



CHUGACH
REGIONAL
RESOURCES
COMMISSION

Tribal Fish & Wildlife Department

Marine Mammal Program

CHUGACH IMAQ

Raven Cunningham, Tribal Fish & Wildlife Director

Chenega - Cordova - Nanwalek - Port Graham - Seward - Tatitlek - Valdez

Chugach Region

We are in the home of over 1,500 Tribal Members, known as Alutiiq/Sugpiaq and Eyak.

Lower Cook Inlet through Prince William Sound and east to the Lower Copper River.



Marine Mammal Program

Bringing Tribal voices to the management process while safeguarding cultural, economic, and subsistence needs.

Ensures participation of the Chugach Tribes

- decision-making
- exchanging knowledge
- implementing monitoring efforts
- collectively strengthening management
- while safeguarding our subsistence

We strive to promote the protection, preservation, and conservation of use of our marine mammal resources within the Chugach Region.





Chugach Imaq

Imaq (E•muh•CK) is Sugt'stun. It means ocean; sea; saltwater, and its contents.



Project goals:

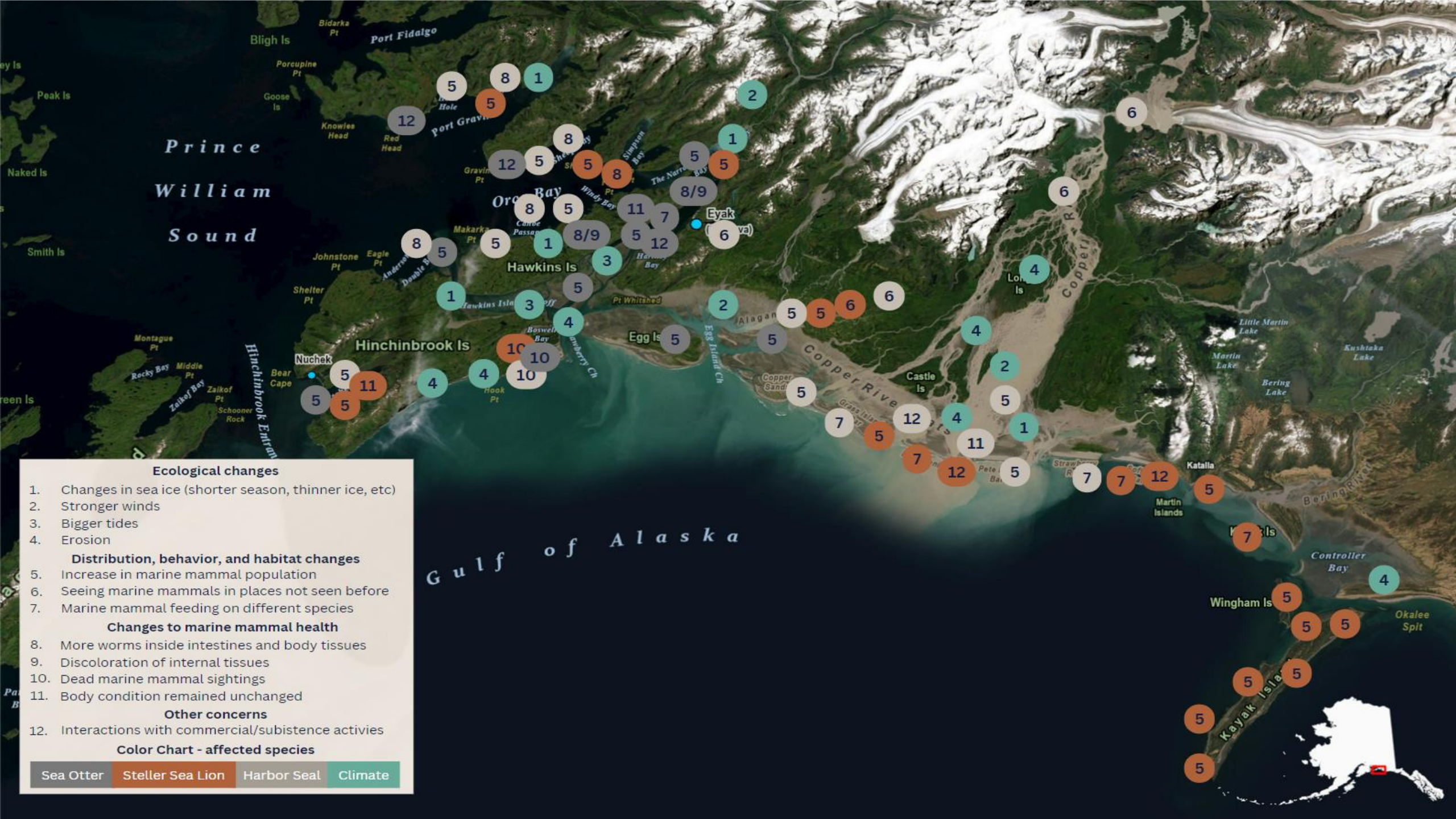
- Creating a harvest management plan
- Building relationships with NMFS & USFWS
- Indigenous led stock assessments
- Supplementing important environmental, biological, and harvest monitoring research.
- Identify and mitigate threats to marine mammals and human health.
- Building community capacity and resilience.



