

Sea Otter Impacts to Fisheries in Southeast Alaska

Report to the Marine Mammal Commission

May 31, 2018
Seattle, WA

By Alaska Department of Fish and Game



Lori Polasek

Division of Wildlife

Lauren Sill

Division of Subsistence

Kyle Hebert

Division of Commercial Fisheries

Topics

- Orientation of fisheries
- Impacts to fisheries
- Data gaps



Southeast AK Fisheries Overview

- Dive/Crab commercial fisheries
 - Species
 - Sea cucumber – throughout much of the region
 - Geoduck – in southern part of region and Sitka area
 - Red sea urchin – only in southern part of region around Ketchikan
 - Dungeness crab – throughout the region
 - Management
 - Stock assessment surveys



Southeast AK Fisheries Overview

- Subsistence Fisheries

- Species (wide variety)

- Dungeness crabs
 - Clams
 - Shrimp
 - Octopus



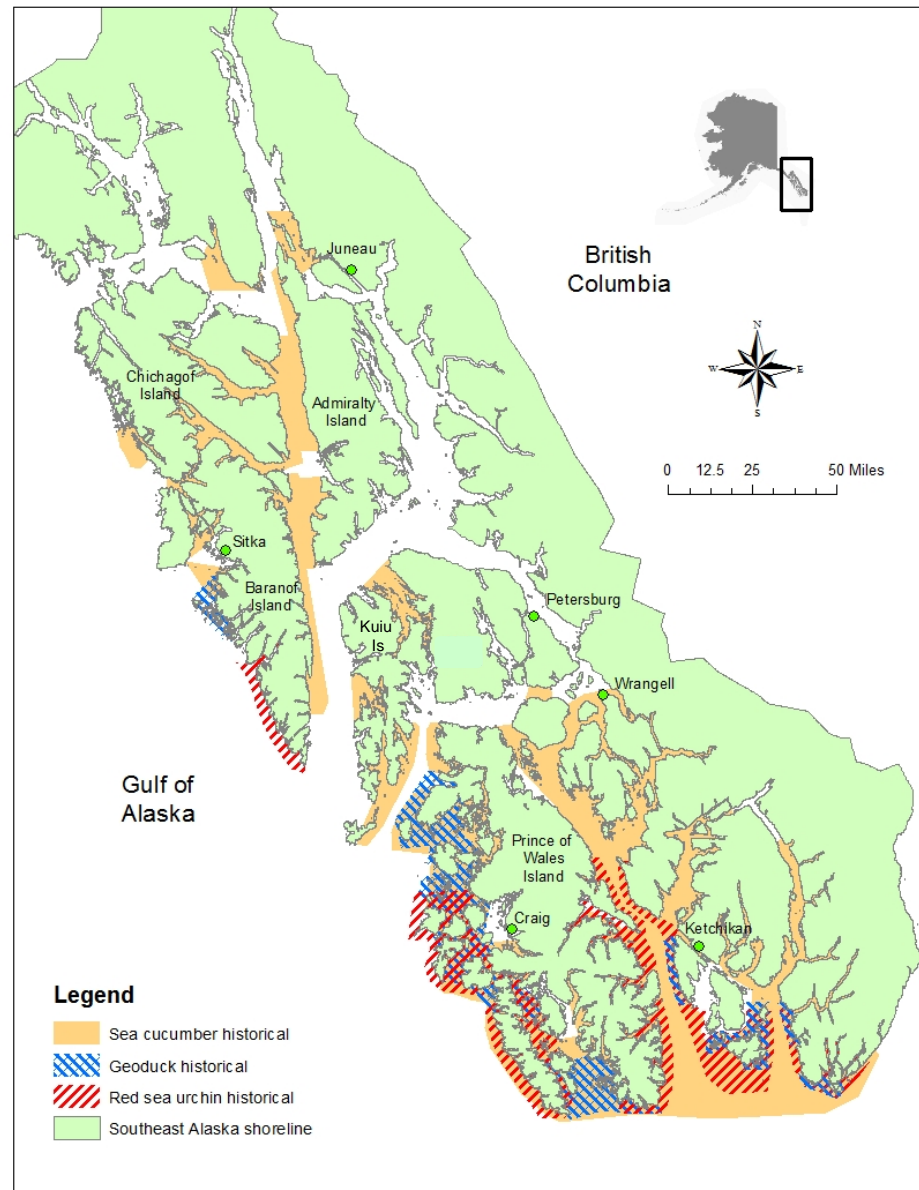
- Management - Traditional

- Indications that sea otter populations were historically managed for sustainability.
 - Sea otter bone presence in middens along outside waters as well as inside waters.
 - Likely hunted just for fur, but potentially for food as well.
 - Behavioral change as a result of intensive hunting

