



Apr 26th, 9:45 AM - 11:15 AM


Effects of Low Oxygen Levels on Copepod Size Distribution with Depth in Hood Canal

Deana Crouser

Julie Keister

Dr. Daniel Grünbaum

Follow this and additional works at: <https://cedar.wvu.edu/ssec>

 Part of the [Fresh Water Studies Commons](#), [Marine Biology Commons](#), [Natural Resources and Conservation Commons](#), and the [Terrestrial and Aquatic Ecology Commons](#)

Crouser, Deana; Keister, Julie; and Grünbaum, Dr. Daniel, "Effects of Low Oxygen Levels on Copepod Size Distribution with Depth in Hood Canal" (2022). *Salish Sea Ecosystem Conference*. 169.
<https://cedar.wvu.edu/ssec/2022ssec/allsessions/169>

This Event is brought to you for free and open access by the Conferences and Events at Western CEDAR. It has been accepted for inclusion in Salish Sea Ecosystem Conference by an authorized administrator of Western CEDAR. For more information, please contact westerncedar@wwu.edu.



School of Oceanography
COLLEGE *of the* ENVIRONMENT

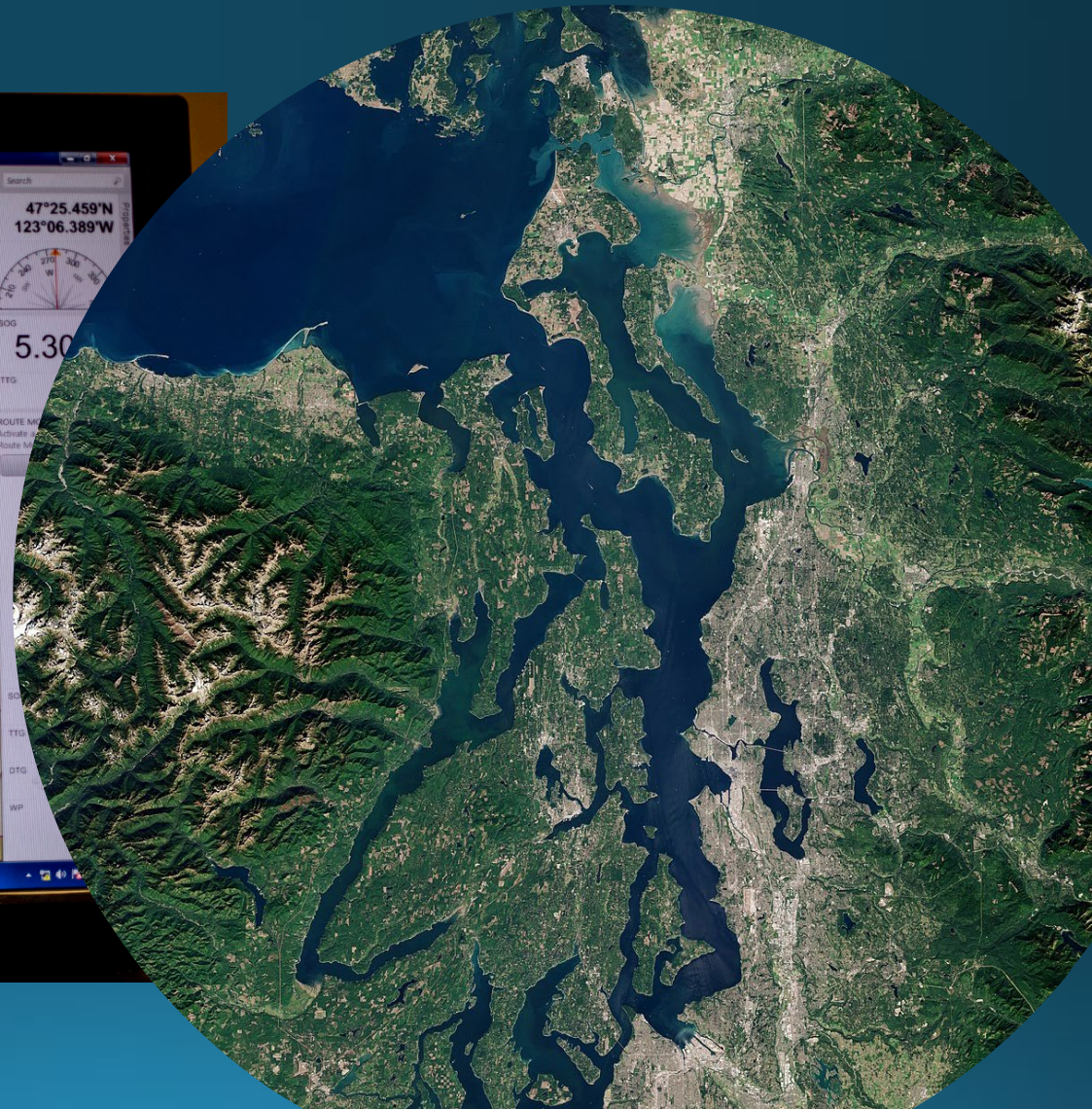
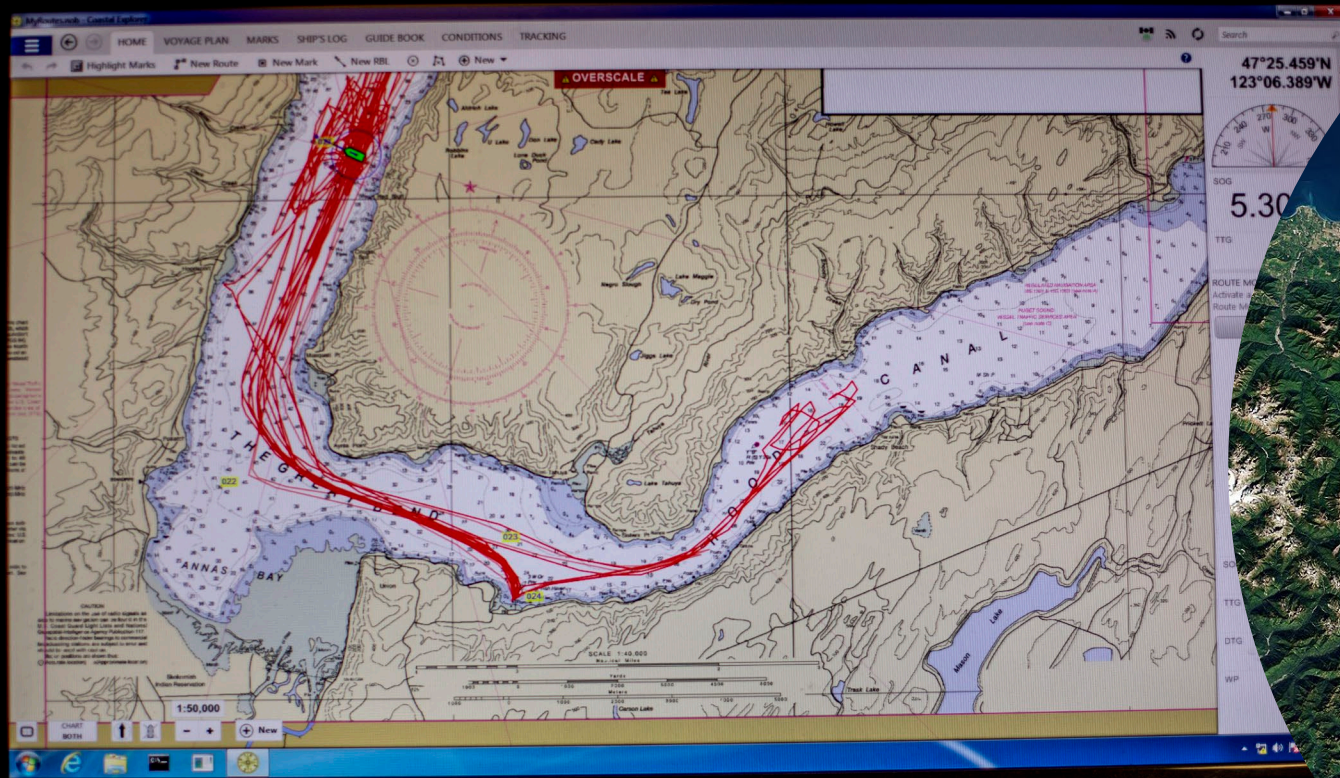