Pilot Project – Native Village of Eyak

- Developed a research protocol
- Collected TEK
- Educated community members on scientific concepts around marine mammals
- Worked with ADF&G on summarizing existing qualitative and quantitative data about marine mammals
- Re-designed comprehensive harvest surveys
- Started bio-sampling program





Ecological changes

- 1. Changes in sea ice (shorter season, thinner ice, etc)
- 2. Stronger winds
- 3. Bigger tides
- 4. Erosion

Distribution, behavior, and habitat changes

- 5. Increase in marine mammal population
- 6. Seeing marine mammals in places not seen before
- 7. Marine mammal feeding on different species

Changes to marine mammal health

- 8. More worms inside intestines and body tissues
- 9. Discoloration of internal tissues
- 10. Dead marine mammal sightings
- 11. Body condition remained unchanged

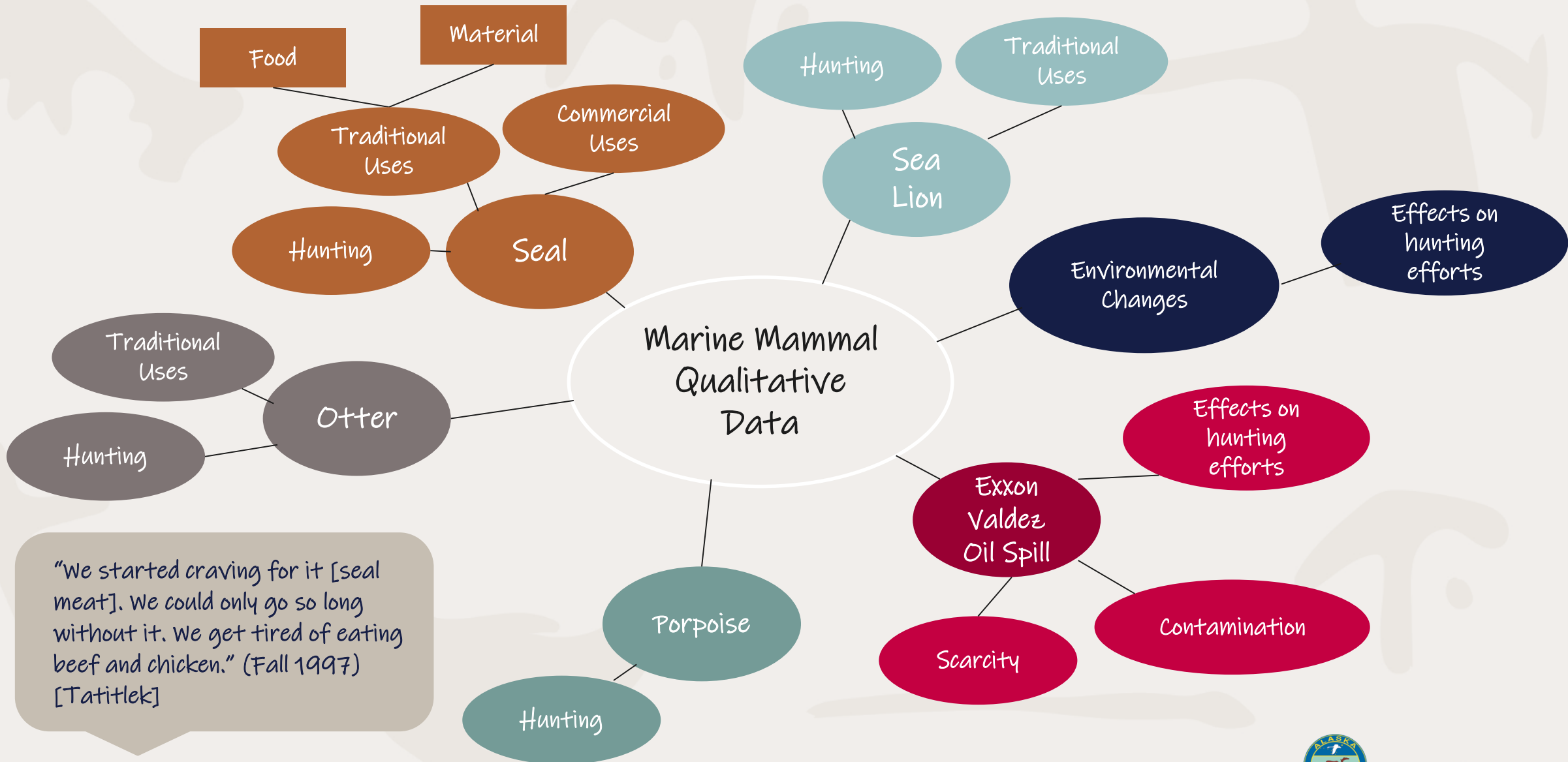
Other concerns

- 12. Interactions with commercial/subsistence activities

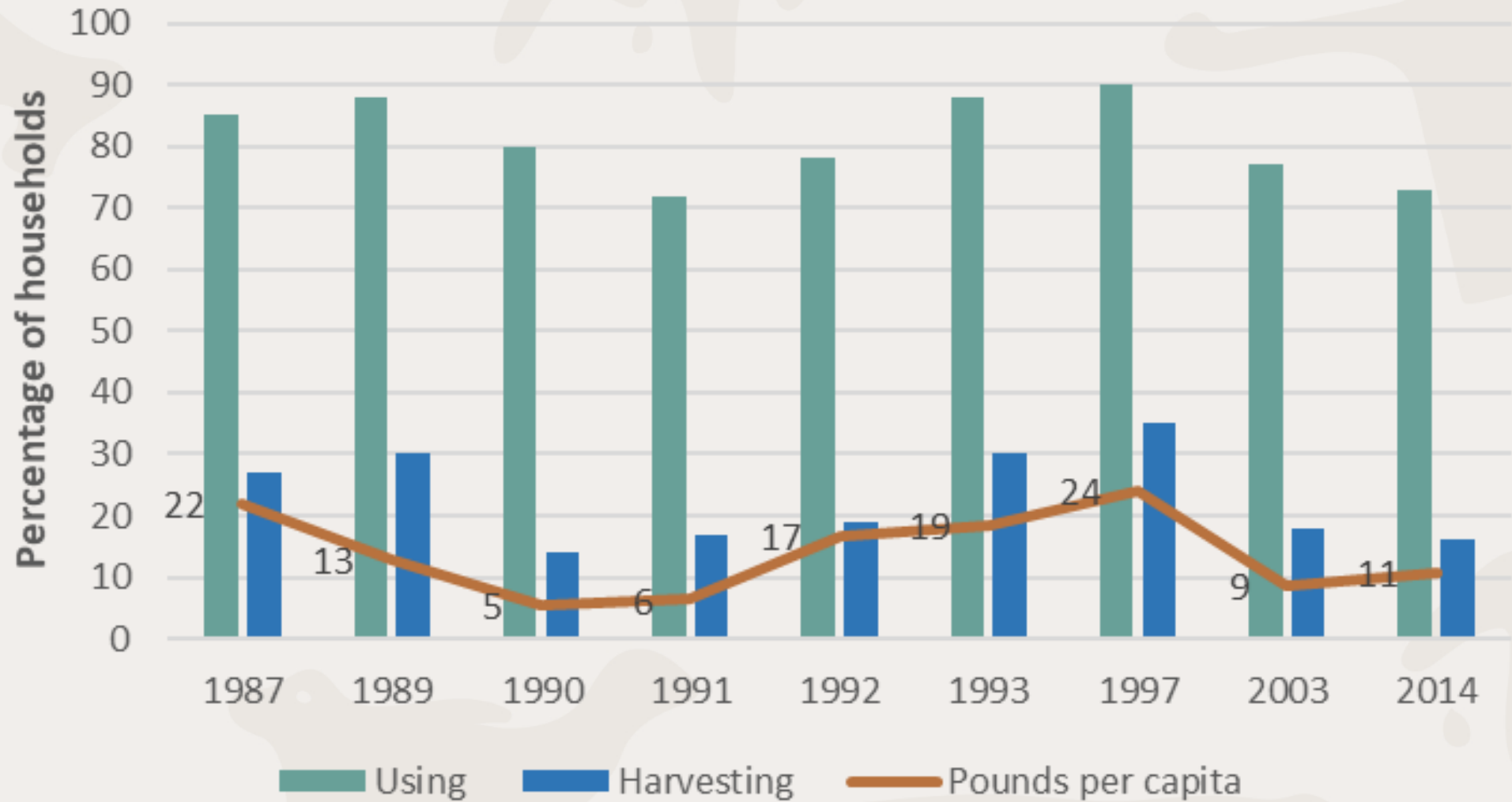
Color Chart - affected species

Sea Otter	Steller Sea Lion	Harbor Seal	Climate
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Existing Qualitative Data



Marine Mammal use, harvest, and pounds per capita, Nanwalek



Survey Form Revisions

① What do you want to know about harvest?

- number of animals
- use participation (attempt)
 - give away
 - receive

- sex ✗
- season
- struck and lost
- location

- individual participation

- assessments

- population observations
- did you get enough? Why?
- impact of not getting enough

Handicrafts as part of language
Color of animal
Where do you get your hides tanned?

