

## Microzooplankton in the food web of the coastal Gulf of Alaska

Suzanne Strom, Shannon Point Marine Center, Western Washington University, USA  
Russ Hopcroft, University of Alaska Fairbanks, USA

Microzooplankton communities in the coastal Gulf of Alaska were studied as part of an integrated ecosystem research program. We sampled during two contrasting years: 2011, with a greatly reduced spring phytoplankton bloom, and 2013, with a robust spring bloom. Other sampling contrasts were season (spring, summer, fall) and region (eastern versus western shelf seas). Microzooplankton biomass reflected underlying phytoplankton distribution, with the strongest gradients being spatial. The east, which has a narrower shelf and generally lower productivity environment than the west, had lower microzooplankton biomass levels and a greater proportion of ciliates, even in the face of basin-wide seasonal and interannual contrasts. A striking feature of the overall data set was the high contribution of ciliates to total microzooplankton biomass and abundance, a tendency that was especially pronounced in lower chlorophyll locations and time periods. This contrasts with the dinoflagellate dominance reported from the hydrologically connected Bering Sea, but parallels findings from the eastern Arctic. Ciliate dominance could reflect different adaptations of both the smallest and largest taxa to episodic low productivity conditions. Many of the largest ciliates likely retain chloroplasts as a strategy for survival during times of prey scarcity.

Microzooplankton : phytoplankton biomass ratios varied widely over time and space, and indicated that lower productivity regions (east) and seasons (summer) were also locations/times of reduced trophic transfer efficiency from phytoplankton to ciliates and dinoflagellates. Possible top-down influences on the microzooplankton community, as well as implications of microzooplankton community structure for mesozooplankton production, will be discussed.