



The Division of Subsistence, ADF&G: An Overview of Context, Research Methods, and Findings

**James A. Fall
Division of Subsistence,
Alaska Department
of Fish & Game**

**NPFMC Social Science
Planning Team Workshop**

Anchorage, Alaska

May 8, 2018



Division of Subsistence: Responsibilities

- Alaska Statute 16.05.094 lists “duties”
 1. Research and data compilation
 2. Data reporting and education
 3. Application of study findings

Subsistence fishing and processing,
Chignik Lake



The Division's "Mission Statement"

"To scientifically quantify, evaluate, and report information about customary and traditional uses of Alaska fish and wildlife resources."



**Documentation of harvest areas,
Kuskokwim River**



**Processing king salmon at a fish camp on
Cook Inlet, near Tyonek**

Types of research projects



- Goal: “holistic” understanding of mixed economy and way of life
 - Community “baseline” studies (focus on one year)
 - Special topic research
 - Local and Traditional Knowledge (TEK/LTK)
 - Harvest monitoring (multi-year)
 - Multiple methods: quantitative and qualitative
-
- Most projects are partnerships
 - Multiple funding sources
 - Guided by ethical principles

Ethical Principles



- Alaska Federation of Natives
- Office of Polar Programs, National Science Foundation
- State confidentiality statute
 - ✓ Informed consent
 - ✓ Anonymity
 - ✓ Community approval
 - ✓ Community review
 - ✓ Study findings provided to communities



Methods: developing a project in Togiak



Methods: Local assistant training in Noatak



Methods: conducting surveys in Emmonak



Methods: Project Review Meeting in Chignik Lake



Comprehensive Household Surveys

LNG - Comprehensive Subsistence Survey, 2014

HARVESTS: SALMON HOUSEHOLD ID

1. Do you or members of your household USUALLY fish for salmon? Y N ☐

2. During the last year (between January 1, 2014 and December 31, 2014) did you, or members of your household USE or TRY TO HARVEST salmon? Y N ☐

IF the answer to QUESTION 2 is NO, go to the NEXT PAGE.
IF the answer is YES, continue on this page ...

Please estimate how many salmon ALL MEMBERS OF YOUR HOUSEHOLD HARVESTED in 2014, including with a rod and reel. INCLUDE salmon you gave away, ate fresh, fed to dogs, lost to spoilage, or got by helping others. If fishing with others, report ONLY YOUR SHARE of the catch. Do not include fish caught and released.

Read names below (circle)	In 2014 did members of your household ...						In 2014 HOW MANY DID YOUR HOUSEHOLD HARVEST WITH ...						# of those used just for dog food?
	USE?	TRY TO HARVEST?	HARVEST?	RECEIVE?	GIVE AWAY?	SET GILL NET	SEINE NET	FISH WHEEL	ROD & REEL	OTHER GEAR (specify type)	UNITS		
CHINOOK (KING) SALMON	Y	N	Y	N	Y	N	Y	N	Y	N	/	IND.	
113000000													
CHUM (DOG) SALMON	Y	N	Y	N	Y	N	Y	N	Y	N	/	IND.	
111000000													
SOCKEYE (RED) SALMON	Y	N	Y	N	Y	N	Y	N	Y	N	/	IND.	
115000000													
PINK SALMON (HUMPIES)	Y	N	Y	N	Y	N	Y	N	Y	N	/	IND.	
114000000													
COHO SALMON (SILVERS)	Y	N	Y	N	Y	N	Y	N	Y	N	/	IND.	
112000000													
LANDLOCKED SALMON	Y	N	Y	N	Y	N	Y	N	Y	N	/	IND.	
116000000													
UNKNOWN SALMON	Y	N	Y	N	Y	N	Y	N	Y	N	/	IND.	
119000000													

These columns should include ALL the salmon HARVESTED by members of this household in 2014.

ASSESSMENTS: SALMON 110000000

Between January 1, 2014 and December 31, 2014...

To conclude our salmon section, I am going to ask a few general questions about salmon.

Last year...
... did your household use LESS, SAME, or MORE salmon than in recent years? X L S M ☐
IF LESS or MORE ... X = do not use
WHY was your use different? _____ 1 ☐
2 ☐

Last year...
... did your household GET ENOUGH salmon? Y N ☐
If NO...
What KIND of salmon did you need? _____

How would you describe the impact to your household of not getting enough salmon last year? ... not noticeable? ... minor? ... major? ... Severe?
(0) (1) (2) (3)

SALMON: 04 **NANWALEK: 129**

- Provide “snapshot” of patterns in a community in a study year
- Administered in person
- Modular
- All: demography, harvests, cash economy, evaluations of change
- Other (e.g.): networks, food security, expenses
- Mapping and ethnographic components

COMPREHENSIVE SUBSISTENCE SURVEY

SAND POINT, ALASKA

From April 1, 2016 to March 31, 2017

AKSSF ALASKA
PENINSULA

printed: 2017-03-16

This survey is used to estimate subsistence harvests and to describe the role of subsistence in the local economy of your community. We will publish a short summary report that will be available to community members. We share this information with the Alaska Department of Fish and Game, the U.S. Fish and Wildlife Service and the National Park Service. We work with the Federal Regional Advisory Councils and with local Fish and Game Advisory Committees to better manage subsistence, and to implement federal and state subsistence priorities.

We will NOT identify your household. We will NOT use this information for enforcement. Participation in this survey is voluntary. Even if you agree to be surveyed, you may stop at any time.

HOUSEHOLD ID: _____

COMMUNITY ID: _____

299

299

INTERVIEWER #1: _____

INTERVIEWER #2: _____

INTERVIEW DATE: _____

START TIME: _____

STOP TIME: _____

DATA CODED BY: _____

DATA ENTERED BY: _____

SUPERVISOR: _____



photo by Lisa Hutchinson-Scarborough

PAULOFF HARBOR VILLAGE

PO BOX 97
SAND POINT, AK 99661
907-383-6075

QAGAN TAYAGUNGIN TRIBE OF SAND POINT VILLAGE

PO BOX 447
SAND POINT, AK 99661
907-383-5616

NATIVE VILLAGE OF UNGA

PO BOX 508
SAND POINT, AK 99661
907-383-5553

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ALASKA DEPARTMENT OF FISH & GAME
DIVISION OF SUBSISTENCE
333 RASPBERRY ROAD
ANCHORAGE, AK 99518-1565
907-263-2353

Conversion Factors



- Calculating food value: numbers of animals to usable/edible weights
- Round (whole) to usable (edible) weight
- Determining recovery rates
- Applications: food security, dietary studies, contamination, risk assessments, damage assessment
- See Naves and Fall 2017 in Arctic 70(1):86-100



Technical Paper Series

- Over 450 titles; also Special Publications Series
- On line at: <http://www.adfg.alaska.gov/sf/publications/>

Technical Paper No. 422

Alaska Subsistence Harvest of Birds and Eggs, 2015, Alaska Migratory Bird Co-Management Council

Liliana C. Naves



September 2016

Alaska Department of Fish and Game
Division of Subsistence



Alaska Migratory Bird
Co-Management Council



Technical Paper No. 421

Harvest and Use of Wild Resources in Northway, Alaska, 2014, with special attention to nonsalmon fish

by
Anna R. Godduhn
and
Marylynne L. Kostick

November 2016

Alaska Department of Fish and Game

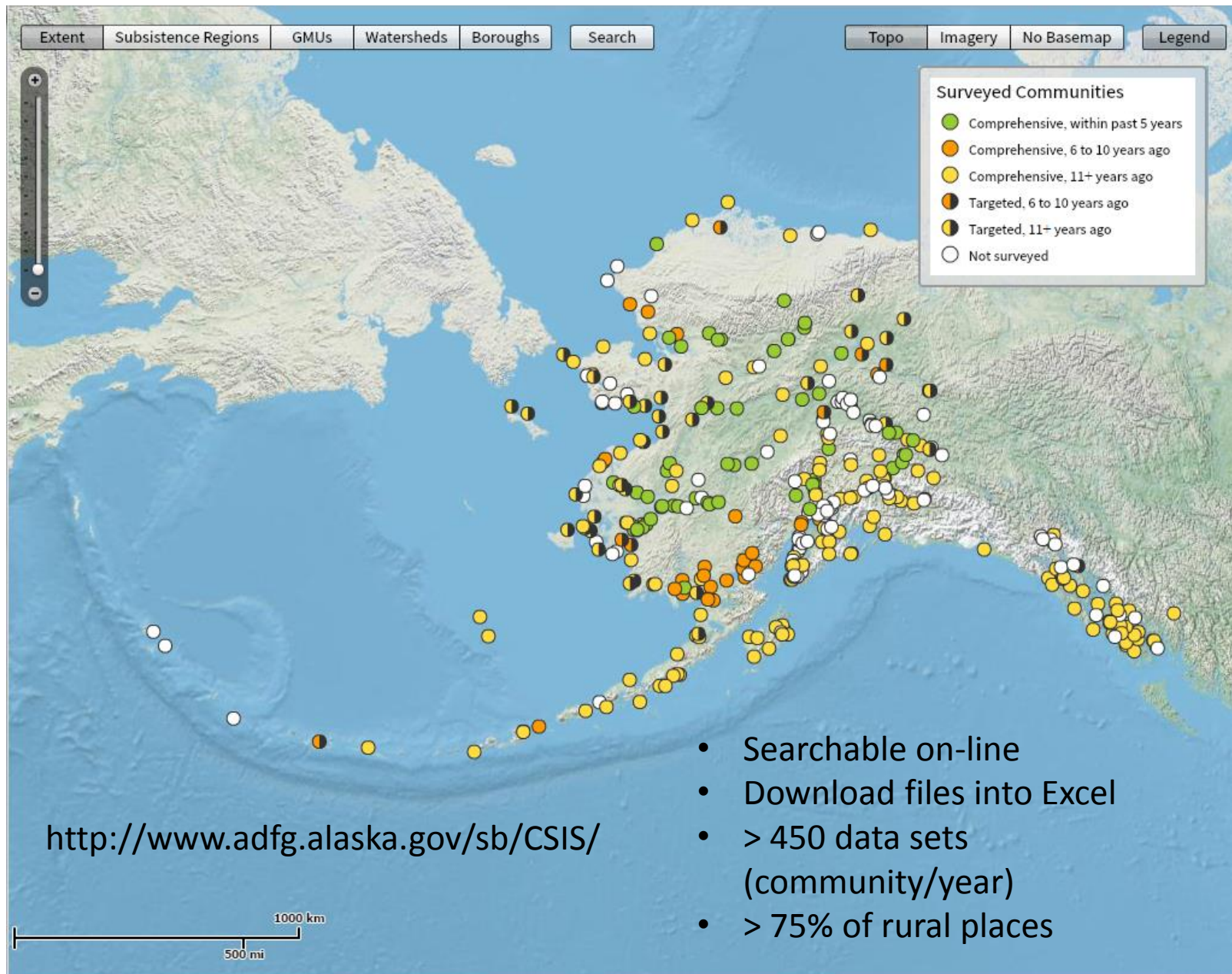
Division of Subsistence



Community Subsistence Information System or “CSIS”

- Online at <http://www.adfg.alaska.gov/sb/CSIS/>
- Searchable by resource, area, or community
- Export data into Excel file
- Data in CSIS for 87.5% of rural places (231 of 264)
- Number of comprehensive data sets in CSIS = ~515 (study community/year combinations)
- Number of CDP/year estimates = ~563
- Also includes category-focused projects (e.g. marine mammals only, land mammals only)

Community Subsistence Information System

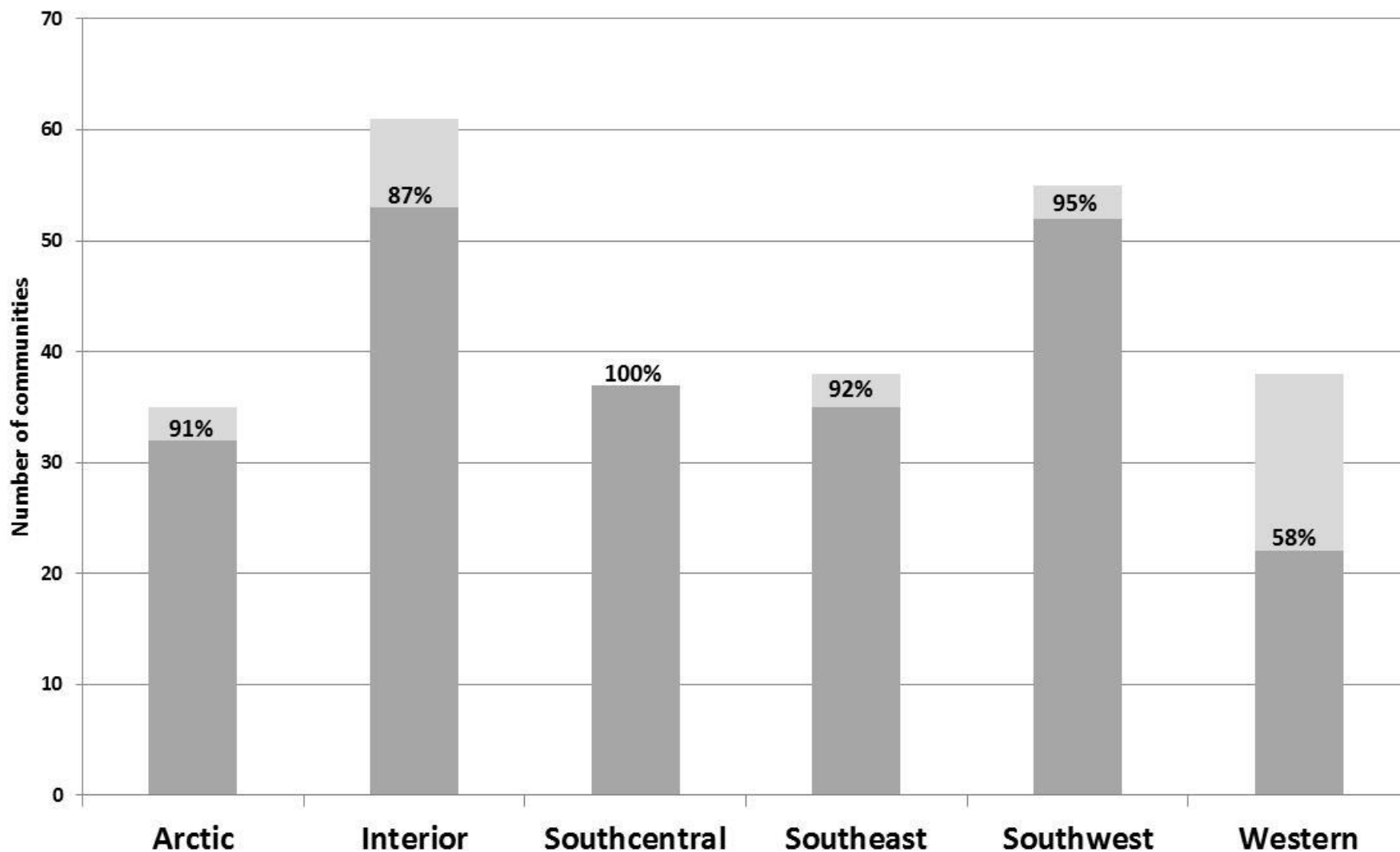


Special CSIS reports

- “Overview of Availability of Comprehensive Harvest Survey Data for Alaska Communities” (July 2017)
- “Estimated Harvests of Fish, Wildlife, and Wild Plant Resources by Alaska Region and Census Areas, 2014”
- Find these at CSIS homepage, “Special Topics Reports/Downloadable Special Reports”:
<http://www.adfg.alaska.gov/sb/CSIS/>

