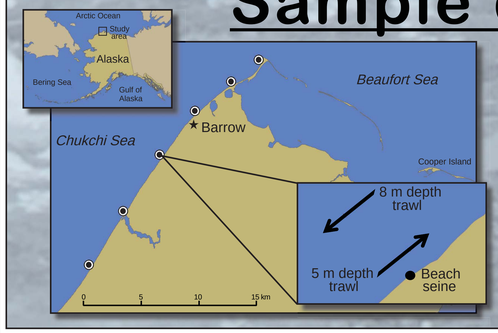
Nearshore Fish in the Chukchi Sea, Alaska

Objectives

In nearshore waters of the Chukchi Sea:

- Identify distribution and relative abundance of fish
- Establish baseline for long-term Arctic monitoring
- Collect and archive fish for energetic, genetic, and voucher specimens

Sample design



- August 2007- 2009 & September 2009
- 6 stations
- 2 bottom trawl tows & 1 seine haul/station

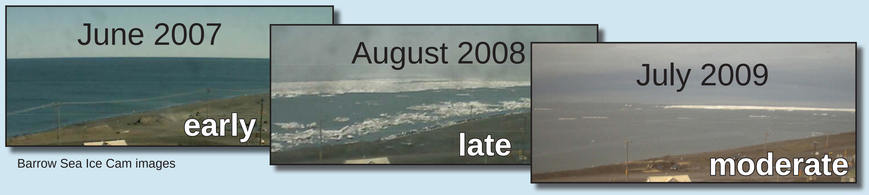
Methods

Beach seine hauls

Bottom trawl tows

Environmental conditions

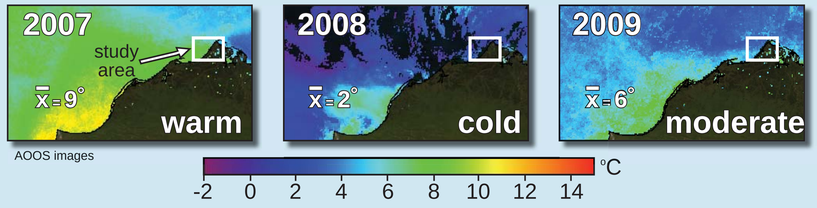
Sea ice break-up



Barrow Sea Ice Cam images

- Timing of ice break-up varied among years

Sea surface temperature (SST)



AOOS images

- Mean annual August SST related to ice break-up timing

Dominant fish

Capelin

Arctic cod

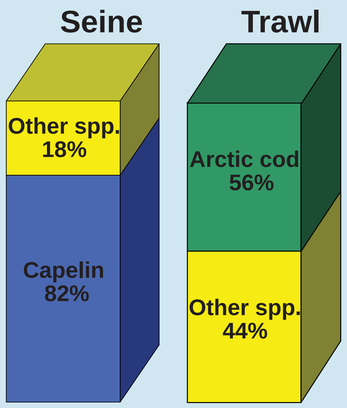
Pacific sand lance

Slender eelblenny

Sculpin spp.

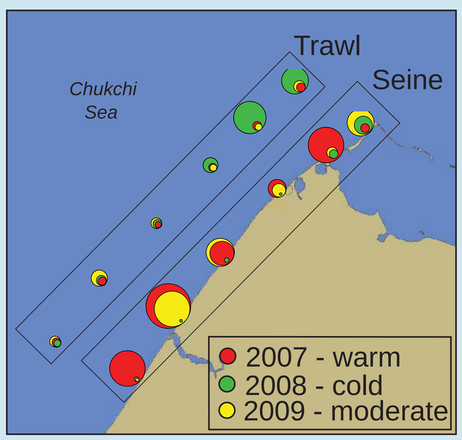
Results

Catch by gear



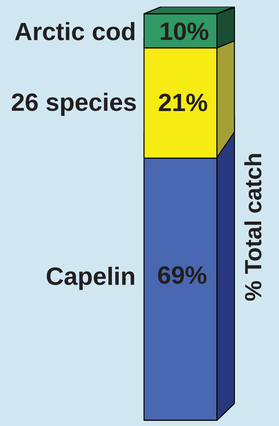
- Dominant species differed by gear type

Annual catch



- Abundance varied by year and gear type

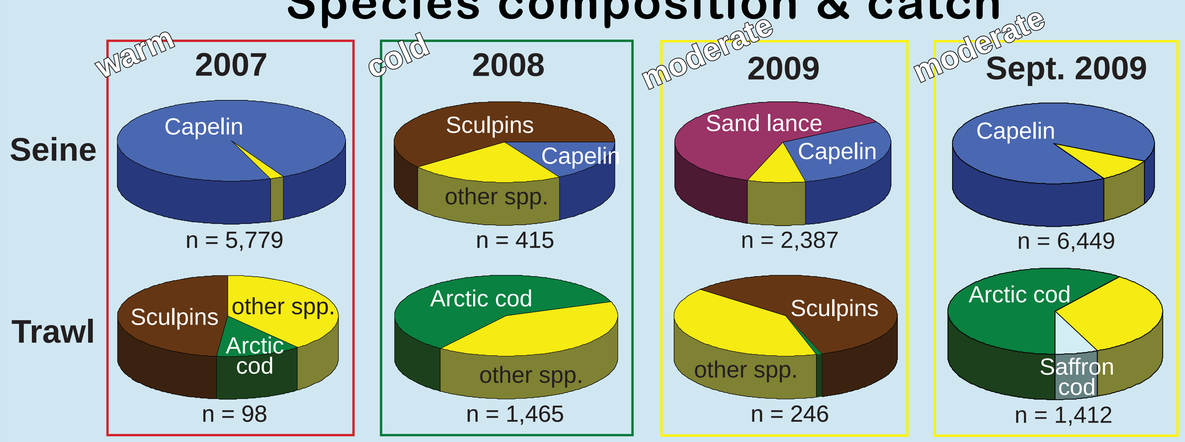
Total catch



n = 19,147 fish

- Mostly juveniles

Species composition & catch



- Capelin most abundant in warm year (2007) and in September
- Arctic cod most abundant in cold year (2008) and in September
- Catch and species composition differed in 2009 between Aug. and Sept.

Conclusions

- Capelin and Arctic cod are abundant in nearshore waters of the Chukchi Sea
- Sea ice conditions affect the distribution and abundance of nearshore fish
- Fish abundance and species composition varied monthly and annually

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