Deana Crouser

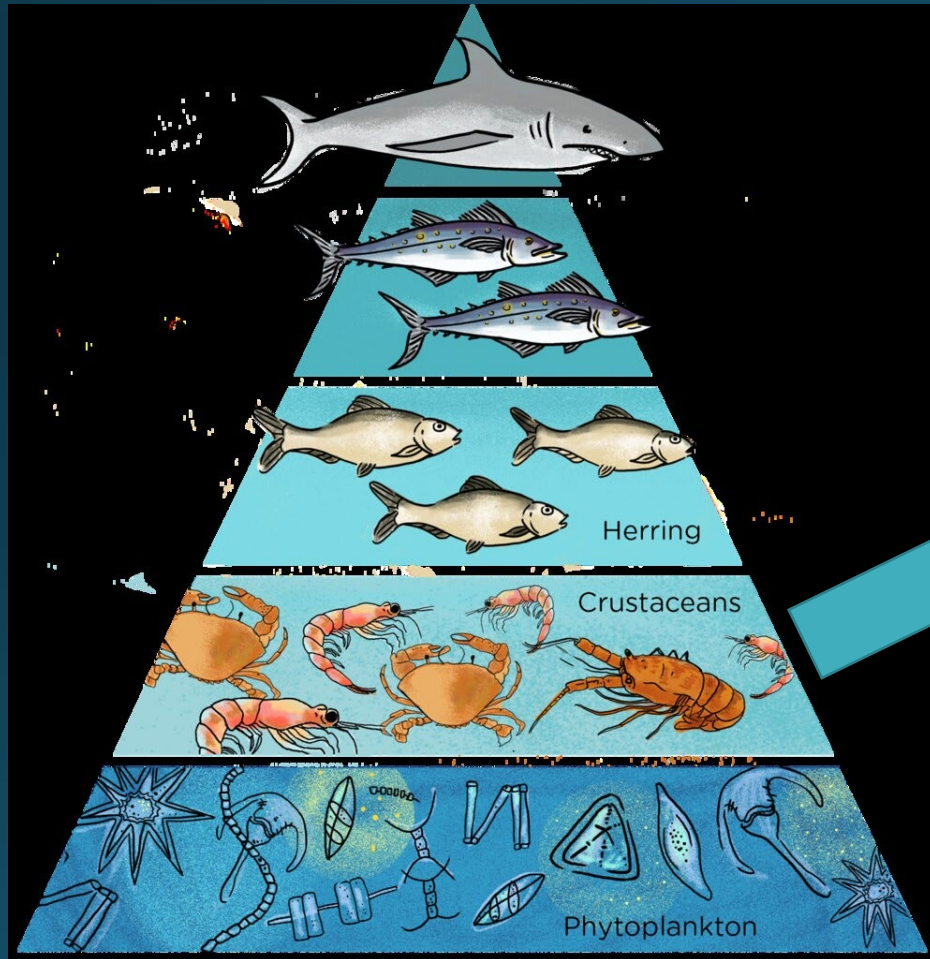
University of Washington, 2019

Effects of Low Oxygen Levels on Copepod Size Distribution with Depth in Hood Canal