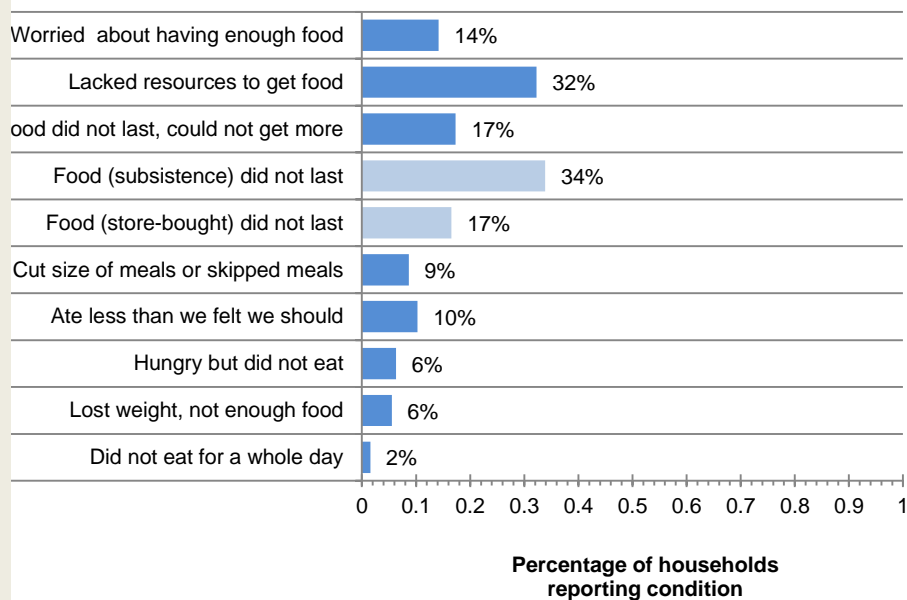
Number of Alaska communities for which comprehensive harvest data available in the CSIS by region

■ Communities represented ■ Communities not represented



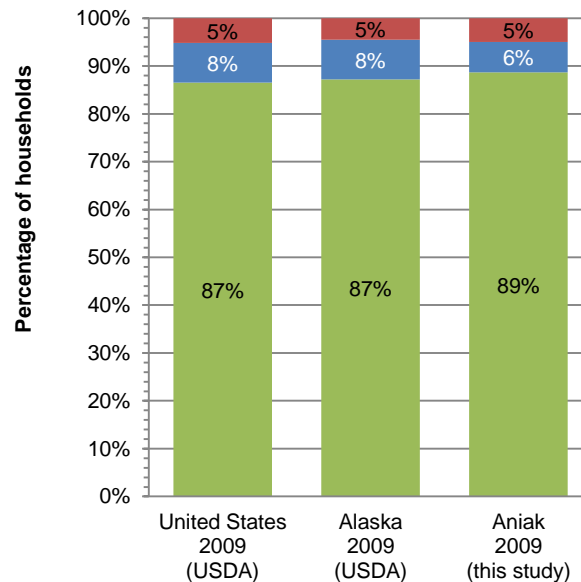
Food Security

A - FOOD INSECURE CONDITIONS



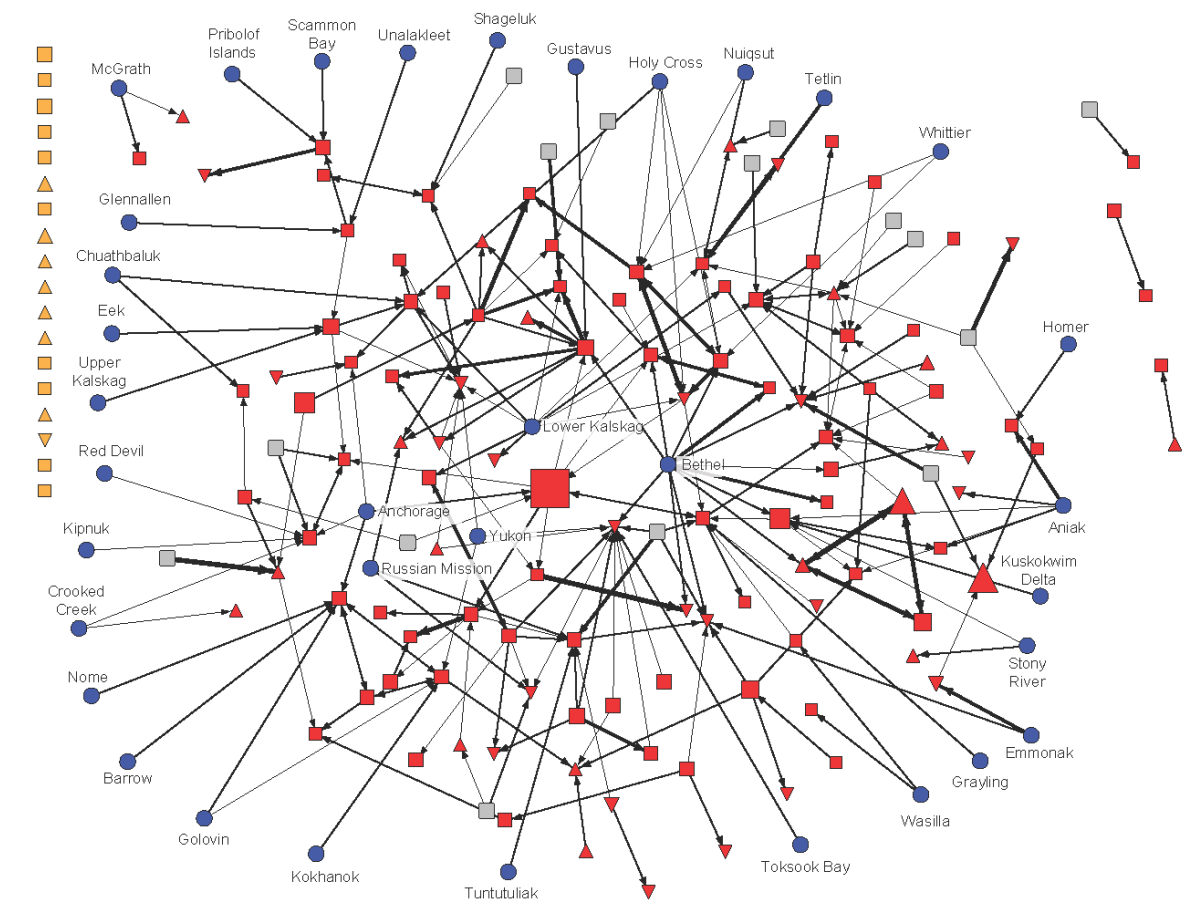
- Responses used to calculate households' food security category
- Responses to additional questions asked in this study

B - FOOD SECURITY CATEGORIES



- INSECURE - very low food security
- INSECURE - low food security
- SECURE - high & marginal food security

Sharing Network Analysis



LEGEND

- Survey household, male & female heads^a
- ▲ Survey household, single male head^a
- ▼ Survey household, single female head^a
- Other household in study community
- Unknown household (usually in another community)

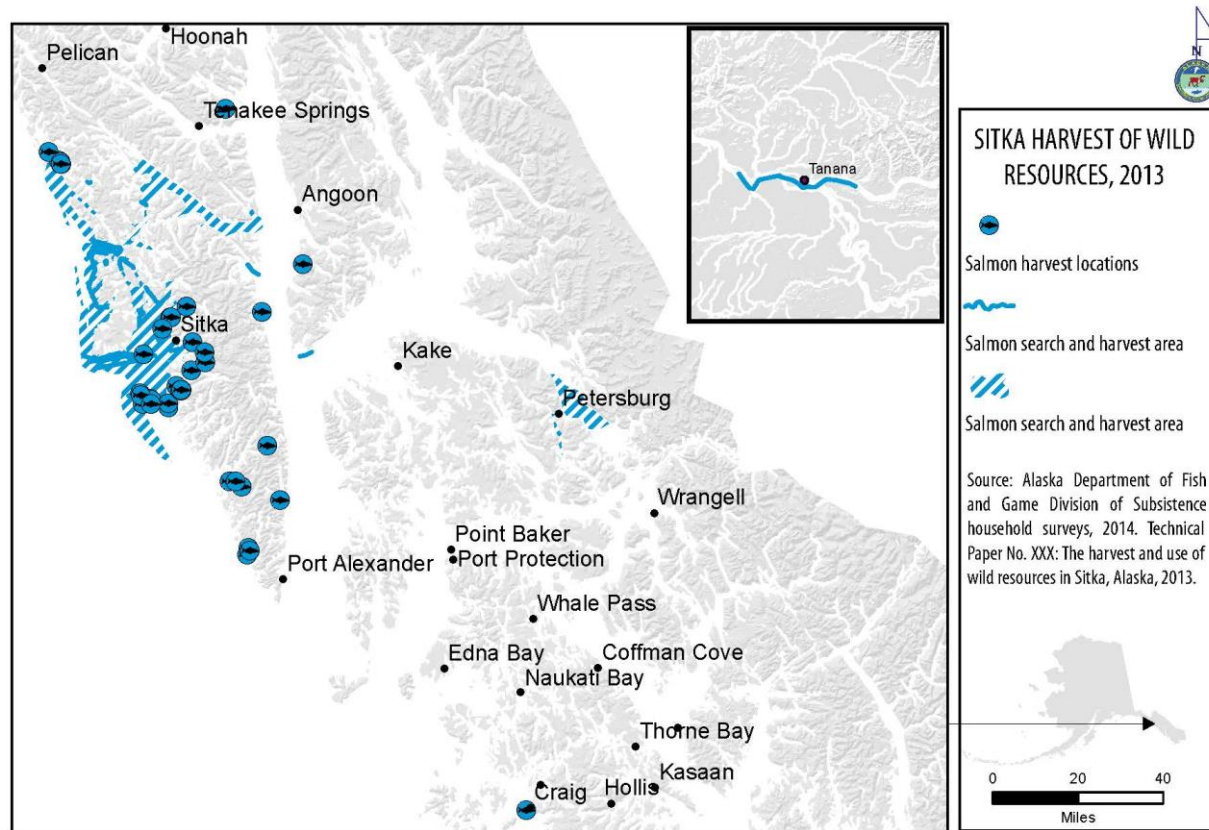
- Flows of wild foods from source harvesting or processing households to consuming (surveyed) households, as reported by the surveyed households^b

- Household that reported no harvesting or processing by members of another household or community

^a SYMBOLS are scaled to show surveyed households' total wild food harvests in edible pounds. Surveyed households with many sources of wild foods appear near the center of the figure. Households with fewer sources appear around the edges.

^b LINES are scaled to show the number of households named as wild food harvesters or processors by surveyed households. Arrows point from source households or communities to surveyed households. Households' own production is not shown.

Documenting Hunting, Fishing, and Gathering Areas through Maps



Harvest assessment: best practices



Salmon harvest assessment workshop,
Kotzebue, Alaska, November 2002

- Harvest Assessment Conference, 1995
- Joint ADF&G/AITC project: 2000 - 2003
- Working group
- 10 regional workshops
- Guiding principles and recommendations
- Final reports available

ALASKA RESIDENTS ONLY

Community _____
Permit No. _____
Year _____

First Name	Initial	Last Name
<input type="text"/>	<input type="text"/>	<input type="text"/>
Permanent Mailing Address	City	
<input type="text"/>	<input type="text"/>	
State	Zip Code	Phone number
<input type="text"/>	<input type="text"/>	<input type="text"/>
Number of year-round residents in household ▶		<input type="text"/>

Names of household members who will assist in operation of subsistence net:

1. _____ 2. _____ 3. _____
4. _____ 5. _____ 6. _____

Drainage to be fished: Naknek ☐ Kvichak ☐ Egegik ☐ Ugashik ☐
Nushagak ☐ Togiak ☐ Other _____

Primary fishing location (specific): _____

Number of fathoms allowed at this site: 10 ☐ 25 ☐ Gear type: _____
Please specify set gear, drift gear, spear, or dip net.

I understand that I am applying for a subsistence fishing permit for my household in accordance with current regulations and hereby swear the information contained on this application is a true statement as witnessed by my signature below; and that I have been an Alaska resident for the last calendar year.

Applicant's signature _____ Date _____

TO BE COMPLETED BY ISSUING OFFICER ONLY

The above-named person and designated household members are authorized to fish for salmon for subsistence purposes in the Bristol Bay Area during the calendar year of _____ according to current laws and regulations of the State of Alaska.

