Survey locations and times for R/V Centennial trawl surveys in the Hood Canal, WA from 2012-2013 (PelagicHypoxia project)

Website: https://www.bco-dmo.org/dataset/718649
Data Type: Cruise Results
Version: 1
Version Date: 2017-11-02

Project
» Consequences of hypoxia on food web linkages in a pelagic marine ecosystem (PelagicHypoxia)

Contributors	Affiliation	Role
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Abstract
Survey locations and times for R/V Centennial trawl surveys in the Hood Canal, WA from 2012-2013.

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Coverage

Spatial Extent: **N**:47.8299 **E**:-122.0915 **S**:47.3626 **W**:-123.1324
Temporal Extent: 2012-06-11 - 2013-10-03

Dataset Description

This dataset contains trawl survey locations and times from R/V Centennial trawl surveys in the Hood Canal, WA from 2012-2013.

Methods & Sampling

Sampling and analytical procedures:
Samples were chosen to target representative aggregations of fish as detected using multi-beam hydroacoustics. They are not designed to provide quantitative estimates of density, but rather to assess

species and size composition and to collect individuals for tissue and stomach sampling. Net was a Marinovich midwater trawl, deployed using two wires and 2.5 meter FishBuster trawl doors. Trawl was fitted with a 3.2 mm knotless liner in the codend and towed at a vessel speed of 2−3 knots. Vertical opening of the trawl varied between 4.8 and 7.0 m.

Instruments:
Trawl depth measured using Kongsberg Marine P150 net monitor.
Vessel position measured using on board GPS (Simrad)

Data Processing Description

BCO-DMO Data Manager Processing Notes:
* added a conventional header with dataset name, PI name, version date
* modified parameter names to conform with BCO-DMO naming conventions

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Data Files

File
TrawlLocationTime.csv(Comma Separated Values (.csv), 18.10 KB)   MD5:065e485aaee6d1f3e729aeee093423fb   Primary data file for dataset ID 718649

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Related Datasets

IsRelatedTo

Essington, T., Horne, J. K., Keister, J. E., Parker-Stetter, S. (2021) **Fish and jellyfish sample data from R/V Centennial trawl surveys in the Hood Canal, WA from 2012-2013 (PelagicHypoxia project).** Biological and Chemical Oceanography Data Management Office (BCO-DMO). (Version 1) Version Date 2017-11-02 doi:10.26008/1912/bco-dmo.718698.1 [view at BCO-DMO]
Relationship Description: Fish and jellyfish sample data from R/V Centennial trawl surveys.

Essington, T., Horne, J. K., Keister, J. E., Parker-Stetter, S. (2021) **Fish and jellyfish stomach contents from R/V Centennial trawl surveys in the Hood Canal, WA from 2012-2013 (PelagicHypoxia project).** Biological and Chemical Oceanography Data Management Office (BCO-DMO). (Version 1) Version Date 2017-11-02 doi:10.26008/1912/bco-dmo.718675.1 [view at BCO-DMO]
Relationship Description: Stomach contents from R/V Centennial trawl surveys.

Essington, T., Horne, J. K., Keister, J. E., Parker-Stetter, S. (2021) **Site information for R/V Centennial trawl surveys in the Hood Canal, WA from 2012-2013 (PelagicHypoxia project).** Biological and Chemical Oceanography Data Management Office (BCO-DMO). (Version 1) Version Date 2017-11-02 doi:10.26008/1912/bco-dmo.718711.1 [view at BCO-DMO]
Relationship Description: Site information for R/V Centennial trawl surveys.

Essington, T., Horne, J. K., Keister, J. E., Parker-Stetter, S. (2021) **Trawl catch composition from R/V Centennial trawl surveys in the Hood Canal, WA from 2012-2013 (PelagicHypoxia project).** Biological and Chemical Oceanography Data Management Office (BCO-DMO). (Version 1) Version Date 2017-11-02 doi:10.26008/1912/bco-dmo.718662.1 [view at BCO-DMO]
Relationship Description: Trawl catch composition from R/V Centennial trawl surveys.

Essington, T., Parker-Stetter, S., Keister, J. E., Horne, J. K. (2017) **Species list from R/V Centennial trawl surveys in the Hood Canal, WA from 2012-2013 (PelagicHypoxia project).** Biological and Chemical Oceanography Data Management Office (BCO-DMO). (Version 1) Version Date 2017-11-02 http://lod.bco-dmo.org/id/dataset/718636 [view at BCO-DMO]

Relationship Description: Species list from R/V Centennial trawl surveys.

