachyrella apion</i>

<i>Cinachyrella kuekenthali</i>	Substrate cover percentage by the Sponge species Cinachyrella kuekenthali
<i>Clathria spp.</i>	Substrate cover percentage by the Sponge species Clathria spp. (unidentified)
<i>Clathria venosa</i>	Substrate cover percentage by the Sponge species Clathria venosa
<i>Cliona aprica</i>	Substrate cover percentage by the Sponge species Cliona aprica
<i>Cliona caribbaea</i>	Substrate cover percentage by the Sponge species Cliona caribbaea
<i>Cliona delitrix</i>	Substrate cover percentage by the Sponge species Cliona delitrix
<i>Cliona laticavicola</i>	Substrate cover percentage by the Sponge species Cliona laticavicola
<i>Cliona spp.</i>	Substrate cover percentage by the Sponge species Cliona spp. (unidentified)
<i>Cliona tenuis</i>	Substrate cover percentage by the Sponge species Cliona tenuis
<i>Cliona varians</i>	Substrate cover percentage by the Sponge species Cliona varians
<i>Cribrochalina vasculum</i>	Substrate cover percentage by the Sponge species Cribrochalina vasculum
<i>Desmapsamma spp.</i>	Substrate cover percentage by the Sponge species Desmapsamma spp. (unidentified)
<i>Desmapsamma anchorata</i>	Substrate cover percentage by the Sponge species Desmapsamma anchorata
<i>Dictyonella funicularis</i>	Substrate cover percentage by the Sponge species Dictyonella funicularis
<i>Dictyonella spp.</i>	Substrate cover percentage by the Sponge species Dictyonella spp. (unidentified)
<i>Diplastrella spp.</i>	Substrate cover percentage by the Sponge species Diplastrella spp. (unidentified)
<i>Drummacidon reticulatum</i>	Substrate cover percentage by the Sponge species Drummacidon reticulatum
<i>Dysidea etheria</i>	Substrate cover percentage by the Sponge species Dysidea etheria
<i>Dysidea janiae</i>	Substrate cover percentage by the Sponge species Dysidea janiae
<i>Ectyoplasia ferox</i>	Substrate cover percentage by the Sponge species Ectyoplasia ferox
<i>Geodia neptuni</i>	Substrate cover percentage by the Sponge species Geodia neptuni

<i>Haliclona spp.</i>	Substrate cover percentage by the Sponge species <i>Haliclona</i> spp. (unidentified)
<i>Halisarca caerulea</i>	Substrate cover percentage by the Sponge species <i>Halisarca caerulea</i>
<i>Halisarca spp.</i>	Substrate cover percentage by the Sponge species <i>Halisarca</i> spp. (unidentified)
<i>Iotrochota arenosa</i>	Substrate cover percentage by the Sponge species <i>Iotrochota arenosa</i>
<i>Iotrochota birotulata</i>	Substrate cover percentage by the Sponge species <i>Iotrochota birotulata</i>
<i>Ircinia campana</i>	Substrate cover percentage by the Sponge species <i>Ircinia campana</i>
<i>Ircinia felix</i>	Substrate cover percentage by the Sponge species <i>Ircinia felix</i>
<i>Ircinia spp.</i>	Substrate cover percentage by the Sponge species <i>Ircinia</i> spp. (unidentified)
<i>Ircinia strobilina</i>	Substrate cover percentage by the Sponge species <i>Ircinia strobilina</i>
<i>Monanchora arbuscula</i>	Substrate cover percentage by the Sponge species <i>Monanchora arbuscula</i>
<i>Mycale laevis</i>	Substrate cover percentage by the Sponge species <i>Mycale laevis</i>
<i>Mycale laxissima</i>	Substrate cover percentage by the Sponge species <i>Mycale laxissima</i>
<i>Neofibularia nolitangere</i>	Substrate cover percentage by the Sponge species <i>Neofibularia nolitangere</i>
<i>Neopetrosia carbonaria</i>	Substrate cover percentage by the Sponge species <i>Neopetrosia carbonaria</i>
<i>Neopetrosia proxima</i>	Substrate cover percentage by the Sponge species <i>Neopetrosia proxima</i>
<i>Neopetrosia rosariensis</i>	Substrate cover percentage by the Sponge species <i>Neopetrosia rosariensis</i>
<i>Neopetrosia spp.</i>	Substrate cover percentage by the Sponge species <i>Neopetrosia</i> spp. (unidentified)
<i>Niphates alba</i>	Substrate cover percentage by the Sponge species <i>Niphates alba</i>
<i>Niphates caribica</i>	Substrate cover percentage by the Sponge species <i>Niphates caribica</i>
<i>Niphates caycedoi</i>	Substrate cover percentage by the Sponge species <i>Niphates caycedoi</i>
<i>Niphates digitalis</i>	Substrate cover percentage by the Sponge species <i>Niphates digitalis</i>

<i>Niphates erecta</i>	Substrate cover percentage by the Sponge species <i>Niphates erecta</i>
<i>Niphates spp.</i>	Substrate cover percentage by the Sponge species <i>Niphates spp.</i> (unidentified)
<i>Petrosia pellarca</i>	Substrate cover percentage by the Sponge species <i>Petrosia pellarca</i>
<i>Petrosia spp.</i>	Substrate cover percentage by the Sponge species <i>Petrosia spp.</i> (unidentified)
<i>Petrosia weinbergi</i>	Substrate cover percentage by the Sponge species <i>Petrosia weinbergi</i>
<i>Phorbas amaranthus</i>	Substrate cover percentage by the Sponge species <i>Phorbas amaranthus</i>
<i>Placosphaerastra micraster</i>	Substrate cover percentage by the Sponge species <i>Placosphaerastra micraster</i>
<i>Plakortis angulospiculatus</i>	Substrate cover percentage by the Sponge species <i>Plakortis angulospiculatus</i>
<i>Plakortis halichondrioides</i>	Substrate cover percentage by the Sponge species <i>Plakortis halichondrioides</i>
<i>Plakortis spp.</i>	Substrate cover percentage by the Sponge species <i>Plakortis spp.</i> (unidentified)
<i>Prosuberites laughlini</i>	Substrate cover percentage by the Sponge species <i>Prosuberites laughlini</i>
<i>Ptilocaulis walpersii</i>	Substrate cover percentage by the Sponge species <i>Ptilocaulis walpersii</i>
<i>Scopalina ruetzleri</i>	Substrate cover percentage by the Sponge species <i>Scopalina ruetzleri</i>
<i>Smenospongia aurea</i>	Substrate cover percentage by the Sponge species <i>Smenospongia aurea</i>
<i>Smenospongia conulosa</i>	Substrate cover percentage by the Sponge species <i>Smenospongia conulosa</i>
<i>Spheciospongia vesparium</i>	Substrate cover percentage by the Sponge species <i>Spheciospongia vesparium</i>
<i>Spirastrella coccinea</i>	Substrate cover percentage by the Sponge species <i>Spirastrella coccinea</i>
<i>Spirastrella hartmani</i>	Substrate cover percentage by the Sponge species <i>Spirastrella hartmani</i>
<i>Suberea spp.</i>	Substrate cover percentage by the Sponge species <i>Suberea spp.</i> (unidentified)
<i>Svenzea zeai</i>	Substrate cover percentage by the Sponge species <i>Svenzea zeai</i>
<i>Tedania klausii</i>	Substrate cover percentage by the Sponge species <i>Tedania klausii</i>

<i>Topsentia ophiraphidites</i>	Substrate cover percentage by the Sponge species <i>Topsentia ophiraphidites</i>
<i>Topsentia spp.</i>	Substrate cover percentage by the Sponge species <i>Topsentia spp.</i> (unidentified)
<i>Verongula reiswigi</i>	Substrate cover percentage by the Sponge species <i>Verongula reiswigi</i>
<i>Verongula rigida</i>	Substrate cover percentage by the Sponge species <i>Verongula rigida</i>
<i>Verongula spp.</i>	Substrate cover percentage by the Sponge species <i>Verongula spp.</i> (unidentified)
<i>Xestospongia muta</i>	Substrate cover percentage by the Sponge species <i>Xestospongia muta</i>
<i>Sponge spp.</i>	Substrate cover percentage by the Sponge species <i>Sponge spp.</i> (unidentified)
<i>Sponges (total)</i>	Substrate cover percentage by all Sponge species
<i>Acropora cervicornis</i>	Substrate cover percentage by the Stony Coral species <i>Acropora cervicornis</i>
<i>Acropora palmata</i>	Substrate cover percentage by the Stony Coral species <i>Acropora palmata</i>
<i>Acropora prolifera</i>	Substrate cover percentage by the Stony Coral species <i>Acropora prolifera</i>
<i>Agaricia agaricites</i>	Substrate cover percentage by the Stony Coral species <i>Agaricia agaricites</i>
<i>Agaricia grahamae</i>	Substrate cover percentage by the Stony Coral species <i>Agaricia grahamae</i>
<i>Agaricia humilis</i>	Substrate cover percentage by the Stony Coral species <i>Agaricia humilis</i>
<i>Agaricia lamarcki</i>	Substrate cover percentage by the Stony Coral species <i>Agaricia lamarcki</i>
<i>Agaricia spp.</i>	Substrate cover percentage by the Stony Coral species <i>Agaricia spp.</i> (unidentified)
<i>Colpophyllia natans</i>	Substrate cover percentage by the Stony Coral species <i>Colpophyllia natans</i>
<i>Dendrogyra cylindrus</i>	Substrate cover percentage by the Stony Coral species <i>Dendrogyra cylindrus</i>
<i>Dichocoenia stokesii</i>	Substrate cover percentage by the Stony Coral species <i>Dichocoenia stokesii</i>
<i>Diploria labyrinthiformis</i>	Substrate cover percentage by the Stony Coral species <i>Diploria labyrinthiformis</i>
<i>Eusmilia fastigiata</i>	Substrate cover percentage by the Stony Coral species <i>Eusmilia fastigiata</i>

<i>Helioseris cucullata</i>	Substrate cover percentage by the Stony Coral species Helioseris cucullata
<i>Isophyllia rigida</i>	Substrate cover percentage by the Stony Coral species Isophyllia rigida
<i>Isophyllia sinuosa</i>	Substrate cover percentage by the Stony Coral species Isophyllia sinuosa
<i>Madracis auretenra</i>	Substrate cover percentage by the Stony Coral species Madracis auretenra
<i>Madracis carmabi</i>	Substrate cover percentage by the Stony Coral species Madracis carmabi
<i>Madracis decactis</i>	Substrate cover percentage by the Stony Coral species Madracis decactis
<i>Madracis formosa</i>	Substrate cover percentage by the Stony Coral species Madracis formosa
<i>Madracis pharensis</i>	Substrate cover percentage by the Stony Coral species Madracis pharensis
<i>Madracis senaria</i>	Substrate cover percentage by the Stony Coral species Madracis senaria
<i>Madracis spp.</i>	Substrate cover percentage by the Stony Coral species Madracis spp. (unidentified)
<i>Manicina areolata</i>	Substrate cover percentage by the Stony Coral species Manicina areolata
<i>Meandrina meandrites</i>	Substrate cover percentage by the Stony Coral species Meandrina meandrites
<i>Montastraea cavernosa</i>	Substrate cover percentage by the Stony Coral species Montastraea cavernosa
<i>Mussa angulosa</i>	Substrate cover percentage by the Stony Coral species Mussa angulosa
<i>Mycetophyllia aliciae</i>	Substrate cover percentage by the Stony Coral species Mycetophyllia aliciae
<i>Mycetophyllia danaana</i>	Substrate cover percentage by the Stony Coral species Mycetophyllia danaana
<i>Mycetophyllia ferox</i>	Substrate cover percentage by the Stony Coral species Mycetophyllia ferox
<i>Mycetophyllia lamarckiana</i>	Substrate cover percentage by the Stony Coral species Mycetophyllia lamarckiana
<i>Mycetophyllia spp.</i>	Substrate cover percentage by the Stony Coral species Mycetophyllia spp. (unidentified)
<i>Oculina diffusa</i>	Substrate cover percentage by the Stony Coral species Oculina diffusa
<i>Orbicella annularis</i>	Substrate cover percentage by the Stony Coral species Orbicella annularis. Orbicella species-specific data only available since 2018.

<i>Orbicella annularis (complex)</i>	Substrate cover percentage by all the Stony Coral species part of the <i>Orbicella annularis (complex)</i> . Since 2018, when species of the complex are being identified, this is calculated as the aggregate of cover percentage of <i>Orbicella</i> species.
<i>Orbicella faveolata</i>	Substrate cover percentage by the Stony Coral species <i>Orbicella faveolata</i> . Orbicellid species-specific data only available since 2018.
<i>Orbicella franksi</i>	Substrate cover percentage by the Stony Coral species <i>Orbicella franksi</i> . Orbicellid species-specific data only available since 2018.
<i>Porites astreoides</i>	Substrate cover percentage by the Stony Coral species <i>Porites astreoides</i>
<i>Porites colonensis</i>	Substrate cover percentage by the Stony Coral species <i>Porites colonensis</i>
<i>Porites divaricata</i>	Substrate cover percentage by the Stony Coral species <i>Porites divaricata</i>
<i>Porites furcata</i>	Substrate cover percentage by the Stony Coral species <i>Porites furcata</i>
<i>Porites porites</i>	Substrate cover percentage by the Stony Coral species <i>Porites porites</i>
<i>Pseudodiploria clivosa</i>	Substrate cover percentage by the Stony Coral species <i>Pseudodiploria clivosa</i>
<i>Pseudodiploria strigosa</i>	Substrate cover percentage by the Stony Coral species <i>Pseudodiploria strigosa</i>
<i>Scolymia cubensis</i>	Substrate cover percentage by the Stony Coral species <i>Scolymia cubensis</i>
<i>Scolymia spp.</i>	Substrate cover percentage by the Stony Coral species <i>Scolymia spp. (unidentified)</i>
<i>Siderastrea radians</i>	Substrate cover percentage by the Stony Coral species <i>Siderastrea radians</i>
<i>Siderastrea siderea</i>	Substrate cover percentage by the Stony Coral species <i>Siderastrea siderea</i>
<i>Solenastrea bournoni</i>	Substrate cover percentage by the Stony Coral species <i>Solenastrea bournoni</i>
<i>Stephanocoenia intersepta</i>	Substrate cover percentage by the Stony Coral species <i>Stephanocoenia intersepta</i>
<i>Stony Coral spp.</i>	Substrate cover percentage by the Stony Coral species <i>Stony Coral spp. (unidentified)</i>
<i>Millepora alcicornis</i>	Substrate cover percentage by the Stony Coral species <i>Millepora alcicornis</i>
<i>Millepora complanata</i>	Substrate cover percentage by the Stony Coral species <i>Millepora complanata</i>

<i>Millepora spp.</i>	Substrate cover percentage by the Stony Coral species Millepora spp. (unidentified)
<i>Millepora squarrosa</i>	Substrate cover percentage by the Stony Coral species Millepora squarrosa
<i>Styaster roseus</i>	Substrate cover percentage by the Stony Coral species Styaster roseus
<i>Stony Corals (total)</i>	Substrate cover percentage by all Stony Coral species, including hydrocorals (Millepora)
<i>Stony Corals (total # diseased col.)</i>	Total number of diseased Stony Coral colonies
<i>Stony Corals (total #col.)</i>	Total number of [healthy and diseased] Stony Coral colonies
<i>Partially bleached coral (total)</i>	Substrate cover percentage by Partially bleached coral
<i>Recently dead coral (total)</i>	Substrate cover percentage by Recently dead coral
<i>Condominium spp.</i>	Substrate cover percentage by the Zoanthid species Condominium spp. (unidentified)
<i>Palythoa grandis</i>	Substrate cover percentage by the Zoanthid species Palythoa grandis
<i>Palythoa caribaeorum</i>	Substrate cover percentage by the Zoanthid species Palythoa caribaeorum
<i>Zoanthids (total)</i>	Substrate cover percentage by all Zoanthid species

Fish and Macroinvertebrate Abundance

Fish and Macroinvertebrate Abundance Data Description:

This data file includes reef fish and macroinvertebrates counts in 30-meter squared band transects from 1999-2019. The data units are number (#) of individuals/30 m². This data file includes blank cells, representing species not considered during the survey and transects or stations not completed.