Hood Canal, Washington



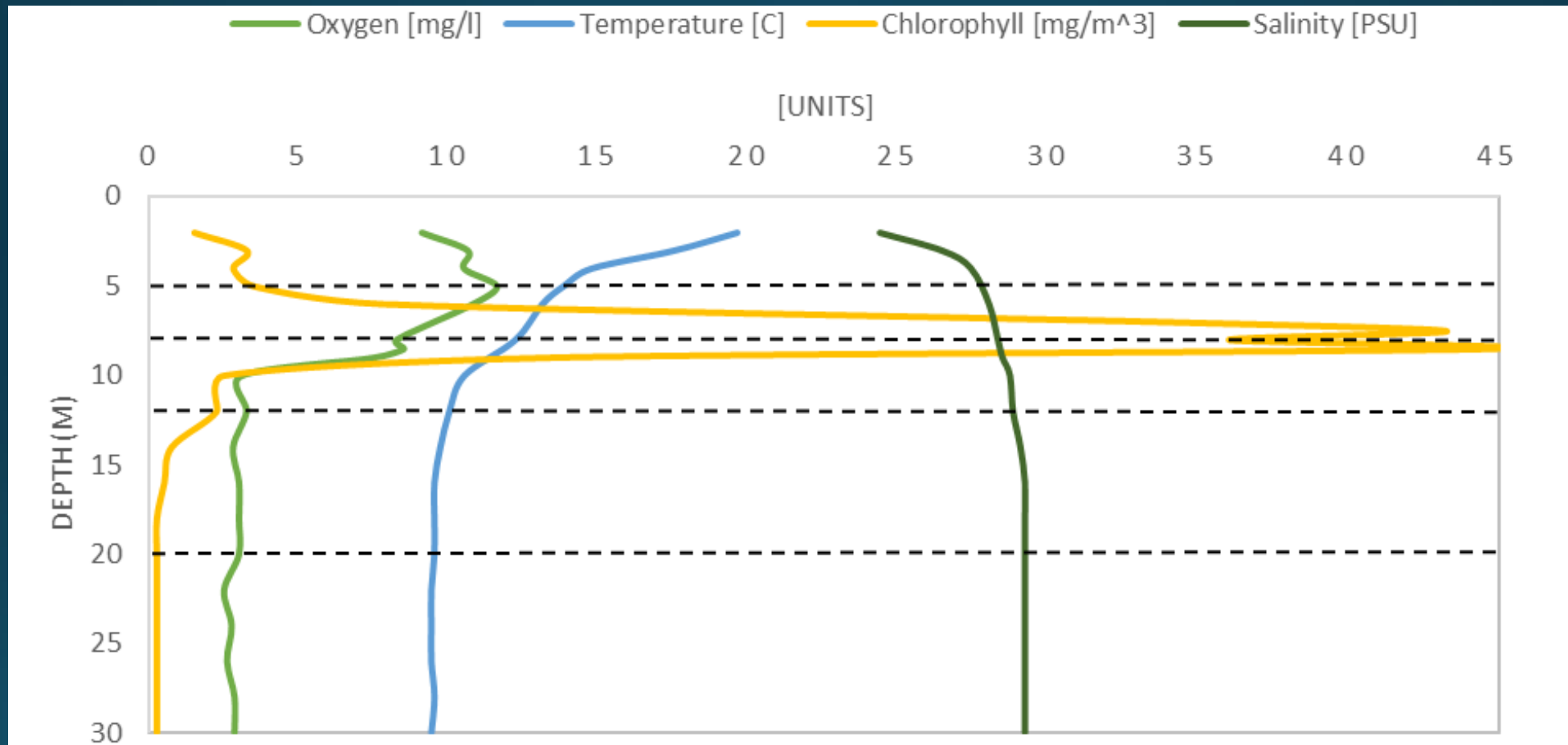
Effects of Hypoxia



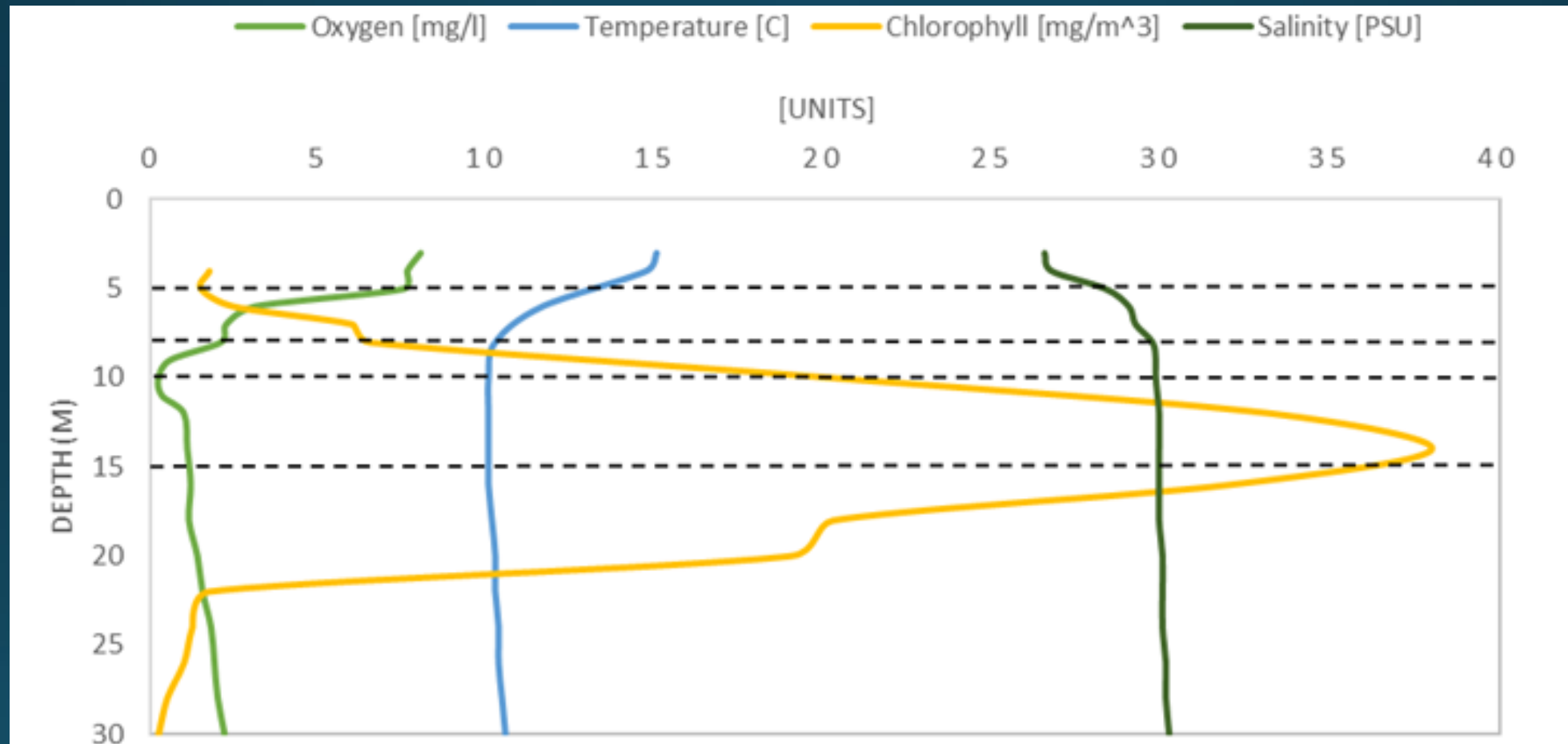
Research Questions

- How low oxygen levels affect the distribution of copepods relative to the oxygen minimum
- How predator/prey interactions may be impacted by changing water conditions.

