

Seasonal Prey Availability Near Two Steller Sea Lion Haulouts

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The Problem

Steller sea lion (SSL) abundance has decreased dramatically in central and western Alaska, but is increasing in southeastern Alaska. Reasons for the decline in part of their range are unknown, but may be related to reduced prey availability and lower diet diversity.

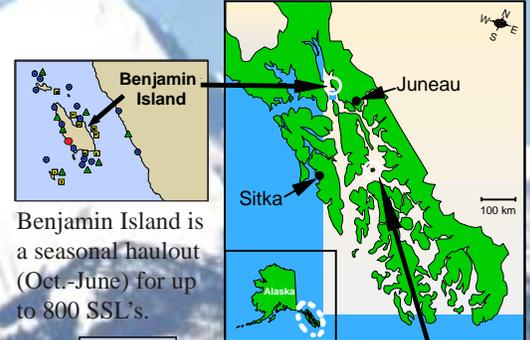
From 2001-2004, prey studies were conducted near two SSL haulouts in southeastern Alaska to compare to similar studies in central and western Alaska.

Objectives

- Identify prey available to SSLs in summer and winter in nearshore waters <100 m deep
- Measure relative abundance and composition of prey
- Compare catches to frequency of occurrence in SSL scat (Dr. Andrew Trites, Jamie Womble)



Study Sites



Benjamin Island is a seasonal haulout (Oct.-June) for up to 800 SSL's.



The Brothers Islands are a year-round haulout for about 1,300 SSL's.



Methods

Beach seine

Sand lance
Walleye pollock

14 hauls at each site (~5 m deep)

Jig

Pacific cod
Armorhead sculpin

15 stations (5-100 m deep)

ROV

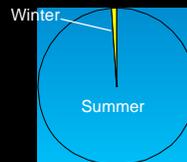
Dusky rockfish

Verified fish distribution

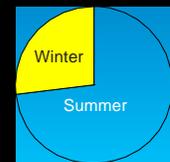
Sites were sampled by seine, jig, and ROV in summer and winter, 2001-2004

Results

Catch



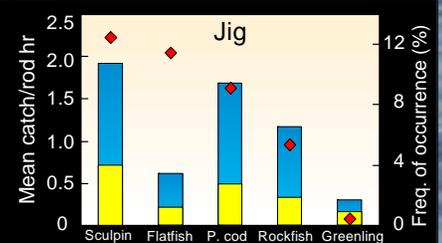
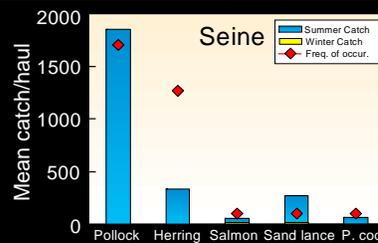
Seine
n = 210,331



Jig
n = 559

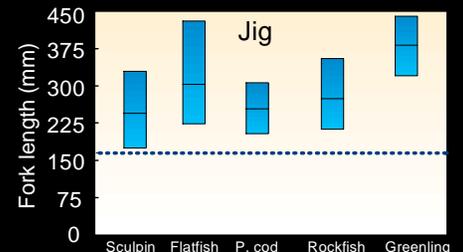
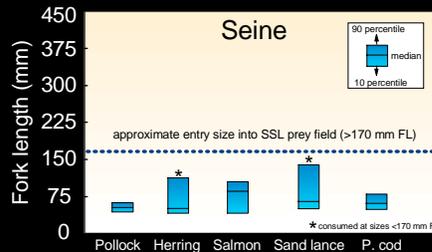
58 fish spp. available in summer, 44 spp. in winter; 34 spp. consumed by SSLs

Catch vs. % in SSL scat



Some of the most abundant spp. had a high frequency of occurrence in SSL scat

Prey size



Fish captured by jigging were of sufficient size to be consumed by SSL

Significance to Steller sea lions

- Nearshore habitat provides important nursery areas for future SSL prey
- In winter, less available prey may force SSLs to travel farther from haulouts to forage
- In summer, larger prey available in nearshore waters may benefit juvenile SSL's because of their inability to dive as deep or forage as far as adults
- SSL populations are healthy at both haulouts, in part because of the abundant and diverse prey field in the immediate vicinity