For data collection field methodologies see the Puerto Rico Coral Reef Monitoring Program Database Report (August 2019).

Fish and Macroinvertebrate Abundance Data Label Definitions:

<i>Abudefduf saxatilis</i>	# of Abudefduf saxatilis individuals / 30 m2
<i>Abudefduf taurus</i>	# of Abudefduf taurus individuals / 30 m2
<i>Acanthemblemaria aspera</i>	# of Acanthemblemaria aspera individuals / 30 m2
<i>Acanthemblemaria chaplini</i>	# of Acanthemblemaria chaplini individuals / 30 m2
<i>Acanthemblemaria maria</i>	# of Acanthemblemaria maria individuals / 30 m2
<i>Acanthemblemaria spinosa</i>	# of Acanthemblemaria spinosa individuals / 30 m2
<i>Acanthocybium solandri</i>	# of Acanthocybium solandri individuals / 30 m2
<i>Acanthostracion polygonius</i>	# of Acanthostracion polygonius individuals / 30 m2

<i>Acanthostracion quadricornis</i>	# of Acanthostracion quadricornis individuals / 30 m2
<i>Acanthurus tractus (bahianus)</i>	# of Acanthurus tractus and/or bahianus individuals / 30 m2
<i>Acanthurus chirurgus</i>	# of Acanthurus chirurgus individuals / 30 m2
<i>Acanthurus coeruleus</i>	# of Acanthurus coeruleus individuals / 30 m2
<i>Aluterus scriptus</i>	# of Aluterus scriptus individuals / 30 m2
<i>Aluterus spp.</i>	# of Aluterus spp. (unidentified) individuals / 30 m2
<i>Amblycirrhitus pinos</i>	# of Amblycirrhitus pinos individuals / 30 m2
<i>Ancylomenes pedersoni</i>	# of Ancylomenes pedersoni individuals / 30 m2
<i>Anguilla rostrata</i>	# of Anguilla rostrata individuals / 30 m2
<i>Anisotremus surinamensis</i>	# of Anisotremus surinamensis individuals / 30 m2
<i>Anisotremus virginicus</i>	# of Anisotremus virginicus individuals / 30 m2
<i>Apogon binotatus</i>	# of Apogon binotatus individuals / 30 m2
<i>Apogon maculatus</i>	# of Apogon maculatus individuals / 30 m2
<i>Apogon robinsi</i>	# of Apogon robinsi individuals / 30 m2
<i>Apogon spp.</i>	# of Apogon spp. (unidentified) individuals / 30 m2
<i>Apogon townsendi</i>	# of Apogon townsendi individuals / 30 m2
<i>Astrophyton muricatum</i>	# of Astrophyton muricatum individuals / 30 m2
<i>Atherinomorus stipes</i>	# of Atherinomorus stipes individuals / 30 m2
<i>Aulostomus maculatus</i>	# of Aulostomus maculatus individuals / 30 m2
<i>Balistes vetula</i>	# of Balistes vetula individuals / 30 m2
<i>Blenniidae spp.</i>	# of Blenniidae spp. (unidentified) individuals / 30 m2
<i>Bodianus rufus</i>	# of Bodianus rufus individuals / 30 m2
<i>Bothus lunatus</i>	# of Bothus lunatus individuals / 30 m2
<i>Calamus calamus</i>	# of Calamus calamus individuals / 30 m2
<i>Calamus pennatula</i>	# of Calamus pennatula individuals / 30 m2
<i>Calamus spp.</i>	# of Calamus spp. (unidentified) individuals / 30 m2
<i>Cantherhines macrocerus</i>	# of Cantherhines macrocerus individuals / 30 m2
<i>Cantherhines pullus</i>	# of Cantherhines pullus individuals / 30 m2
<i>Canthidermis sufflamen</i>	# of Canthidermis sufflamen individuals / 30 m2
<i>Canthigaster rostrata</i>	# of Canthigaster rostrata individuals / 30 m2
<i>Carangoides bartholomaei</i>	# of Carangoides bartholomaei individuals / 30 m2
<i>Caranx crysos</i>	# of Caranx crysos individuals / 30 m2
<i>Caranx hippos</i>	# of Caranx hippos individuals / 30 m2
<i>Caranx latus</i>	# of Caranx latus individuals / 30 m2
<i>Caranx lugubris</i>	# of Caranx lugubris individuals / 30 m2
<i>Caranx ruber</i>	# of Caranx ruber individuals / 30 m2
<i>Carcharhinus perezii</i>	# of Carcharhinus perezii individuals / 30 m2
<i>Carpilius corallinus</i>	# of Carpilius corallinus individuals / 30 m2
<i>Centropyge argi</i>	# of Centropyge argi individuals / 30 m2
<i>Cephalopholis cruentata</i>	# of Cephalopholis cruentata individuals / 30 m2
<i>Cephalopholis fulva</i>	# of Cephalopholis fulva individuals / 30 m2
<i>Chaenopsis ocellata</i>	# of Chaenopsis ocellata individuals / 30 m2

<i>Chaetodon capistratus</i>	# of Chaetodon capistratus individuals / 30 m2
<i>Chaetodon ocellatus</i>	# of Chaetodon ocellatus individuals / 30 m2
<i>Chaetodon sedentarius</i>	# of Chaetodon sedentarius individuals / 30 m2
<i>Chaetodon striatus</i>	# of Chaetodon striatus individuals / 30 m2
<i>Chromis cyanea</i>	# of Chromis cyanea individuals / 30 m2
<i>Chromis insolata</i>	# of Chromis insolata individuals / 30 m2
<i>Chromis multilineata</i>	# of Chromis multilineata individuals / 30 m2
<i>Chromis spp.</i>	# of Chromis spp. (unidentified) individuals / 30 m2
<i>Ciphoma gibbosum</i>	# of Ciphoma gibbosum individuals / 30 m2
<i>Clepticus parrae</i>	# of Clepticus parrae individuals / 30 m2
<i>Coralliophila caribaea</i>	# of Coralliophila caribaea individuals / 30 m2
<i>Coralliophila spp.</i>	# of Coralliophila spp. (unidentified) individuals / 30 m2
<i>Coryphopterus glaucofraenum</i>	# of Coryphopterus glaucofraenum individuals / 30 m2
<i>Coryphopterus hyalinus</i>	# of Coryphopterus hyalinus individuals / 30 m2
<i>Coryphopterus lipernes</i>	# of Coryphopterus lipernes individuals / 30 m2
<i>Coryphopterus personatus</i>	# of Coryphopterus personatus individuals / 30 m2
<i>Coryphopterus spp.</i>	# of Coryphopterus spp. (unidentified) individuals / 30 m2
<i>Cosmocampus albirostris</i>	# of Cosmocampus albirostris individuals / 30 m2
<i>Cryptotomus roseus</i>	# of Cryptotomus roseus individuals / 30 m2
<i>Ctenogobius saepepallens</i>	# of Ctenogobius saepepallens individuals / 30 m2
<i>Cyphoma gibbosum</i>	# of Cyphoma gibbosum individuals / 30 m2
<i>Dactyloscopus crossotus</i>	# of Dactyloscopus crossotus individuals / 30 m2
<i>Damithrax spinosissimus</i>	# of Damithrax spinosissimus individuals / 30 m2
<i>Decapterus macarellus</i>	# of Decapterus macarellus individuals / 30 m2
<i>Derilissus altifrons</i>	# of Derilissus altifrons individuals / 30 m2
<i>Diadema antillarum</i>	# of Diadema antillarum individuals / 30 m2
<i>Diodon holocanthus</i>	# of Diodon holocanthus individuals / 30 m2
<i>Diodon hystrix</i>	# of Diodon hystrix individuals / 30 m2
<i>Doratonotus megalepis</i>	# of Doratonotus megalepis individuals / 30 m2
<i>Echeneis naucrates</i>	# of Echeneis naucrates individuals / 30 m2
<i>Echinometra lucunter</i>	# of Echinometra lucunter individuals / 30 m2
<i>Echinometra spp.</i>	# of Echinometra spp. (unidentified) individuals / 30 m2
<i>Echinometra viridis</i>	# of Echinometra viridis individuals / 30 m2
<i>Elacatinus dilepis</i>	# of Elacatinus dilepis individuals / 30 m2
<i>Elacatinus evelynae</i>	# of Elacatinus evelynae individuals / 30 m2
<i>Elacatinus horsti</i>	# of Elacatinus horsti individuals / 30 m2
<i>Elacatinus saucrus</i>	# of Elacatinus saucrus individuals / 30 m2
<i>Enneanectes atrorus</i>	# of Enneanectes atrorus individuals / 30 m2
<i>Epinephelus adscensionis</i>	# of Epinephelus adscensionis individuals / 30 m2
<i>Epinephelus guttatus</i>	# of Epinephelus guttatus individuals / 30 m2
<i>Epinephelus spp.</i>	# of Epinephelus spp. (unidentified) individuals / 30 m2
<i>Epinephelus striatus</i>	# of Epinephelus striatus individuals / 30 m2

<i>Equetus lanceolatus</i>	# of <i>Equetus lanceolatus</i> individuals / 30 m ²
<i>Equetus punctatus</i>	# of <i>Equetus punctatus</i> individuals / 30 m ²
<i>Eucidaris tribuloides</i>	# of <i>Eucidaris tribuloides</i> individuals / 30 m ²
<i>Galeocerdo cuvier</i>	# of <i>Galeocerdo cuvier</i> individuals / 30 m ²
<i>Gastropoda spp.</i>	# of <i>Gastropoda spp.</i> (unidentified) individuals / 30 m ²
<i>Gerres cinereus</i>	# of <i>Gerres cinereus</i> individuals / 30 m ²
<i>Gillelus greyae</i>	# of <i>Gillelus greyae</i> individuals / 30 m ²
<i>Ginglymostoma cirratum</i>	# of <i>Ginglymostoma cirratum</i> individuals / 30 m ²
<i>Gnatholepis thompsoni</i>	# of <i>Gnatholepis thompsoni</i> individuals / 30 m ²
<i>Gobiosoma spp.</i>	# of <i>Gobiosoma spp.</i> (unidentified) individuals / 30 m ²
<i>Gonioplectrus hispanus</i>	# of <i>Gonioplectrus hispanus</i> individuals / 30 m ²
<i>Gramma linki</i>	# of <i>Gramma linki</i> individuals / 30 m ²
<i>Gramma loreto</i>	# of <i>Gramma loreto</i> individuals / 30 m ²
<i>Grapsus spp.</i>	# of <i>Grapsus spp.</i> (unidentified) individuals / 30 m ²
<i>Gymnothorax funebris</i>	# of <i>Gymnothorax funebris</i> individuals / 30 m ²
<i>Gymnothorax miliaris</i>	# of <i>Gymnothorax miliaris</i> individuals / 30 m ²
<i>Gymnothorax moringa</i>	# of <i>Gymnothorax moringa</i> individuals / 30 m ²
<i>Gymnothorax spp.</i>	# of <i>Gymnothorax spp.</i> (unidentified) individuals / 30 m ²
<i>Gymnothorax vicinus</i>	# of <i>Gymnothorax vicinus</i> individuals / 30 m ²
<i>Haemulon album</i>	# of <i>Haemulon album</i> individuals / 30 m ²
<i>Haemulon aurolineatum</i>	# of <i>Haemulon aurolineatum</i> individuals / 30 m ²
<i>Haemulon carbonarium</i>	# of <i>Haemulon carbonarium</i> individuals / 30 m ²
<i>Haemulon chrysargyreum</i>	# of <i>Haemulon chrysargyreum</i> individuals / 30 m ²
<i>Haemulon flavolineatum</i>	# of <i>Haemulon flavolineatum</i> individuals / 30 m ²
<i>Haemulon macrostomum</i>	# of <i>Haemulon macrostomum</i> individuals / 30 m ²
<i>Haemulon melanurum</i>	# of <i>Haemulon melanurum</i> individuals / 30 m ²
<i>Haemulon parra</i>	# of <i>Haemulon parra</i> individuals / 30 m ²
<i>Haemulon plumierii</i>	# of <i>Haemulon plumierii</i> individuals / 30 m ²
<i>Haemulon sciurus</i>	# of <i>Haemulon sciurus</i> individuals / 30 m ²
<i>Haemulon spp.</i>	# of <i>Haemulon spp.</i> (unidentified) individuals / 30 m ²
<i>Haemulon squamipinna</i>	# of <i>Haemulon squamipinna</i> individuals / 30 m ²
<i>Haemulon vittatum</i>	# of <i>Haemulon vittatum</i> individuals / 30 m ²
<i>Halichoeres bivittatus</i>	# of <i>Halichoeres bivittatus</i> individuals / 30 m ²
<i>Halichoeres cyanocephalus</i>	# of <i>Halichoeres cyanocephalus</i> individuals / 30 m ²
<i>Halichoeres garnoti</i>	# of <i>Halichoeres garnoti</i> individuals / 30 m ²
<i>Halichoeres maculipinna</i>	# of <i>Halichoeres maculipinna</i> individuals / 30 m ²
<i>Halichoeres poeyi</i>	# of <i>Halichoeres poeyi</i> individuals / 30 m ²
<i>Halichoeres radiatus</i>	# of <i>Halichoeres radiatus</i> individuals / 30 m ²
<i>Halichoeres spp.</i>	# of <i>Halichoeres spp.</i> (unidentified) individuals / 30 m ²
<i>Hemiramphus brasiliensis</i>	# of <i>Hemiramphus brasiliensis</i> individuals / 30 m ²
<i>Hermodice carunculata</i>	# of <i>Hermodice carunculata</i> individuals / 30 m ²
<i>Heteropriacanthus cruentatus</i>	# of <i>Heteropriacanthus cruentatus</i> individuals / 30 m ²