~~Health~~

② How often do you want to know this?

- monitoring (annual/regular) at resource level
- comprehensives (every 10 years)

③ Who do you want to talk to?

- census (under 50 HH's) → % HH use + sharing
- random sample
- stratification

Targeted ✗

Tanneries?

Survey Form Revisions

MARINE MAMMAL SURVEY
 Alaska Department of Fish Game - Division of Subsistence 333 Raspberry Rd., Anchorage, Alaska 99518-1599 (907) 267-2353
 Alaska Native Harbor Seal Commission

SEA LIONS

DID YOU OR MEMBERS OF YOUR HOUSEHOLD HUNT OR USE SEA LIONS IN 2001?

_____ YES _____ NO

(IF YES, PLEASE COMPLETE THE FOLLOWING QUESTIONS:) (IF NO, THAT COMPLETES THIS SURVEY. THANK YOU.)

During 2002, did you or your household:

1. Use sea lions (meat, hides, or oil)?
2. Hunt sea lions?
3. Kill and retrieve sea lions?
4. Receive sea lions from other households or communities?
5. Give away sea lions to other households or communities?

IF YES TO QUESTION 2 OR 3 ABOVE, GO TO QUESTION 6. IF NO

6. How many sea lions did your household kill and retrieve?
7. In which months were they killed and retrieved? How many?

SEA LIONS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUN
TOTAL						

8. Of the sea lions killed and retrieved in (January, etc.), how many were used for:

SEA LIONS (Detail)	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUN
ADULT MALE						
FEMALE						
UNKNOWN						
JUVENILE MALE						
FEMALE						
UNKNOWN						
PUP MALE						
FEMALE						
UNKNOWN						
UNKNOWN MALE						
AGE FEMALE						
UNKNOWN						

During 2002,

9. How many sea lions were struck and lost by your household?
10. In which months were they struck and lost? [Enter number]

SEA LIONS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUN
STRUCK AND LOST						

Community: _____ () HHID: _____

2022 CRRC - MARINE MAMMALS Survey		HHID #:	COMMUNITY:										
OBSERVATIONS: HARBOR SEALS													
1.) Do you have any observations to share regarding the NUMBER, HEALTH, or BEHAVIOR of HARBOR SEALS?		OBSERVATIONS - HARBOR SEAL											
ASSESSMENTS: HARBOR SEALS													
If you said LESS or MORE, could you please explain?													
2.) Was your use of HARBOR SEALS in 2020 less, about the same or more than in the past 5-years?		WHY WAS YOUR USE OF HARBOR SEALS LESS OR MORE?											
<input type="checkbox"/> LESS <input type="checkbox"/> MORE <input type="checkbox"/> SAME <input type="checkbox"/> Don't use													
Did your household get enough HARBOR SEALS?		If you said NO: How would you describe the impact to your household of not getting enough last year?											
<input type="checkbox"/> NO <input type="checkbox"/> YES		<input type="checkbox"/> NOT NOTICABLE? <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> SEVERE											
HARBOR SEAL USE													
3.) INCLUDE HARBOR SEALS that members of this household gave away, ate fresh, fed to dogs, lost to spoilage, used exclusively for handicrafts, or exchanged with others.													
Where did the HARBOR SEALS you received come from?		Where did people you gave HARBOR SEALS live?											
USE	RECEIVE	BUY	GIVE AWAY?										
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes										
COMMUNITY NAME		COMMUNITY NAME											
SELL?		SELL?											
<input type="checkbox"/> Yes		<input type="checkbox"/> Yes											
4.) How were the hides you used tanned?													
<input type="checkbox"/> GAVE AWAY/DON'T USE HIDE <input type="checkbox"/> SELF		<input type="checkbox"/> FRIEND/FAMILY <input type="checkbox"/> TANNERY											
		If tanned by someone else, where were they tanned? COMMUNITY NAME											
HARBOR SEAL HUNTING & HARVESTING													
5.) INCLUDE that members of this household gave away, ate fresh, fed to dogs, lost to spoilage, used exclusively for handicrafts, or got by helping others. If hunting with or helping others, report ONLY THIS HOUSEHOLD'S share of the harvest.													
(specify number KILLED AND RETRIEVED per month)													
TRY TO HARVEST	HARVEST	SALVAGE	Number used for HIDE ONLY										
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes	<input type="checkbox"/> Yes											
SEX	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	UNK
Male	#	#	#	#	#	#	#	#	#	#	#	#	#
Female	#	#	#	#	#	#	#	#	#	#	#	#	#
UNK	#	#	#	#	#	#	#	#	#	#	#	#	#
(specify number STRUCK AND LOST per month)													