Dive fishery locations

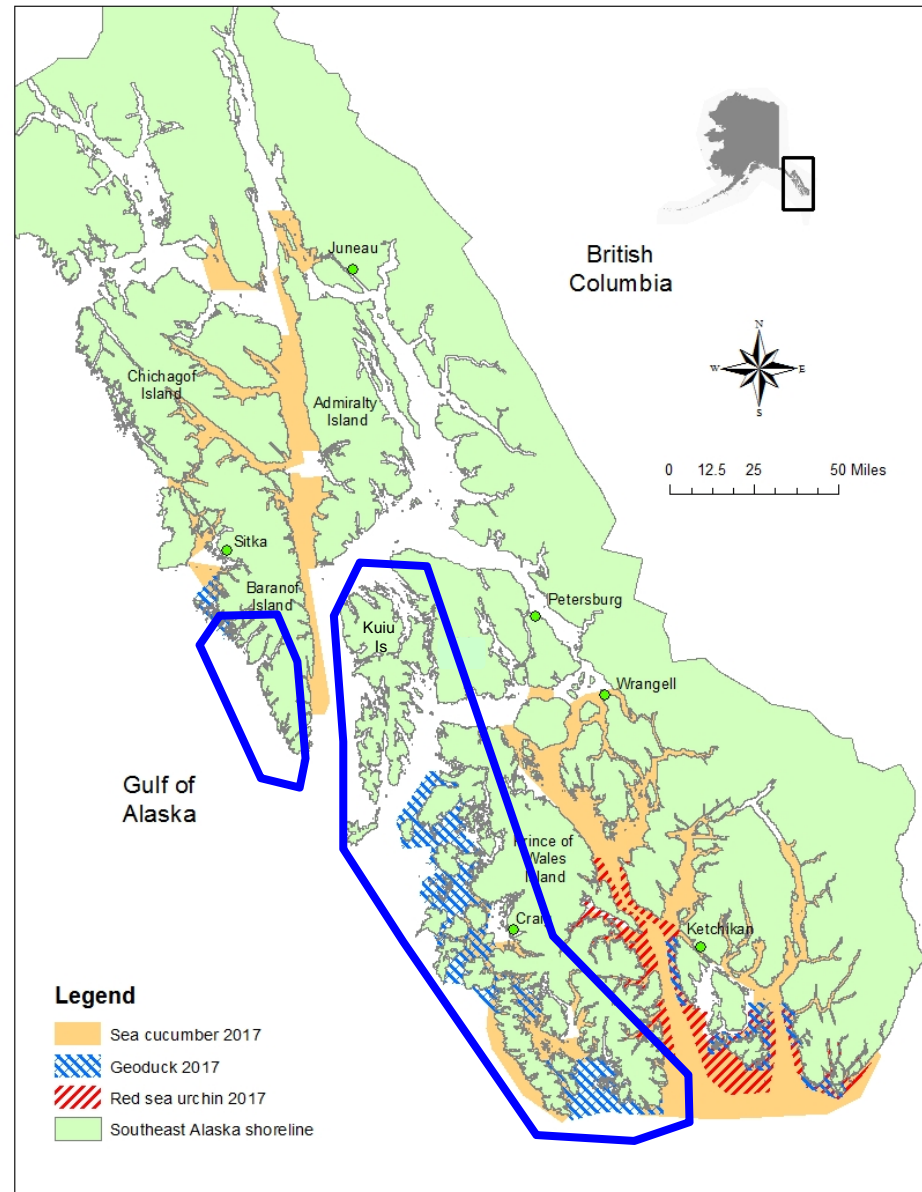
Historical Fishery Areas

Since mid-1990s



Dive fishery area greatest impact

Active Fishery Areas

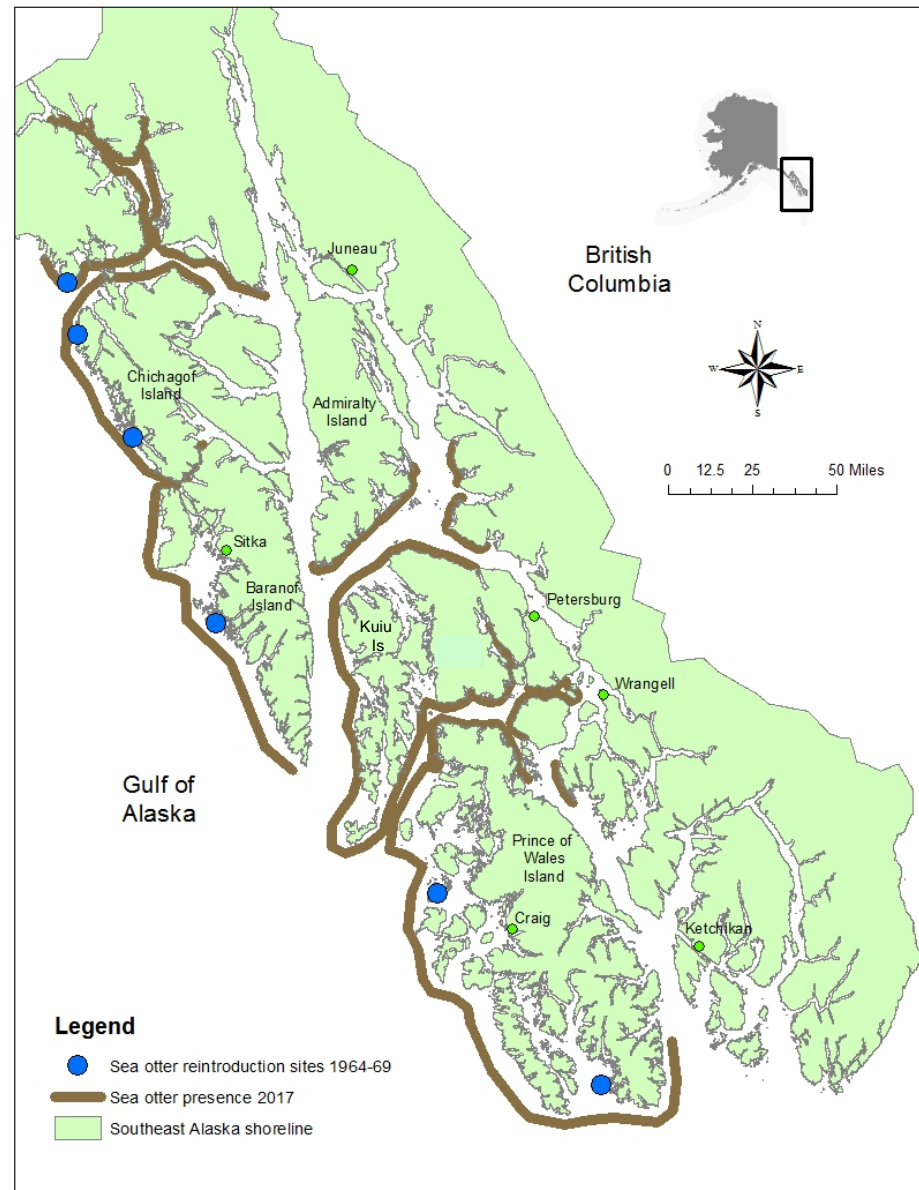


Shoreline of Sea Otter Observations

