

1. DATA AND INFORMATION TYPES

A. Provide a contextual description of the data stream.

The Fisheries Ecology Division (FED), of the Southwest Fisheries Science Center (SWFSC) has conducted a midwater trawl survey off central California since 1983 with the primary goal of developing pre-recruit indices for young-of-the-year (YOY) rockfish (*Sebastes* spp.). The survey also samples numerous other components of the epipelagic micronekton, including other YOY groundfish (such as Pacific hake, *Merluccius productus*, and sanddab, *Citharichthys* spp.), coastal pelagic fishes (such as Pacific sardine, *Sardinops sagax*, and northern anchovy, *Engraulis mordax*) and other forage species. The data depict all rockfish recruitment survey from 1990 to 2015, that are filterable by count, average count, occurrence and various applied biodiversity indices by species. These data are merged into continuous polygons for visual summary.

The data are available in the CeNCOOS data portal: <https://l.axds.co/2BKD8yW>

B. How many station locations are there for this data stream?

N/A

C. What are the specific parameters of the data.

The parameters of this data include: rockfish recruitment survey from 1990 to 2015, that are filterable by count, average count, occurrence and various applied biodiversity indices by species. Additionally, data can be discovered by survey vessel, area, strata, and fish maturity. Data can also be filtered spatially, temporally, and by the depth of fishing gear.

D. Provide information about the sampling platform or instrumentation.

Details regarding the survey methods and results are described in Ralston et al. (2015) and Sakuma et al. Ralston, S., J.C. Field and K.S. Sakuma. 2015. Longterm variation in a central California pelagic forage assemblage. *Journal of Marine Systems* 146: 26-37, <http://dx.doi.org/10.1016/j.jmarsys.2014.06.013>. Sakuma, K.M., J.C. Field, B.B. Marinovic, C.N. Carrion, N.J. Mantua and S. Ralston. In revision. Anomalous epipelagic micronekton assemblage patterns in the neritic waters of the California Current in spring 2015 during a period of extreme ocean conditions. *CalCOFI Reports*.

2. DATA PATHWAY

A. Is a data sharing agreement required?

The data may be used and redistributed for free but is not intended for legal use, since it may contain inaccuracies. Neither the data Contributor, ERD, NOAA, nor the United States Government, nor any of their employees or contractors, makes any warranty, express or implied, including warranties of merchantability and fitness for a particular purpose, or assumes any legal liability for the accuracy, completeness, or usefulness, of this information.

B. In which format(s) was data received by CeNCOOS?

Data were received using the [ERDDAP access point](#) for the data, as served by the originator.

C. How can the information be accessed?

The data are available through the CeNCOOS data portal, where it can be viewed using interactive visualizations. Data files are also available for download from three unique access points: Web Mapping Service (WMS); Web Feature Service (WFS); and File Downloads (PNG, Shapefile, CSV).

D. What file formats will be used for sharing data, if different from original?

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E. Describe how the data is ingested(e.g. the flow of data from source to CeNCOOS data portals) and any transformations or modifications made to share data in the CeNCOOS data portal.

The data were delivered directly to CeNCOOS by the originator, imported to PostgreSQL, and then visualized with custom JSON REST service (JAVA). For interactive visualizations of fish survey data, flat tables were restructured into a relational database and a geometry was created from latitude and longitude values. Lookup tables were generated for user to explore the attributes of interest. Additionally, observations were mapped to labels. These observations were then summarized into a hexagonal heat map with coverage at 15 zoom levels. Observations were summarized into colored hexagons at each zoom level. The color of the hexagon varies relative to the total number of observations within that hexagon.

Scientific names were matched with ITIS Taxonomic Serial Numbers (TSN) which then allow advanced filtering by taxa hierarchy. 24 of 169 scientific names were not directly matched; these names were manually matched with TSNs after appropriate modification of scientific names (e.g., removing “spp.” and correcting typos). Common names were altered to make the alphabetical display of common names more readable, e.g., “ROSY ROCKFISH GROUP” was changed to “Rockfish, Rosy.”

Although the catch values cannot be normalized to catch effort, various biodiversity algorithms were applied to the raw data. The following biodiversity indices were calculated for datasets that include sample/collection event id and species identifier (scientific name, common name, ITIS TSN, or WoRMS Aphia ID). Indices were calculated at a local and regional scales (alpha and gamma diversity, respectively).

Alpha: Average of event values within the selected area

Gamma: Group all events within the selected area and treat them as a single sample

Beta: Gamma/Alpha ratio

Richness: Count of distinct species

% Dominance (Berger-Parker): Numerical importance of the most abundant species

Shannon-Wiener Diversity: This index quantifies the uncertainty associated with species prediction

Pielou's Evenness: Species evenness quantifies how close in count each species is within a sampling event

F. What metadata or contextual information is provided with the data?

Metadata are shared in the CeNCOOS portal with descriptive narratives describing the data and linking back to the originator's site. The metadata can also be accessed via ERDDAP: http://oceanview.pfeg.noaa.gov/erddap/info/FED_Rockfish_Catch/index.html

G. Are there ethical restrictions to data sharing?

No

a. If so, how will these be resolved?

N/A

H. Who holds intellectual property rights (IPR) to the data?

Fisheries Ecology Division/SWFSC/NOAA

I. Describe any effect of IPR on data access.

None

3. DATA SOURCE AND QUALITY CONTROL

A. Indicate the data source type (i.e. Federal, Non-Federal, University, State Agency, Local Municipality, Military Establishment (branch), private industry, NGO, non-Profit, Citizen Science, Private individual)

Federal

a. If Federal data source, were changes applied to the data?

N/A

b. If Yes, describe any changes to the data that require documentation?

N/A

B. Indicate the data reporting type (e.g. real-time, historical).

Historical

C. If real-time, list the QARTOD procedures that are currently applied.

Not required

D. If real-time, list the QARTOD procedures that are planned for implementation.

N/A

E. What is the status of the reported data? (e.g. raw, some QC, incomplete, delayed mode processed but not QC'd)

Some QC as delivered from the originator(s).

F. Describe the data control procedures that were applied by the originator.

N/A

a. Provide a link to any documented procedures.

N/A

G. Describe the data control procedures that were applied by CeNCOOS.

N/A

a. Provide a link to any documented procedures.

https://calcofi.org/downloads/publications/calcofireports/v57/Vol57-CalCofi_pages.2016.pdf_pages163-183

H. List the procedures taken for data that could not be QC'd as directed.

N/A

4. STEWARDSHIP AND PRESERVATION POLICIES

A. Who is responsible for long-term data archiving?

Data was aggregated for visualization and exploration with other layers in the CeNCOOS data portal. If the data provider chooses to archive these data at a national archive in the future, they may do it directly, or using the CeNCOOS-facilitated pathway to NCEI.

B. Which long-term data storage facility will be used for preservation?

N/A

C. Describe any transformation necessary for data preservation.

N/A

D. List the metadata or other documentation that will be archived with the data.

N/A