Bio-Sampling Program



Field Collection



Hunters will collect field data and tissue sample during regular harvests

All harvest data are recorded in Indigenous Sentinels Network (ISN) App

Samples are sent to APMI for analysis

Analysis



Metagenomic analysis of tissues to examine for pathogens (zoonotic focus)

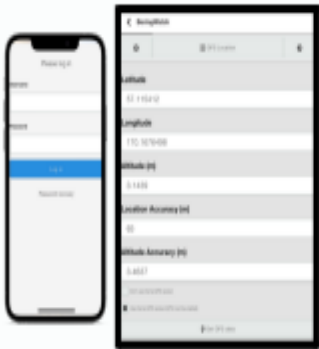
Immediate reporting to communities if zoonotic diseases are detected

Bio-Sampling Program

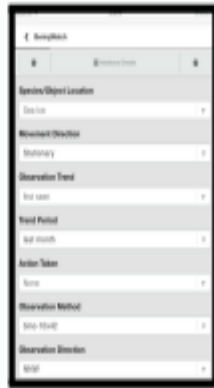


Example of Logging an Observation:

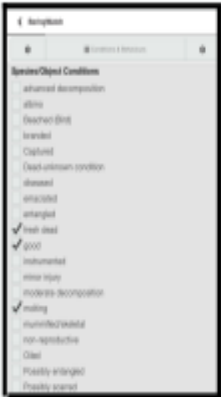
1. After logging into your account, add context & location information



2. Add Species Information



3. Note any species or event conditions/behaviors/interactions



4. Save and Upload your observation



← Programs > Marine Mammal Harvest Program

Chugach Imaq Program

Timeframe: 1 Nov 2022 - Present
Code: MMHP

[Observations](#)
[Members](#)
[Organizations](#)
[Communities](#)
[Forms](#)
[Protocols](#)
[Files](#)
[DAP](#)

Mission statement

Over the past year, CRRC has been working towards searching for additional funding, outreach in our communities, collaborating with Federal and State agencies to collect all historical research data from the region, advocating for continuity of our subsistence lifestyle, and...

[See more](#)

1 Organizations [Manage all](#)

- Chugach Regional Resources Commission (CRRC)
Joined 27 Aug 2023 [leading](#)

7 Communities [Manage all](#)

- Chenega IRA**
8 members · Joined 27 Aug 2023
- Eyak**
8 members · Joined 27 Aug 2023
- Nanwalek**
8 members · Joined 27 Aug 2023
- Port Graham Village Council**
8 members · Joined 27 Aug 2023
- Tatitlek IRA Council**
8 members · Joined 27 Aug 2023

1020 Total Observations

12 Species Observed

9 Communities

10 Members

6 Organizations

7 Forms

12 Attached files [+ Add](#) [See all](#)

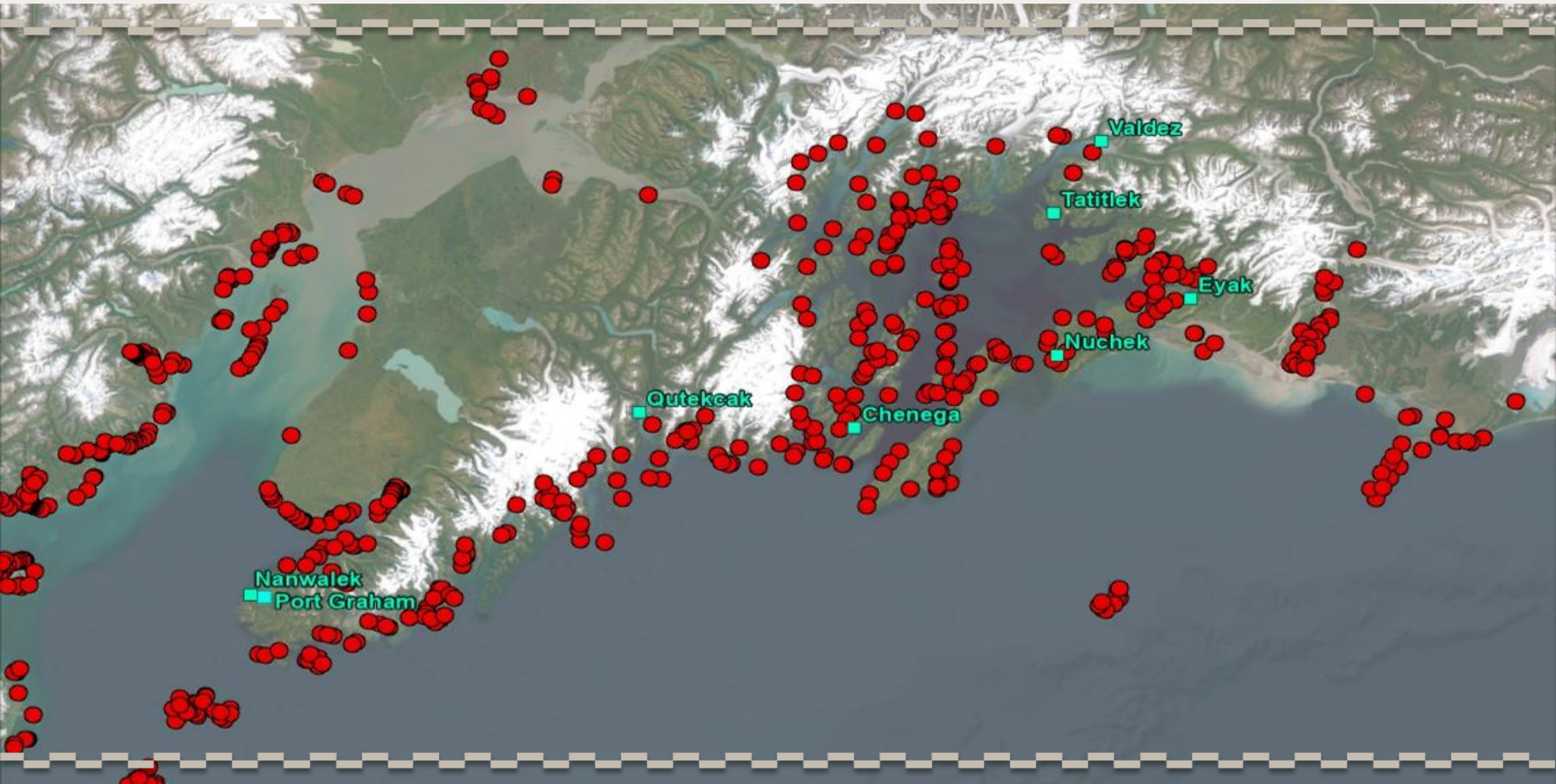
- HUNTER1_SAMPLINGPROTOCOLS
345 KB · pdf
- HARVEST NOTES
4,3 MB · pdf