Sea otters numbers -

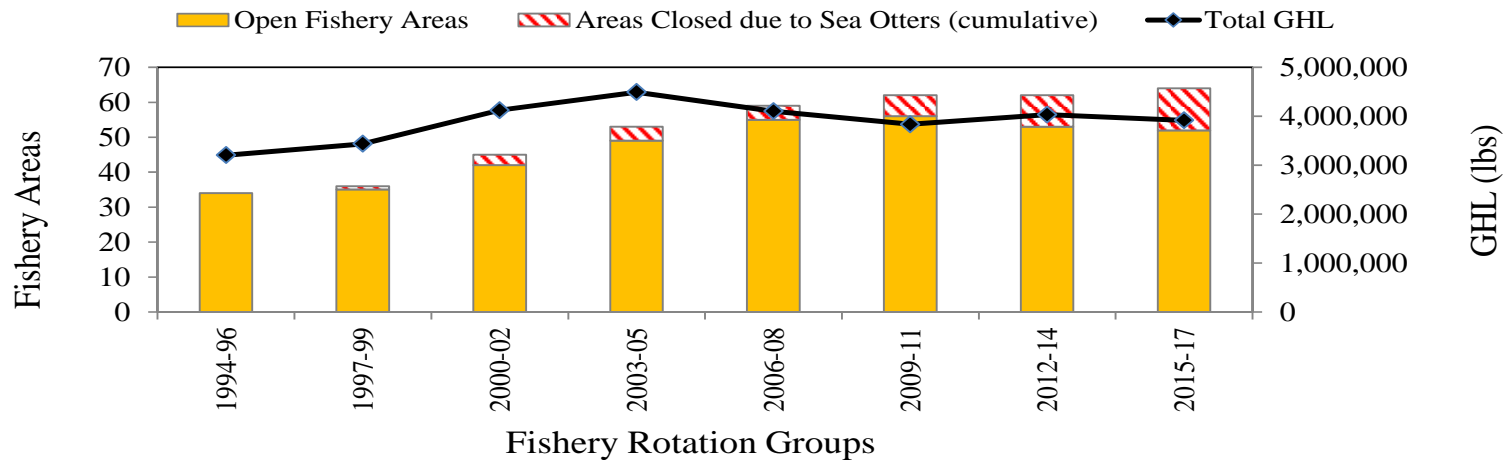
1994: 9,000

2017: 25,000+

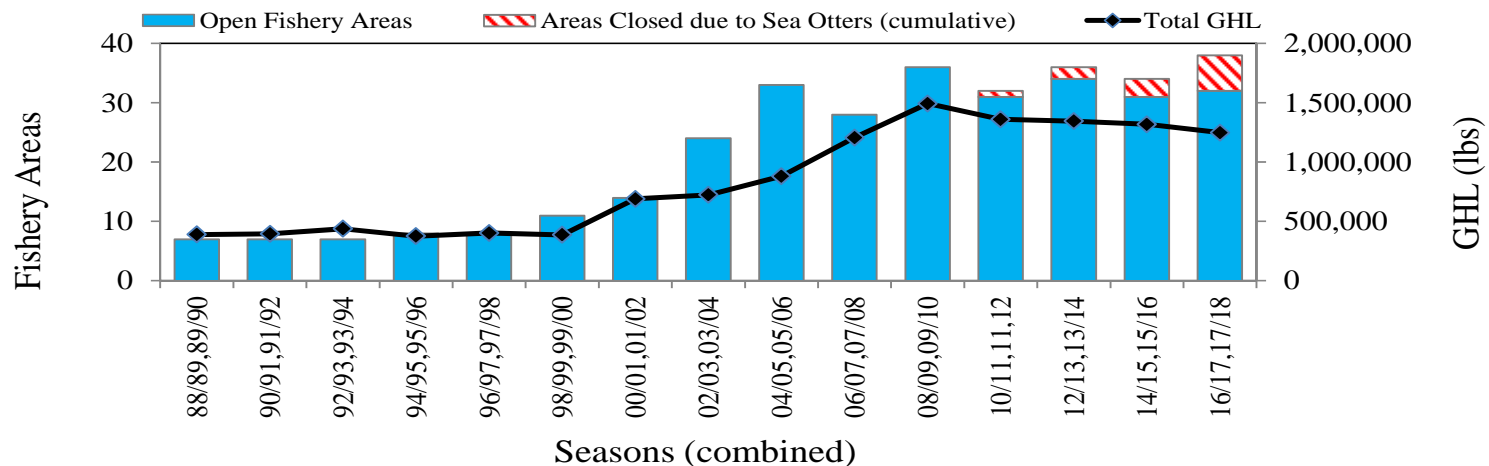


Impacts to Fisheries: Dive Fishery Decline

Sea Cucumber GHL and Fishery Areas, 1994 - 2017

