

Science, Service, Stewardship



Eastern Bering Sea Shelf Bottom Trawl Survey of Groundfish and Invertebrate Resources

NOAA

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FISHERIES
SERVICE**



Shelf Bottom Trawl Survey History

1975 - First annual large-scale bottom trawl survey of eastern Bering Sea shelf

1982 - Changed trawl gear: new time-series

1987 - Addition of 20 NW stations

1988-2010 - Continued annual surveys

Shelf Bottom Trawl Survey Standards

Station at center of 20 x 20 nm grid

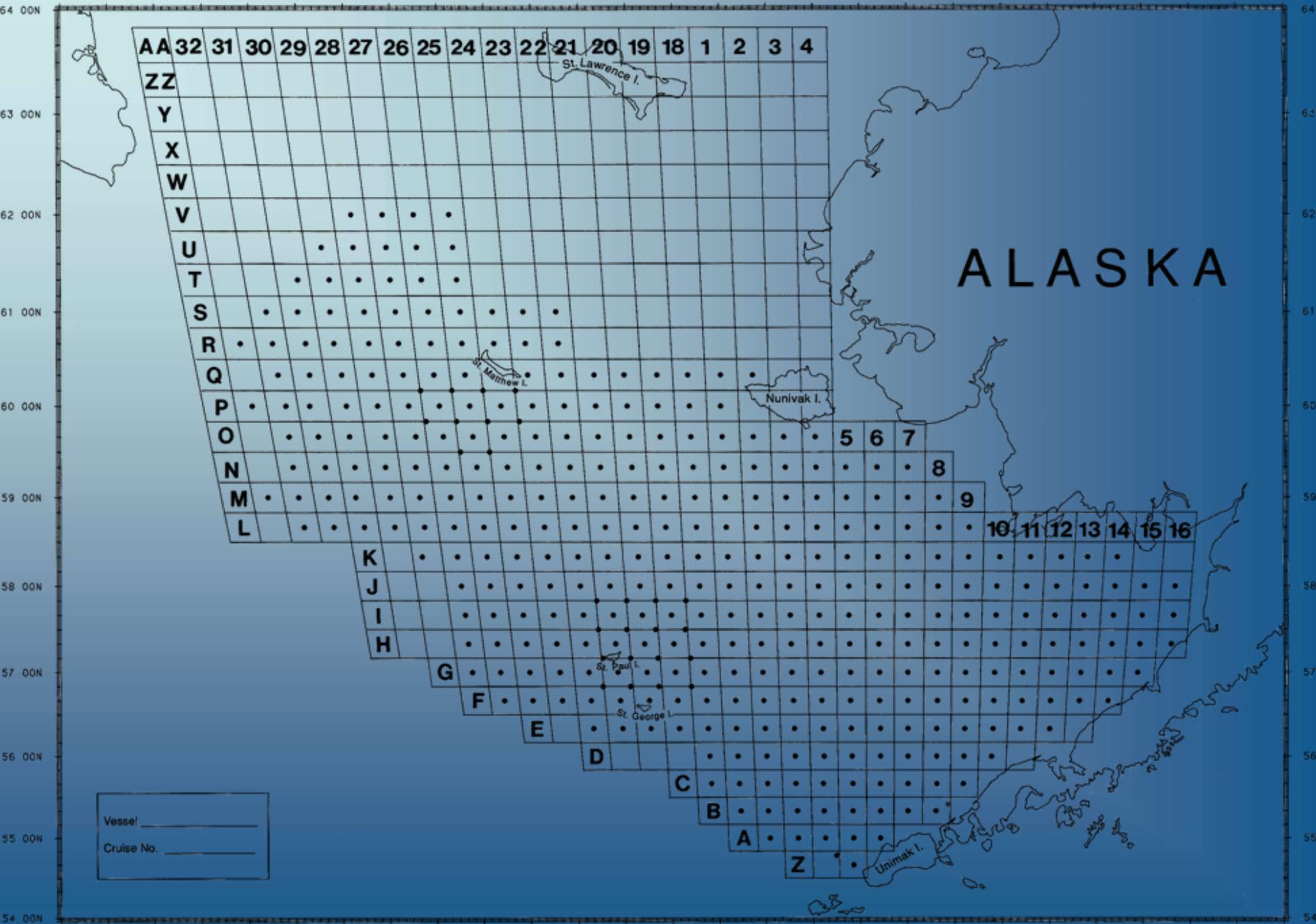
Fixed stations every year

30 minute tow

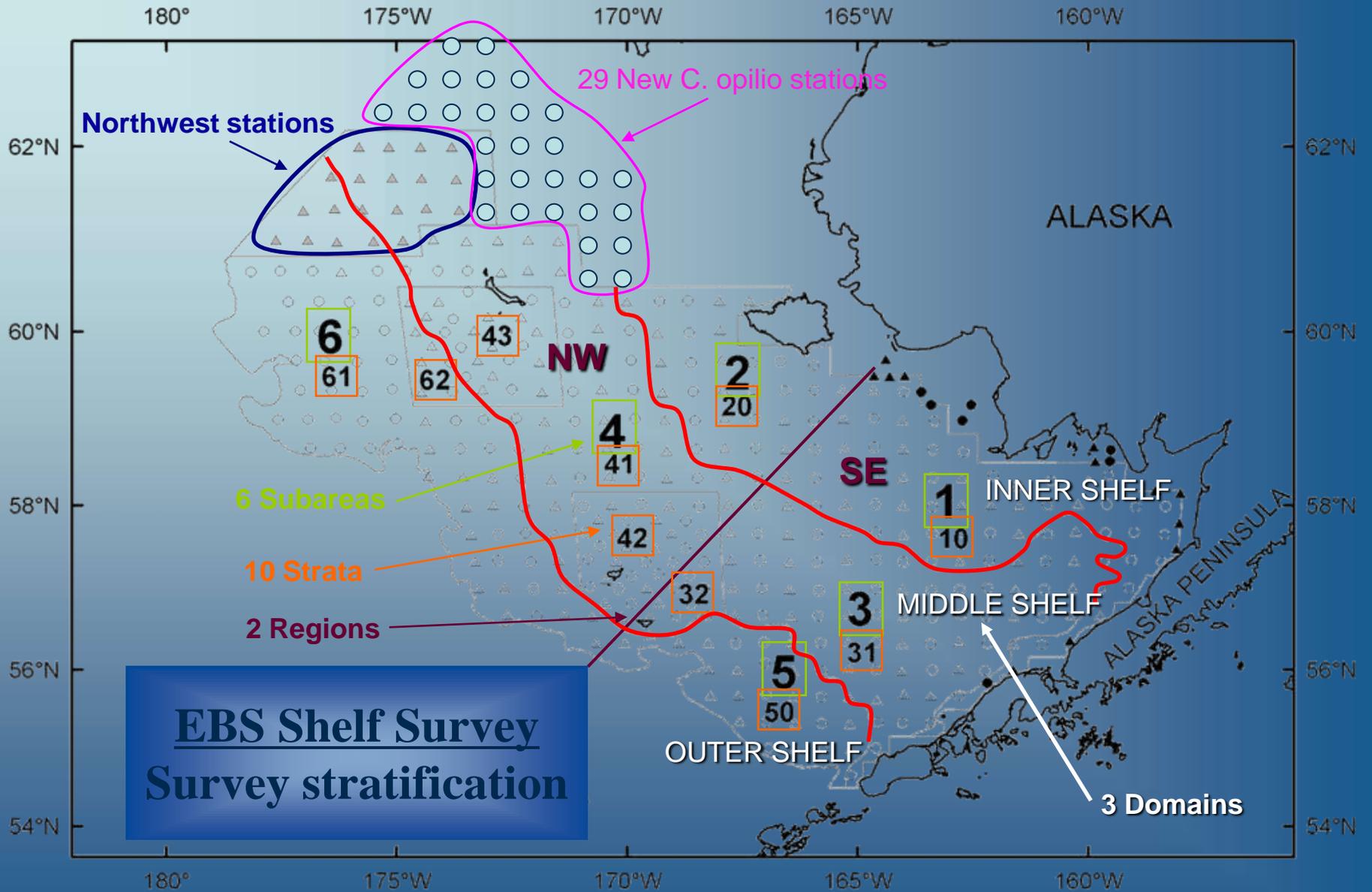
3.0 knot towing speed

Trawl winch brakes set during tow

178 00E 180 00W 178 00W 176 00W 174 00W 172 00W 170 00W 168 00W 166 00W 164 00W 162 00W 160 00W 158 00W 156 00W