Stock Assessments



The direct target is filling the data gaps in marine mammal population data

- ❑ Incorporating Indigenous knowledge
- ❑ Building capacity and co-planning with federal regulatory agencies to conduct Tribally led population monitoring
- ❑ Collaborate and conduct a multiple species survey for abundance and distribution data
- ❑ Creation of cooperative or co-management agreements



Valdez

Tatitlek

Eyak

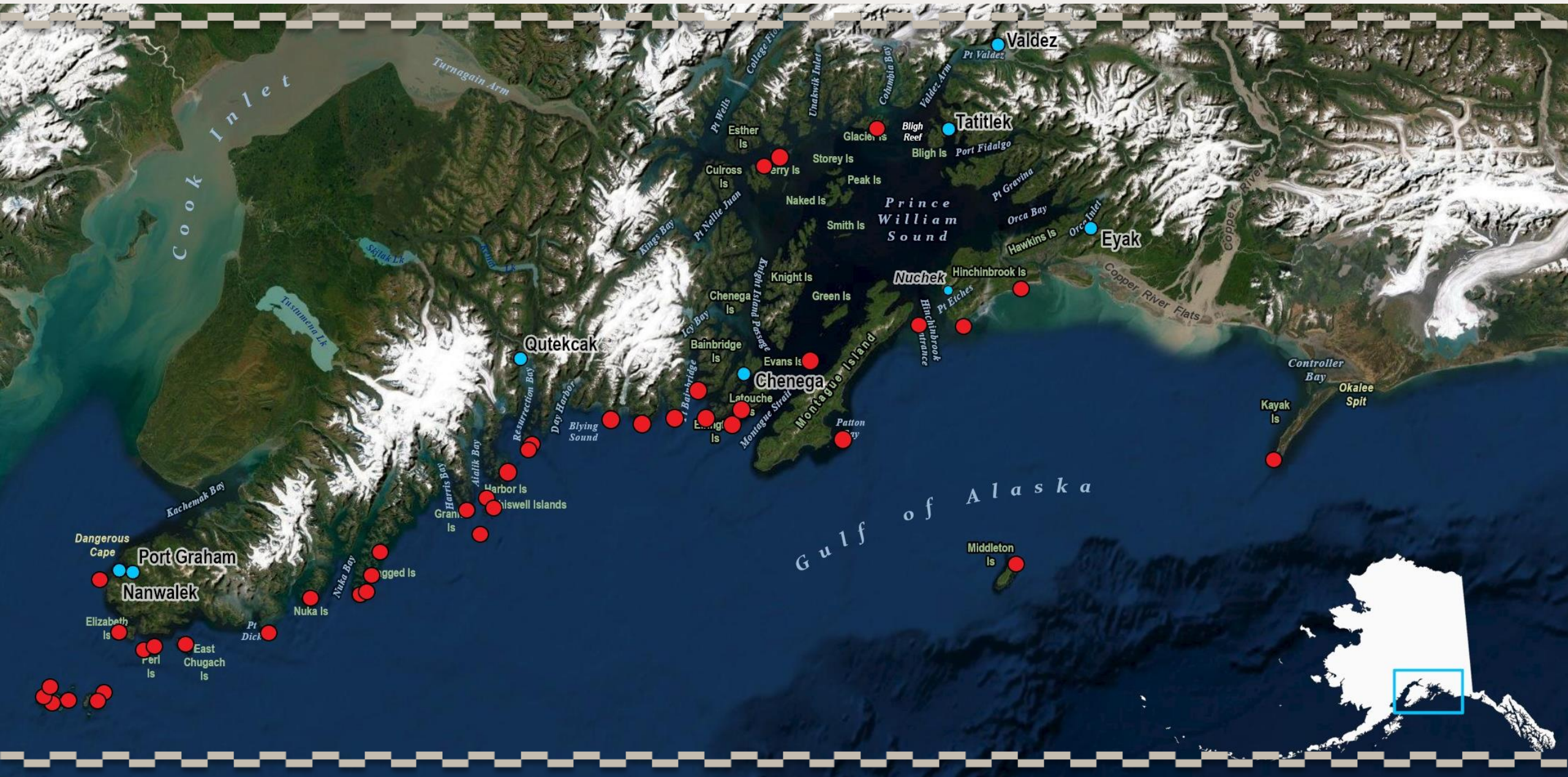
Nuchek

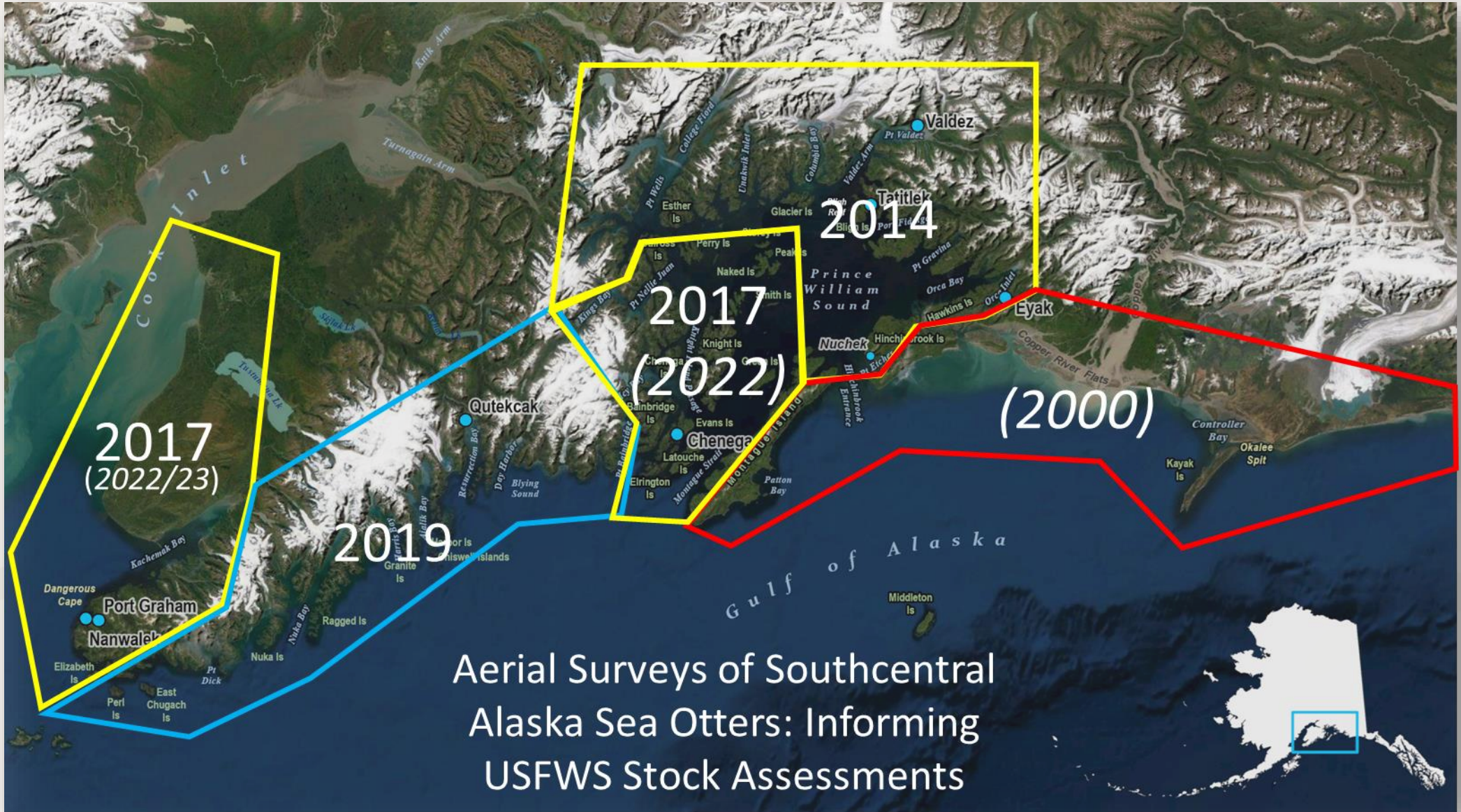
Chenega

Outekeak

Nanwalek

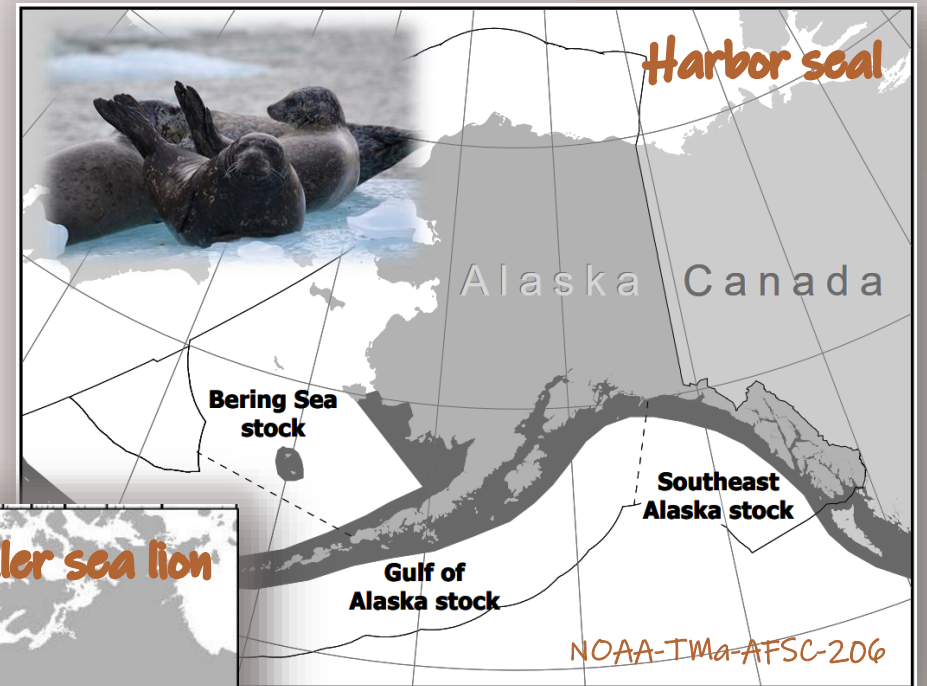
Port Graham