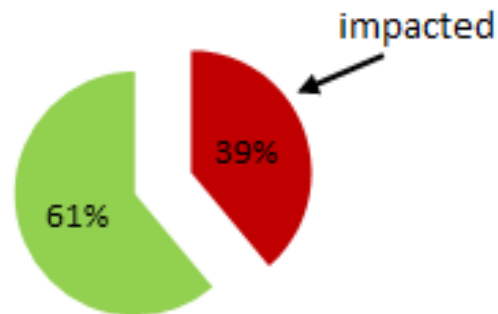


Geoduck GHL and Fishery Areas, 1988 - 2017

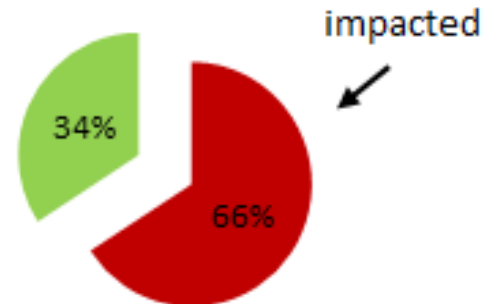


Impacts to Fisheries: Comm. dive fishery areas

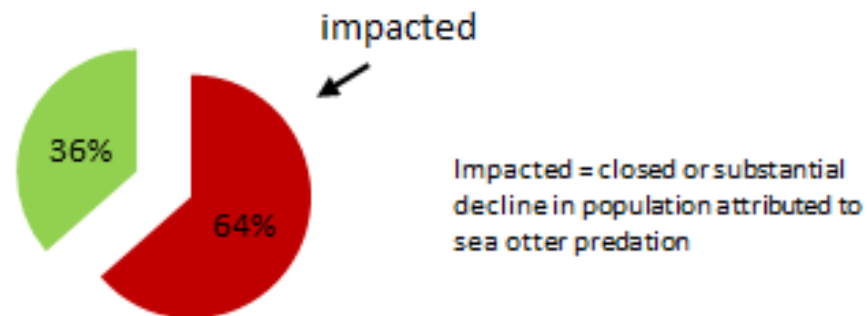
Sea cucumbers



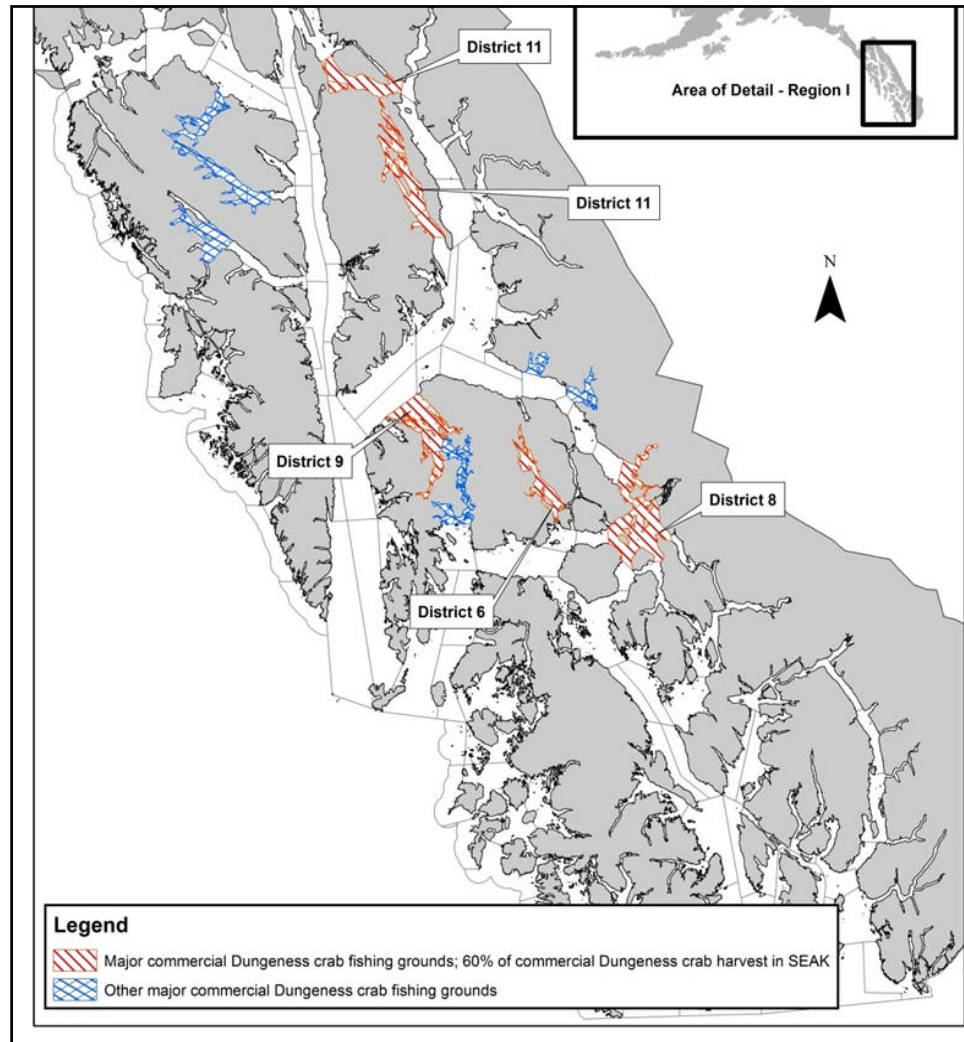