Authorizing Officer _____ Date _____

1. Only one subsistence salmon fishing permit may be issued to each household per year. People using the net/site and not of this household are required to have their own permit and file a separate report of their harvest.
2. Fish caught for subsistence uses may not be sold or allowed to enter commercial use.
3. An accurate record of fish taken under authority of this permit must be returned to the Alaska Department of Fish and Game when the permit expires. Failure to return subsistence catch records is grounds for denial of future permit privileges.

NOTE: Commercially-caught salmon may also be utilized for subsistence purposes and must be reported on the back of this form as well as a Commercial Fish ticket.

Return form to: (fax) 907-267-2450/ (email) dfg.sub.permits@alaska.gov/ or
Division of Subsistence, ADF&G, 333 Raspberry Rd, Anchorage, AK 99518

-

DAILY SUBSISTENCE SALMON CATCH TOTALS

Please record the dates and locations fished.

Please report spawned-out (red fish) by date and location in the "red" column.

DID NOT FISH ☐ NAME _____

Community _____

Permit No. _____

Year _____

[illegible]

↓ TOTAL SUBSISTENCE HARVEST ↓

What was your total **SUBSISTENCE** harvest? ▶

Red	King	Chum	Pink	Coho

Did you **COMMERCIAL** fish? YES ☐ or NO ☐

Record additional salmon taken from the
COMMERCIAL CATCH for home use here:

↓ TOTAL SALMON RETAINED FROM COMMERCIAL CATCH FOR SUBSISTENCE USE ↓

Red	King	Chum	Pink	Coho

Salmon Harvest Calendar

June 2012

SUNDAY

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY



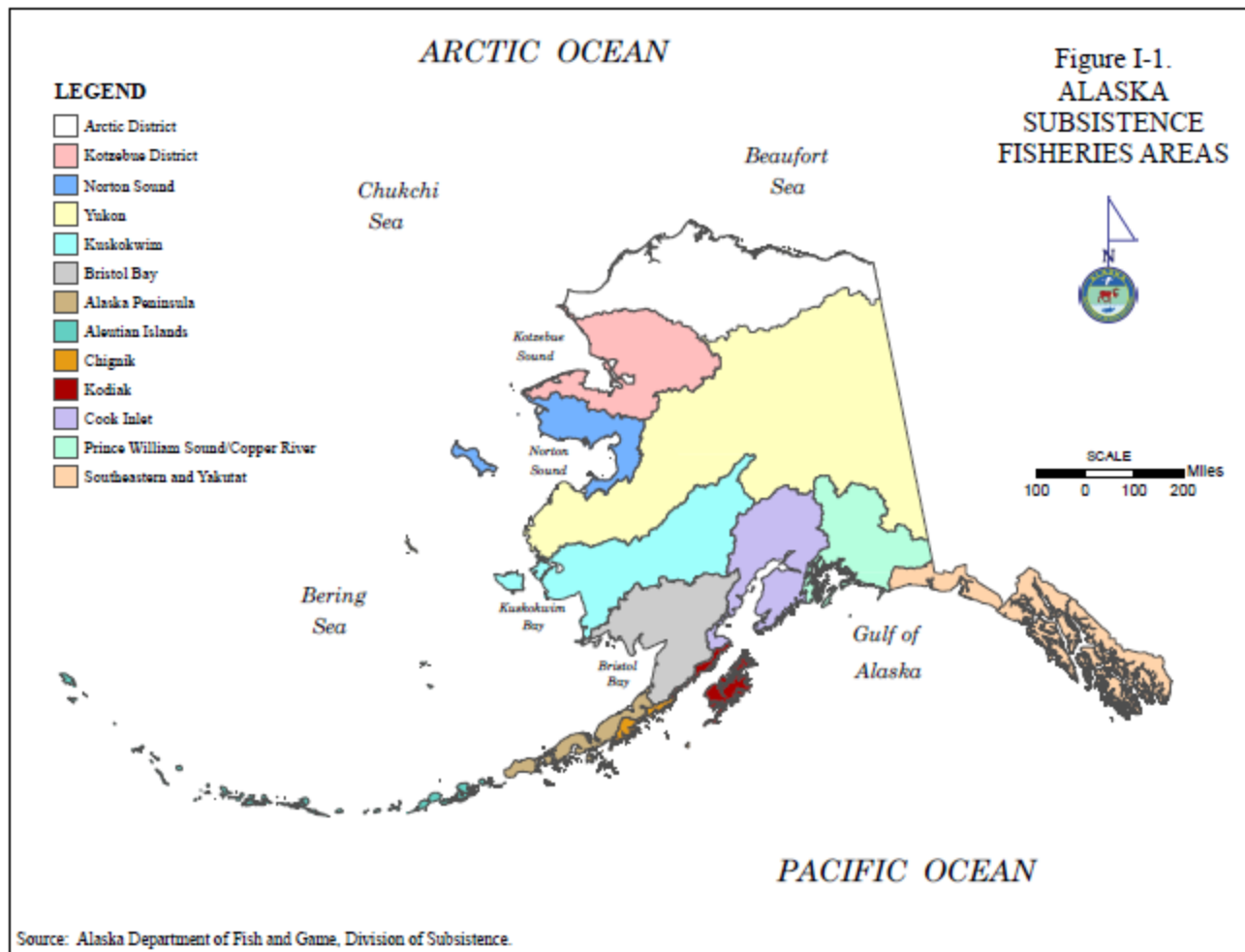
					1	2
					King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____
3	4	5	6	7	8	9
King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____
10	11	12	13	14	15	16
King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____
17	18	19	20	21	22	23
King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____
24	25	26	27	28	29	30
King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____	King _____ Chum _____ Sockeye _____ Coho _____



Fish camp

Annual Subsistence Fisheries Report

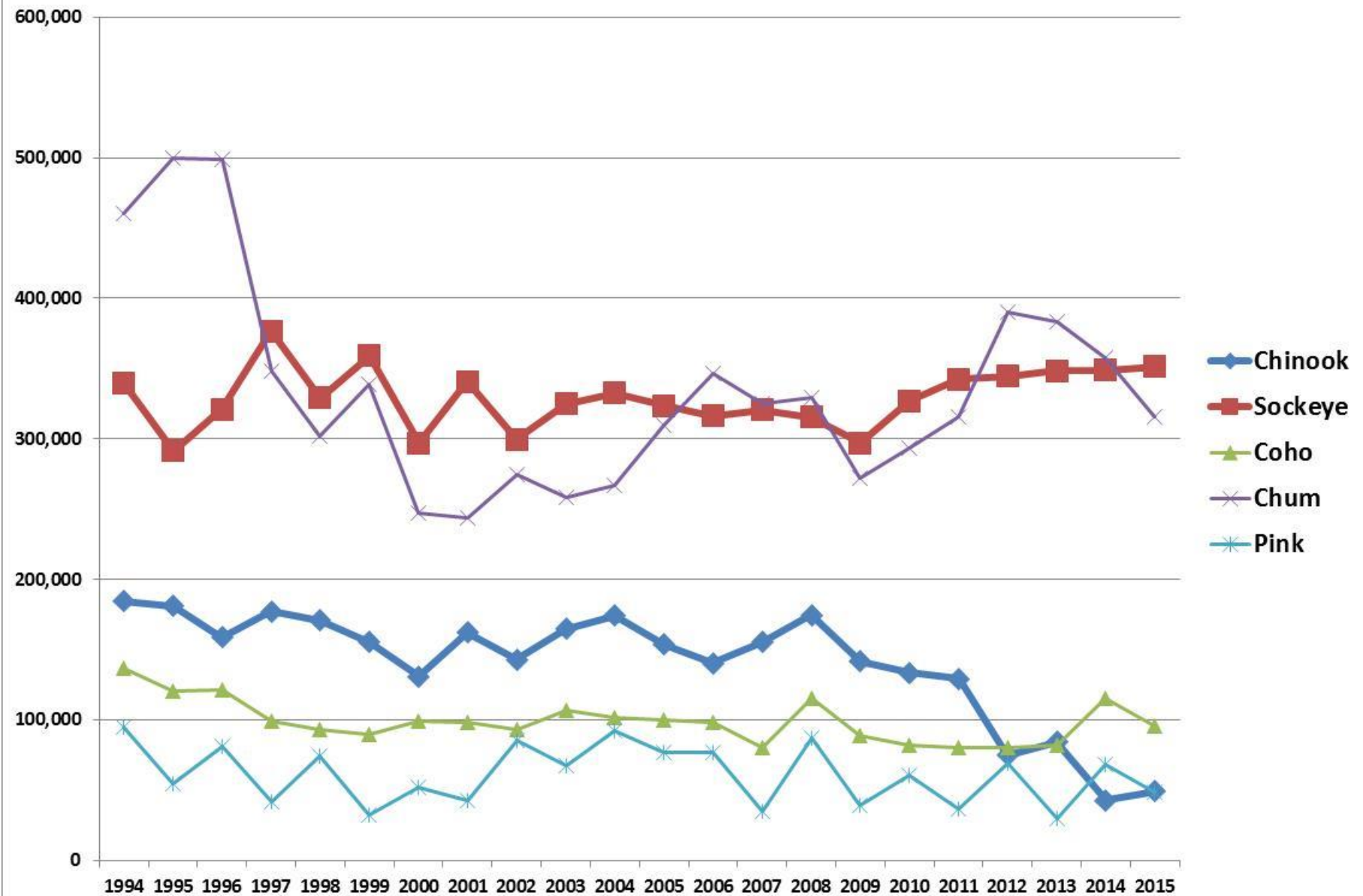
- Draws from all annual harvest monitoring programs
- Organized in data base by management area and by community
- Part of the *Technical Paper Series*



Alaska Subsistence and Personal Use Salmon Harvests, 1994 - 2015

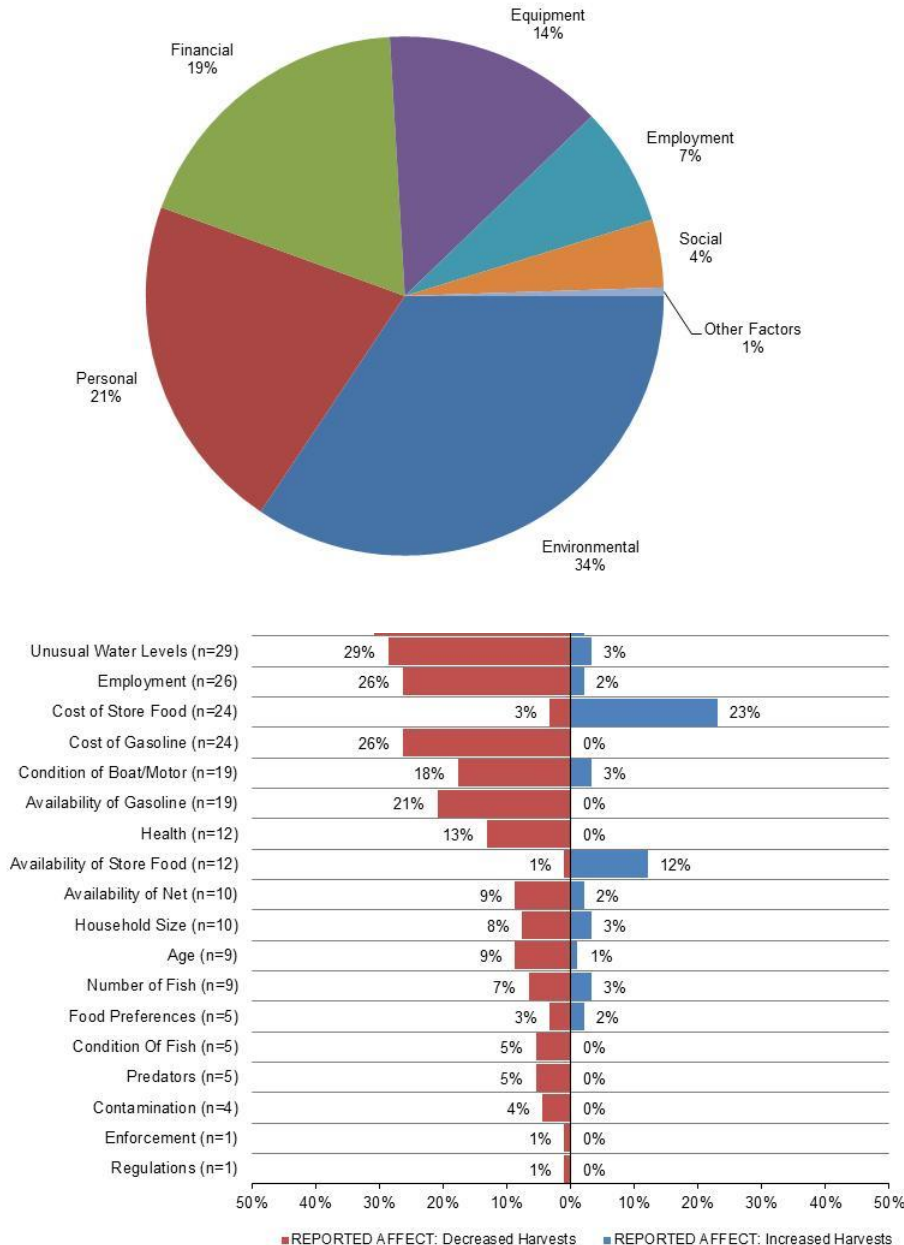


Subsistence Salmon Harvests by Species, 1994 - 2015



“Patterns and Trends” Projects

- Time series of household harvests
- Household interviews
- Declining chum harvests
- Higher sheefish and Dolly Varden harvests
- Range of explanations
- See TPs 294, 366



Categories of factors reported as affecting fish harvests, 6 NW Alaska communities, 1994-2004

