

## 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.

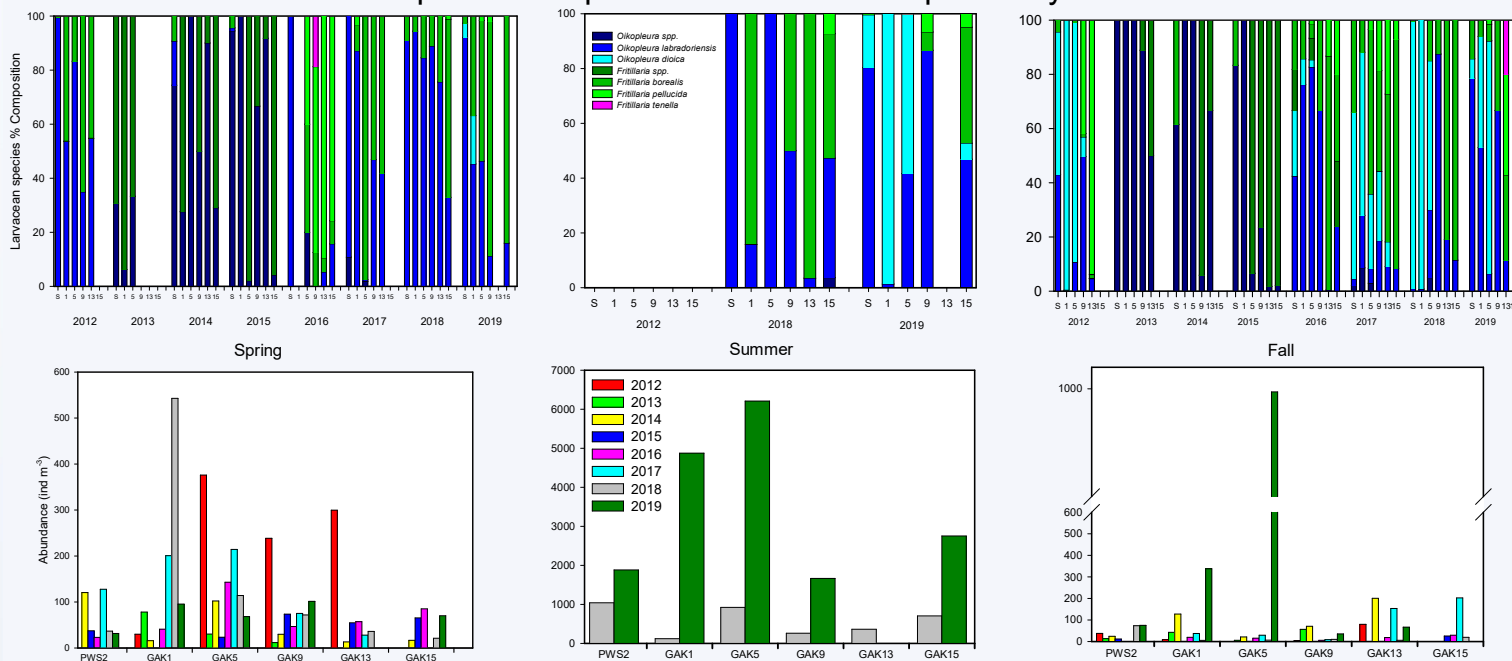
## Background Information

- 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\*

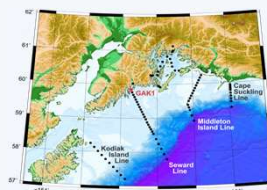


Shelled Pteropod Abundance (ind m<sup>-3</sup>)\*

\*data from 2013-2017 is from 150 μm nets

## 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 were identified and sizes measured for larvaceans (trunk length) and pteropods (shell diameter)
- Biomass was calculated from species-specific dry-weights (DW)



## Acknowledgements

Thank you to the NGA-LTER and the National Science Foundation for funding this project.

Thanks to the Hopcroft Lab:

Caitlin Smoot, Cheryl Hopcroft, Elizabeth Stockmar, Jennifer Questel, Delaney Coleman



## 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