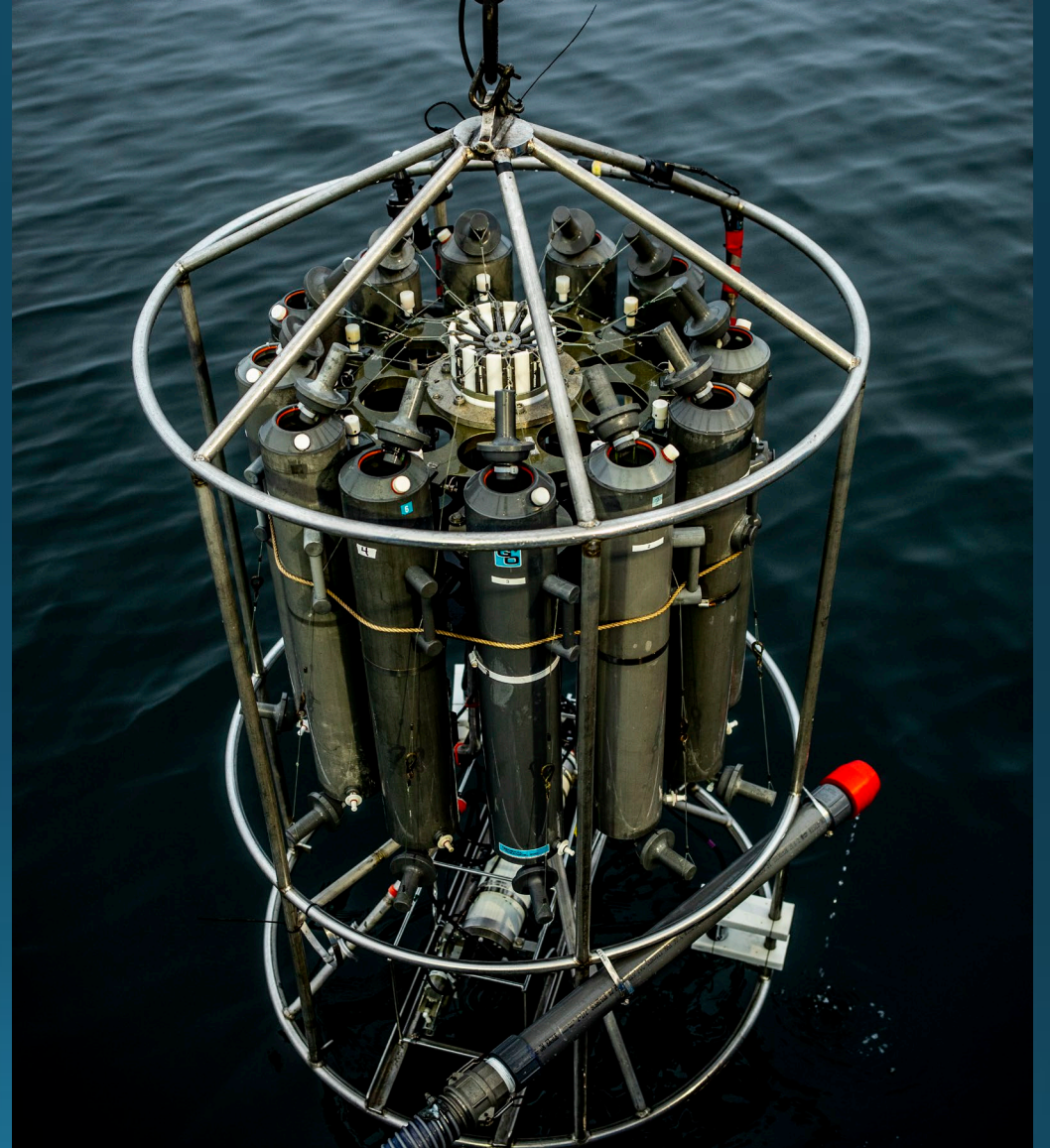
19 August 2017, Normoxic CTD Profile



24 September 2018, Hypoxic CTD Profile



Methods



Methods



Methods