Migratory Birds Harvest Monitoring Project



- Amendment to MBTA
- Subsistence regulations, 2003
- Alaska Migratory Bird Co-Management Council: AMBCC
- Annual harvest monitoring project
- Annual reports
- On-line at:

http://www.adfg.alaska.gov/index.cfm?adfg=subsistence.migratorybird_cmc





AMBCC Subsistence Migratory Bird Household Harvest Survey

Western Alaska Harvest Report - **SPRING**

Y-K Delta, Bering Strait-Norton Sound, NW Arctic, Bristol Bay (except South AK Peninsula)

Did the household harvest birds or eggs from **April 1 to June 30?** ☐ YES ☐ NO

Village: _____ Household ID: _____ Harvest Year: _____ Date: ____/____/____

American wigeon
birds _____

eggs _____

Teal
birds _____

eggs _____

Mallard
birds _____

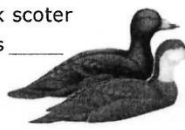
eggs _____

Northern pintail
birds _____

eggs _____

Northern shoveler
birds _____

eggs _____

Black scoter
birds _____

eggs _____

Surf scoter
birds _____

eggs _____

White-winged scoter
birds _____

eggs _____

Bufflehead
birds _____

eggs _____

Goldeneye
birds _____

eggs _____

Canvasback
birds _____

eggs _____

Scaup
birds _____

eggs _____

Common eider
birds _____

eggs _____

King eider
birds _____

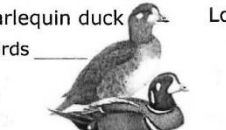
eggs _____

Spectacled eider
birds _____

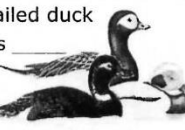
eggs _____

Steller's eider
birds _____

eggs _____

Harlequin duck
birds _____

eggs _____

Long-tailed duck
birds _____

eggs _____

Merganser
birds _____

eggs _____

Unknown duck
birds _____

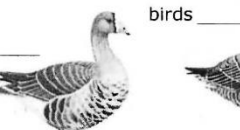
eggs _____

Black brant
birds _____

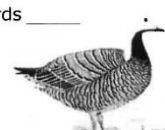
eggs _____

Cackling/Canada
goose
birds _____

eggs _____

Greater white-fronted
goose
birds _____

eggs _____

Emperor goose
birds _____

eggs _____

Snow goose
birds _____

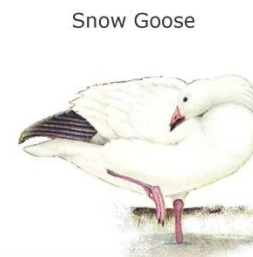
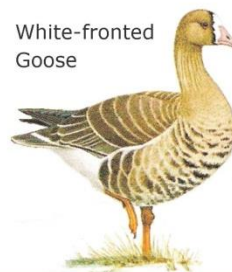
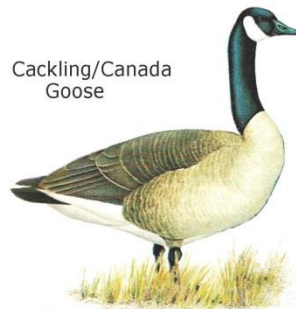
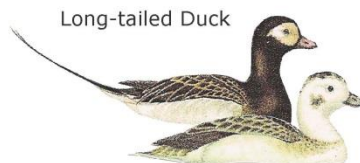
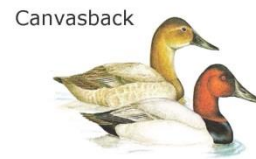
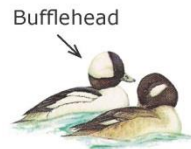
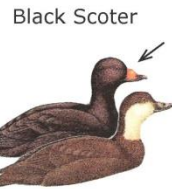
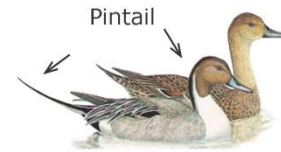
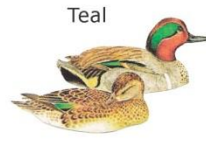
eggs _____



AMBCC Subsistence Migratory Bird Household Harvest Survey

Bird identification Guide - Interior Alaska

Upper Copper River and Interior Alaska



Harbor Seal/Sea Lion Harvest Assessment Project

- 1992: RFP from NMFS; estimate total annual subsistence take of harbor seals and sea lions
- ADF&G lead, 1992 to 2001
- RuralCAP and IPCoMM as early partners
- Transition to ANHSC lead, 1997 - 2002
- Study years 1992 – 2008 except 1999
- 4 partial surveys: 2011, 2012, 2014, 2017
- Surveys in western AK (TPs 242, 255, 257)

Harbor Seal and Sea Lion Harvest Assessments: Research Methods

- Study communities (~63) and regions (9)
- Obtained harvest data from separate St. Paul harvest monitoring program from 2001 - 2008
- Several sampling strategies
- Local research assistants hired and trained
- Retrospective recall surveys, mostly in people's homes
- Information collected: harvest, struck and lost, age category, sex, month; also assessment questions
- Analysis: estimates for each community
- Reporting: 16 annual reports; 2 partial supplements
- LTK study: Whiskers! Database; TP249
- Methodological study: TP 254

SEA LION

2014 MARINE MAMMAL SURVEY

DID YOU OR MEMBERS OF YOUR HOUSEHOLD HUNT OR USE SEA LIONS IN 2014? YES ____ NO ____

(IF YES, PLEASE COMPLETE THE FOLLOWING QUESTIONS:)

(IF NO, THAT COMPLETES THIS SURVEY. THANK YOU.)

During 2014, did you or your household:

1. Use sea lions (meat, hides, or oil)?
2. Hunt sea lions? If yes, go to 2a and 2b.
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? . .

Yes No

2a. How many Sea Lion hunters in your household? (____)

2b. If you hunted outside your region, where did you hunt? _____

IF YES TO QUESTION 2 OR 3 ABOVE, GO TO QUESTION 6. IF NO, THIS COMPLETES THE SURVEY. THANK YOU FOR YOUR COOPERATION.

6. How many sea lions did your household kill and retrieve? [Enter total number in box.] _____

7. In which months were they killed and retrieved? How many in (January, etc.)? [Enter the numbers by month.]

SEA LIONS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	UNKNOWN	TOTAL
TOTAL														

8. Of the sea lions killed and retrieved in (January, etc.), how many were male, female, and how many were pups, juveniles, or adults? [Enter the numbers by month]

SEA LIONS (Detail)	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	UNKNOWN	TOTAL
ADULT MALE														
ADULT FEMALE														
ADULT UNKNOWN														
JUVENILE MALE														
JUVENILE FEMALE														
JUVENILE UNKNOWN														
PUP MALE														
PUP FEMALE														
PUP UNKNOWN														
UNKNOWN MALE														
UNKNOWN FEMALE														
UNKNOWN UNKNOWN														

During 2014,

9. How many sea lions were struck and lost by your household? [Enter number in total box.] _____

10. In which months were they struck and lost? [Enter numbers by month.]

SEA LIONS	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	UNKNOWN	TOTAL
STRUCK AND LOST														

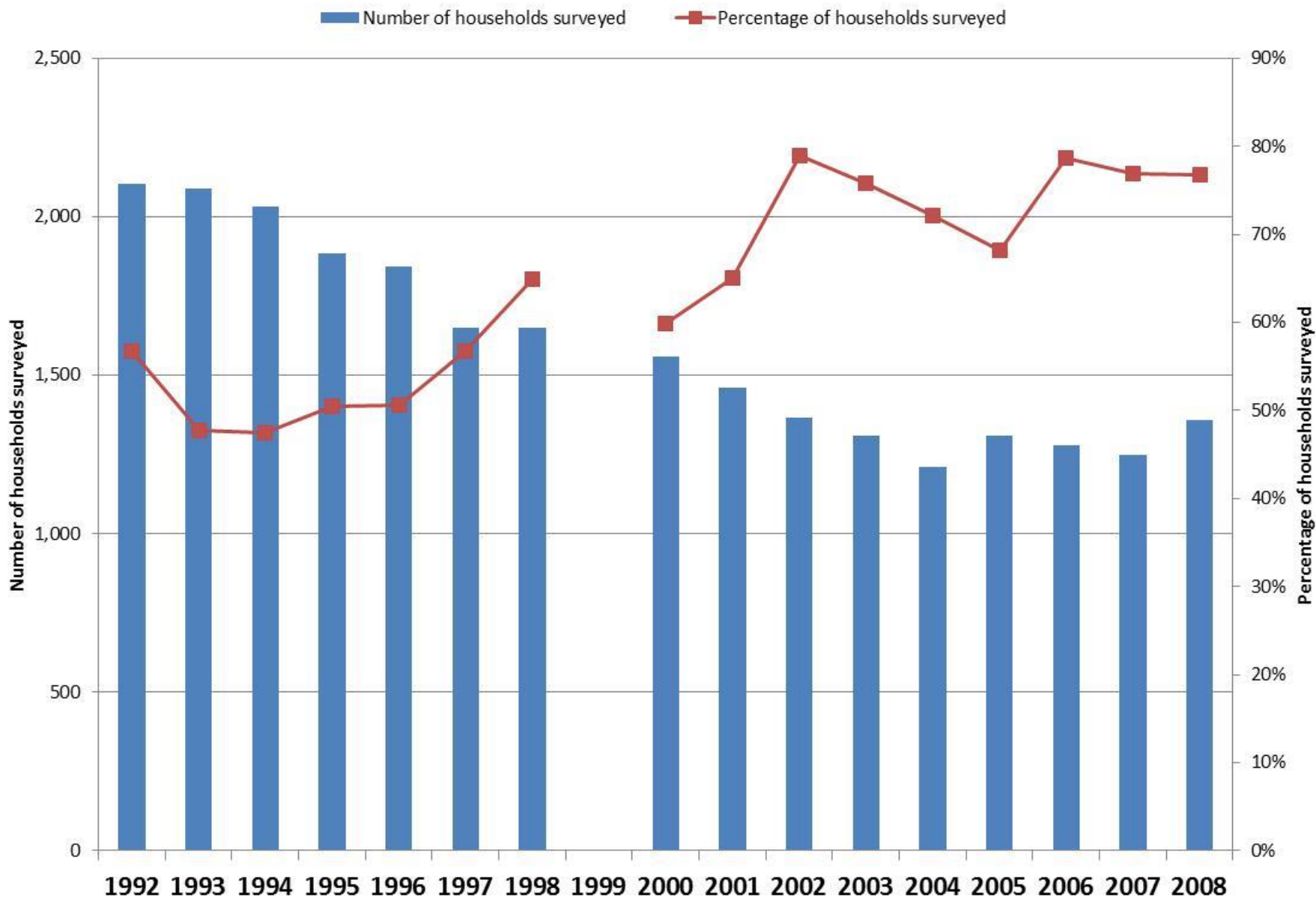
Supplemental Question:

During 2014, did you observe any changes to sea lion numbers in your area: Increase ____ Decease ____ No Change ____

During 2014, what was the condition of the sea lions you harvested? _____

Community: _____ (____) HHID: (____) List: Hunter Random Interviewer: _____ Date: _____

Sample Achievement, Harbor Seal/Sea Lion Harvest Assessment Project



Kvichak Salmon Ethnography



Participant Observation

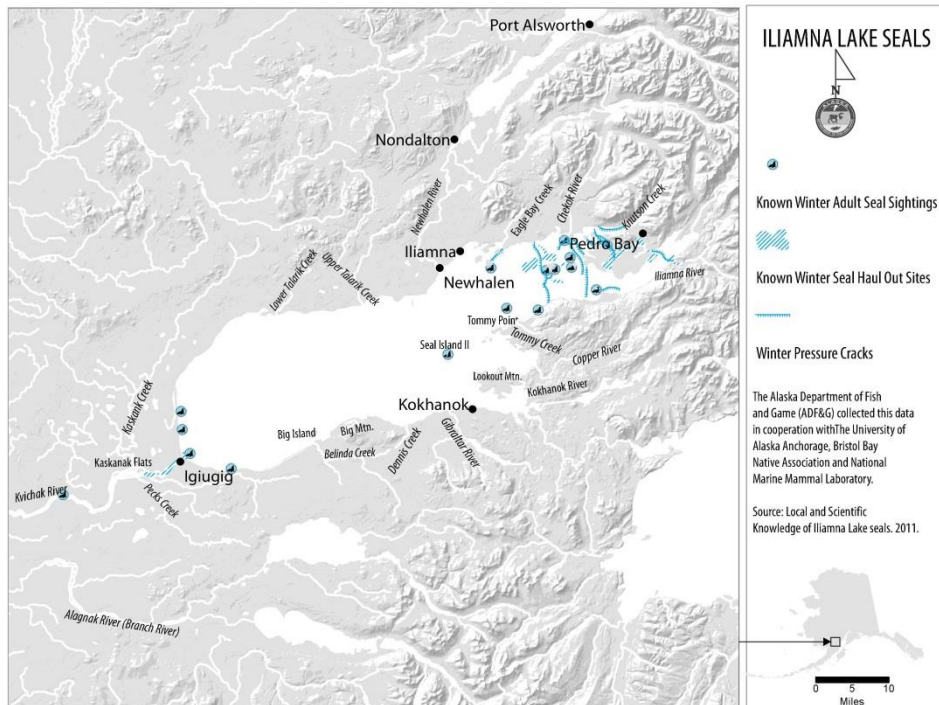


- Key to ethnographic research
- Enhances understanding of harvest assessment projects