<i>Holacanthus bermudensis</i>	# of <i>Holacanthus bermudensis</i> individuals / 30 m2
<i>Holacanthus ciliaris</i>	# of <i>Holacanthus ciliaris</i> individuals / 30 m2
<i>Holacanthus tricolor</i>	# of <i>Holacanthus tricolor</i> individuals / 30 m2
<i>Holocentrus adscensionis</i>	# of <i>Holocentrus adscensionis</i> individuals / 30 m2
<i>Holocentrus rufus</i>	# of <i>Holocentrus rufus</i> individuals / 30 m2
<i>Holothuria (Halodeima) mexicana</i>	# of <i>Holothuria (Halodeima) mexicana</i> individuals / 30 m2
<i>Hypleurochilus bermudensis</i>	# of <i>Hypleurochilus bermudensis</i> individuals / 30 m2
<i>Hypoatherina harringtonensis</i>	# of <i>Hypoatherina harringtonensis</i> individuals / 30 m2
<i>Hypoplectrus aberrans</i>	# of <i>Hypoplectrus aberrans</i> individuals / 30 m2
<i>Hypoplectrus chlorurus</i>	# of <i>Hypoplectrus chlorurus</i> individuals / 30 m2
<i>Hypoplectrus guttavarius</i>	# of <i>Hypoplectrus guttavarius</i> individuals / 30 m2
<i>Hypoplectrus indigo</i>	# of <i>Hypoplectrus indigo</i> individuals / 30 m2
<i>Hypoplectrus nigricans</i>	# of <i>Hypoplectrus nigricans</i> individuals / 30 m2
<i>Hypoplectrus puella</i>	# of <i>Hypoplectrus puella</i> individuals / 30 m2
<i>Hypoplectrus spp.</i>	# of <i>Hypoplectrus spp.</i> (unidentified) individuals / 30 m2
<i>Hypoplectrus unicolor</i>	# of <i>Hypoplectrus unicolor</i> individuals / 30 m2
<i>Hypsoblennius exstochilus</i>	# of <i>Hypsoblennius exstochilus</i> individuals / 30 m2
<i>Isostichopus badionotus</i>	# of <i>Isostichopus badionotus</i> individuals / 30 m2
<i>Jenkinsia lamprotaenia</i>	# of <i>Jenkinsia lamprotaenia</i> individuals / 30 m2
<i>Kaupichthys nuchalis</i>	# of <i>Kaupichthys nuchalis</i> individuals / 30 m2
<i>Kyphosus sectatrix</i>	# of <i>Kyphosus sectatrix</i> individuals / 30 m2
<i>Kyphosus spp.</i>	# of <i>Kyphosus spp.</i> (unidentified) individuals / 30 m2
<i>Labrisomus kalisheræ</i>	# of <i>Labrisomus kalisheræ</i> individuals / 30 m2
<i>Lachnolaimus maximus</i>	# of <i>Lachnolaimus maximus</i> individuals / 30 m2
<i>Lactophrys bicaudalis</i>	# of <i>Lactophrys bicaudalis</i> individuals / 30 m2
<i>Lactophrys trigonus</i>	# of <i>Lactophrys trigonus</i> individuals / 30 m2
<i>Lactophrys triqueter</i>	# of <i>Lactophrys triqueter</i> individuals / 30 m2
<i>Liopropoma mowbrayi</i>	# of <i>Liopropoma mowbrayi</i> individuals / 30 m2
<i>Liopropoma rubre</i>	# of <i>Liopropoma rubre</i> individuals / 30 m2
<i>Liopropoma spp.</i>	# of <i>Liopropoma spp.</i> (unidentified) individuals / 30 m2
<i>Lipogramma regia</i>	# of <i>Lipogramma regia</i> individuals / 30 m2
<i>Lobatus gigas</i>	# of <i>Lobatus gigas</i> individuals / 30 m2
<i>Lutjanus analis</i>	# of <i>Lutjanus analis</i> individuals / 30 m2
<i>Lutjanus apodus</i>	# of <i>Lutjanus apodus</i> individuals / 30 m2
<i>Lutjanus buccanella</i>	# of <i>Lutjanus buccanella</i> individuals / 30 m2
<i>Lutjanus cyanopterus</i>	# of <i>Lutjanus cyanopterus</i> individuals / 30 m2
<i>Lutjanus griseus</i>	# of <i>Lutjanus griseus</i> individuals / 30 m2
<i>Lutjanus jocu</i>	# of <i>Lutjanus jocu</i> individuals / 30 m2
<i>Lutjanus mahogoni</i>	# of <i>Lutjanus mahogoni</i> individuals / 30 m2
<i>Lutjanus synagris</i>	# of <i>Lutjanus synagris</i> individuals / 30 m2
<i>Lythrypnus crocodilus</i>	# of <i>Lythrypnus crocodilus</i> individuals / 30 m2
<i>Malacanthus plumieri</i>	# of <i>Malacanthus plumieri</i> individuals / 30 m2

<i>Malacoctenus gilli</i>	# of Malacoctenus gilli individuals / 30 m2
<i>Malacoctenus spp.</i>	# of Malacoctenus spp. (unidentified) individuals / 30 m2
<i>Malacoctenus triangulatus</i>	# of Malacoctenus triangulatus individuals / 30 m2
<i>Malacoctenus versicolor</i>	# of Malacoctenus versicolor individuals / 30 m2
<i>Melichthys niger</i>	# of Melichthys niger individuals / 30 m2
<i>Microspathodon chrysurus</i>	# of Microspathodon chrysurus individuals / 30 m2
<i>Monacanthus spp.</i>	# of Monacanthus spp. (unidentified) individuals / 30 m2
<i>Monacanthus tuckeri</i>	# of Monacanthus tuckeri individuals / 30 m2
<i>Mugil curema</i>	# of Mugil curema individuals / 30 m2
<i>Mulloidichthys martinicus</i>	# of Mulloidichthys martinicus individuals / 30 m2
<i>Muraena robusta</i>	# of Muraena robusta individuals / 30 m2
<i>Muraena spp.</i>	# of Muraena spp. (unidentified) individuals / 30 m2
<i>Mycteroperca interstitialis</i>	# of Mycteroperca interstitialis individuals / 30 m2
<i>Mycteroperca spp.</i>	# of Mycteroperca spp. (unidentified) individuals / 30 m2
<i>Mycteroperca tigris</i>	# of Mycteroperca tigris individuals / 30 m2
<i>Mycteroperca venenosa</i>	# of Mycteroperca venenosa individuals / 30 m2
<i>Myrichthys breviceps</i>	# of Myrichthys breviceps individuals / 30 m2
<i>Myrichthys ocellatus</i>	# of Myrichthys ocellatus individuals / 30 m2
<i>Myripristis jacobus</i>	# of Myripristis jacobus individuals / 30 m2
<i>Myrophis platyrhynchus</i>	# of Myrophis platyrhynchus individuals / 30 m2
<i>Neoniphon marianus</i>	# of Neoniphon marianus individuals / 30 m2
<i>Octopus vulgaris</i>	# of Octopus vulgaris individuals / 30 m2
<i>Ocyurus chrysurus</i>	# of Ocyurus chrysurus individuals / 30 m2
<i>Odontoscion dentex</i>	# of Odontoscion dentex individuals / 30 m2
<i>Ogilbia spp.</i>	# of Ogilbia spp. (unidentified) individuals / 30 m2
<i>Ophidion lagochila</i>	# of Ophidion lagochila individuals / 30 m2
<i>Ophioblennius atlanticus</i>	# of Ophioblennius atlanticus individuals / 30 m2
<i>Ophioblennius macclurei</i>	# of Ophioblennius macclurei individuals / 30 m2
<i>Ophioderma spp.</i>	# of Ophioderma spp. (unidentified) individuals / 30 m2
<i>Ophiothrix (Acanthophiothrix) suensoni</i>	# of Ophiothrix (Acanthophiothrix) suensoni individuals / 30 m2
<i>Paguristes spp.</i>	# of Paguristes spp. (unidentified) individuals / 30 m2
<i>Pagurus spp.</i>	# of Pagurus spp. (unidentified) individuals / 30 m2
<i>Panulirus argus</i>	# of Panulirus argus individuals / 30 m2
<i>Panulirus guttatus</i>	# of Panulirus guttatus individuals / 30 m2
<i>Paraclinus cingulatus</i>	# of Paraclinus cingulatus individuals / 30 m2
<i>Paraclinus fasciatus</i>	# of Paraclinus fasciatus individuals / 30 m2
<i>Paralabrax dewegeri</i>	# of Paralabrax dewegeri individuals / 30 m2
<i>Paranthias furcifer</i>	# of Paranthias furcifer individuals / 30 m2
<i>Pareques acuminatus</i>	# of Pareques acuminatus individuals / 30 m2
<i>Pempheris schomburgkii</i>	# of Pempheris schomburgkii individuals / 30 m2
<i>Pempheris spp.</i>	# of Pempheris spp. (unidentified) individuals / 30 m2

<i>Percnon gibbesi</i>	# of Percnon gibbesi individuals / 30 m2
<i>Periclimenes pedersoni</i>	# of Periclimenes pedersoni individuals / 30 m2
<i>Periclimenes spp.</i>	# of Periclimenes spp. (unidentified) individuals / 30 m2
<i>Phaeoptyx conklini</i>	# of Phaeoptyx conklini individuals / 30 m2
<i>Plectrypops retrospinis</i>	# of Plectrypops retrospinis individuals / 30 m2
<i>Polydactylus oligodon</i>	# of Polydactylus oligodon individuals / 30 m2
<i>Polydactylus virginicus</i>	# of Polydactylus virginicus individuals / 30 m2
<i>Pomacanthus arcuatus</i>	# of Pomacanthus arcuatus individuals / 30 m2
<i>Pomacanthus paru</i>	# of Pomacanthus paru individuals / 30 m2
<i>Priacanthus arenatus</i>	# of Priacanthus arenatus individuals / 30 m2
<i>Priacanthus spp.</i>	# of Priacanthus spp. (unidentified) individuals / 30 m2
<i>Priolepis hipoliti</i>	# of Priolepis hipoliti individuals / 30 m2
<i>Prognathodes aculeatus</i>	# of Prognathodes aculeatus individuals / 30 m2
<i>Prognathodes aya</i>	# of Prognathodes aya individuals / 30 m2
<i>Pseudupeneus maculatus</i>	# of Pseudupeneus maculatus individuals / 30 m2
<i>Psilotris celsa</i>	# of Psilotris celsa individuals / 30 m2
<i>Pteria columbus</i>	# of Pteria columbus individuals / 30 m2
<i>Pterois volitans</i>	# of Pterois volitans individuals / 30 m2
<i>Rypticus saponaceus</i>	# of Rypticus saponaceus individuals / 30 m2
<i>Sargocentron coruscum</i>	# of Sargocentron coruscum individuals / 30 m2
<i>Sargocentron vexillarium</i>	# of Sargocentron vexillarium individuals / 30 m2
<i>Scartella cristata</i>	# of Scartella cristata individuals / 30 m2
<i>Scarus coelestinus</i>	# of Scarus coelestinus individuals / 30 m2
<i>Scarus coeruleus</i>	# of Scarus coeruleus individuals / 30 m2
<i>Scarus guacamaia</i>	# of Scarus guacamaia individuals / 30 m2
<i>Scarus iseri</i>	# of Scarus iseri individuals / 30 m2
<i>Scarus spp.</i>	# of Scarus spp. (unidentified) individuals / 30 m2
<i>Scarus taeniopterus</i>	# of Scarus taeniopterus individuals / 30 m2
<i>Scarus vetula</i>	# of Scarus vetula individuals / 30 m2
<i>Scomberomorus cavalla</i>	# of Scomberomorus cavalla individuals / 30 m2
<i>Scomberomorus regalis</i>	# of Scomberomorus regalis individuals / 30 m2
<i>Scorpaena plumieri</i>	# of Scorpaena plumieri individuals / 30 m2
<i>Scyllarides spp.</i>	# of Scyllarides spp. (unidentified) individuals / 30 m2
<i>Serranus baldwini</i>	# of Serranus baldwini individuals / 30 m2
<i>Serranus spp.</i>	# of Serranus spp. (unidentified) individuals / 30 m2
<i>Serranus tabacarius</i>	# of Serranus tabacarius individuals / 30 m2
<i>Serranus tigrinus</i>	# of Serranus tigrinus individuals / 30 m2
<i>Sparisoma atomarium</i>	# of Sparisoma atomarium individuals / 30 m2
<i>Sparisoma aurofrenatum</i>	# of Sparisoma aurofrenatum individuals / 30 m2
<i>Sparisoma chrysopterum</i>	# of Sparisoma chrysopterum individuals / 30 m2
<i>Sparisoma radians</i>	# of Sparisoma radians individuals / 30 m2
<i>Sparisoma rubripinne</i>	# of Sparisoma rubripinne individuals / 30 m2