178 00E 180 00W 178 00W 176 00W 174 00W 172 00W 170 00W 168 00W 166 00W 164 00W 162 00W 160 00W 158 00W 156 00W

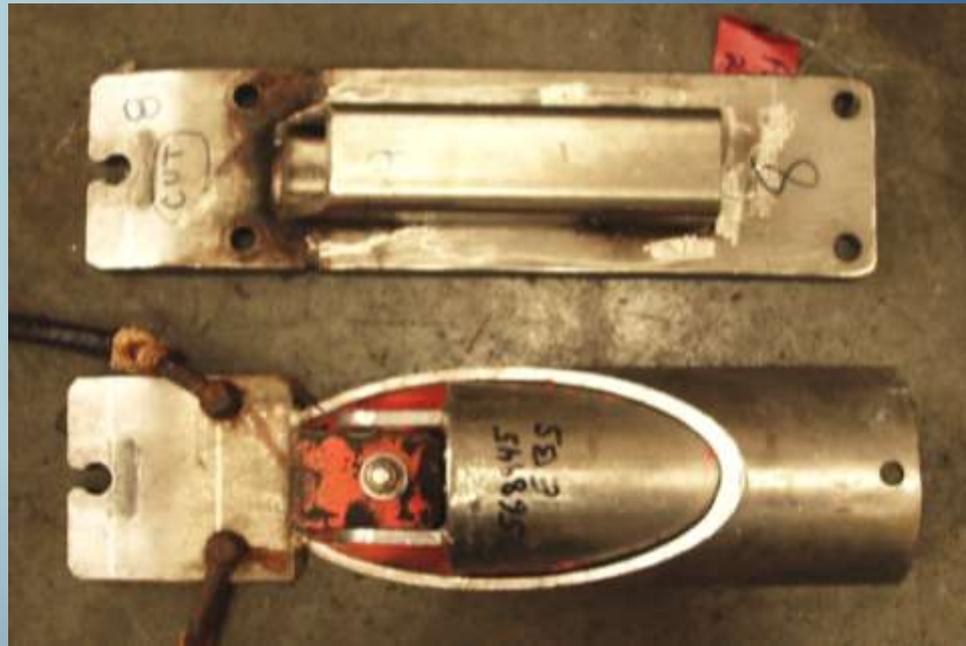




EBS Shelf Survey
83-112 Eastern Trawl

EBS Shelf Survey
83-112 Eastern Trawl

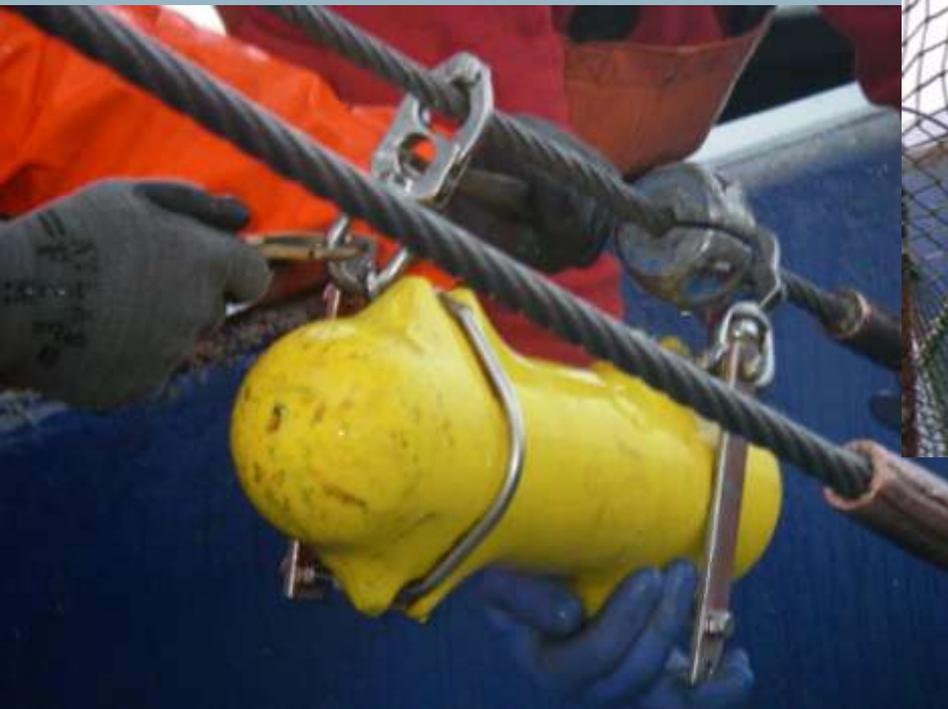




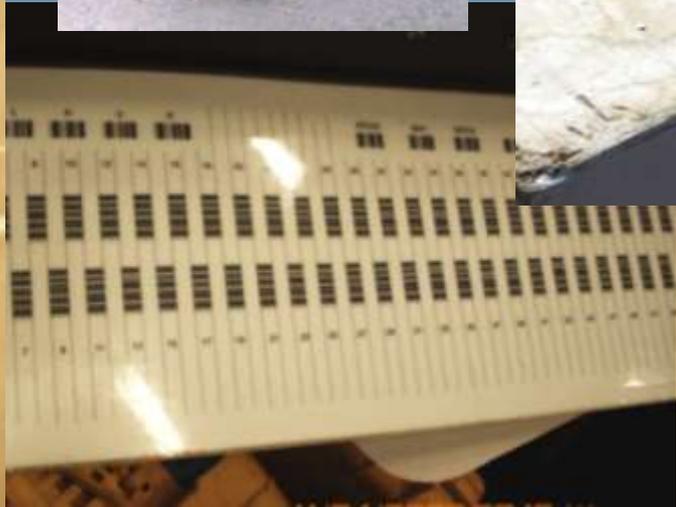
EBS Shelf Survey
Net Mensuration Gear