Geoducks



Sea urchins

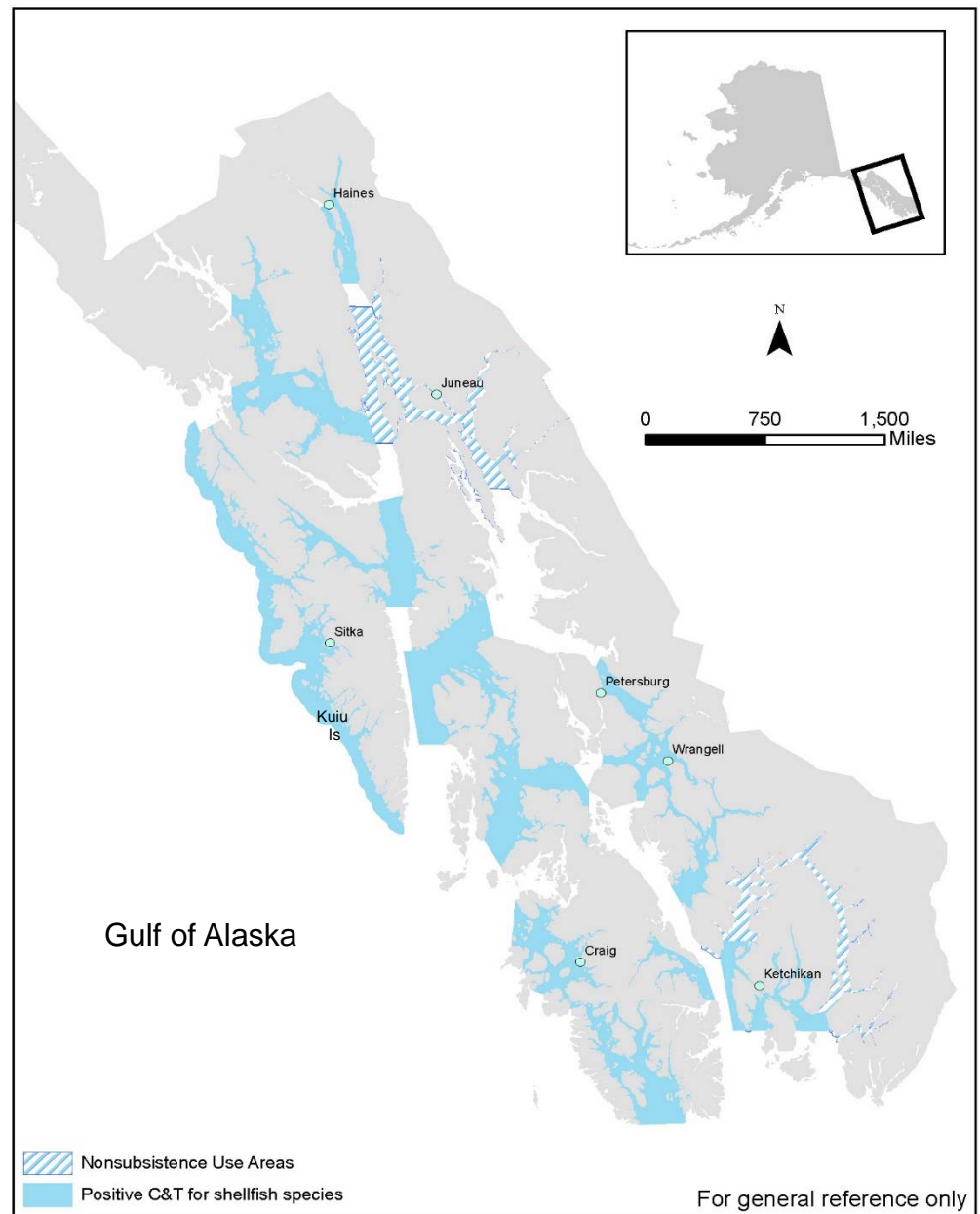


Impact to Fisheries: Dungeness Crab



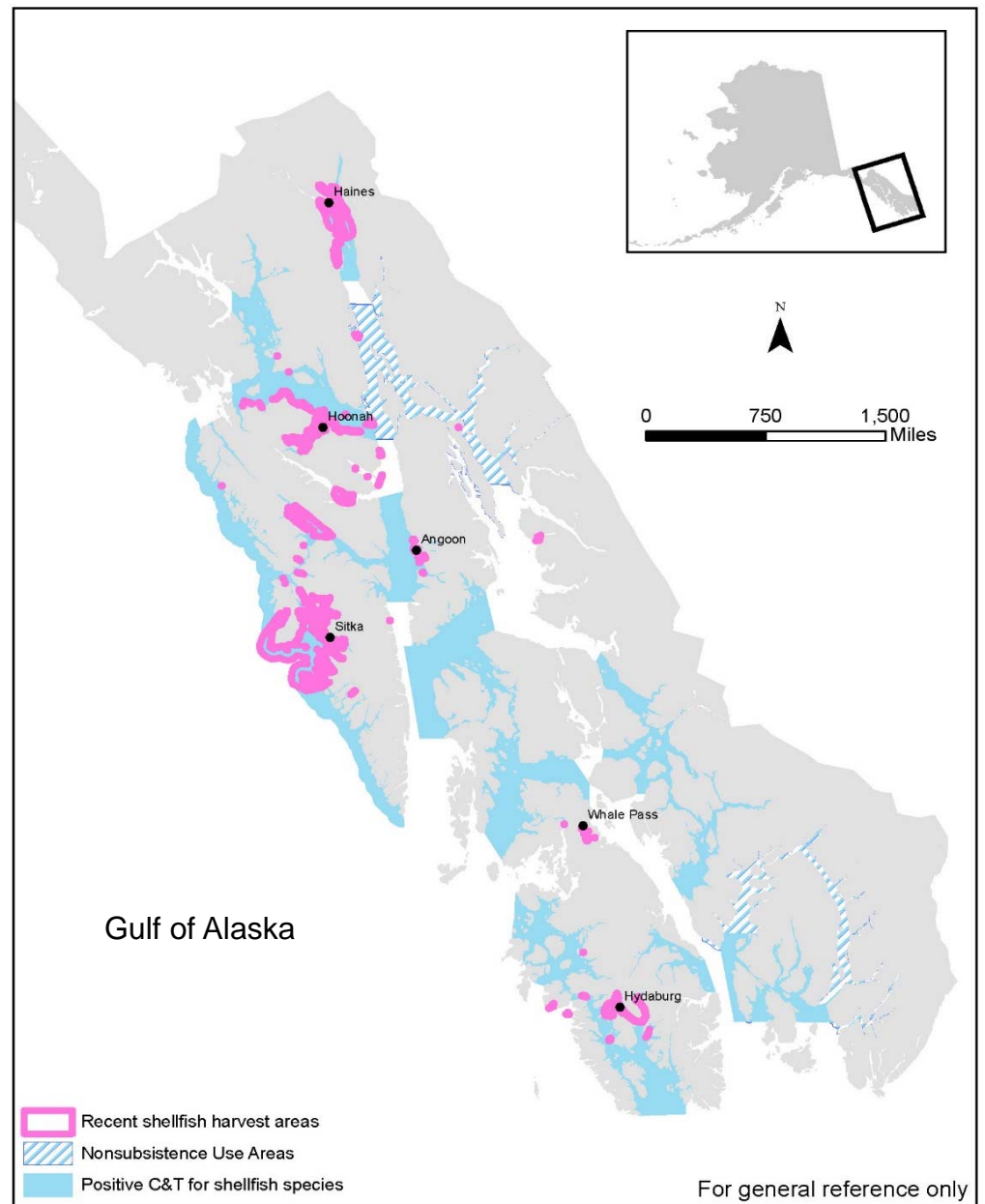
Subsistence fishery areas

Customary and traditional use areas of marine invertebrate species



Subsistence fishery areas

Marine invertebrate harvest areas from 6 recently updated communities (2012-2013)



Subsistence Fisheries Interactions

- Contemporary Management
 - Local efforts at the tribal level to develop sea otter management plans in Southeast.
 - Informal efforts to keep sea otters out of locally important shellfish areas around communities.
 - No enforcement/compliance mechanisms for non-tribal hunters.
 - Research lacking into traditional management measures.



