Purpose

• Pelagic tunicates and pelagic snails in the Gulf of Alaska (GOA) and Prince William Sound (PWS) are under-appreciated groups of gelatinous zooplankton.

• These mucus-net feeders are being studied in the GOA and PWS over a period of ten years (2012-2021) along the Seward Line as well as stations within PWS to update a decade of preceding records, adding July collections from 2018 onward.

• The new abundance data will explore if community composition is linked to water temperature changes.

Background Information

• Tunicates and pteropods are under-appreciated grazers that use mucosal net to feed, often on very small particles

• They are important prey animals for other trophic levels in the Gulf of Alaska including salmon and seabirds

• Large community shifts have been observed in their composition and abundance from 2001-2011

• However, we lack a robust understanding of what drives at these species level changes

• Species-level resolution required analysis of specialized net not routinely analyzed by the NGA-LTER

Results

Percent species composition for larvacean species by abundance*

Shelled Pteropod Abundance (ind m\(^{-3}\))*

Methods

• Samples were collected in the upper 100 m along the Seward line and in Prince William Sound from 2012-2021 using a 53 µm CalVet net

• Samples where identified and sizes measured for larvaceans (trunk length) and pteropods (shell diameter)

• Biomass was calculated from species-specific dry-weights (DW)

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Results and Future Directions

• Community shifts between seasons

• Shift starts earlier in warmer years, like 2019, as warm water species show up

• Plan to continue filling in the gaps for the years 2013-2017

• Will compare data to physical changes in the environment to determine drivers of these shifts for the past 20 years