TEK/LTK: Iliamna Lake Freshwater Seals Project

- Freshwater seals: with UA, NMFS, BBNA
- Multi-disciplinary approach
- TP 416



Findings: Rural Alaska's mixed economy

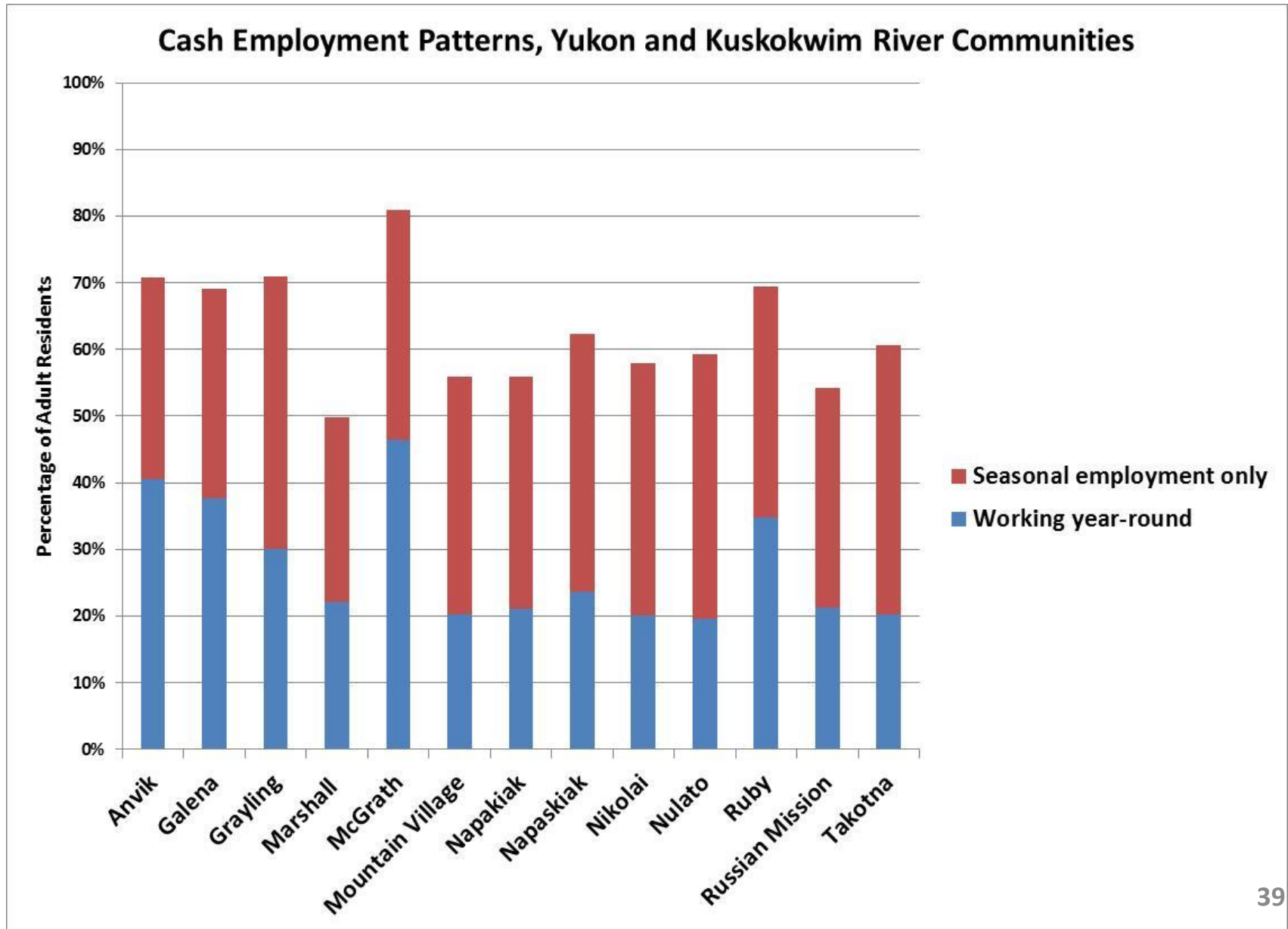


- Two interrelated sectors: cash and subsistence
- Features of “remote rural economy” (Goldsmith 2007)
- Cash sector = less stable/less reliable;
- Subsistence sector = more stable/reliable



Top: subsistence waterfowl hunting, Yukon River; Bottom: salmon for winter, Chignik Lake

Cash sector: limited cash employment



Subsistence sector of mixed economy



- High levels of subsistence food production
- Diverse harvests
- Domestic mode of production
- Specialization and efficiency
- Patterned seasonal round
- Traditional harvest areas
- Non-market sharing and distribution networks

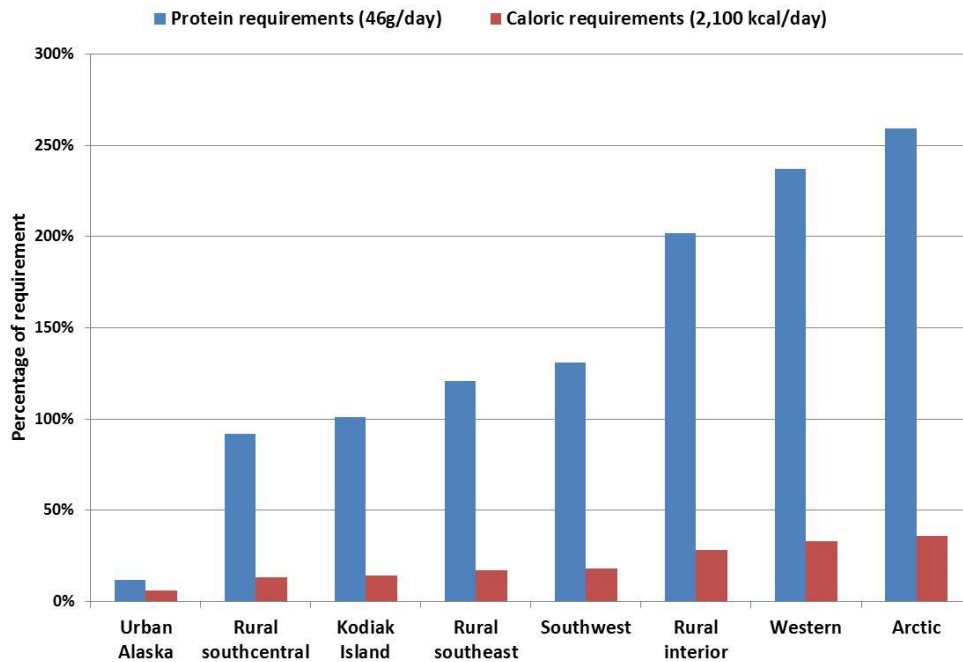


Top: king salmon fishing in Cook Inlet; Bottom: putting up salmon, Nikolai, upper Kuskokwim River

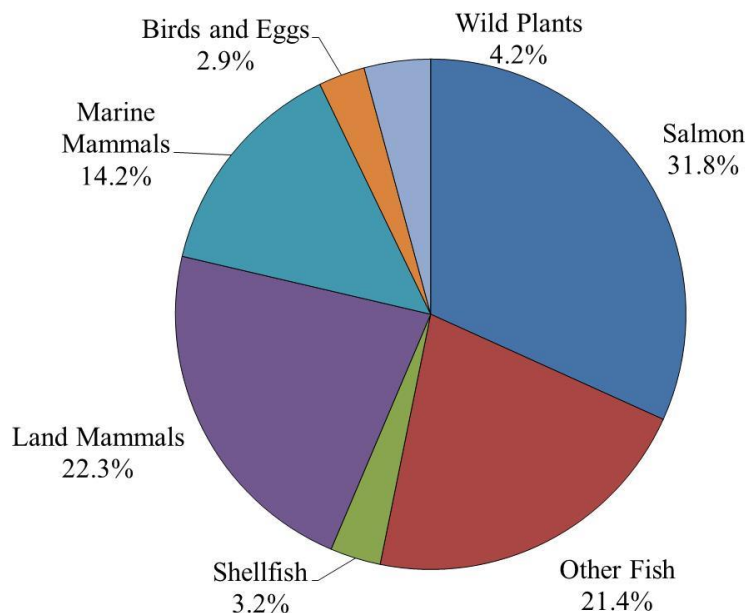
Subsistence food production

- Rural Alaska harvest = 275 lb per person; 34 million lb of food
- Provides 176% of daily protein requirements
- Provides 25% of daily caloric requirements
- Diverse harvests

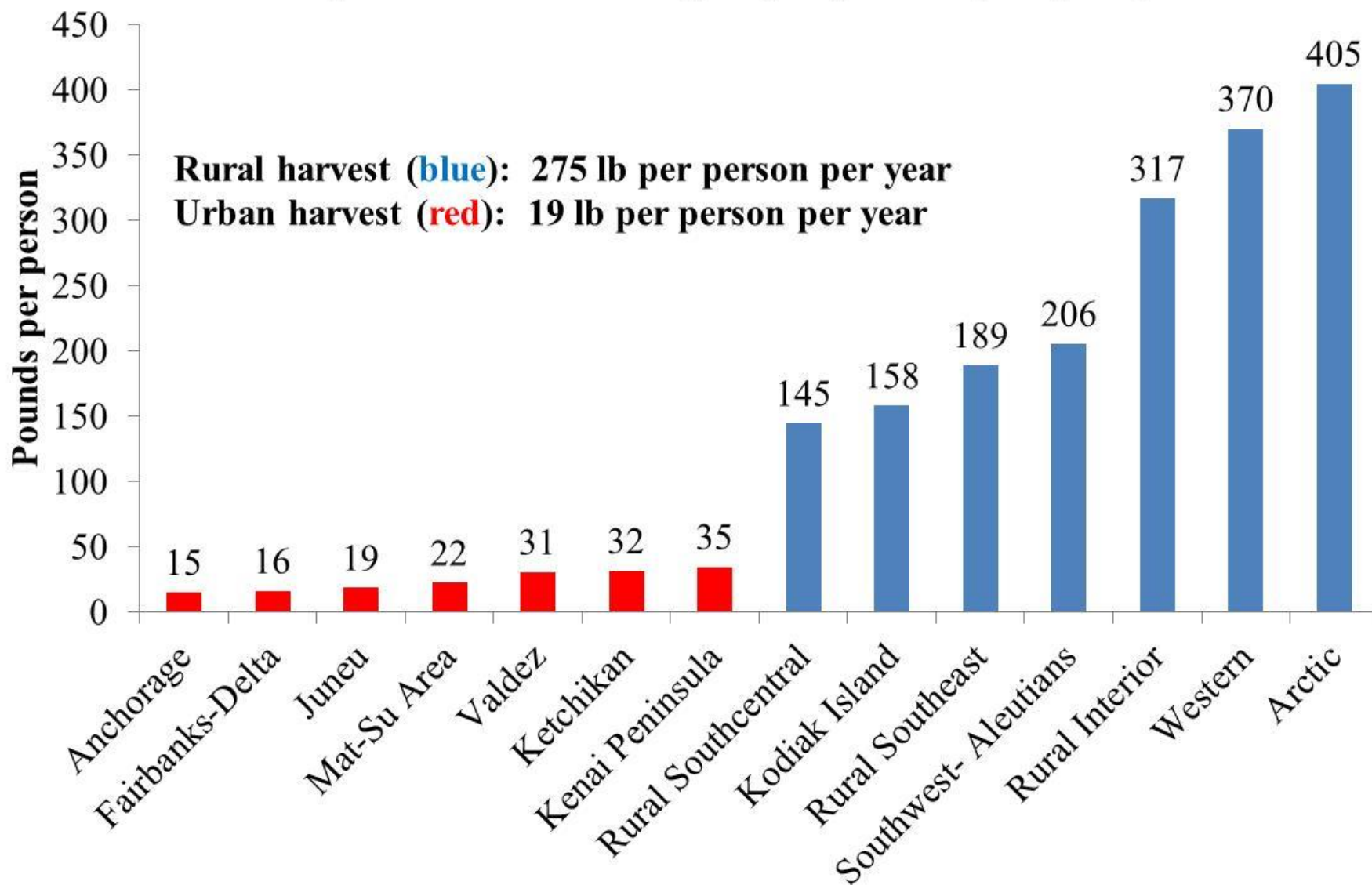
Nutritional contribution of wild food harvests by Alaska region 2014



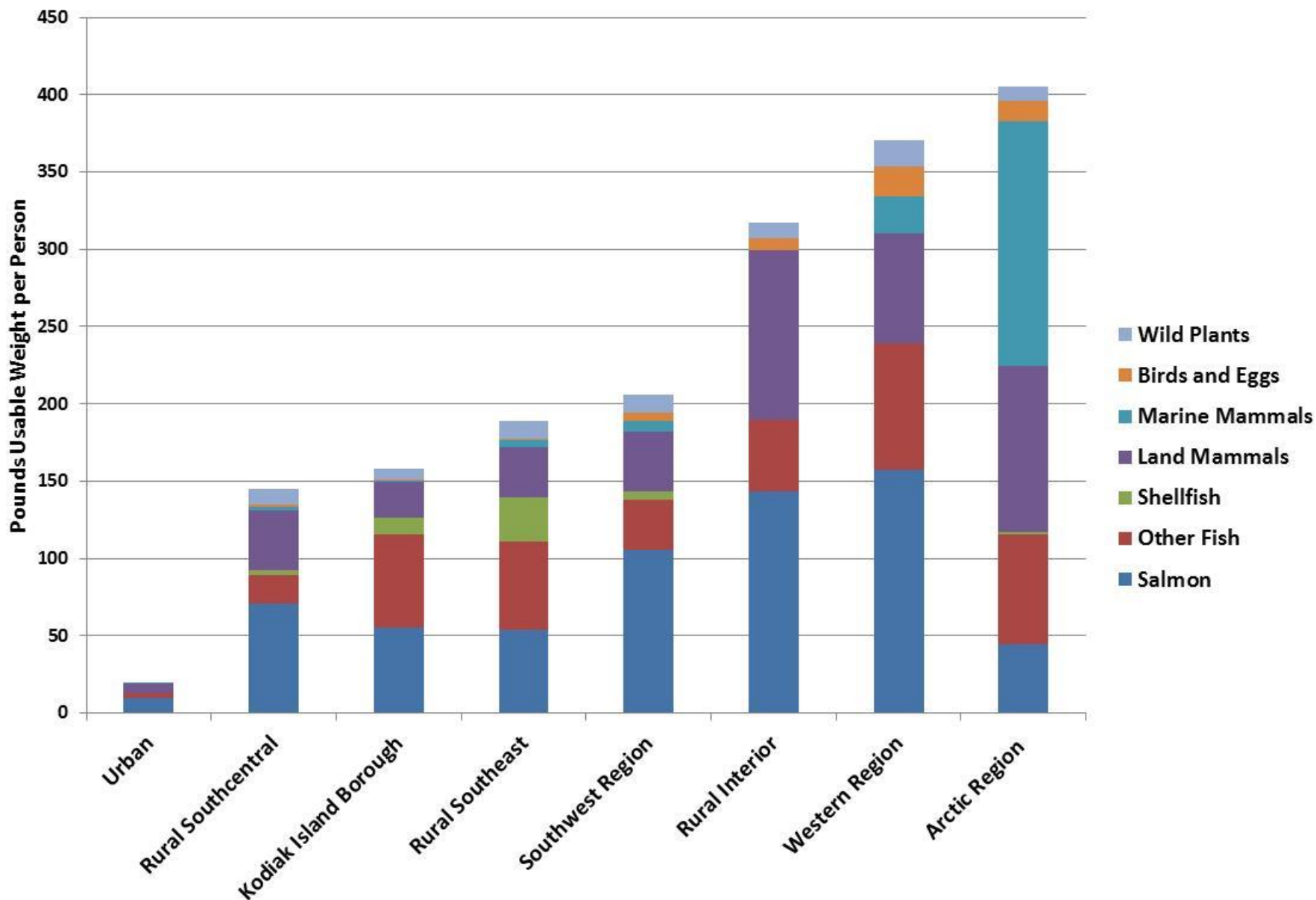
Composition of wild food harvest by rural Alaska residents, 2014



