Trophic Roles of Appendicularians in the Coastal Regions of the Gulf of Alaska

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## Oikopleura labradoriensis



### famous photo by Per Flood

### Zooplankton Abundance: Monthly Means, MOCNESS Tows



data from K. Coyle – LTOP



data from R. Sato

#### hx248; Calvet tows along Seward Line



Aug 2001 data from K. Coyle– GLOBEC LTOP









(data from Sato)



### Summary of grazing – Jul/Aug 2003

% of daily phytoplankton production consumed by....

Microzooplankton: Appendicularians: Copepods:

> 75 % of phytoplankton < 20 um</p>
1 – 18 % of phytoplankton < 20 um</p>
< 1 % of total phytoplankton (mostly > 20 um)



Juvenile pink salmon occupy surface waters and feed primarily during daylight. Fish move out of PWS into the region of the inner half of the shelf (GAK 1-6) during the Jul/Aug period – the time of our study

# Juvenile pink salmon prey Jul/Aug 2003

- In both months, appendicularians were a significant component of the diet of juvenile pink salmon
- In August, copepods were a more significant component of the diet than in July



(data from Armstrong et al. (in press))



## Conclusions

Appendicularians are important consumers of planktonic particles  $< 20 \ u$ m, inlucing bacteria, phytoplankton and small heterotrophs

Appendicularians are important prey items for juvenile pink salmon in PWS and the inner shelf of the Gulf of Alaska

Appendicularians form a direct trophic link between small planktonic particles (< 20 um) and juvenile pink salmon.