<i>Sparisoma spp.</i>	# of Sparisoma spp. (unidentified) individuals / 30 m2
<i>Sparisoma viride</i>	# of Sparisoma viride individuals / 30 m2
<i>Sphaeroides spp.</i>	# of Sphaeroides spp. (unidentified) individuals / 30 m2
<i>Sphaeroides greeleyi</i>	# of Sphaeroides greeleyi individuals / 30 m2
<i>Sphaeroides testudineus</i>	# of Sphaeroides testudineus individuals / 30 m2
<i>Sphyraena barracuda</i>	# of Sphyraena barracuda individuals / 30 m2
<i>Starksia smithvanizi</i>	# of Starksia smithvanizi individuals / 30 m2
<i>Stathmonotus tekla</i>	# of Stathmonotus tekla individuals / 30 m2
<i>Stegastes adustus</i>	# of Stegastes adustus individuals / 30 m2
<i>Stegastes diencaeus</i>	# of Stegastes diencaeus individuals / 30 m2
<i>Stegastes fuscus</i>	# of Stegastes fuscus individuals / 30 m2
<i>Stegastes leucostictus</i>	# of Stegastes leucostictus individuals / 30 m2
<i>Stegastes partitus</i>	# of Stegastes partitus individuals / 30 m2
<i>Stegastes planifrons</i>	# of Stegastes planifrons individuals / 30 m2
<i>Stegastes variabilis</i>	# of Stegastes variabilis individuals / 30 m2
<i>Stenopus hispidus</i>	# of Stenopus hispidus individuals / 30 m2
<i>Stenorhynchus seticornis</i>	# of Stenorhynchus seticornis individuals / 30 m2
<i>Stephanolepis hispidus</i>	# of Stephanolepis hispidus individuals / 30 m2
<i>Stephanolepis setifer</i>	# of Stephanolepis setifer individuals / 30 m2
<i>Stramonita rustica</i>	# of Stramonita rustica individuals / 30 m2
<i>Syngnathus spp.</i>	# of Syngnathus spp. (unidentified) individuals / 30 m2
<i>Synodus intermedius</i>	# of Synodus intermedius individuals / 30 m2
<i>Synodus saurus</i>	# of Synodus saurus individuals / 30 m2
<i>Synodus synodus</i>	# of Synodus synodus individuals / 30 m2
<i>Thalassoma bifasciatum</i>	# of Thalassoma bifasciatum individuals / 30 m2
<i>Tomicodon rupestris</i>	# of Tomicodon rupestris individuals / 30 m2
<i>Trachinotus goodei</i>	# of Trachinotus goodei individuals / 30 m2
<i>Tripneustes ventricosus</i>	# of Tripneustes ventricosus individuals / 30 m2
<i>Unidentified spp. (fish)</i>	# of Unidentified spp. (fish) individuals / 30 m2
<i>Urobatis jamaicensis</i>	# of Urobatis jamaicensis individuals / 30 m2
<i>Xanthichthys ringens</i>	# of Xanthichthys ringens individuals / 30 m2

Fish and Macroinvertebrate Size-Frequency Abundance

Fish and Macroinvertebrate Size-Frequency Abundance Data Description

This data file includes commercially, and ecologically important reef fish and macroinvertebrates counts per size class between 2004 - 2019. Between 2004 – 2013, these counts by size were annotated using the Active Search Census (ASEC) methodology for 30 minutes per monitoring station. Between 2015 – 2019, the methodology was shifted from ASEC to an extended fish and macroinvertebrate abundance band

transect. The data units between 2004 - 2013 are number (#) of individuals / 30 mins per site, and 2015 - 2019 are number (#) of individuals / 60 m². This data file includes blank cells, representing species not considered during the survey and transects or stations not completed.

For data collection field methodologies see the Puerto Rico Coral Reef Monitoring Program (PRCRMP) Database Report (August 2019).

Size classes and the size class size median in this data file are the following:

Classes	Size (cm)	*Median (cm)
c1	1-5	3
c2	6-10	8
c3	11-15	13
c4	16-20	18
c5	21-25	23
c6	26-30	28
c7	31-35	33
c8	36-40	38
c9	41-45	43
c10	46-50	48
c11	51-55	53
c12	56-60	58
c13	61-65	63
c14	66-70	68
c15	71-75	73
c16	76-80	78
c17	81-85	83
c18	86-90	88
c19	91-95	93
c20	96-100	98
c21	101-105	103
c22	106-110	108
c23	111-115	113
c24	116-120	118
c25	121-125	123
c30	146-150	148
c31	151-155	153
c32	156-160	158
c33	161-165	163
c34	166-170	168

c35	171-175	173
c36	176-180	178
c41	201-205	203

*The size class median was used as the length value to estimate fish biomass using fishbase.org tools (see [fish biomass data description](#)).

Fish and Macroinvertebrate Size-Frequency Abundance Data Label Definitions

<i>Acanthurus tractus (bahianus) c1</i>	# of individuals of <i>Acanthurus tractus</i> and/or <i>bahianus</i> between 1-5cm and a median size of 3cm
<i>Acanthurus tractus (bahianus) c2</i>	# of individuals of <i>Acanthurus tractus</i> and/or <i>bahianus</i> between 6-10cm and a median size of 8cm
<i>Acanthurus tractus (bahianus) c3</i>	# of individuals of <i>Acanthurus tractus</i> and/or <i>bahianus</i> between 11-15cm and a median size of 13cm
<i>Acanthurus tractus (bahianus) c4</i>	# of individuals of <i>Acanthurus tractus</i> and/or <i>bahianus</i> between 16-20cm and a median size of 18cm
<i>Acanthurus tractus (bahianus) c5</i>	# of individuals of <i>Acanthurus tractus</i> and/or <i>bahianus</i> between 21-25cm and a median size of 23cm
<i>Acanthurus chirurgus c1</i>	# of individuals of <i>Acanthurus chirurgus</i> between 1-5cm and a median size of 3cm
<i>Acanthurus chirurgus c2</i>	# of individuals of <i>Acanthurus chirurgus</i> between 6-10cm and a median size of 8cm
<i>Acanthurus chirurgus c3</i>	# of individuals of <i>Acanthurus chirurgus</i> between 11-15cm and a median size of 13cm
<i>Acanthurus chirurgus c4</i>	# of individuals of <i>Acanthurus chirurgus</i> between 16-20cm and a median size of 18cm
<i>Acanthurus coeruleus c1</i>	# of individuals of <i>Acanthurus coeruleus</i> between 1-5cm and a median size of 3cm
<i>Acanthurus coeruleus c2</i>	# of individuals of <i>Acanthurus coeruleus</i> between 6-10cm and a median size of 8cm
<i>Acanthurus coeruleus c3</i>	# of individuals of <i>Acanthurus coeruleus</i> between 11-15cm and a median size of 13cm
<i>Acanthurus coeruleus c4</i>	# of individuals of <i>Acanthurus coeruleus</i> between 16-20cm and a median size of 18cm
<i>Acanthurus coeruleus c5</i>	# of individuals of <i>Acanthurus coeruleus</i> between 21-25cm and a median size of 23cm
<i>Aetobatus narinari c18</i>	# of individuals of <i>Aetobatus narinari</i> between 86-90cm and a median size of 88cm
<i>Aetobatus narinari c19</i>	# of individuals of <i>Aetobatus narinari</i> between 91-95cm and a median size of 93cm
<i>Aetobatus narinari c24</i>	# of individuals of <i>Aetobatus narinari</i> between 116-120cm and a median size of 118cm
<i>Aetobatus narinari c30</i>	# of individuals of <i>Aetobatus narinari</i> between 146-150cm and a median size of 148cm
<i>Aetobatus narinari c34</i>	# of individuals of <i>Aetobatus narinari</i> between 166-170cm and a median size of 168cm

<i>Aetobatus narinari c35</i>	# of individuals of <i>Aetobatus narinari</i> between 171-175cm and a median size of 173cm
<i>Aetobatus narinari c8</i>	# of individuals of <i>Aetobatus narinari</i> between 36-40cm and a median size of 38cm
<i>Alectis ciliaris c9</i>	# of individuals of <i>Alectis ciliaris</i> between 41-45cm and a median size of 43cm
<i>Anchoa spp. c1</i>	# of individuals of <i>Anchoa</i> spp. between 1-5cm and a median size of 3cm
<i>Balistes vetula c10</i>	# of individuals of <i>Balistes vetula</i> between 46-50cm and a median size of 48cm
<i>Balistes vetula c5</i>	# of individuals of <i>Balistes vetula</i> between 21-25cm and a median size of 23cm
<i>Balistes vetula c6</i>	# of individuals of <i>Balistes vetula</i> between 26-30cm and a median size of 28cm
<i>Balistes vetula c7</i>	# of individuals of <i>Balistes vetula</i> between 31-35cm and a median size of 33cm
<i>Balistes vetula c8</i>	# of individuals of <i>Balistes vetula</i> between 36-40cm and a median size of 38cm
<i>Balistes vetula c9</i>	# of individuals of <i>Balistes vetula</i> between 41-45cm and a median size of 43cm
<i>Calamus pennatula c4</i>	# of individuals of <i>Calamus pennatula</i> between 16-20cm and a median size of 18cm
<i>Calamus pennatula c5</i>	# of individuals of <i>Calamus pennatula</i> between 21-25cm and a median size of 23cm
<i>Calamus pennatula c6</i>	# of individuals of <i>Calamus pennatula</i> between 26-30cm and a median size of 28cm
<i>Calamus pennatula c7</i>	# of individuals of <i>Calamus pennatula</i> between 31-35cm and a median size of 33cm
<i>Canthidermis sufflamen c12</i>	# of individuals of <i>Canthidermis sufflamen</i> between 56-60cm and a median size of 58cm
<i>Caranx crysos c10</i>	# of individuals of <i>Caranx crysos</i> between 46-50cm and a median size of 48cm
<i>Caranx crysos c1</i>	# of individuals of <i>Caranx crysos</i> between 1-5cm and a median size of 3cm
<i>Caranx crysos c2</i>	# of individuals of <i>Caranx crysos</i> between 6-10cm and a median size of 8cm
<i>Caranx crysos c4</i>	# of individuals of <i>Caranx crysos</i> between 16-20cm and a median size of 18cm
<i>Caranx crysos c5</i>	# of individuals of <i>Caranx crysos</i> between 21-25cm and a median size of 23cm
<i>Caranx crysos c6</i>	# of individuals of <i>Caranx crysos</i> between 26-30cm and a median size of 28cm
<i>Caranx crysos c7</i>	# of individuals of <i>Caranx crysos</i> between 31-35cm and a median size of 33cm
<i>Caranx crysos c8</i>	# of individuals of <i>Caranx crysos</i> between 36-40cm and a median size of 38cm
<i>Caranx crysos c9</i>	# of individuals of <i>Caranx crysos</i> between 41-45cm and a median size of 43cm

<i>Caranx hippos c10</i>	# of individuals of Caranx hippos between 46-50cm and a median size of 48cm
<i>Caranx hippos c12</i>	# of individuals of Caranx hippos between 56-60cm and a median size of 58cm
<i>Caranx hippos c14</i>	# of individuals of Caranx hippos between 66-70cm and a median size of 68cm
<i>Caranx hippos c6</i>	# of individuals of Caranx hippos between 26-30cm and a median size of 28cm
<i>Caranx hippos c8</i>	# of individuals of Caranx hippos between 36-40cm and a median size of 38cm
<i>Caranx hippos c9</i>	# of individuals of Caranx hippos between 41-45cm and a median size of 43cm
<i>Caranx latus c10</i>	# of individuals of Caranx latus between 46-50cm and a median size of 48cm
<i>Caranx latus c11</i>	# of individuals of Caranx latus between 51-55cm and a median size of 53cm
<i>Caranx latus c2</i>	# of individuals of Caranx latus between 6-10cm and a median size of 8cm
<i>Caranx latus c3</i>	# of individuals of Caranx latus between 11-15cm and a median size of 13cm
<i>Caranx latus c6</i>	# of individuals of Caranx latus between 26-30cm and a median size of 28cm
<i>Caranx latus c8</i>	# of individuals of Caranx latus between 36-40cm and a median size of 38cm
<i>Caranx lugubris c10</i>	# of individuals of Caranx lugubris between 46-50cm and a median size of 48cm
<i>Caranx lugubris c12</i>	# of individuals of Caranx lugubris between 56-60cm and a median size of 58cm
<i>Caranx lugubris c14</i>	# of individuals of Caranx lugubris between 66-70cm and a median size of 68cm
<i>Caranx lugubris c16</i>	# of individuals of Caranx lugubris between 76-80cm and a median size of 78cm
<i>Caranx lugubris c2</i>	# of individuals of Caranx lugubris between 6-10cm and a median size of 8cm
<i>Caranx lugubris c6</i>	# of individuals of Caranx lugubris between 26-30cm and a median size of 28cm
<i>Caranx lugubris c8</i>	# of individuals of Caranx lugubris between 36-40cm and a median size of 38cm
<i>Caranx ruber c2</i>	# of individuals of Caranx ruber between 6-10cm and a median size of 8cm
<i>Caranx ruber c3</i>	# of individuals of Caranx ruber between 11-15cm and a median size of 13cm
<i>Caranx ruber c5</i>	# of individuals of Caranx ruber between 21-25cm and a median size of 23cm
<i>Caranx ruber c8</i>	# of individuals of Caranx ruber between 36-40cm and a median size of 38cm
<i>Carcharhinus limbatus c18</i>	# of individuals of Carcharhinus limbatus between 86-90cm and a median size of 88cm