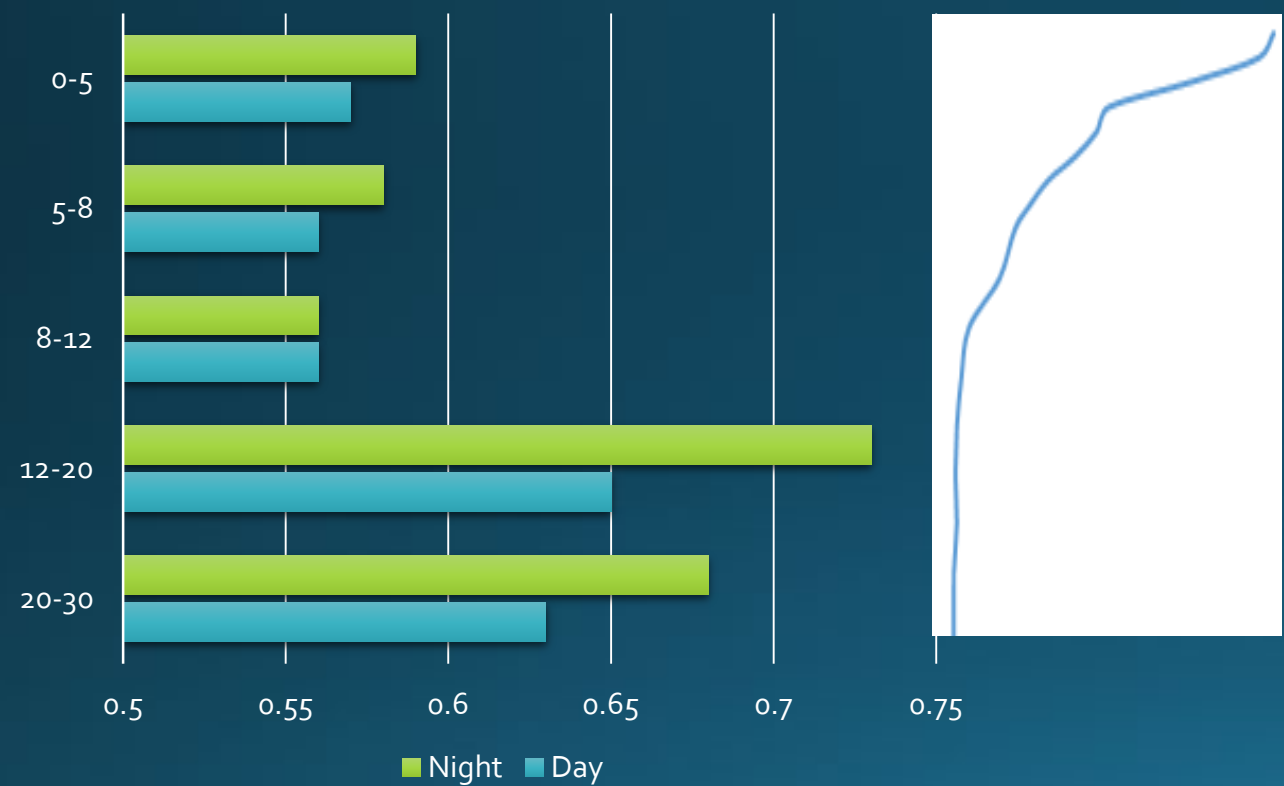
Paul Roberts & Jules Jaffe, Scripps



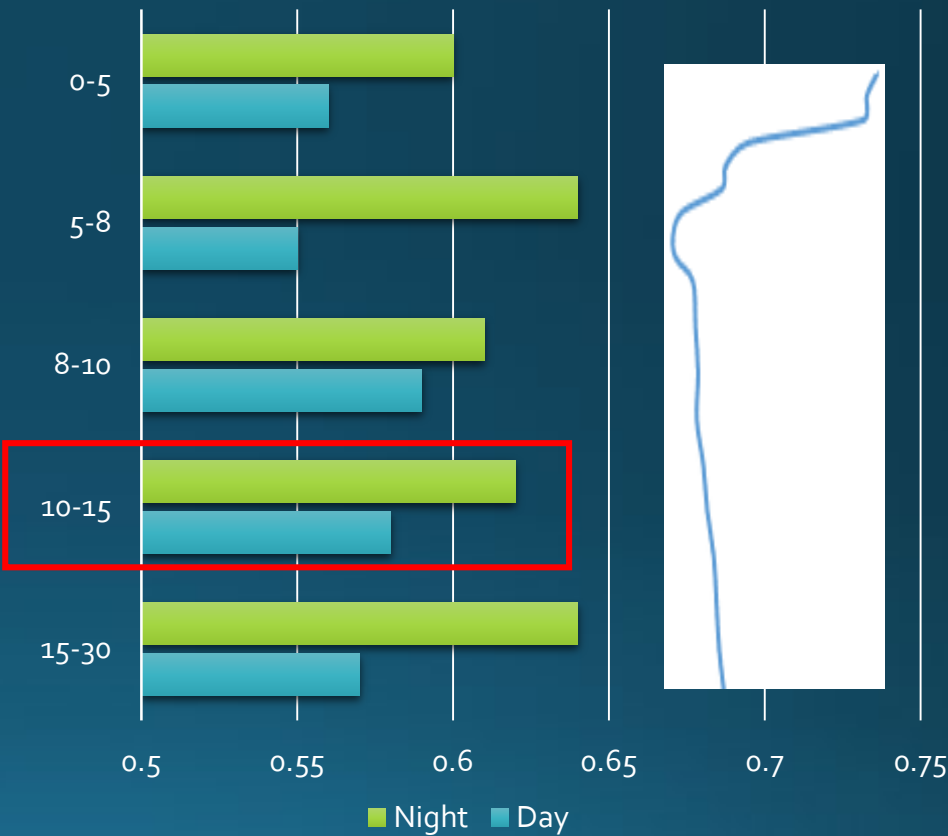
Rob Campbell, Prince William Sound Science Center