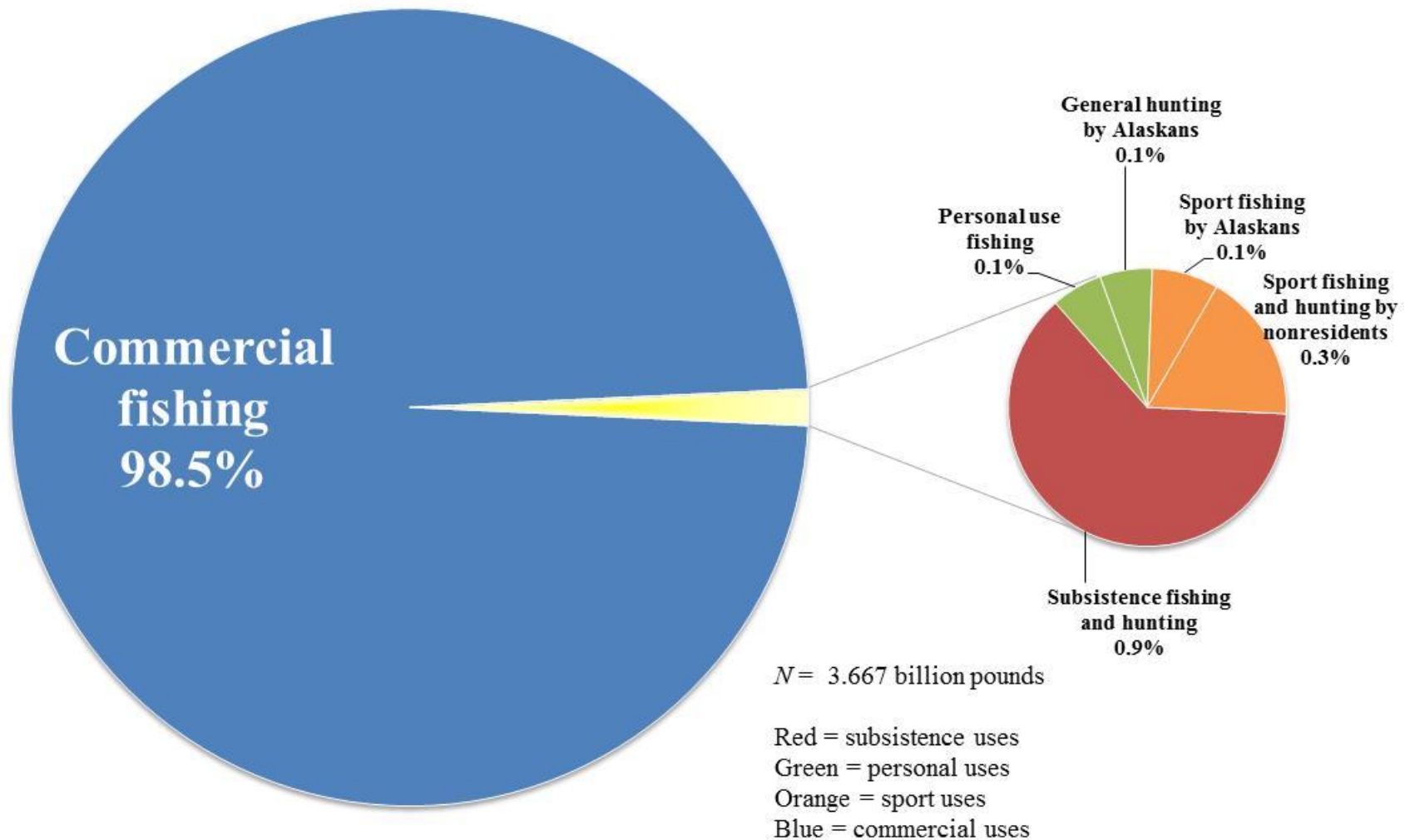
Wild food harvests in Alaska by area, 2014 (pounds usable weight per person per year)



Harvests of Wild Resources by Category and Area, Lbs per Capita, 2014



Who harvests fish and game? Resource harvests by use in Alaska



Labor: domestic mode of production



- Nuclear & extended families work together
- Resemble economic firms (efficiency)
- Self-limiting harvest goals
- Context for instruction in skills, values, and traditional knowledge



**Top: processing spring duck
harvest at Nondalton**

**Bottom: drifting for king salmon,
Kaltag, Yukon River**

Skills, values, oral traditions



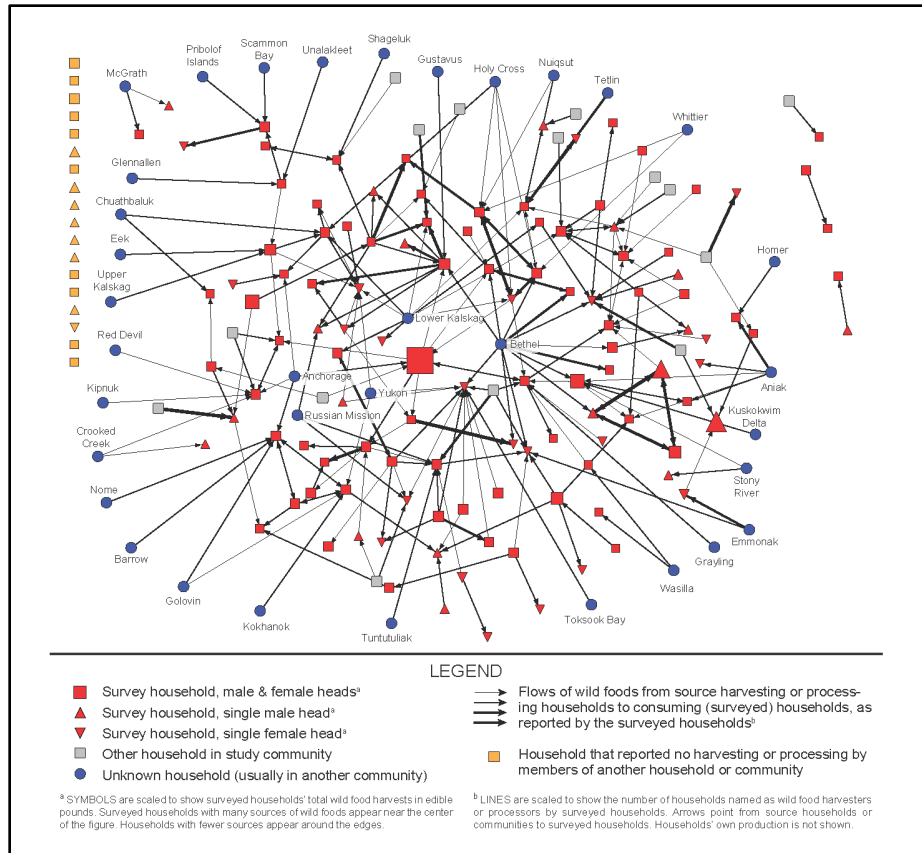
- Learned in the context of subsistence activities
- Learning across generations
- Values such as non-waste, respect, and sharing



Top: helping to put up salmon, Nondalton; Bottom: sharing salmon, Chignik Lake

Noncommercial (non-market) distribution and exchange

- Sharing
- Barter
- Customary trade
- Kinship and partnership networks
- Link families and communities



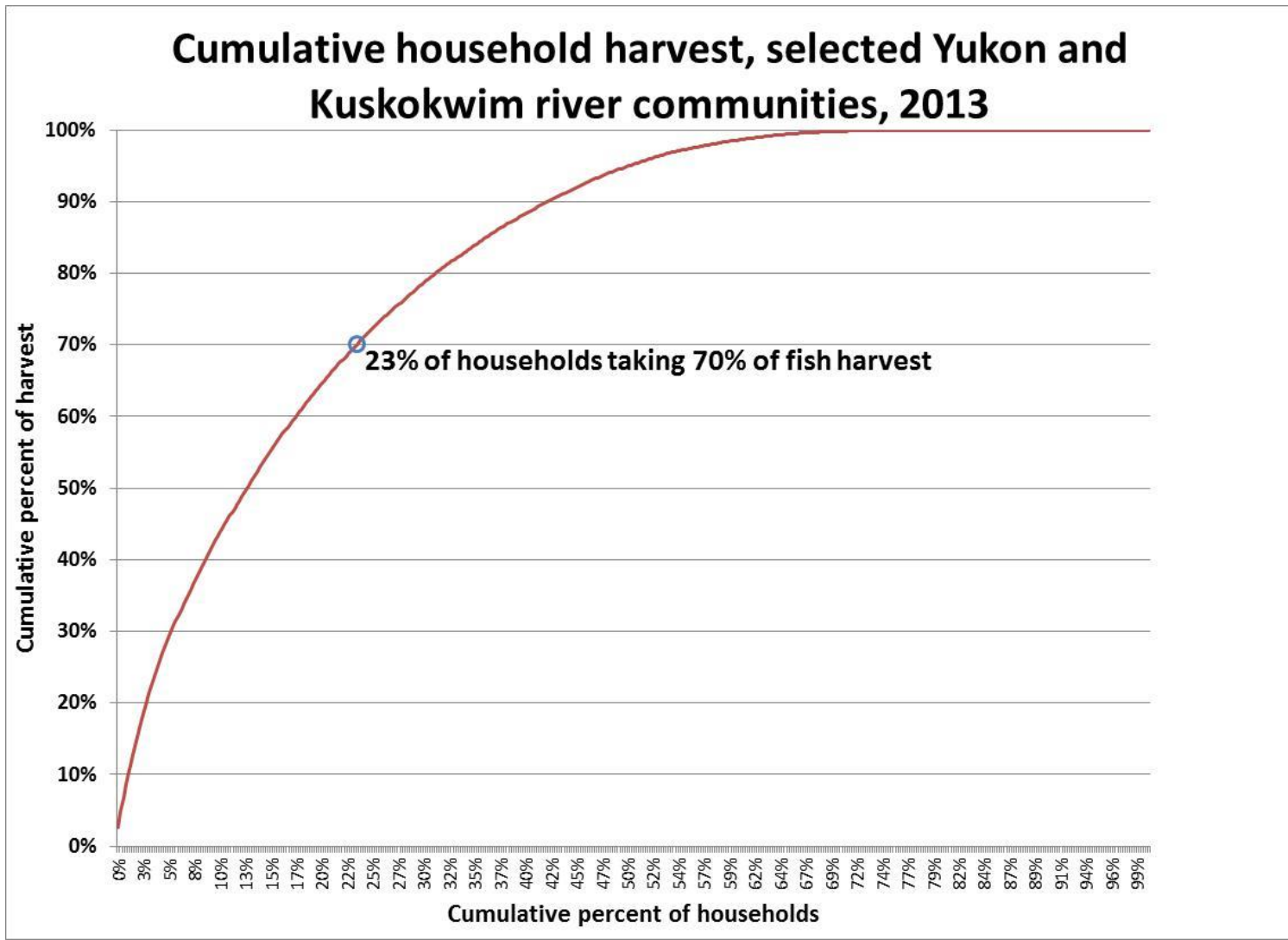
A sharing network, Kuskokwim River village



Distribution of Round Island walrus harvest at Togiak

Harvest specialization

- “30/70 rule” and the “super-household”
- Correlations with high levels of harvests