<i>Carcharhinus perezii c14</i>	# of individuals of <i>Carcharhinus perezii</i> between 66-70cm and a median size of 68cm
<i>Carcharhinus perezii c16</i>	# of individuals of <i>Carcharhinus perezii</i> between 76-80cm and a median size of 78cm
<i>Carcharhinus perezii c18</i>	# of individuals of <i>Carcharhinus perezii</i> between 86-90cm and a median size of 88cm
<i>Carcharhinus perezii c19</i>	# of individuals of <i>Carcharhinus perezii</i> between 91-95cm and a median size of 93cm
<i>Carcharhinus perezii c30</i>	# of individuals of <i>Carcharhinus perezii</i> between 146-150cm and a median size of 148cm
<i>Cephalopholis cruentata c1</i>	# of individuals of <i>Cephalopholis cruentata</i> between 1-5cm and a median size of 3cm
<i>Cephalopholis cruentata c2</i>	# of individuals of <i>Cephalopholis cruentata</i> between 6-10cm and a median size of 8cm
<i>Cephalopholis cruentata c3</i>	# of individuals of <i>Cephalopholis cruentata</i> between 11-15cm and a median size of 13cm
<i>Cephalopholis cruentata c4</i>	# of individuals of <i>Cephalopholis cruentata</i> between 16-20cm and a median size of 18cm
<i>Cephalopholis cruentata c5</i>	# of individuals of <i>Cephalopholis cruentata</i> between 21-25cm and a median size of 23cm
<i>Cephalopholis cruentata c6</i>	# of individuals of <i>Cephalopholis cruentata</i> between 26-30cm and a median size of 28cm
<i>Cephalopholis cruentata c7</i>	# of individuals of <i>Cephalopholis cruentata</i> between 31-35cm and a median size of 33cm
<i>Cephalopholis fulva c1</i>	# of individuals of <i>Cephalopholis fulva</i> between 1-5cm and a median size of 3cm
<i>Cephalopholis fulva c2</i>	# of individuals of <i>Cephalopholis fulva</i> between 6-10cm and a median size of 8cm
<i>Cephalopholis fulva c3</i>	# of individuals of <i>Cephalopholis fulva</i> between 11-15cm and a median size of 13cm
<i>Cephalopholis fulva c4</i>	# of individuals of <i>Cephalopholis fulva</i> between 16-20cm and a median size of 18cm
<i>Cephalopholis fulva c5</i>	# of individuals of <i>Cephalopholis fulva</i> between 21-25cm and a median size of 23cm
<i>Cephalopholis fulva c6</i>	# of individuals of <i>Cephalopholis fulva</i> between 26-30cm and a median size of 28cm
<i>Cephalopholis fulva c7</i>	# of individuals of <i>Cephalopholis fulva</i> between 31-35cm and a median size of 33cm
<i>Chaetodon ocellatus c3</i>	# of individuals of <i>Chaetodon ocellatus</i> between 11-15cm and a median size of 13cm
<i>Chaetodon sedentarius c2</i>	# of individuals of <i>Chaetodon sedentarius</i> between 6-10cm and a median size of 8cm
<i>Chaetodon striatus c2</i>	# of individuals of <i>Chaetodon striatus</i> between 6-10cm and a median size of 8cm
<i>Chromis cyanea c1</i>	# of individuals of <i>Chromis cyanea</i> between 1-5cm and a median size of 3cm
<i>Chromis cyanea c2</i>	# of individuals of <i>Chromis cyanea</i> between 6-10cm and a median size of 8cm

<i>Cyphoma gibbosum</i>	# of individuals of adult <i>Cyphoma gibbosum</i>
<i>Damithrax spinosissimus c2</i>	# of individuals of <i>Damithrax spinosissimus</i> between 6-10cm and a median size of 8cm
<i>Damithrax spinosissimus c3</i>	# of individuals of <i>Damithrax spinosissimus</i> between 11-15cm and a median size of 13cm
<i>Decapterus macarellus c3</i>	# of individuals of <i>Decapterus macarellus</i> between 11-15cm and a median size of 13cm
<i>Decapterus macarellus c4</i>	# of individuals of <i>Decapterus macarellus</i> between 16-20cm and a median size of 18cm
<i>Diadema antillarum (adult)</i>	# of individuals of adult <i>Diadema antillarum</i>
<i>Echinometra viridis (adult)</i>	# of individuals of adult <i>Echinometra viridis</i>
<i>Elagatis bipinnulata c10</i>	# of individuals of <i>Elagatis bipinnulata</i> between 46-50cm and a median size of 48cm
<i>Elagatis bipinnulata c12</i>	# of individuals of <i>Elagatis bipinnulata</i> between 56-60cm and a median size of 58cm
<i>Elagatis bipinnulata c14</i>	# of individuals of <i>Elagatis bipinnulata</i> between 66-70cm and a median size of 68cm
<i>Elagatis bipinnulata c8</i>	# of individuals of <i>Elagatis bipinnulata</i> between 36-40cm and a median size of 38cm
<i>Epinephelus adscensionis c6</i>	# of individuals of <i>Epinephelus adscensionis</i> between 26-30cm and a median size of 28cm
<i>Epinephelus adscensionis c8</i>	# of individuals of <i>Epinephelus adscensionis</i> between 36-40cm and a median size of 38cm
<i>Epinephelus adscensionis c9</i>	# of individuals of <i>Epinephelus adscensionis</i> between 41-45cm and a median size of 43cm
<i>Epinephelus guttatus c10</i>	# of individuals of <i>Epinephelus guttatus</i> between 46-50cm and a median size of 48cm
<i>Epinephelus guttatus c2</i>	# of individuals of <i>Epinephelus guttatus</i> between 6-10cm and a median size of 8cm
<i>Epinephelus guttatus c3</i>	# of individuals of <i>Epinephelus guttatus</i> between 11-15cm and a median size of 13cm
<i>Epinephelus guttatus c4</i>	# of individuals of <i>Epinephelus guttatus</i> between 16-20cm and a median size of 18cm
<i>Epinephelus guttatus c5</i>	# of individuals of <i>Epinephelus guttatus</i> between 21-25cm and a median size of 23cm
<i>Epinephelus guttatus c6</i>	# of individuals of <i>Epinephelus guttatus</i> between 26-30cm and a median size of 28cm
<i>Epinephelus guttatus c7</i>	# of individuals of <i>Epinephelus guttatus</i> between 31-35cm and a median size of 33cm
<i>Epinephelus guttatus c8</i>	# of individuals of <i>Epinephelus guttatus</i> between 36-40cm and a median size of 38cm
<i>Epinephelus guttatus c9</i>	# of individuals of <i>Epinephelus guttatus</i> between 41-45cm and a median size of 43cm
<i>Epinephelus itajara c25</i>	# of individuals of <i>Epinephelus itajara</i> between 121-125cm and a median size of 123cm
<i>Epinephelus striatus c10</i>	# of individuals of <i>Epinephelus striatus</i> between 46-50cm and a median size of 48cm

<i>Epinephelus striatus c11</i>	# of individuals of <i>Epinephelus striatus</i> between 51-55cm and a median size of 53cm
<i>Epinephelus striatus c12</i>	# of individuals of <i>Epinephelus striatus</i> between 56-60cm and a median size of 58cm
<i>Epinephelus striatus c13</i>	# of individuals of <i>Epinephelus striatus</i> between 61-65cm and a median size of 63cm
<i>Epinephelus striatus c14</i>	# of individuals of <i>Epinephelus striatus</i> between 66-70cm and a median size of 68cm
<i>Epinephelus striatus c15</i>	# of individuals of <i>Epinephelus striatus</i> between 71-75cm and a median size of 73cm
<i>Epinephelus striatus c18</i>	# of individuals of <i>Epinephelus striatus</i> between 86-90cm and a median size of 88cm
<i>Epinephelus striatus c5</i>	# of individuals of <i>Epinephelus striatus</i> between 21-25cm and a median size of 23cm
<i>Epinephelus striatus c7</i>	# of individuals of <i>Epinephelus striatus</i> between 31-35cm and a median size of 33cm
<i>Epinephelus striatus c8</i>	# of individuals of <i>Epinephelus striatus</i> between 36-40cm and a median size of 38cm
<i>Epinephelus striatus c9</i>	# of individuals of <i>Epinephelus striatus</i> between 41-45cm and a median size of 43cm
<i>Eretmochelys imbricata c14</i>	# of individuals of <i>Eretmochelys imbricata</i> between 66-70cm and a median size of 68cm
<i>Eucidaris tribuloides (adult)</i>	# of individuals of adult <i>Eucidaris tribuloides</i>
<i>Gerres cinereus c4</i>	# of individuals of <i>Gerres cinereus</i> between 16-20cm and a median size of 18cm
<i>Gerres cinereus c6</i>	# of individuals of <i>Gerres cinereus</i> between 26-30cm and a median size of 28cm
<i>Gerres cinereus c7</i>	# of individuals of <i>Gerres cinereus</i> between 31-35cm and a median size of 33cm
<i>Ginglymostoma cirratum c14</i>	# of individuals of <i>Ginglymostoma cirratum</i> between 66-70cm and a median size of 68cm
<i>Ginglymostoma cirratum c16</i>	# of individuals of <i>Ginglymostoma cirratum</i> between 76-80cm and a median size of 78cm
<i>Ginglymostoma cirratum c18</i>	# of individuals of <i>Ginglymostoma cirratum</i> between 86-90cm and a median size of 88cm
<i>Ginglymostoma cirratum c20</i>	# of individuals of <i>Ginglymostoma cirratum</i> between 96-100cm and a median size of 98cm
<i>Ginglymostoma cirratum c24</i>	# of individuals of <i>Ginglymostoma cirratum</i> between 116-120cm and a median size of 118cm
<i>Ginglymostoma cirratum c30</i>	# of individuals of <i>Ginglymostoma cirratum</i> between 146-150cm and a median size of 148cm
<i>Ginglymostoma cirratum c34</i>	# of individuals of <i>Ginglymostoma cirratum</i> between 166-170cm and a median size of 168cm
<i>Ginglymostoma cirratum c36</i>	# of individuals of <i>Ginglymostoma cirratum</i> between 176-180cm and a median size of 178cm
<i>Gramma loreto c1</i>	# of individuals of <i>Gramma loreto</i> between 1-5cm and a median size of 3cm

<i>Gramma loreto c2</i>	# of individuals of <i>Gramma loreto</i> between 6-10cm and a median size of 8cm
<i>Gymnothorax moringa c15</i>	# of individuals of <i>Gymnothorax moringa</i> between 71-75cm and a median size of 73cm
<i>Gymnothorax moringa c16</i>	# of individuals of <i>Gymnothorax moringa</i> between 76-80cm and a median size of 78cm
<i>Haemulon plumierii c6</i>	# of individuals of <i>Haemulon plumierii</i> between 26-30cm and a median size of 28cm
<i>Haemulon plumierii c7</i>	# of individuals of <i>Haemulon plumierii</i> between 31-35cm and a median size of 33cm
<i>Halodeima mexicana c5</i>	# of individuals of <i>Halodeima mexicana</i> between 21-25cm and a median size of 23cm
<i>Halodeima mexicana c6</i>	# of individuals of <i>Halodeima mexicana</i> between 26-30cm and a median size of 28cm
<i>Holacanthus ciliaris c10</i>	# of individuals of <i>Holacanthus ciliaris</i> between 46-50cm and a median size of 48cm
<i>Holacanthus ciliaris c3</i>	# of individuals of <i>Holacanthus ciliaris</i> between 11-15cm and a median size of 13cm
<i>Holacanthus ciliaris c5</i>	# of individuals of <i>Holacanthus ciliaris</i> between 21-25cm and a median size of 23cm
<i>Holacanthus ciliaris c6</i>	# of individuals of <i>Holacanthus ciliaris</i> between 26-30cm and a median size of 28cm
<i>Holacanthus ciliaris c7</i>	# of individuals of <i>Holacanthus ciliaris</i> between 31-35cm and a median size of 33cm
<i>Holacanthus ciliaris c8</i>	# of individuals of <i>Holacanthus ciliaris</i> between 36-40cm and a median size of 38cm
<i>Holacanthus ciliaris c9</i>	# of individuals of <i>Holacanthus ciliaris</i> between 41-45cm and a median size of 43cm
<i>Holacanthus tricolor c1</i>	# of individuals of <i>Holacanthus tricolor</i> between 1-5cm and a median size of 3cm
<i>Holacanthus tricolor c2</i>	# of individuals of <i>Holacanthus tricolor</i> between 6-10cm and a median size of 8cm
<i>Holacanthus tricolor c3</i>	# of individuals of <i>Holacanthus tricolor</i> between 11-15cm and a median size of 13cm
<i>Holacanthus tricolor c4</i>	# of individuals of <i>Holacanthus tricolor</i> between 16-20cm and a median size of 18cm
<i>Holacanthus tricolor c5</i>	# of individuals of <i>Holacanthus tricolor</i> between 21-25cm and a median size of 23cm
<i>Holacanthus tricolor c7</i>	# of individuals of <i>Holacanthus tricolor</i> between 31-35cm and a median size of 33cm
<i>Hypanus americanus c10</i>	# of individuals of <i>Hypanus americanus</i> between 46-50cm and a median size of 48cm
<i>Hypanus americanus c12</i>	# of individuals of <i>Hypanus americanus</i> between 56-60cm and a median size of 58cm
<i>Hypanus americanus c14</i>	# of individuals of <i>Hypanus americanus</i> between 66-70cm and a median size of 68cm
<i>Hypanus americanus c15</i>	# of individuals of <i>Hypanus americanus</i> between 71-75cm and a median size of 73cm

<i>Hypanus americanus c16</i>	# of individuals of <i>Hypanus americanus</i> between 76-80cm and a median size of 78cm
<i>Hypanus americanus c18</i>	# of individuals of <i>Hypanus americanus</i> between 86-90cm and a median size of 88cm
<i>Hypanus americanus c24</i>	# of individuals of <i>Hypanus americanus</i> between 116-120cm and a median size of 118cm
<i>Hypanus americanus c6</i>	# of individuals of <i>Hypanus americanus</i> between 26-30cm and a median size of 28cm
<i>Istiophorus albicans c30</i>	# of individuals of <i>Istiophorus albicans</i> between 146-150cm and a median size of 148cm
<i>Lachnolaimus maximus c10</i>	# of individuals of <i>Lachnolaimus maximus</i> between 46-50cm and a median size of 48cm
<i>Lachnolaimus maximus c11</i>	# of individuals of <i>Lachnolaimus maximus</i> between 51-55cm and a median size of 53cm
<i>Lachnolaimus maximus c12</i>	# of individuals of <i>Lachnolaimus maximus</i> between 56-60cm and a median size of 58cm
<i>Lachnolaimus maximus c13</i>	# of individuals of <i>Lachnolaimus maximus</i> between 61-65cm and a median size of 63cm
<i>Lachnolaimus maximus c3</i>	# of individuals of <i>Lachnolaimus maximus</i> between 11-15cm and a median size of 13cm
<i>Lachnolaimus maximus c4</i>	# of individuals of <i>Lachnolaimus maximus</i> between 16-20cm and a median size of 18cm
<i>Lachnolaimus maximus c5</i>	# of individuals of <i>Lachnolaimus maximus</i> between 21-25cm and a median size of 23cm
<i>Lachnolaimus maximus c6</i>	# of individuals of <i>Lachnolaimus maximus</i> between 26-30cm and a median size of 28cm
<i>Lachnolaimus maximus c7</i>	# of individuals of <i>Lachnolaimus maximus</i> between 31-35cm and a median size of 33cm
<i>Lachnolaimus maximus c8</i>	# of individuals of <i>Lachnolaimus maximus</i> between 36-40cm and a median size of 38cm
<i>Lachnolaimus maximus c9</i>	# of individuals of <i>Lachnolaimus maximus</i> between 41-45cm and a median size of 43cm
<i>Lactophrys trigonus c7</i>	# of individuals of <i>Lactophrys trigonus</i> between 31-35cm and a median size of 33cm
<i>Lactophrys triqueter c3</i>	# of individuals of <i>Lactophrys triqueter</i> between 11-15cm and a median size of 13cm
<i>Liopropoma rubre c2</i>	# of individuals of <i>Liopropoma rubre</i> between 6-10cm and a median size of 8cm
<i>Lobatus costatus c2</i>	# of individuals of <i>Lobatus costatus</i> between 6-10cm and a median size of 8cm
<i>Lobatus costatus c3</i>	# of individuals of <i>Lobatus costatus</i> between 11-15cm and a median size of 13cm
<i>Lobatus gigas c3</i>	# of individuals of <i>Lobatus gigas</i> between 11-15cm and a median size of 13cm
<i>Lobatus gigas c5</i>	# of individuals of <i>Lobatus gigas</i> between 21-25cm and a median size of 23cm
<i>Lobatus gigas c6</i>	# of individuals of <i>Lobatus gigas</i> between 26-30cm and a median size of 28cm