Average Copepod Size Distribution

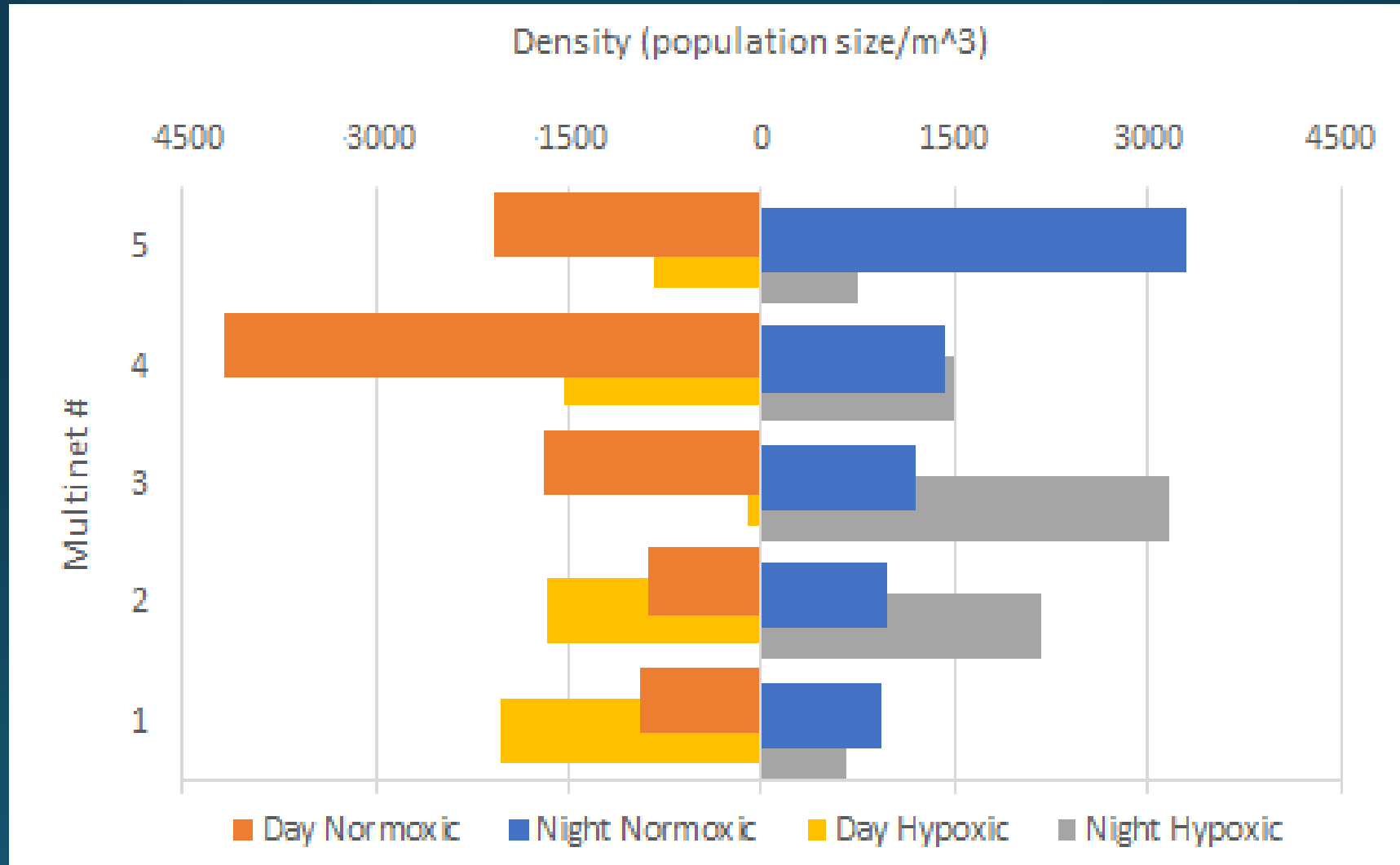
Normoxic



Hypoxic

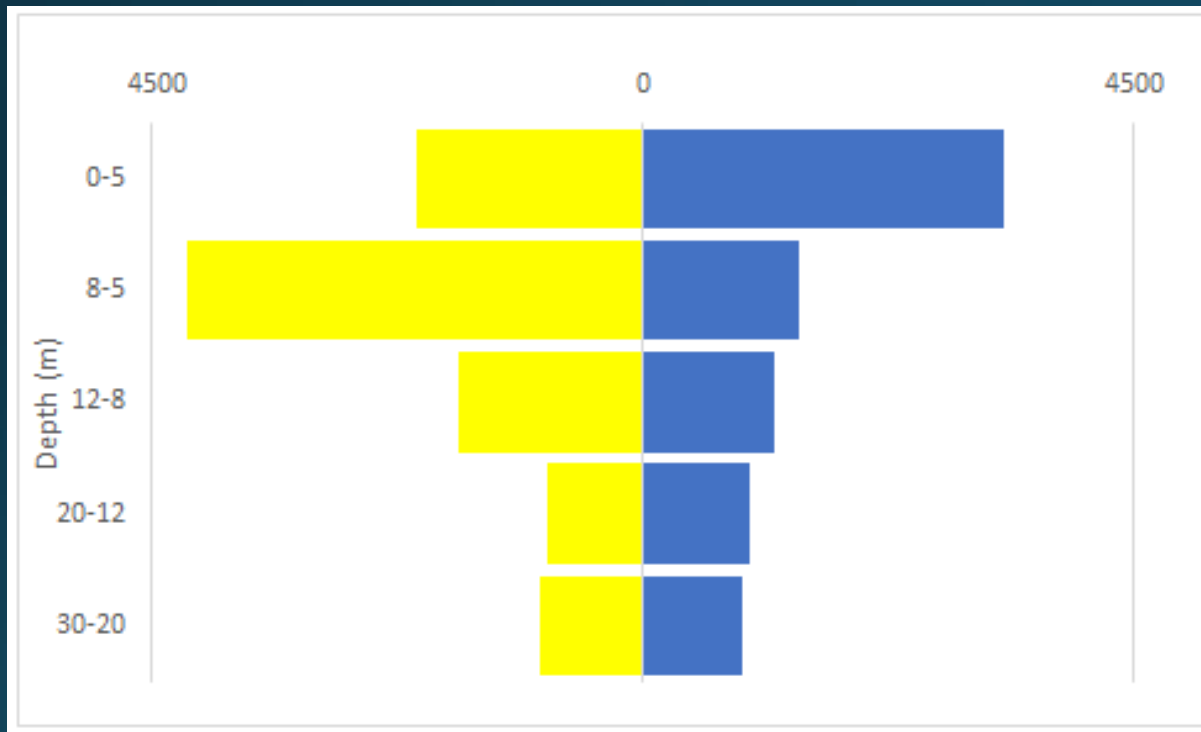


Copepod Abundance per Cubic Meter

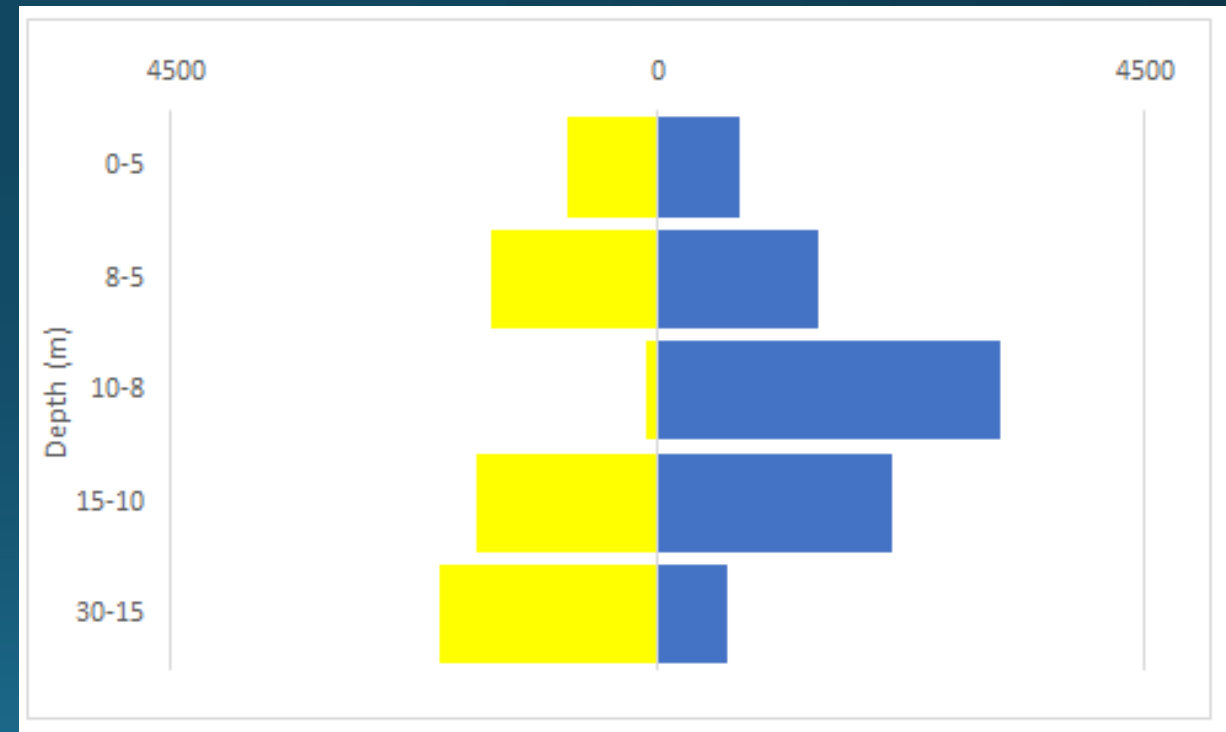


Copepod Abundance per Cubic Meter

Normoxic

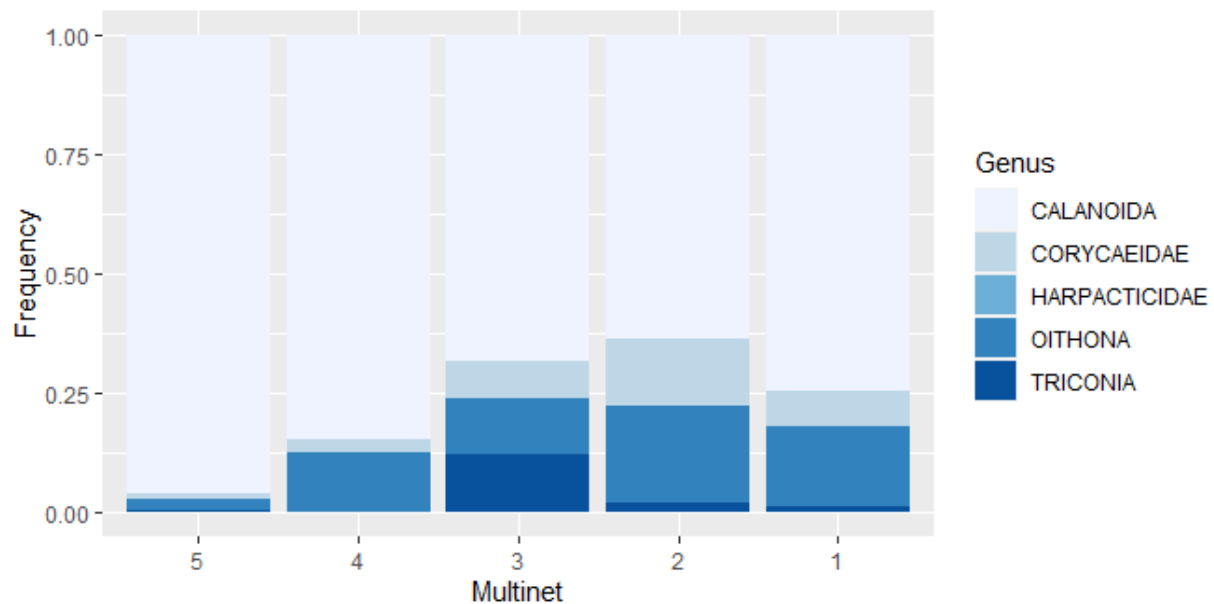


Hypoxic

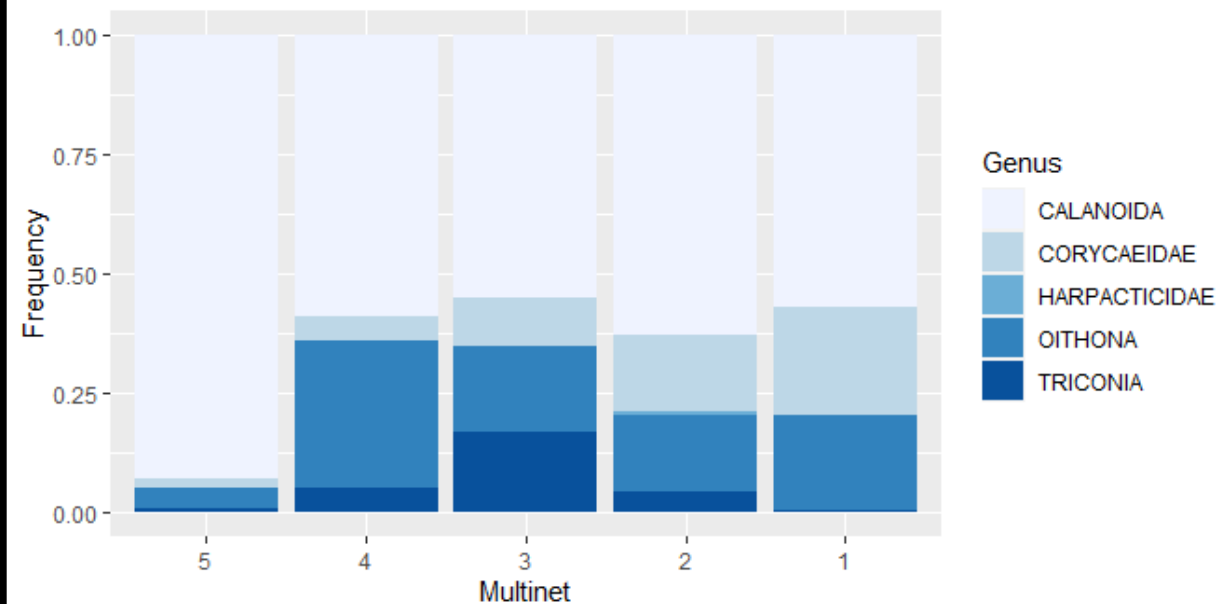