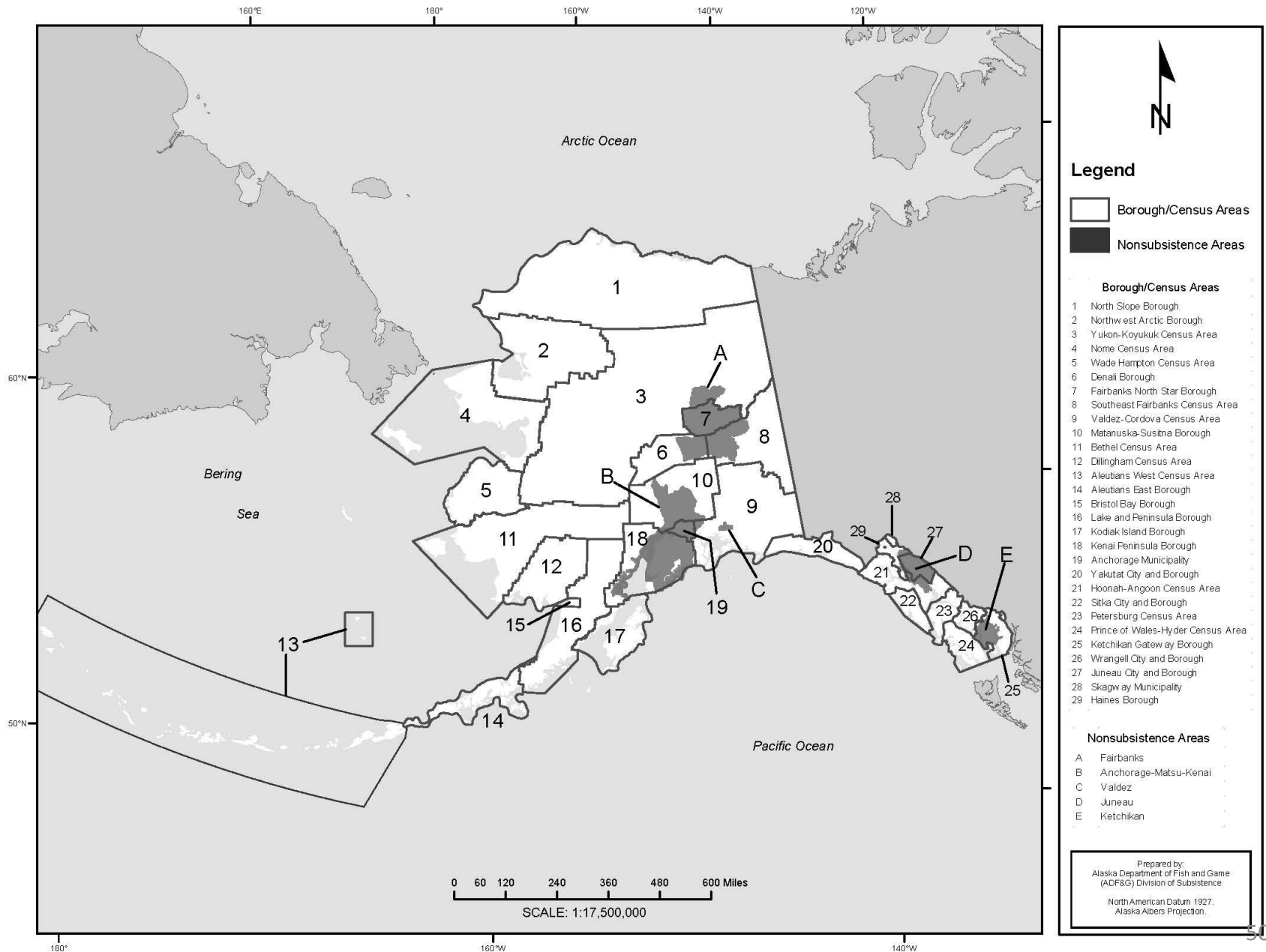
Applications of study findings



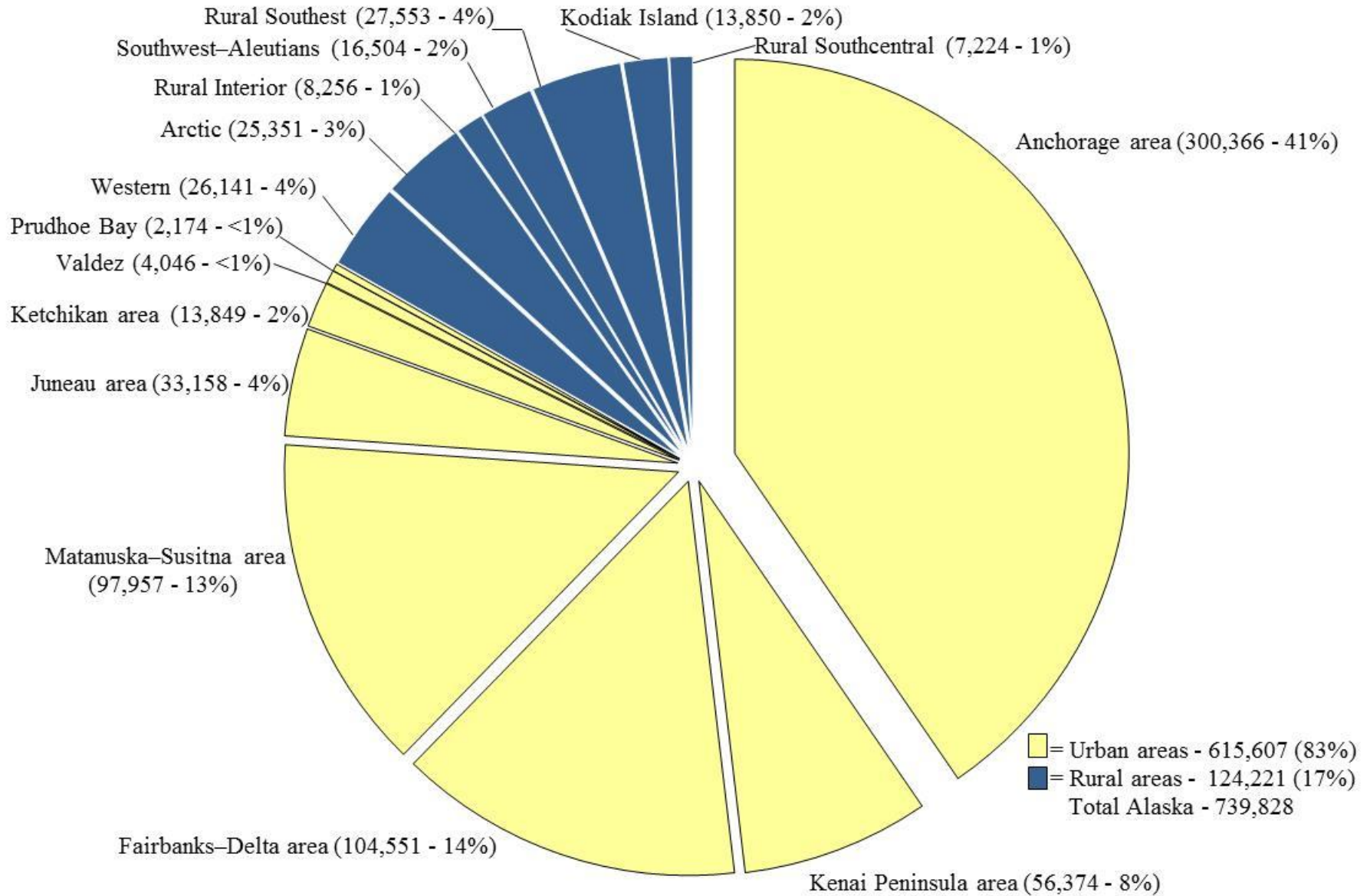
**A smokehouse full of sockeye salmon,
Nondalton**

- Obligations at Board of Game and Board of Fisheries
- C&T Determinations
- ANS Findings
- Regulations that provide reasonable opportunity
- Obligations to Joint Board: nonsubsistence area findings
- Role at the NPFMC
- Informing resource development projects
- Health impacts assessment
- Other applications

Alaska Subsistence and Non-subsistence Areas



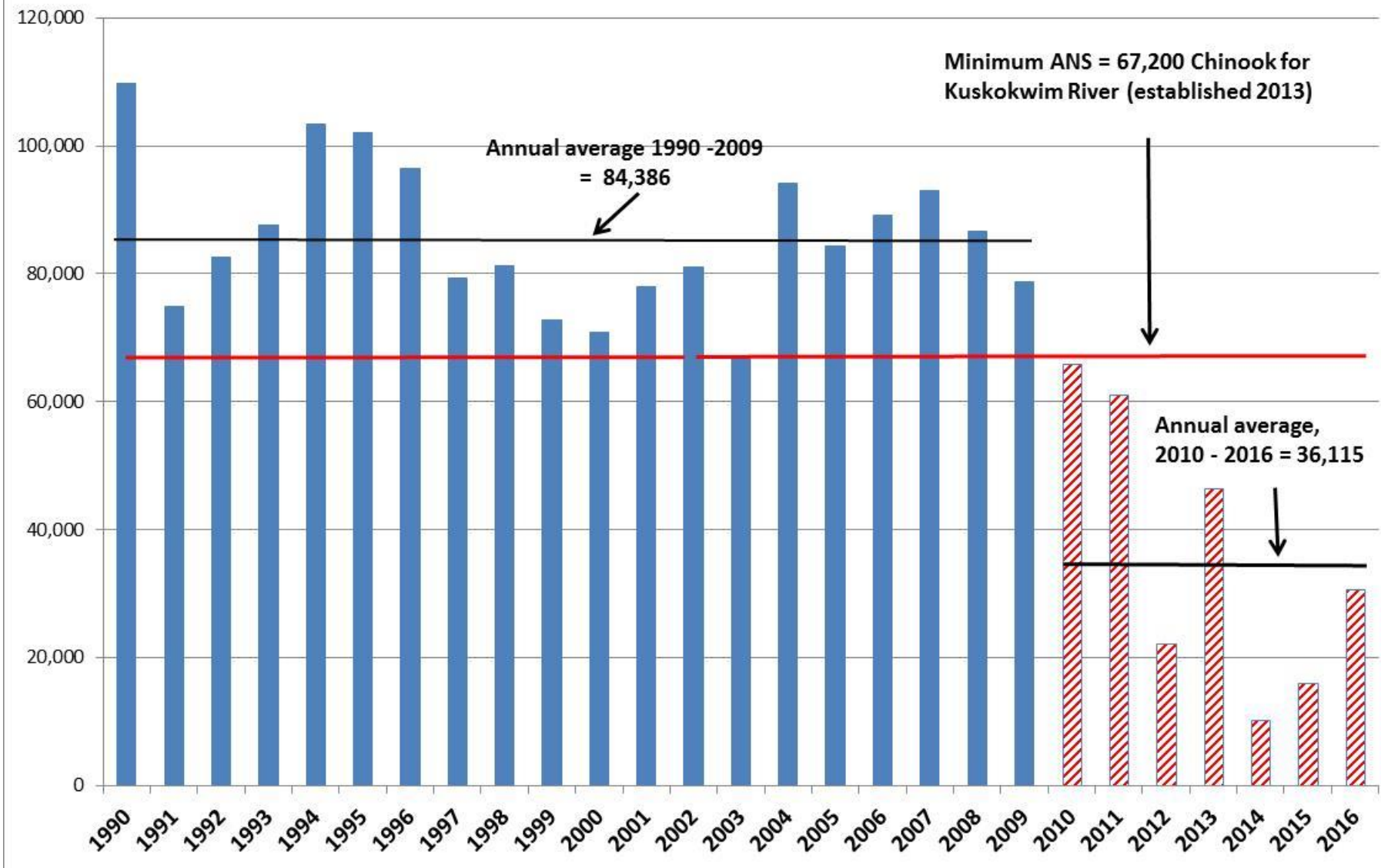
Alaska's population by area, 2016



Amount Reasonably Necessary for Subsistence: “ANS”

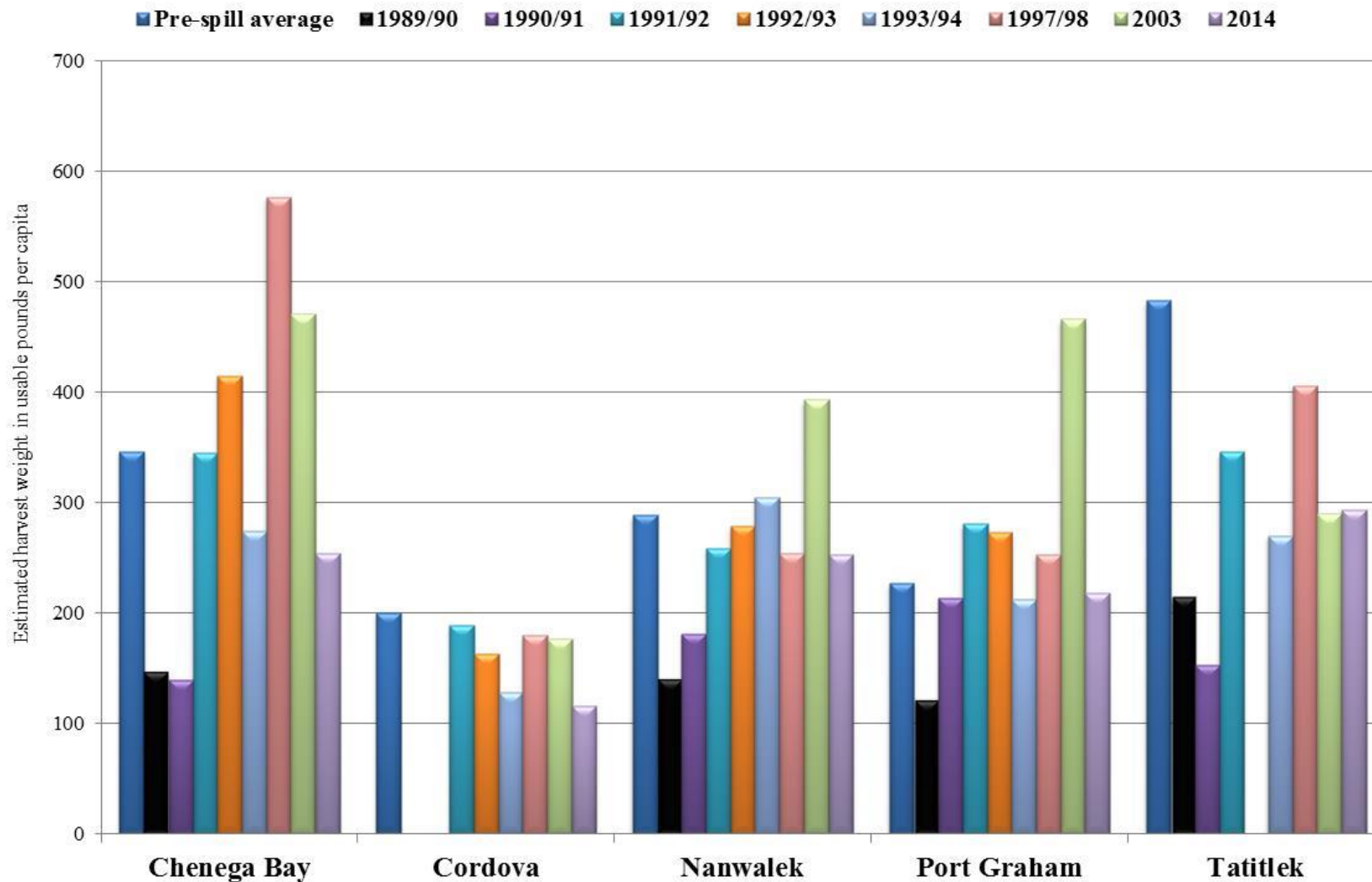
- Required by Alaska statute (AS 16.05.258(b))
- Established in regulations by the Alaska Board of Fisheries (BOF)
- ANS might provide a range for all salmon, or be specific for stocks
- Provides reference to assess annual harvests and trends