<i>Lutjanus analis c1</i>	# of individuals of <i>Lutjanus analis</i> between 1-5cm and a median size of 3cm
<i>Lutjanus analis c10</i>	# of individuals of <i>Lutjanus analis</i> between 46-50cm and a median size of 48cm
<i>Lutjanus analis c12</i>	# of individuals of <i>Lutjanus analis</i> between 56-60cm and a median size of 58cm
<i>Lutjanus analis c15</i>	# of individuals of <i>Lutjanus analis</i> between 71-75cm and a median size of 73cm
<i>Lutjanus analis c2</i>	# of individuals of <i>Lutjanus analis</i> between 6-10cm and a median size of 8cm
<i>Lutjanus analis c3</i>	# of individuals of <i>Lutjanus analis</i> between 11-15cm and a median size of 13cm
<i>Lutjanus analis c4</i>	# of individuals of <i>Lutjanus analis</i> between 16-20cm and a median size of 18cm
<i>Lutjanus analis c5</i>	# of individuals of <i>Lutjanus analis</i> between 21-25cm and a median size of 23cm
<i>Lutjanus analis c6</i>	# of individuals of <i>Lutjanus analis</i> between 26-30cm and a median size of 28cm
<i>Lutjanus analis c7</i>	# of individuals of <i>Lutjanus analis</i> between 31-35cm and a median size of 33cm
<i>Lutjanus analis c8</i>	# of individuals of <i>Lutjanus analis</i> between 36-40cm and a median size of 38cm
<i>Lutjanus analis c9</i>	# of individuals of <i>Lutjanus analis</i> between 41-45cm and a median size of 43cm
<i>Lutjanus apodus c10</i>	# of individuals of <i>Lutjanus apodus</i> between 46-50cm and a median size of 48cm
<i>Lutjanus apodus c2</i>	# of individuals of <i>Lutjanus apodus</i> between 6-10cm and a median size of 8cm
<i>Lutjanus apodus c3</i>	# of individuals of <i>Lutjanus apodus</i> between 11-15cm and a median size of 13cm
<i>Lutjanus apodus c4</i>	# of individuals of <i>Lutjanus apodus</i> between 16-20cm and a median size of 18cm
<i>Lutjanus apodus c5</i>	# of individuals of <i>Lutjanus apodus</i> between 21-25cm and a median size of 23cm
<i>Lutjanus apodus c6</i>	# of individuals of <i>Lutjanus apodus</i> between 26-30cm and a median size of 28cm
<i>Lutjanus apodus c7</i>	# of individuals of <i>Lutjanus apodus</i> between 31-35cm and a median size of 33cm
<i>Lutjanus apodus c8</i>	# of individuals of <i>Lutjanus apodus</i> between 36-40cm and a median size of 38cm
<i>Lutjanus apodus c9</i>	# of individuals of <i>Lutjanus apodus</i> between 41-45cm and a median size of 43cm
<i>Lutjanus cyanopterus c10</i>	# of individuals of <i>Lutjanus cyanopterus</i> between 46-50cm and a median size of 48cm
<i>Lutjanus cyanopterus c11</i>	# of individuals of <i>Lutjanus cyanopterus</i> between 51-55cm and a median size of 53cm
<i>Lutjanus cyanopterus c12</i>	# of individuals of <i>Lutjanus cyanopterus</i> between 56-60cm and a median size of 58cm

<i>Lutjanus cyanopterus c14</i>	# of individuals of <i>Lutjanus cyanopterus</i> between 66-70cm and a median size of 68cm
<i>Lutjanus cyanopterus c16</i>	# of individuals of <i>Lutjanus cyanopterus</i> between 76-80cm and a median size of 78cm
<i>Lutjanus cyanopterus c18</i>	# of individuals of <i>Lutjanus cyanopterus</i> between 86-90cm and a median size of 88cm
<i>Lutjanus cyanopterus c3</i>	# of individuals of <i>Lutjanus cyanopterus</i> between 11-15cm and a median size of 13cm
<i>Lutjanus cyanopterus c4</i>	# of individuals of <i>Lutjanus cyanopterus</i> between 16-20cm and a median size of 18cm
<i>Lutjanus cyanopterus c5</i>	# of individuals of <i>Lutjanus cyanopterus</i> between 21-25cm and a median size of 23cm
<i>Lutjanus cyanopterus c8</i>	# of individuals of <i>Lutjanus cyanopterus</i> between 36-40cm and a median size of 38cm
<i>Lutjanus griseus c3</i>	# of individuals of <i>Lutjanus griseus</i> between 11-15cm and a median size of 13cm
<i>Lutjanus griseus c4</i>	# of individuals of <i>Lutjanus griseus</i> between 16-20cm and a median size of 18cm
<i>Lutjanus griseus c5</i>	# of individuals of <i>Lutjanus griseus</i> between 21-25cm and a median size of 23cm
<i>Lutjanus griseus c6</i>	# of individuals of <i>Lutjanus griseus</i> between 26-30cm and a median size of 28cm
<i>Lutjanus jocu c10</i>	# of individuals of <i>Lutjanus jocu</i> between 46-50cm and a median size of 48cm
<i>Lutjanus jocu c11</i>	# of individuals of <i>Lutjanus jocu</i> between 51-55cm and a median size of 53cm
<i>Lutjanus jocu c12</i>	# of individuals of <i>Lutjanus jocu</i> between 56-60cm and a median size of 58cm
<i>Lutjanus jocu c3</i>	# of individuals of <i>Lutjanus jocu</i> between 11-15cm and a median size of 13cm
<i>Lutjanus jocu c4</i>	# of individuals of <i>Lutjanus jocu</i> between 16-20cm and a median size of 18cm
<i>Lutjanus jocu c6</i>	# of individuals of <i>Lutjanus jocu</i> between 26-30cm and a median size of 28cm
<i>Lutjanus jocu c7</i>	# of individuals of <i>Lutjanus jocu</i> between 31-35cm and a median size of 33cm
<i>Lutjanus jocu c8</i>	# of individuals of <i>Lutjanus jocu</i> between 36-40cm and a median size of 38cm
<i>Lutjanus jocu c9</i>	# of individuals of <i>Lutjanus jocu</i> between 41-45cm and a median size of 43cm
<i>Lutjanus mahogoni c2</i>	# of individuals of <i>Lutjanus mahogoni</i> between 6-10cm and a median size of 8cm
<i>Lutjanus mahogoni c3</i>	# of individuals of <i>Lutjanus mahogoni</i> between 11-15cm and a median size of 13cm
<i>Lutjanus mahogoni c4</i>	# of individuals of <i>Lutjanus mahogoni</i> between 16-20cm and a median size of 18cm
<i>Lutjanus mahogoni c5</i>	# of individuals of <i>Lutjanus mahogoni</i> between 21-25cm and a median size of 23cm

<i>Lutjanus mahogoni c6</i>	# of individuals of <i>Lutjanus mahogoni</i> between 26-30cm and a median size of 28cm
<i>Lutjanus mahogoni c7</i>	# of individuals of <i>Lutjanus mahogoni</i> between 31-35cm and a median size of 33cm
<i>Lutjanus mahogoni c8</i>	# of individuals of <i>Lutjanus mahogoni</i> between 36-40cm and a median size of 38cm
<i>Lutjanus synagris c2</i>	# of individuals of <i>Lutjanus synagris</i> between 6-10cm and a median size of 8cm
<i>Lutjanus synagris c3</i>	# of individuals of <i>Lutjanus synagris</i> between 11-15cm and a median size of 13cm
<i>Lutjanus synagris c4</i>	# of individuals of <i>Lutjanus synagris</i> between 16-20cm and a median size of 18cm
<i>Lutjanus synagris c5</i>	# of individuals of <i>Lutjanus synagris</i> between 21-25cm and a median size of 23cm
<i>Lutjanus synagris c6</i>	# of individuals of <i>Lutjanus synagris</i> between 26-30cm and a median size of 28cm
<i>Lutjanus synagris c8</i>	# of individuals of <i>Lutjanus synagris</i> between 36-40cm and a median size of 38cm
<i>Microspathodon chrysurus c1</i>	# of individuals of <i>Microspathodon chrysurus</i> between 1-5cm and a median size of 3cm
<i>Microspathodon chrysurus c2</i>	# of individuals of <i>Microspathodon chrysurus</i> between 6-10cm and a median size of 8cm
<i>Microspathodon chrysurus c3</i>	# of individuals of <i>Microspathodon chrysurus</i> between 11-15cm and a median size of 13cm
<i>Microspathodon chrysurus c4</i>	# of individuals of <i>Microspathodon chrysurus</i> between 16-20cm and a median size of 18cm
<i>Mycteroperca interstitialis c6</i>	# of individuals of <i>Mycteroperca interstitialis</i> between 26-30cm and a median size of 28cm
<i>Mycteroperca interstitialis c7</i>	# of individuals of <i>Mycteroperca interstitialis</i> between 31-35cm and a median size of 33cm
<i>Mycteroperca interstitialis c8</i>	# of individuals of <i>Mycteroperca interstitialis</i> between 36-40cm and a median size of 38cm
<i>Mycteroperca tigris c10</i>	# of individuals of <i>Mycteroperca tigris</i> between 46-50cm and a median size of 48cm
<i>Mycteroperca tigris c12</i>	# of individuals of <i>Mycteroperca tigris</i> between 56-60cm and a median size of 58cm
<i>Mycteroperca tigris c6</i>	# of individuals of <i>Mycteroperca tigris</i> between 26-30cm and a median size of 28cm
<i>Mycteroperca tigris c7</i>	# of individuals of <i>Mycteroperca tigris</i> between 31-35cm and a median size of 33cm
<i>Mycteroperca tigris c8</i>	# of individuals of <i>Mycteroperca tigris</i> between 36-40cm and a median size of 38cm
<i>Mycteroperca venenosa c10</i>	# of individuals of <i>Mycteroperca venenosa</i> between 46-50cm and a median size of 48cm
<i>Mycteroperca venenosa c11</i>	# of individuals of <i>Mycteroperca venenosa</i> between 51-55cm and a median size of 53cm
<i>Mycteroperca venenosa c12</i>	# of individuals of <i>Mycteroperca venenosa</i> between 56-60cm and a median size of 58cm

<i>Mycteroperca venenosa c14</i>	# of individuals of <i>Mycteroperca venenosa</i> between 66-70cm and a median size of 68cm
<i>Mycteroperca venenosa c15</i>	# of individuals of <i>Mycteroperca venenosa</i> between 71-75cm and a median size of 73cm
<i>Mycteroperca venenosa c16</i>	# of individuals of <i>Mycteroperca venenosa</i> between 76-80cm and a median size of 78cm
<i>Mycteroperca venenosa c20</i>	# of individuals of <i>Mycteroperca venenosa</i> between 96-100cm and a median size of 98cm
<i>Mycteroperca venenosa c6</i>	# of individuals of <i>Mycteroperca venenosa</i> between 26-30cm and a median size of 28cm
<i>Mycteroperca venenosa c7</i>	# of individuals of <i>Mycteroperca venenosa</i> between 31-35cm and a median size of 33cm
<i>Mycteroperca venenosa c8</i>	# of individuals of <i>Mycteroperca venenosa</i> between 36-40cm and a median size of 38cm
<i>Mycteroperca venenosa c9</i>	# of individuals of <i>Mycteroperca venenosa</i> between 41-45cm and a median size of 43cm
<i>Negaprion brevirostris c18</i>	# of individuals of <i>Negaprion brevirostris</i> between 86-90cm and a median size of 88cm
<i>Negaprion brevirostris c24</i>	# of individuals of <i>Negaprion brevirostris</i> between 116-120cm and a median size of 118cm
<i>Octopus vulgaris c10</i>	# of individuals of <i>Octopus vulgaris</i> between 46-50cm and a median size of 48cm
<i>Ocyurus chrysurus c1</i>	# of individuals of <i>Ocyurus chrysurus</i> between 1-5cm and a median size of 3cm
<i>Ocyurus chrysurus c10</i>	# of individuals of <i>Ocyurus chrysurus</i> between 46-50cm and a median size of 48cm
<i>Ocyurus chrysurus c2</i>	# of individuals of <i>Ocyurus chrysurus</i> between 6-10cm and a median size of 8cm
<i>Ocyurus chrysurus c3</i>	# of individuals of <i>Ocyurus chrysurus</i> between 11-15cm and a median size of 13cm
<i>Ocyurus chrysurus c4</i>	# of individuals of <i>Ocyurus chrysurus</i> between 16-20cm and a median size of 18cm
<i>Ocyurus chrysurus c5</i>	# of individuals of <i>Ocyurus chrysurus</i> between 21-25cm and a median size of 23cm
<i>Ocyurus chrysurus c6</i>	# of individuals of <i>Ocyurus chrysurus</i> between 26-30cm and a median size of 28cm
<i>Ocyurus chrysurus c7</i>	# of individuals of <i>Ocyurus chrysurus</i> between 31-35cm and a median size of 33cm
<i>Ocyurus chrysurus c8</i>	# of individuals of <i>Ocyurus chrysurus</i> between 36-40cm and a median size of 38cm
<i>Ocyurus chrysurus c9</i>	# of individuals of <i>Ocyurus chrysurus</i> between 41-45cm and a median size of 43cm
<i>Opistognathus aurifrons c1</i>	# of individuals of <i>Opistognathus aurifrons</i> between 1-5cm and a median size of 3cm
<i>Opistognathus aurifrons c2</i>	# of individuals of <i>Opistognathus aurifrons</i> between 6-10cm and a median size of 8cm
<i>Opistognathus aurifrons c3</i>	# of individuals of <i>Opistognathus aurifrons</i> between 11-15cm and a median size of 13cm