Normoxic Species Composition

Species Day Composition
19 Aug 2017

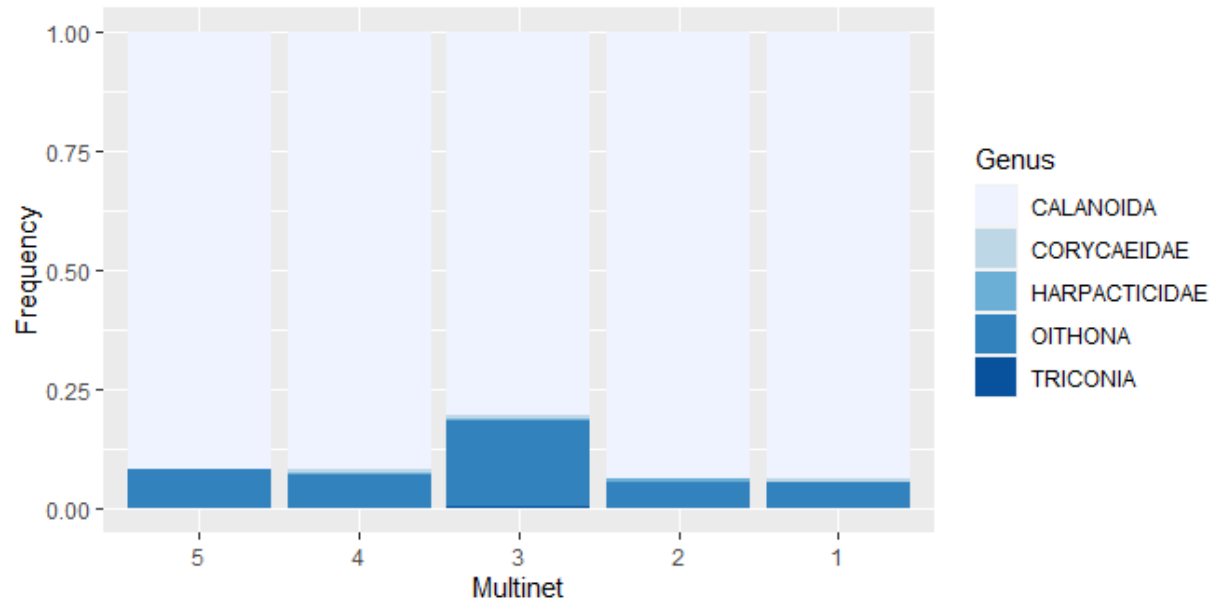


Species Night Composition
19 Aug 2017

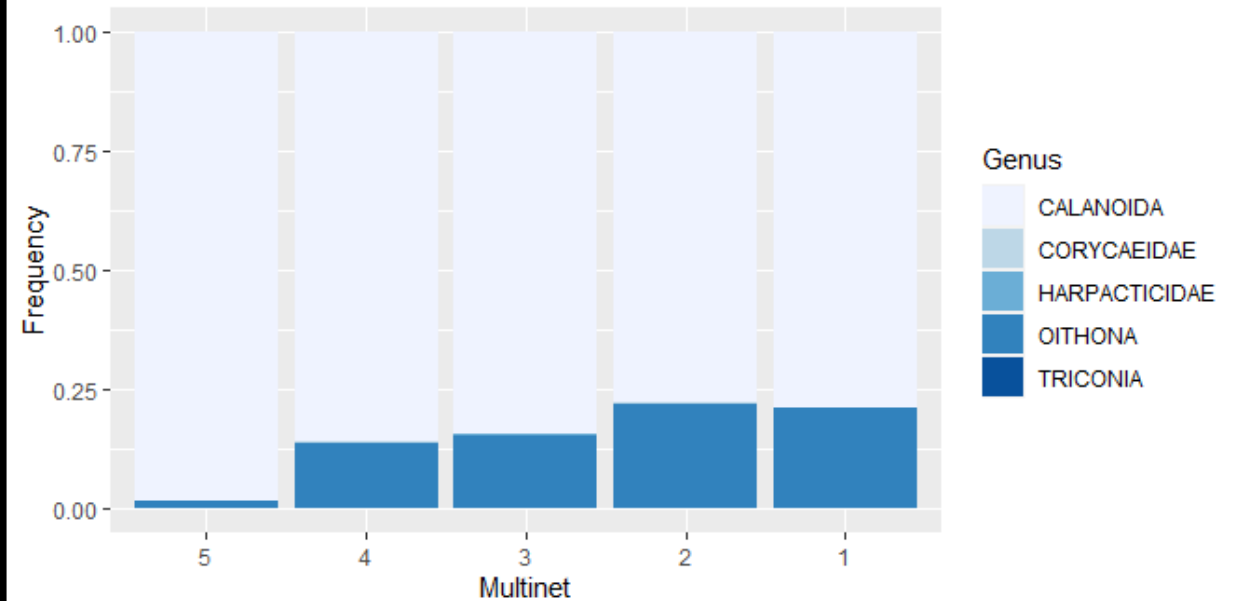


Hypoxic Species Composition

Species Night Composition
24 Sept 2018



Species Day Composition
24 Sept 2018



Conclusions



Vertical distribution of copepods significantly altered

- Larger copepods in hypoxic OML relative to water column.
- Smaller copepods observed at depth under hypoxic compared to normoxic.
- Species composition significantly altered between hypoxic and normoxic waters.

Diel Vertical Migration

- Abundance support DVM under normoxic and hypoxic conditions.
- DVM fundamentally altered under hypoxic conditions

Thank you!

