

# Fish and jellyfish stomach contents from R/V Centennial trawl surveys in the Hood Canal, WA from 2012-2013 (PelagicHypoxia project)

**Website:** <https://www.bco-dmo.org/dataset/718675>

**Data Type:** Cruise Results

**Version:** 2

**Version Date:** 2021-06-10

## Project

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

Contributors	Affiliation	Role
<a href="#">Essington, Timothy</a>	University of Washington (UW)	Principal Investigator, Contact
<a href="#">Horne, John K.</a>	University of Washington (UW)	Co-Principal Investigator
<a href="#">Keister, Julie E.</a>	University of Washington (UW)	Co-Principal Investigator
<a href="#">Parker-Stetter, Sandra</a>	Northwest Fisheries Science Center - Seattle (NOAA NWFSC)	Co-Principal Investigator
<a href="#">York, Amber D.</a>	Woods Hole Oceanographic Institution (WHOI BCO-DMO)	BCO-DMO Data Manager

## Abstract

Fish and jellyfish stomach contents from 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 fish and jellyfish stomach contents from R/V Centennial trawl surveys in the Hood Canal, WA from 2012-2013.

## Methods & Sampling

Sampling and analytical procedures:

Samples were preserved in 90% ethanol and processed in the laboratory using stereo dissecting microscopes.

Prey weights were measured after blotting to remove excess moisture.

#### Digestion Codes

- 2 - traces of prey items
- 3 - < 50% intact
- 4 - 50-75% intact
- 5 - 75-100% intact
- 6 - no digestion

#### Fullness codes

- 1 - stomach empty
- 2 - traces of prey items
- 3 - < 50% intact
- 4 - 50-75% intact
- 5 - 75-100% intact
- 6 - no digestion

## 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
- \* commas to changed to semicolons for csv support
- \* added column name "Comment" to untitled column

Version 2 (2021-09-10) replaces version 1(2017-11-02):

- \* Changed one comment "one pair of eyes likely krill but could be something else" changed to "one pair of eyes likely krill but could be something else"
- \* format also changed to UTF-8.

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## Data Files

File
<b>StomachContents.csv</b> (Comma Separated Values (.csv), 152.97 KB) MD5:dd3f67fa2725367556fd044a865ea7d5 Primary data file for dataset ID 718675

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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 (Pelagic Hypoxia 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) **Site information for R/V Centennial trawl surveys in the Hood Canal, WA from 2012-2013 (Pelagic Hypoxia 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) **Survey locations and times 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.718649.1 [[view at BCO-DMO](#)]

*Relationship Description: Survey locations and times 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: Catch composition from R/V Centennial trawl surveys*

### **Essington, T., Keister, J. E., Horne, J. K., Parker-Stetter, S. (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*

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## **Parameters**

<b>Parameter</b>	<b>Description</b>	<b>Units</b>
SampleNo	Unique identifier for each sample	unitless
TotalWt	Total weight of stomach plus contents	grams (0.01)
Fullness	Code of relative fullness	unitless
ContentsWt	Total weight of stomach contents measured in bulk	grams (0.01)
Prey	Taxonomic group of prey	unitless
Digest	Digestion code of prey item	unitless
Count	Number of prey item in stomach	per individual
PreyWt	Weight of prey item in stomach	grams (0.01)
Comment	Sample comment	unitless

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## **Instruments**

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

<b>Dataset-specific Instrument Name</b>	Marinovich midwater trawl
<b>Generic Instrument Name</b>	Midwater Trawl
<b>Generic Instrument Description</b>	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.

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

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## Deployments

### PelagicHypoxia trawlsurveys

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/718647">https://www.bco-dmo.org/deployment/718647</a>
<b>Platform</b>	R/V Centennial
<b>Start Date</b>	2012-06-11
<b>End Date</b>	2013-10-03
<b>Description</b>	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
<a href="#">NSF Division of Ocean Sciences (NSF OCE)</a>	<a href="#">OCE-1154648</a>

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