<i>Panulirus argus c1</i>	# of individuals of <i>Panulirus argus</i> between 1-5cm and a median size of 3cm
<i>Panulirus argus c10</i>	# of individuals of <i>Panulirus argus</i> between 46-50cm and a median size of 48cm
<i>Panulirus argus c2</i>	# of individuals of <i>Panulirus argus</i> between 6-10cm and a median size of 8cm
<i>Panulirus argus c3</i>	# of individuals of <i>Panulirus argus</i> between 11-15cm and a median size of 13cm
<i>Panulirus argus c4</i>	# of individuals of <i>Panulirus argus</i> between 16-20cm and a median size of 18cm
<i>Panulirus argus c5</i>	# of individuals of <i>Panulirus argus</i> between 21-25cm and a median size of 23cm
<i>Panulirus argus c6</i>	# of individuals of <i>Panulirus argus</i> between 26-30cm and a median size of 28cm
<i>Panulirus argus c7</i>	# of individuals of <i>Panulirus argus</i> between 31-35cm and a median size of 33cm
<i>Panulirus argus c8</i>	# of individuals of <i>Panulirus argus</i> between 36-40cm and a median size of 38cm
<i>Panulirus guttatus c2</i>	# of individuals of <i>Panulirus guttatus</i> between 6-10cm and a median size of 8cm
<i>Panulirus guttatus c3</i>	# of individuals of <i>Panulirus guttatus</i> between 11-15cm and a median size of 13cm
<i>Panulirus guttatus c4</i>	# of individuals of <i>Panulirus guttatus</i> between 16-20cm and a median size of 18cm
<i>Panulirus guttatus c5</i>	# of individuals of <i>Panulirus guttatus</i> between 21-25cm and a median size of 23cm
<i>Periclimenes pedersoni (adult)</i>	# of individuals of adult <i>Periclimenes pedersoni</i>
<i>Pomacanthus paru c7</i>	# of individuals of <i>Pomacanthus paru</i> between 31-35cm and a median size of 33cm
<i>Pomacanthus paru c8</i>	# of individuals of <i>Pomacanthus paru</i> between 36-40cm and a median size of 38cm
<i>Prognathodes aculeatus c1</i>	# of individuals of <i>Prognathodes aculeatus</i> between 1-5cm and a median size of 3cm
<i>Prognathodes aculeatus c2</i>	# of individuals of <i>Prognathodes aculeatus</i> between 6-10cm and a median size of 8cm
<i>Pterois spp. c1</i>	# of individuals of <i>Pterois</i> spp. between 1-5cm and a median size of 3cm
<i>Pterois spp. c2</i>	# of individuals of <i>Pterois</i> spp. between 6-10cm and a median size of 8cm
<i>Pterois spp. c3</i>	# of individuals of <i>Pterois</i> spp. between 11-15cm and a median size of 13cm
<i>Pterois spp. c4</i>	# of individuals of <i>Pterois</i> spp. between 16-20cm and a median size of 18cm
<i>Pterois spp. c5</i>	# of individuals of <i>Pterois</i> spp. between 21-25cm and a median size of 23cm
<i>Pterois spp. c6</i>	# of individuals of <i>Pterois</i> spp. between 26-30cm and a median size of 28cm

<i>Pterois spp. c7</i>	# of individuals of <i>Pterois</i> spp. between 31-35cm and a median size of 33cm
<i>Pterois spp. c8</i>	# of individuals of <i>Pterois</i> spp. between 36-40cm and a median size of 38cm
<i>Scarus coelestinus c13</i>	# of individuals of <i>Scarus coelestinus</i> between 61-65cm and a median size of 63cm
<i>Scarus coelestinus c6</i>	# of individuals of <i>Scarus coelestinus</i> between 26-30cm and a median size of 28cm
<i>Scarus iseri c1</i>	# of individuals of <i>Scarus iseri</i> between 1-5cm and a median size of 3cm
<i>Scarus iseri c2</i>	# of individuals of <i>Scarus iseri</i> between 6-10cm and a median size of 8cm
<i>Scarus iseri c3</i>	# of individuals of <i>Scarus iseri</i> between 11-15cm and a median size of 13cm
<i>Scarus iseri c4</i>	# of individuals of <i>Scarus iseri</i> between 16-20cm and a median size of 18cm
<i>Scarus iseri c5</i>	# of individuals of <i>Scarus iseri</i> between 21-25cm and a median size of 23cm
<i>Scarus iseri c6</i>	# of individuals of <i>Scarus iseri</i> between 26-30cm and a median size of 28cm
<i>Scarus iseri c7</i>	# of individuals of <i>Scarus iseri</i> between 31-35cm and a median size of 33cm
<i>Scarus iseri c8</i>	# of individuals of <i>Scarus iseri</i> between 36-40cm and a median size of 38cm
<i>Scarus taeniopterus c1</i>	# of individuals of <i>Scarus taeniopterus</i> between 1-5cm and a median size of 3cm
<i>Scarus taeniopterus c2</i>	# of individuals of <i>Scarus taeniopterus</i> between 6-10cm and a median size of 8cm
<i>Scarus taeniopterus c3</i>	# of individuals of <i>Scarus taeniopterus</i> between 11-15cm and a median size of 13cm
<i>Scarus taeniopterus c4</i>	# of individuals of <i>Scarus taeniopterus</i> between 16-20cm and a median size of 18cm
<i>Scarus taeniopterus c5</i>	# of individuals of <i>Scarus taeniopterus</i> between 21-25cm and a median size of 23cm
<i>Scarus taeniopterus c6</i>	# of individuals of <i>Scarus taeniopterus</i> between 26-30cm and a median size of 28cm
<i>Scarus taeniopterus c8</i>	# of individuals of <i>Scarus taeniopterus</i> between 36-40cm and a median size of 38cm
<i>Scarus taeniopterus c9</i>	# of individuals of <i>Scarus taeniopterus</i> between 41-45cm and a median size of 43cm
<i>Scarus taeniopterus c10</i>	# of individuals of <i>Scarus taeniopterus</i> between 46-50cm and a median size of 48cm
<i>Scarus vetula c2</i>	# of individuals of <i>Scarus vetula</i> between 6-10cm and a median size of 8cm
<i>Scarus vetula c3</i>	# of individuals of <i>Scarus vetula</i> between 11-15cm and a median size of 13cm
<i>Scarus vetula c4</i>	# of individuals of <i>Scarus vetula</i> between 16-20cm and a median size of 18cm

<i>Scarus vetula c5</i>	# of individuals of <i>Scarus vetula</i> between 21-25cm and a median size of 23cm
<i>Scarus vetula c6</i>	# of individuals of <i>Scarus vetula</i> between 26-30cm and a median size of 28cm
<i>Scarus vetula c7</i>	# of individuals of <i>Scarus vetula</i> between 31-35cm and a median size of 33cm
<i>Scarus vetula c8</i>	# of individuals of <i>Scarus vetula</i> between 36-40cm and a median size of 38cm
<i>Scomberomorus regalis c10</i>	# of individuals of <i>Scomberomorus regalis</i> between 46-50cm and a median size of 48cm
<i>Scomberomorus regalis c12</i>	# of individuals of <i>Scomberomorus regalis</i> between 56-60cm and a median size of 58cm
<i>Scomberomorus regalis c13</i>	# of individuals of <i>Scomberomorus regalis</i> between 61-65cm and a median size of 63cm
<i>Scomberomorus regalis c14</i>	# of individuals of <i>Scomberomorus regalis</i> between 66-70cm and a median size of 68cm
<i>Scomberomorus regalis c15</i>	# of individuals of <i>Scomberomorus regalis</i> between 71-75cm and a median size of 73cm
<i>Scomberomorus regalis c16</i>	# of individuals of <i>Scomberomorus regalis</i> between 76-80cm and a median size of 78cm
<i>Scomberomorus regalis c18</i>	# of individuals of <i>Scomberomorus regalis</i> between 86-90cm and a median size of 88cm
<i>Scomberomorus regalis c20</i>	# of individuals of <i>Scomberomorus regalis</i> between 96-100cm and a median size of 98cm
<i>Scomberomorus regalis c5</i>	# of individuals of <i>Scomberomorus regalis</i> between 21-25cm and a median size of 23cm
<i>Scomberomorus regalis c6</i>	# of individuals of <i>Scomberomorus regalis</i> between 26-30cm and a median size of 28cm
<i>Scomberomorus regalis c7</i>	# of individuals of <i>Scomberomorus regalis</i> between 31-35cm and a median size of 33cm
<i>Scomberomorus regalis c8</i>	# of individuals of <i>Scomberomorus regalis</i> between 36-40cm and a median size of 38cm
<i>Scomberomorus regalis c9</i>	# of individuals of <i>Scomberomorus regalis</i> between 41-45cm and a median size of 43cm
<i>Scyllarides spp. c4</i>	# of individuals of <i>Scyllarides</i> spp. between 16-20cm and a median size of 18cm
<i>Sepioteuthis spp. c5</i>	# of individuals of <i>Sepioteuthis</i> spp. between 21-25cm and a median size of 23cm
<i>Seriola rivoliana c10</i>	# of individuals of <i>Seriola rivoliana</i> between 46-50cm and a median size of 48cm
<i>Seriola rivoliana c14</i>	# of individuals of <i>Seriola rivoliana</i> between 66-70cm and a median size of 68cm
<i>Sparisoma aurofrenatum c1</i>	# of individuals of <i>Sparisoma aurofrenatum</i> between 1-5cm and a median size of 3cm
<i>Sparisoma aurofrenatum c2</i>	# of individuals of <i>Sparisoma aurofrenatum</i> between 6-10cm and a median size of 8cm
<i>Sparisoma aurofrenatum c3</i>	# of individuals of <i>Sparisoma aurofrenatum</i> between 11-15cm and a median size of 13cm

<i>Sparisoma aurofrenatum c4</i>	# of individuals of <i>Sparisoma aurofrenatum</i> between 16-20cm and a median size of 18cm
<i>Sparisoma aurofrenatum c5</i>	# of individuals of <i>Sparisoma aurofrenatum</i> between 21-25cm and a median size of 23cm
<i>Sparisoma aurofrenatum c6</i>	# of individuals of <i>Sparisoma aurofrenatum</i> between 26-30cm and a median size of 28cm
<i>Sparisoma aurofrenatum c7</i>	# of individuals of <i>Sparisoma aurofrenatum</i> between 31-35cm and a median size of 33cm
<i>Sparisoma chrysopterum c3</i>	# of individuals of <i>Sparisoma chrysopterum</i> between 11-15cm and a median size of 13cm
<i>Sparisoma chrysopterum c4</i>	# of individuals of <i>Sparisoma chrysopterum</i> between 16-20cm and a median size of 18cm
<i>Sparisoma chrysopterum c6</i>	# of individuals of <i>Sparisoma chrysopterum</i> between 26-30cm and a median size of 28cm
<i>Sparisoma chrysopterum c7</i>	# of individuals of <i>Sparisoma chrysopterum</i> between 31-35cm and a median size of 33cm
<i>Sparisoma radians c1</i>	# of individuals of <i>Sparisoma radians</i> between 1-5cm and a median size of 3cm
<i>Sparisoma radians c2</i>	# of individuals of <i>Sparisoma radians</i> between 6-10cm and a median size of 8cm
<i>Sparisoma rubripinne c2</i>	# of individuals of <i>Sparisoma rubripinne</i> between 6-10cm and a median size of 8cm
<i>Sparisoma rubripinne c3</i>	# of individuals of <i>Sparisoma rubripinne</i> between 11-15cm and a median size of 13cm
<i>Sparisoma rubripinne c4</i>	# of individuals of <i>Sparisoma rubripinne</i> between 16-20cm and a median size of 18cm
<i>Sparisoma rubripinne c5</i>	# of individuals of <i>Sparisoma rubripinne</i> between 21-25cm and a median size of 23cm
<i>Sparisoma rubripinne c6</i>	# of individuals of <i>Sparisoma rubripinne</i> between 26-30cm and a median size of 28cm
<i>Sparisoma rubripinne c7</i>	# of individuals of <i>Sparisoma rubripinne</i> between 31-35cm and a median size of 33cm
<i>Sparisoma spp. (juv)</i>	# of individuals of juvenile <i>Sparisoma spp.</i>
<i>Sparisoma spp. c5</i>	# of individuals of <i>Sparisoma spp.</i> between 21-25cm and a median size of 23cm
<i>Sparisoma spp. c7</i>	# of individuals of <i>Sparisoma spp.</i> between 31-35cm and a median size of 33cm
<i>Sparisoma viride c1</i>	# of individuals of <i>Sparisoma viride</i> between 1-5cm and a median size of 3cm
<i>Sparisoma viride c10</i>	# of individuals of <i>Sparisoma viride</i> between 46-50cm and a median size of 48cm
<i>Sparisoma viride c11</i>	# of individuals of <i>Sparisoma viride</i> between 51-55cm and a median size of 53cm
<i>Sparisoma viride c2</i>	# of individuals of <i>Sparisoma viride</i> between 6-10cm and a median size of 8cm
<i>Sparisoma viride c3</i>	# of individuals of <i>Sparisoma viride</i> between 11-15cm and a median size of 13cm