Kuskokwim River Chinook Salmon Subsistence Harvests 1990 - 2016



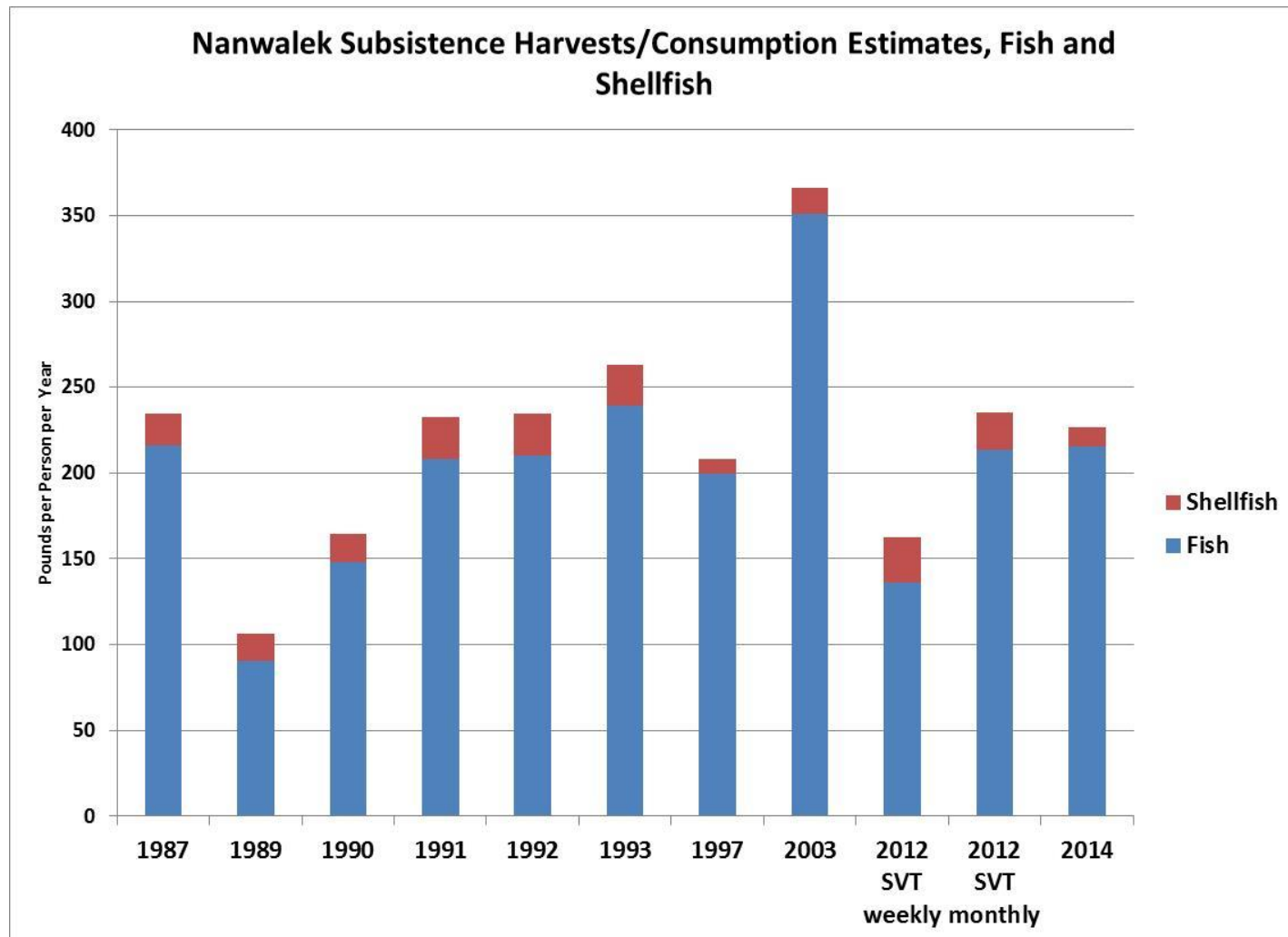
Impact Assessment: *Exxon Valdez* Oil Spill

Estimated Harvests, Pounds Usable Weight per Person, Selected EVOS-Area Communities



Wild foods consumption

- Harvest vs “consumption”
- Water quality standards review
- Comparison with Seldovia Tribe’s study
- TP 261 for methodological discussion



Restoring the Round Island Walrus Hunt



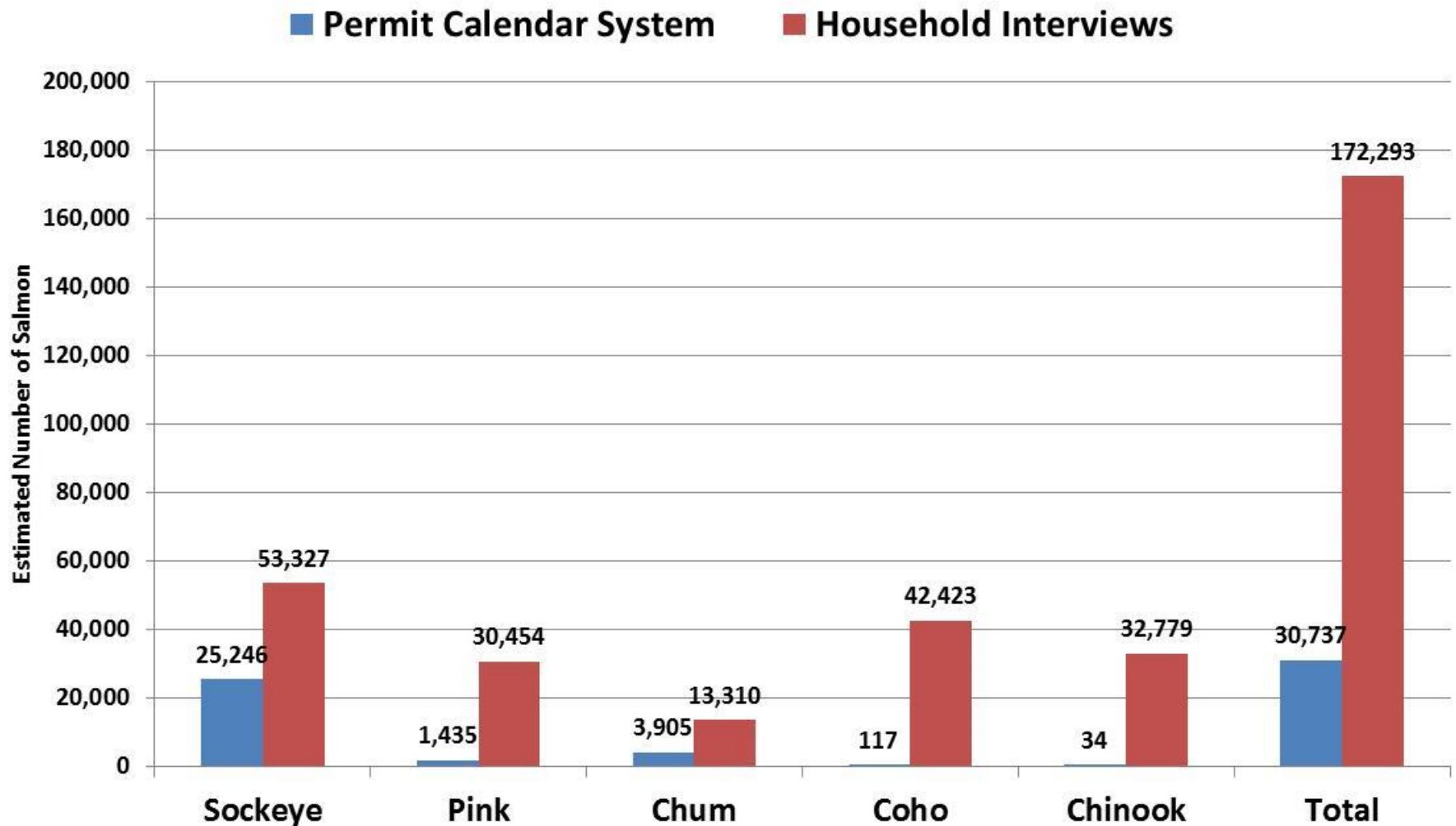
- Role of TEK and key respondent research
- *Qayassiq*
- Round Island Sanctuary
- Research: TP 212
- The Board of Game Process
- A Co-Managed Hunt
- See Cultural Survival Quarterly 1998 (Vol. 22, Issue 3)

Subsistence harvests of walrus by Togiak hunters at Round Island, Bristol Bay

Some Data Limitations

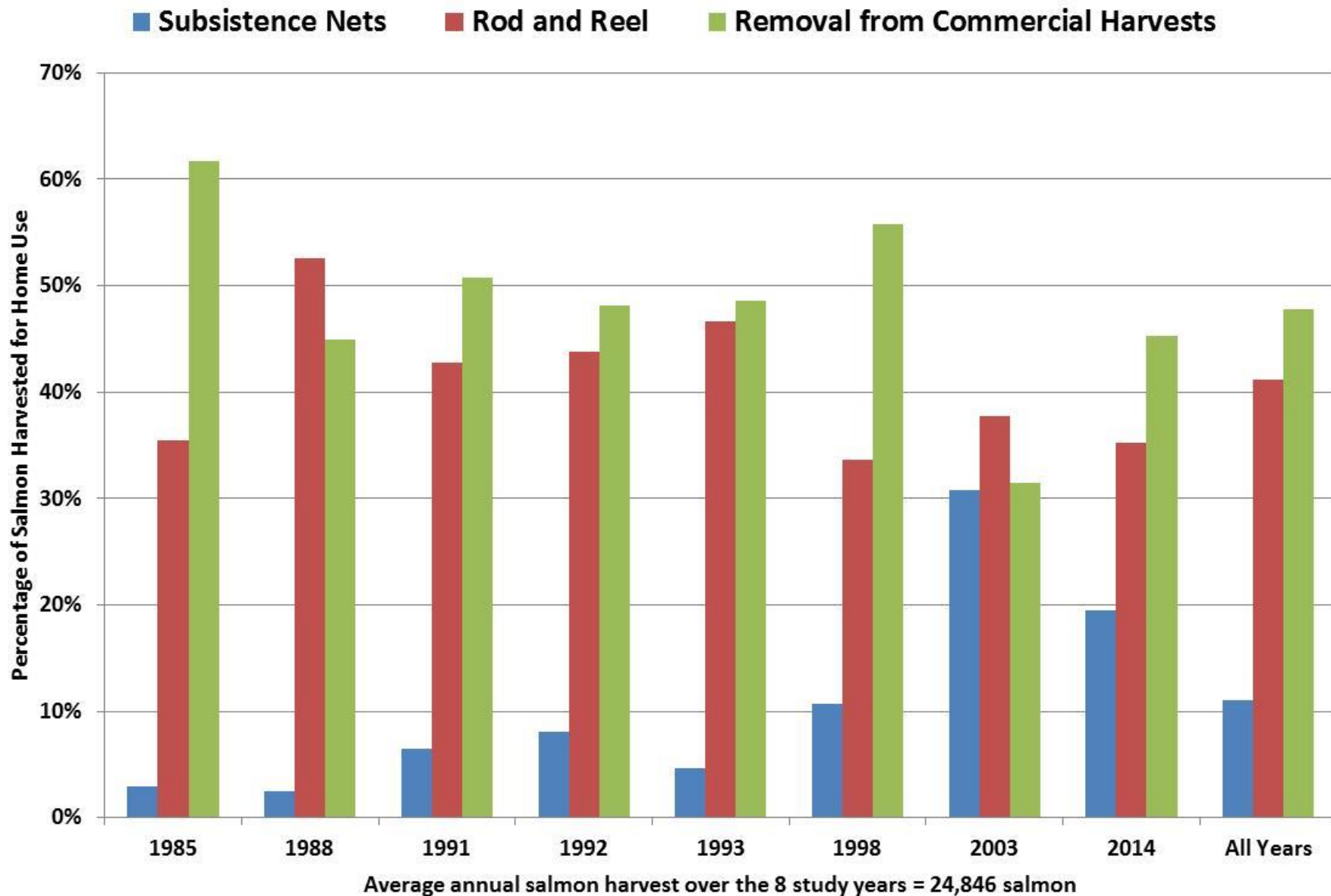
- Uneven temporal coverage
- Uneven areal coverage
- Uneven participation in permit systems and/or surveys
- Potential recall bias
- Potential strategic bias
- Incomplete documentation of sources of salmon (e.g. rod and reel, “home pack”)

"Subsistence" Salmon Harvest Estimates, Rural Southeast Alaska, 1987



Source: Wolfe, Robert J., ADF&G. "Monitoring Subsistence Salmon Harvests in Alaska." Presentation at the "Understanding Harvest Assessment in the North" Conference, Girdwood, Alaska; April 1995

Sources of Salmon Harvested for Home Use, Cordova





Conclusions

- State and federal regulations recognize the importance of subsistence harvests
- Significant investment has been made in describing and monitoring subsistence harvests and uses
- Subsistence has been the most reliable sector of rural Alaska's mixed economy
- Strong economic, social, cultural, & spiritual significance
- Access to a variety of wild resources is necessary to support food security in resilient, sustainable communities

For more information:



- ADF&G website:
<http://www.adfg.alaska.gov/index.cfm?adfg=subsistence.main>
- CSIS (Community Subsistence Information System)
- Technical Paper Series
- 2014 Subsistence Update