EBS Shelf Survey Net Mensuration Attachments



EBS Shelf Survey
Scales &
Length Data Recorder





**Feeding Ecology
(1982-present)
Predator-prey
interactions**



**EBS Shelf Survey
Other Groups**

**Pathology Laboratory
(1983-present)
Disease & parasite monitoring**

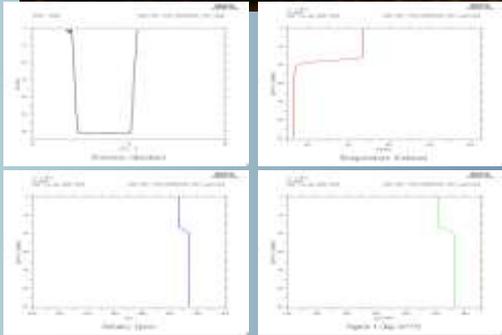


**International Pacific
Halibut Commission
(1998-present)
Age structures**



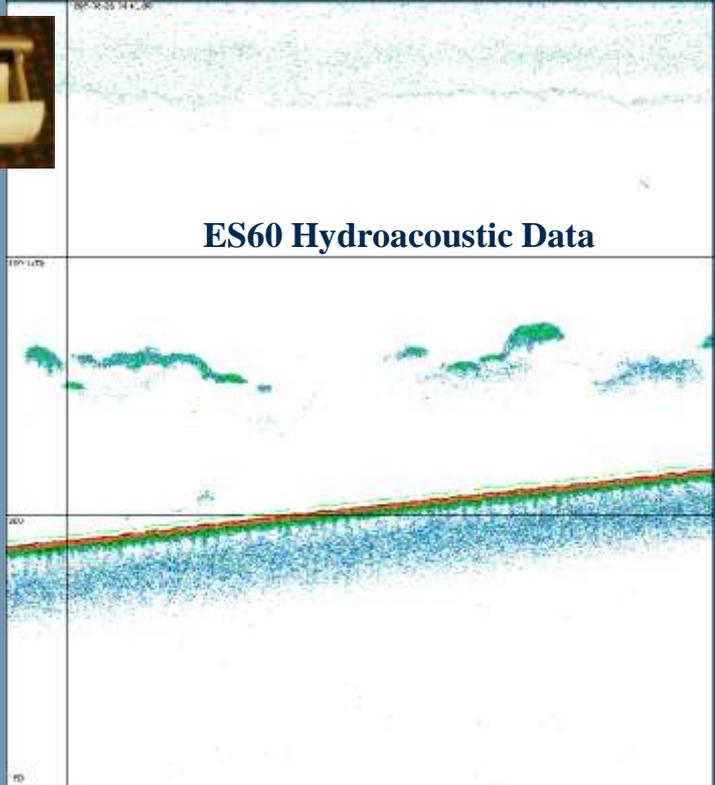


Plankton Bongo Tows



CTD oceanographic data

EBS Shelf Survey
Recent Ancillary
Research Projects



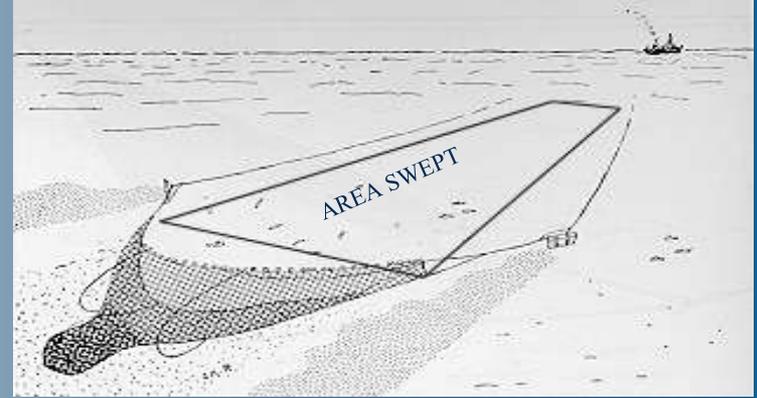
ES60 Hydroacoustic Data

Alaska Skate Tagging



Light Irradiance

Catch Per Unit Effort:



$$\text{Catch Per Unit Effort (CPUE)} = \frac{\text{Catch (weight or numbers)}}{(\text{Net Width}) (\text{Distance Fished})}$$