<i>Sparisoma viride c4</i>	# of individuals of Sparisoma viride between 16-20cm and a median size of 18cm
<i>Sparisoma viride c5</i>	# of individuals of Sparisoma viride between 21-25cm and a median size of 23cm
<i>Sparisoma viride c6</i>	# of individuals of Sparisoma viride between 26-30cm and a median size of 28cm
<i>Sparisoma viride c7</i>	# of individuals of Sparisoma viride between 31-35cm and a median size of 33cm
<i>Sparisoma viride c8</i>	# of individuals of Sparisoma viride between 36-40cm and a median size of 38cm
<i>Sparisoma viride c9</i>	# of individuals of Sparisoma viride between 41-45cm and a median size of 43cm
<i>Sphyraena barracuda c10</i>	# of individuals of Sphyraena barracuda between 46-50cm and a median size of 48cm
<i>Sphyraena barracuda c11</i>	# of individuals of Sphyraena barracuda between 51-55cm and a median size of 53cm
<i>Sphyraena barracuda c12</i>	# of individuals of Sphyraena barracuda between 56-60cm and a median size of 58cm
<i>Sphyraena barracuda c13</i>	# of individuals of Sphyraena barracuda between 61-65cm and a median size of 63cm
<i>Sphyraena barracuda c14</i>	# of individuals of Sphyraena barracuda between 66-70cm and a median size of 68cm
<i>Sphyraena barracuda c15</i>	# of individuals of Sphyraena barracuda between 71-75cm and a median size of 73cm
<i>Sphyraena barracuda c16</i>	# of individuals of Sphyraena barracuda between 76-80cm and a median size of 78cm
<i>Sphyraena barracuda c18</i>	# of individuals of Sphyraena barracuda between 86-90cm and a median size of 88cm
<i>Sphyraena barracuda c20</i>	# of individuals of Sphyraena barracuda between 96-100cm and a median size of 98cm
<i>Sphyraena barracuda c24</i>	# of individuals of Sphyraena barracuda between 116-120cm and a median size of 118cm
<i>Sphyraena barracuda c30</i>	# of individuals of Sphyraena barracuda between 146-150cm and a median size of 148cm
<i>Sphyraena barracuda c8</i>	# of individuals of Sphyraena barracuda between 36-40cm and a median size of 38cm
<i>Sphyraena barracuda c9</i>	# of individuals of Sphyraena barracuda between 41-45cm and a median size of 43cm
<i>Stenopus hispidus (adult)</i>	# of individuals of adult Stenopus hispidus
<i>Stenorhynchus seticornis (adult)</i>	# of individuals of adult Stenorhynchus seticornis
<i>Trachinotus falcatus c12</i>	# of individuals of Trachinotus falcatus between 56-60cm and a median size of 58cm
<i>Trachinotus falcatus c8</i>	# of individuals of Trachinotus falcatus between 36-40cm and a median size of 38cm
<i>Tursiops spp. c41</i>	# of individuals of Tursiops spp. between 201-205cm and a median size of 203cm

Fish Biomass

Fish Biomass Data Description:

This data file includes commercially, and ecologically important reef fish biomass estimates between 2004 - 2019. Between 2004 - 2013 these estimates are based on size-frequency data annotated using the Active Search Census (ASEC) for 30 minutes per monitoring station and between 2015 – 2019 estimates are based on five 60 m² band transects per station. The current (2015 - 2019) biomass data units are in grams per 60 meters squared (gr / 60 m²), while previous data (2004-2013) units are in grams per 30 minutes per site. Data is presented per transect between 2015 – 2019.

Biomass estimates were calculated using weight-length relationship coefficients and biomass calculator tools available in Fishbase.org. Fish species with no weight-length relationship information are not included in the biomass data file. The coefficients from fishbase.org used to obtain biomass estimates are those developed from fish samples geographically related to Puerto Rico, when available. The length values used [either as total length or fork length] to calculate the biomass of each species size class was the median size of the size class. First the estimated biomass of one individual of each species size class was calculated. Then, each individual biomass estimate was multiplied by the number of individuals observed per transect. Lastly, all biomass estimates per species size class are aggregated to report one biomass value per species. This data file includes blank cells, representing species not considered during the survey and transects or stations not completed.

For data collection field methodologies see the Puerto Rico Coral Reef Monitoring Program Database Report (August 2019).

Fish Biomass Data Label Definitions:

<i>Acanthurus tractus (bahianus)</i>	grams of Acanthurus tractus and/or bahianus
<i>Acanthurus chirurgus</i>	grams of Acanthurus chirurgus
<i>Acanthurus coeruleus</i>	grams of Acanthurus coeruleus
<i>Aetobatus narinari</i>	grams of Aetobatus narinari
<i>Alectis ciliaris</i>	grams of Alectis ciliaris
<i>Balistes vetula</i>	grams of Balistes vetula
<i>Calamus pennatula</i>	grams of Calamus pennatula
<i>Canthidermis sufflamen</i>	grams of Canthidermis sufflamen
<i>Caranx crysos</i>	grams of Caranx crysos
<i>Caranx hippos</i>	grams of Caranx hippos
<i>Caranx latus</i>	grams of Caranx latus

<i>Caranx lugubris</i>	grams of Caranx lugubris
<i>Caranx ruber</i>	grams of Caranx ruber
<i>Carcharhinus limbatus</i>	grams of Carcharhinus limbatus
<i>Carcharhinus perezii</i>	grams of Carcharhinus perezii
<i>Cephalopholis cruentata</i>	grams of Cephalopholis cruentata
<i>Cephalopholis fulva</i>	grams of Cephalopholis fulva
<i>Chaetodon ocellatus</i>	grams of Chaetodon ocellatus
<i>Chaetodon sedentarius</i>	grams of Chaetodon sedentarius
<i>Chaetodon striatus</i>	grams of Chaetodon striatus
<i>Decapterus macarellus</i>	grams of Decapterus macarellus
<i>Elagatis bipinnulata</i>	grams of Elagatis bipinnulata
<i>Epinephelus adscensionis</i>	grams of Epinephelus adscensionis
<i>Epinephelus guttatus</i>	grams of Epinephelus guttatus
<i>Epinephelus itajara</i>	grams of Epinephelus itajara
<i>Epinephelus striatus</i>	grams of Epinephelus striatus
<i>Gerres cinereus</i>	grams of Gerres cinereus
<i>Ginglymostoma cirratum</i>	grams of Ginglymostoma cirratum
<i>Gymnothorax moringa</i>	grams of Gymnothorax moringa
<i>Haemulon plumierii</i>	grams of Haemulon plumierii
<i>Holacanthus ciliaris</i>	grams of Holacanthus ciliaris
<i>Holacanthus tricolor</i>	grams of Holacanthus tricolor
<i>Hypanus americanus</i>	grams of Hypanus americanus
<i>Istiophorus albicans</i>	grams of Istiophorus albicans
<i>Lachnolaimus maximus</i>	grams of Lachnolaimus maximus
<i>Lactophrys trigonus</i>	grams of Lactophrys trigonus
<i>Lactophrys triqueter</i>	grams of Lactophrys triqueter
<i>Lutjanus analis</i>	grams of Lutjanus analis
<i>Lutjanus apodus</i>	grams of Lutjanus apodus
<i>Lutjanus cyanopterus</i>	grams of Lutjanus cyanopterus
<i>Lutjanus griseus</i>	grams of Lutjanus griseus
<i>Lutjanus jocu</i>	grams of Lutjanus jocu
<i>Lutjanus mahogoni</i>	grams of Lutjanus mahogoni
<i>Lutjanus synagris</i>	grams of Lutjanus synagris
<i>Microspathodon chrysurus</i>	grams of Microspathodon chrysurus
<i>Mycteroperca interstitialis</i>	grams of Mycteroperca interstitialis
<i>Mycteroperca tigris</i>	grams of Mycteroperca tigris
<i>Mycteroperca venenosa</i>	grams of Mycteroperca venenosa
<i>Negaprion brevirostris</i>	grams of Negaprion brevirostris
<i>Ocyurus chrysurus</i>	grams of Ocyurus chrysurus
<i>Pomacanthus paru</i>	grams of Pomacanthus paru
<i>Pterois spp.</i>	grams of Pterois spp.
<i>Scarus coelestinus</i>	grams of Scarus coelestinus

<i>Scarus iseri</i>	grams of <i>Scarus iseri</i>
<i>Scarus taeniopterus</i>	grams of <i>Scarus taeniopterus</i>
<i>Scomberomorus regalis</i>	grams of <i>Scomberomorus regalis</i>
<i>Seriola rivoliana</i>	grams of <i>Seriola rivoliana</i>
<i>Sparisoma aurofrenatum</i>	grams of <i>Sparisoma aurofrenatum</i>
<i>Sparisoma chrysopterus</i>	grams of <i>Sparisoma chrysopterus</i>
<i>Sparisoma radians</i>	grams of <i>Sparisoma radians</i>
<i>Sparisoma rubripinne</i>	grams of <i>Sparisoma rubripinne</i>
<i>Sparisoma viride</i>	grams of <i>Sparisoma viride</i>
<i>Sphyraena barracuda</i>	grams of <i>Sphyraena barracuda</i>
<i>Trachinotus falcatus</i>	grams of <i>Trachinotus falcatus</i>

References

- Alfonso Aguilar-Perera, Michelle Scharer, and Manuel Valdés-Pizzini. 2006. Marine protected areas in Puerto Rico: Historical and current perspectives. *Ocean and Coastal Management*. 49: 961-975. <https://doi.org/10.1016/j.ocecoaman.2006.08.011>
- C.D. Storlazzi, J.B. Loga, and M.E. Field. 2003. Quantitative morphology of a fringing reef tract from high-resolution laser bathymetry: Southern Molokai, Hawaii. *Geological Society of America Bulletin*. DOI:10.1130/B25200.1
- Caribbean Landscape Conservation Cooperative and Department of Natural and Environmental Resources of Puerto Rico .2016. Natural Protected Areas of Puerto Rico [December 2016 Inventory]. Available at: <https://caribbeanlcc.databasin.org/maps/53f12fb5ad0844ddac2fffb07bdb8257>
- CARICOMP Data Management Center and Florida Institute of Oceanography. 2001. CARICOMP Methods Manual, Levels 1 & 2. University of West Indies, Jamaica & University of South Florida, U.S.A. March,2001. Available at: https://biogeodb.stri.si.edu/physical_monitoring/downloads/caricomp_manual_2001.pdf
- Coral Reef Conservation and Management Program (CRCMP - DNER). 1999-2018. Puerto Rico Coral Reef Monitoring Program [Reports]. Departamento de Recursos Naturales y Ambientales. Carretera 8838, km. 6.3, Sector El Cinco, Río Piedras. Available at: <http://drna.pr.gov/programas-y-proyectos/coralpr/>
- Department of Natural and Environmental Resources (DNER), NOAA Coral Reef Conservation and Management Program. 2001, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2014, 2015, 2016, 2017, 2018. Puerto Rico Coral Reef Monitoring Program Reports (prepared by Garcia-Sais et al.). San Juan, Puerto Rico. Available at: <http://drna.pr.gov/programas-y-proyectos/coralpr/>
- Environmental Protection Agency. 2015. USEPA Facility Registry Service Datasets (In work - monthly). U.S. Environmental Protection Agency, Washington D.C, 20460. Available at:

<https://edg.epa.gov/metadata/catalog/search/resource/details.page?uuid={0fd2712b-62d0-4aaf-ab20-2cbfe8c26b30}>

Esri, GEBCO, NOAA, National Geographic, DeLorme, HERE, Geonames.org, and other contributors. 2012. Ocean Basemap. Available at:
<http://www.arcgis.com/home/item.html?id=5ae9e138a17842688b0b79283a4353f6>

Humanitarian Open Street Map Team. 2017. HOTOSM PRI Waterways shape file. ArcGIS Online. Available at:
https://services1.arcgis.com/Hp6G80Pky0om7QvQ/arcgis/rest/services/hotosm_pri_waterways_lines_shp/FeatureServer

Jack Morelock, Nahum Schneidermann, and W. R. Bryant. 1977. Shelf Reefs, Southwestern Puerto Rico. University of Puerto Rico, Department of Marine Sciences. 11pp

Kendall MS, Kruer CR, Buja KR, Christensen JD, Finkbeiner M, et al... (2002) Methods used to map the benthic habitats of Puerto Rico and the U.S. Virgin Islands. Silver SpringMD: NOAA, NOS, NCCOS. 45 pp.

National Oceanic and Atmospheric Administration, P.R. Planning Board, and Department of Natural and Environmental Resources-Coastal Zone Management Program. 2009. Programa de Manejo de la Zona Costanera para Puerto Rico: Revisión y actualización. Prepared by Estudios Técnicos, Inc. September, 2009. Available at:
<http://drna.pr.gov/historico/oficinas/arn/recursosvivientes/costasreservasrefugios/pmzc/pmzc/pmzc2009/PMZCPR%20espanol%202009-final.pdf>

National Centers for Coastal Ocean Science (NCCOS); Southeast Fisheries Science Center (SEFSC) . 2018. National Coral Reef Monitoring Program: Assessment of coral reef benthic communities in Puerto Rico (Appendix IV of Coral Demographics Survey Protocol for the U.S. Caribbean and Gulf of Mexico: 2017). NOAA National Centers for Environmental Information. Collection. doi:10.7289/V5PG1Q23. Available at:
https://www.nodc.noaa.gov/archive/arc0101/0157633/9.9/data/0-data/Atlantic/Biological/Caribbean_Gulf-of-Mexico/NCRMP_Protocol_Benthic_CoralDemographic_2017.pdf

NOAA Marine Protected Areas Center and U.S. Department of the Interior. 2017. MPA Inventory [map and data download application]. Office of Ocean and Coastal Resource Management, NOAA Ocean Service, 1305 East West Hwy (N/ORM), Silver Spring, MD 20910, U.S.A. Available at:
<https://marineprotectedareas.noaa.gov/dataanalysis/mpainventory/mpaviewer/>

NOAA Marine Protected Areas Center. 2011. Definition and Classification System for U.S. Marine Protected Areas. Office of Ocean and Coastal Resource Management, NOAA Ocean Service, 1305 East West Hwy (N/ORM), Silver Spring, MD 20910, U.S.A. Available at:
https://nmsmarineprotectedareas.blob.core.windows.net/marineprotectedareas-prod/media/archive/pdf/helpful-resources/factsheets/mpa_classification_may2011.pdf

NOAA Office of Coast Survey. 2014-2019. Electronic Nautical Charts Catalog. NOAA Ocean Service, 1305 East West Hwy (N/ORM), Silver Spring, MD 20910, U.S.A. Available at: <https://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml?rnc=25640>

Rogers, C.S., T.H. Sucharek, and F.A. Pecora. 1982. Effects of hurricanes David and Frederic (1979) in shallow *Acropora palmata* communities: St. Croix, U.S. Virgin Islands. *Bulletin of Marine Science* 32: 532-548