Parameters

Parameter	Description	Units
Trawl_ID	Unique identifier for each trawl tow	unitless
Date	Trawl date in format yyyy-mm-dd	unitless
Year	Year of sample in format yyyy	unitless
Month	month of sample	unitless
Day	Day of month	unitless
Start_Time_PDT	Time tow deployed (PDT)	unitless
End_Time_PDT	Time that tow retrieval began (PDT)	unitless
EQ_Lat	Latitude of vessel when net reached equilibrium depth	Degrees Minutes
EQ_Lat_dd	Latitude of vessel when net reached equilibrium depth	decimal degrees
EQ_Long	Longitude of vessel when net reached equilibrium depth	Degrees Minutes
EQ_Long_dd	Longitude of vessel when net reached equilibrium depth	decimal degrees
EQ_depth	Depth of net when reached equilibrium	meters
Start_Timestamp_UTC	ISO timestamp when net was deployed based on the ISO 8601:2004(E) standard in format YYYY-mm-ddTHH:MMZ (UTC)	unitless
End_Timestamp_UTC	ISO timestamp when tow retrieval began based on the ISO 8601:2004(E) standard in format YYYY-mm-ddTHH:MMZ (UTC)	unitless

Instruments

Dataset-specific Instrument Name	Simrad GPS
Generic Instrument Name	GPS receiver
Dataset-specific Description	Vessel position measured using on board GPS (Simrad)
Generic Instrument Description	Acquires satellite signals and tracks your location. This term has been deprecated. Use instead: https://www.bco-dmo.org/instrument/560

Dataset-specific Instrument Name	Marinovich midwater trawl
Generic Instrument Name	Midwater Trawl
Generic Instrument Description	A mid-water or pelagic trawl is a net towed at a chosen depth in the water column to catch schooling fish such as herring and mackerel. Midwater trawl nets have very large front openings to herd schooling fish toward the back end where they become trapped in the narrow "broiler". The sides of the deployed net are spread horizontally with two large metal foils, called "doors," positioned in front of the net. As the trawler moves forward, the doors, and therefore the net, are forced outward, keeping the net open. This instrument designation is used when specific make and model are not known.

Dataset-specific Instrument Name	Kongsberg Marine P150 net monitor
Generic Instrument Name	Water Depth Logger
Dataset-specific Description	Trawl depth measured using Kongsberg Marine P150 net monitor.
Generic Instrument Description	For measuring and recording water levels in rivers, streams, and wells.

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Deployments

PelagicHypoxia_trawlsurveys

Website	https://www.bco-dmo.org/deployment/718647
Platform	R/V Centennial
Start Date	2012-06-11
End Date	2013-10-03
Description	trawl surveys from 2012-2013

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Project Information

Consequences of hypoxia on food web linkages in a pelagic marine ecosystem (PelagicHypoxia)

Coverage: Puget Sound, WA (47 N, 123 W)

Description from NSF award abstract:

Low dissolved oxygen (hypoxia) is one of the most pronounced, pervasive, and significant disturbances in marine ecosystems. Yet, our understanding of the ecological impacts of hypoxia on pelagic food webs is incomplete because of our limited knowledge of how organism responses to hypoxia affect critical ecosystem processes. In pelagic food webs, distribution shifts of mesozooplankton and their predators may affect predator-prey overlap and dictate energy flow up food webs. Similarly, hypoxia may induce shifts in zooplankton community composition towards species that impede energy flow to planktivorous fish. However, compensatory responses by species and communities might negate these effects, maintaining trophic coupling and sustaining productivity of upper trophic level species. The PIs propose to answer the question "Does hypoxia affect energy flow from mesozooplankton to pelagic fish?" They approach this question with a nested framework of hypotheses that considers two sets of processes alternatively responsible for either changes or maintenance of pelagic ecosystem energy flows. They will conduct their study in the Hood Canal, WA. Unlike most hypoxia-impacted estuaries, hypoxic regions of Hood Canal are in close proximity to sites that are not affected. This makes it logistically easier to conduct a comparative study and reduces the number of potential confounding factors when comparing areas that are far apart.

Improved understanding of how hypoxia impacts marine ecosystems will benefit the practical application of ecosystem-based management (EBM) in coastal and estuarine ecosystems. Effective application of EBM requires that the impacts of human activities are well understood and that ecological effects can be tracked using indicators. This project will contribute to both of these needs. The PIs will share their findings on local and national levels with Federal, State, Tribal, and County biologists. To increase exposure of science to underrepresented groups, the PIs also will provide Native American youth with opportunities to participate in field collections and laboratory processing through summer internships. The PIs will collaborate with the NSF-funded Pacific Northwest Louis Stokes Alliance for Minority Participation and tribes from the Hood Canal region to recruit and mentor students for potential careers in marine science. This project will support several undergraduate researchers, two Ph.D. students, a post-doc, and two early-career scientists.

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Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-1154648

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