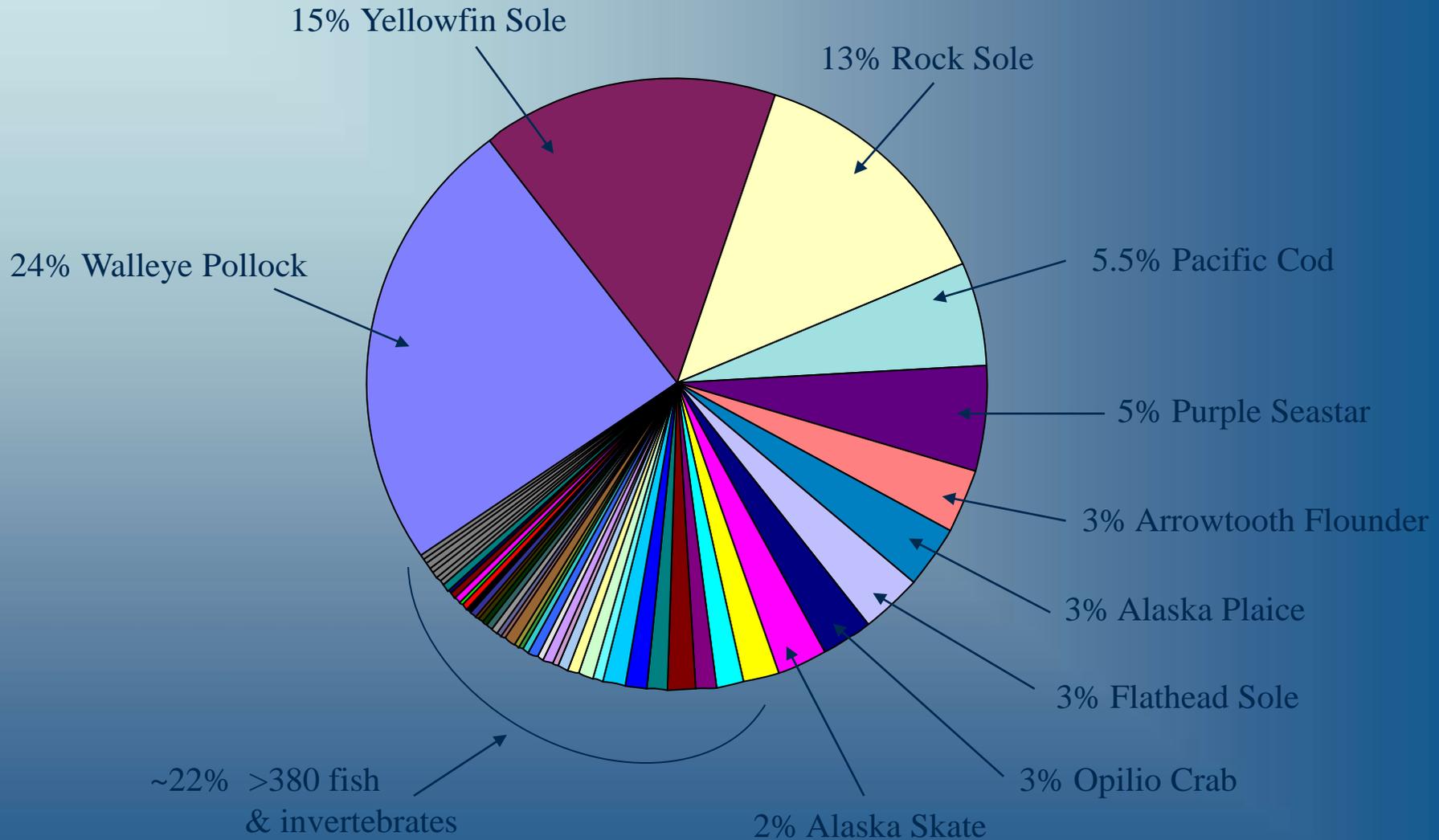
“area swept”

- Net height & width determined by net mensuration data
- Area swept (ha) computed by distance towed multiplied by mean net width
- Mean catch per unit effort (CPUE) values for each species are calculated in kg/hectare for each of the 10 strata
- CPUE calculated for individual subareas and for overall survey
- Biomass and population estimates are derived for each stratum by multiplying the stratum mean CPUE by total stratum area
- Stratum totals are added together to produce estimates for each subarea and for total survey area