Aerial Surveys of Southcentral
Alaska Sea Otters: Informing
USFWS Stock Assessments

Current Stock Boundaries

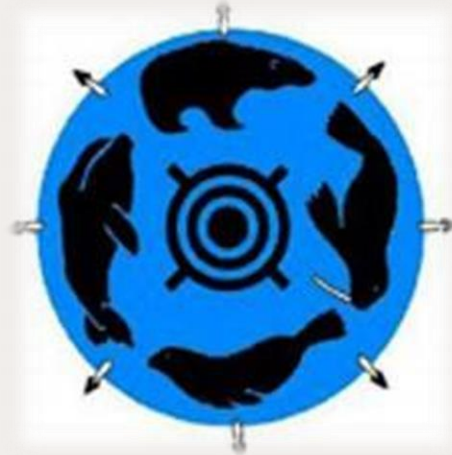


Successful Co-Management



ANCC
ALASKA NANNUT CO-MANAGEMENT COUNCIL

**Indigenous People's
Council**



for Marine Mammals

ALASKAESKIMO
WHALING COMMISSION



**ICE SEAL
COMMITTEE**



**ALEUT
COMMUNITY OF
ST. PAUL**

TRIBAL GOVERNMENT



**Aleut Marine
Mammal Commission**



Eskimo Walrus Commission

"To protect the pacific walrus population."





AWA'AHDAH • QUWANAKCUK • QUYANA • GUNAĚCHĒESH

FUNDERS

Marine Mammal Commission

NDN Collective

Alaska Center for Climate Assessment and Policy

COLLABORATORS

Hunters from Native Village of Eyak

Ben Weitzman – US Fish & Wildlife Service

Henry Huntington – Huntington Consulting

Jacqueline Keating – Alaska Department of Fish & Game, Division of Subsistence

Lauren Divine, Bruce Robson, & Hannah Marie Garcia – Aleut Community of St. Paul

Michael Rehberg – Alaska Department of Fish & Game, Marine Mammal Program

Mike Miller – Indigenous People's Council for Marine Mammals

Monica Riedel – Previous CEO Alaska Native Harbor Seal Commission

Shannon Atkinson – University of Alaska, College of Fisheries and Ocean Sciences