Impacts on subsistence resources

- Otter Harvest Perspective

- Limiting factors on otter harvests
 - Enforcement
 - Immediate costs
 - Availability of skilled skin sewers
 - Markets

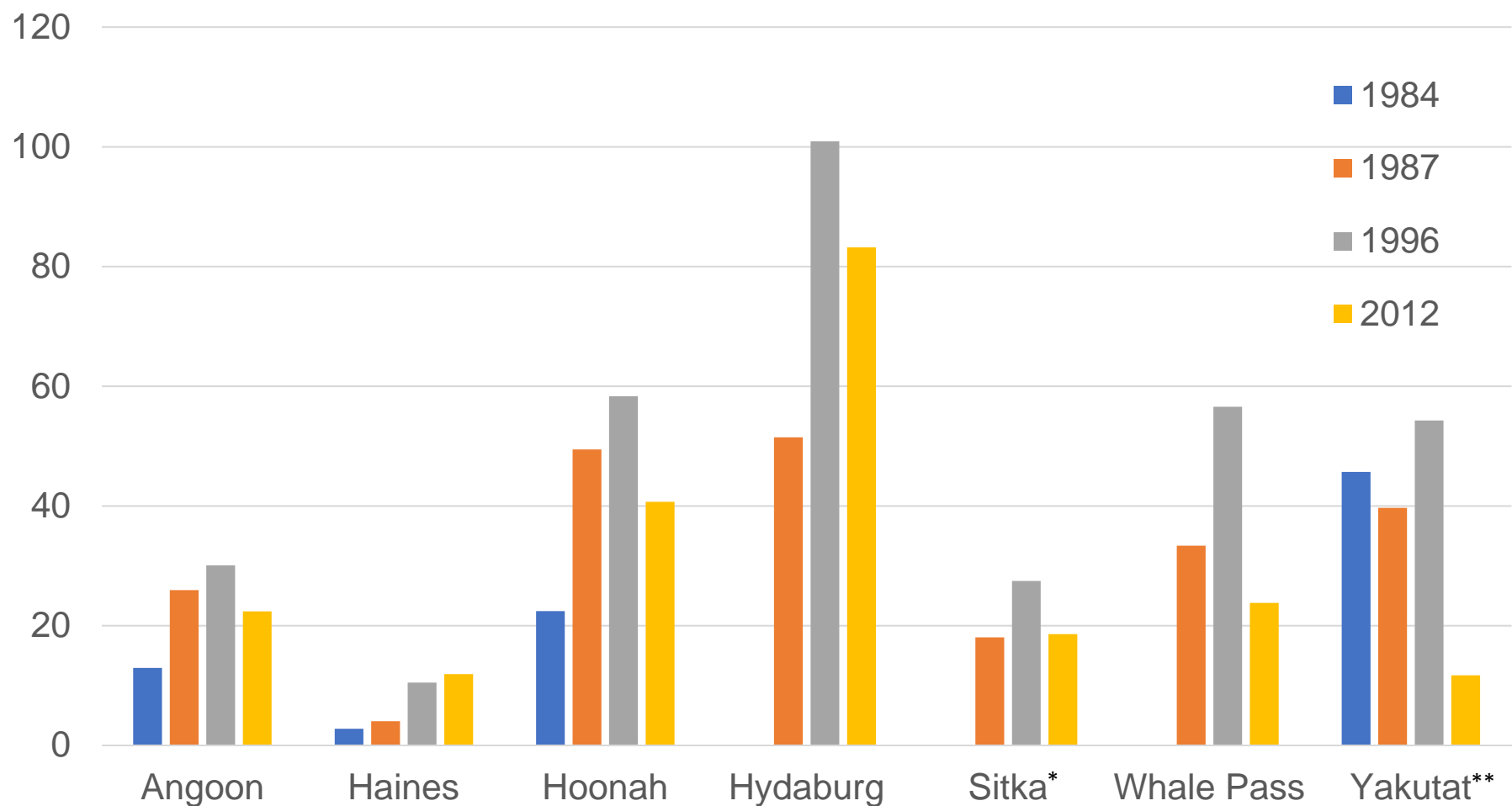


- Shellfish Harvest Perspective

- Declining subsistence shellfish harvests
- Effects on specific species and specific areas
- Secondary effects

Impacts on subsistence resources

Per capita harvests of marine invertebrates 1984-2012



Sea Otter Impacts to SEAK Fisheries

* Most recent survey year 2013

** Most recent survey year 2015

Data and Information Gaps

- Dive fishery species
 - Recovery time unknown
- Dungeness crab
 - No stock assessment
 - No estimates of biomass decline
- Sea otter census out of date
- USFWS vision for management when OSP is reached