EBS Shelf Survey
Major Species

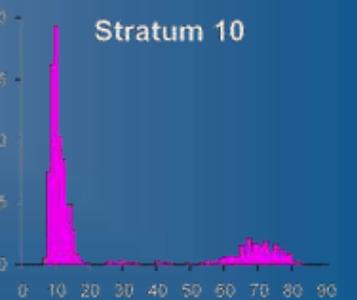
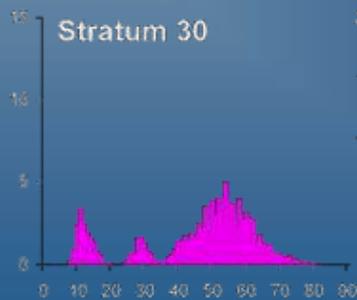
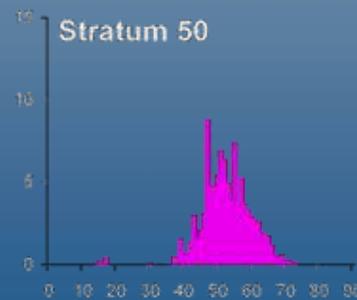
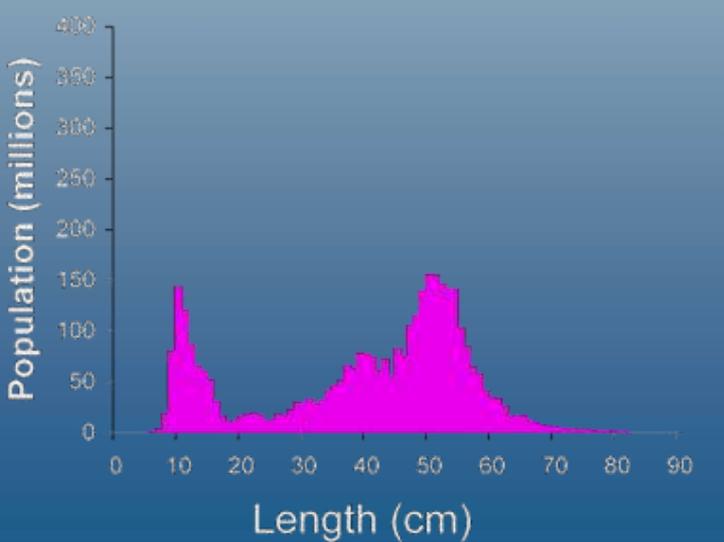
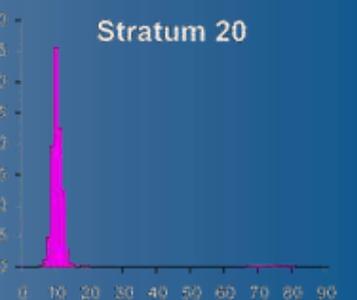
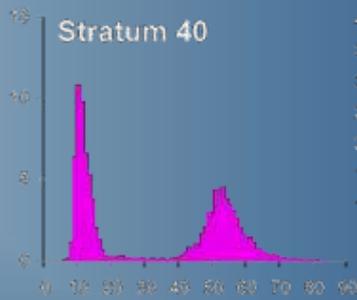
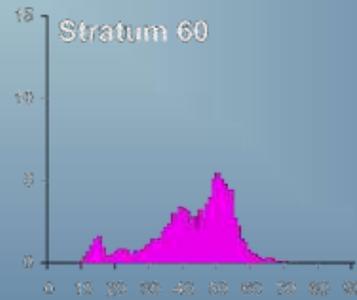
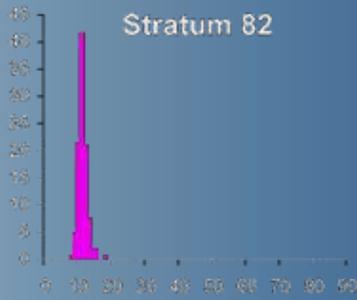
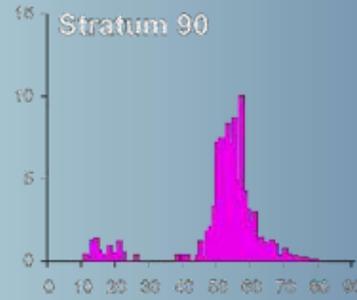
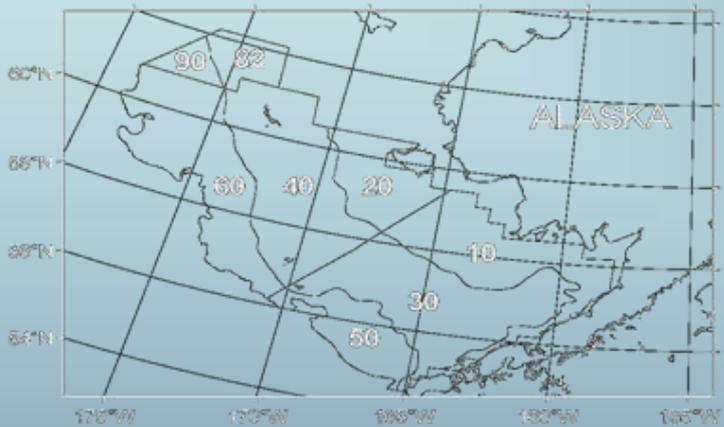


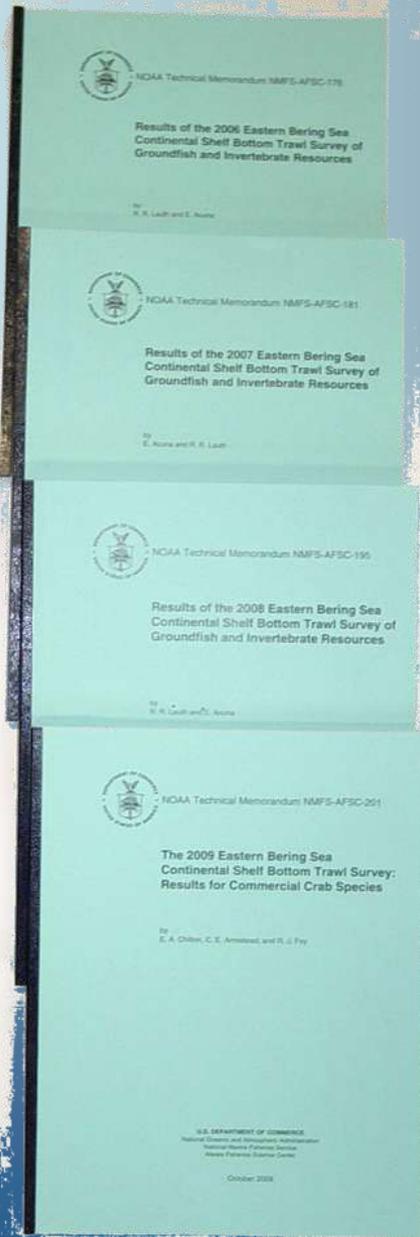
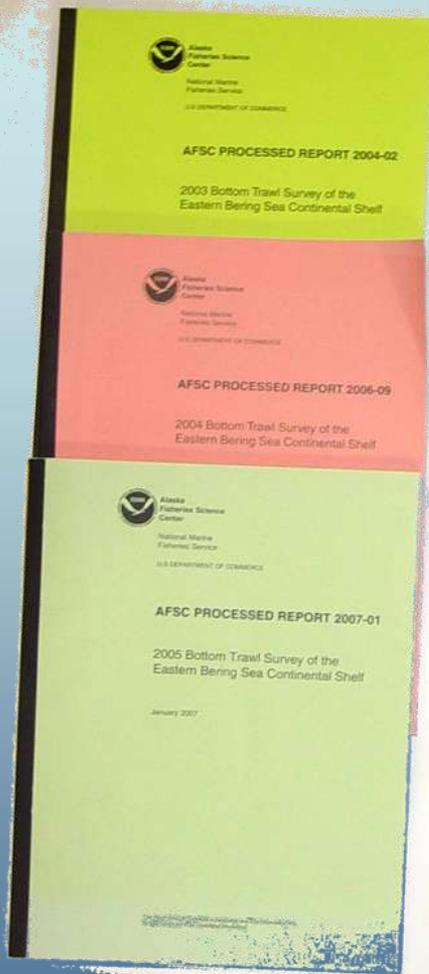
EBS Shelf Survey Species Composition



EBS Shelf Survey

Excerpt From Data Report





<http://www.afsc.noaa.gov/Publications/>

Processed Reports 1982-2005
Technical Memorandum 2006-present

EBS Shelf Survey Series of Data Reports