Proposal 5

5 AAC 99.025. Customary and traditional uses of game populations.

This proposal would revise the Amount Necessary for Subsistence (ANS) findings for moose in Unit 18.

Prepared for the Alaska Board of Game

November 2011

RC 2 Tab C

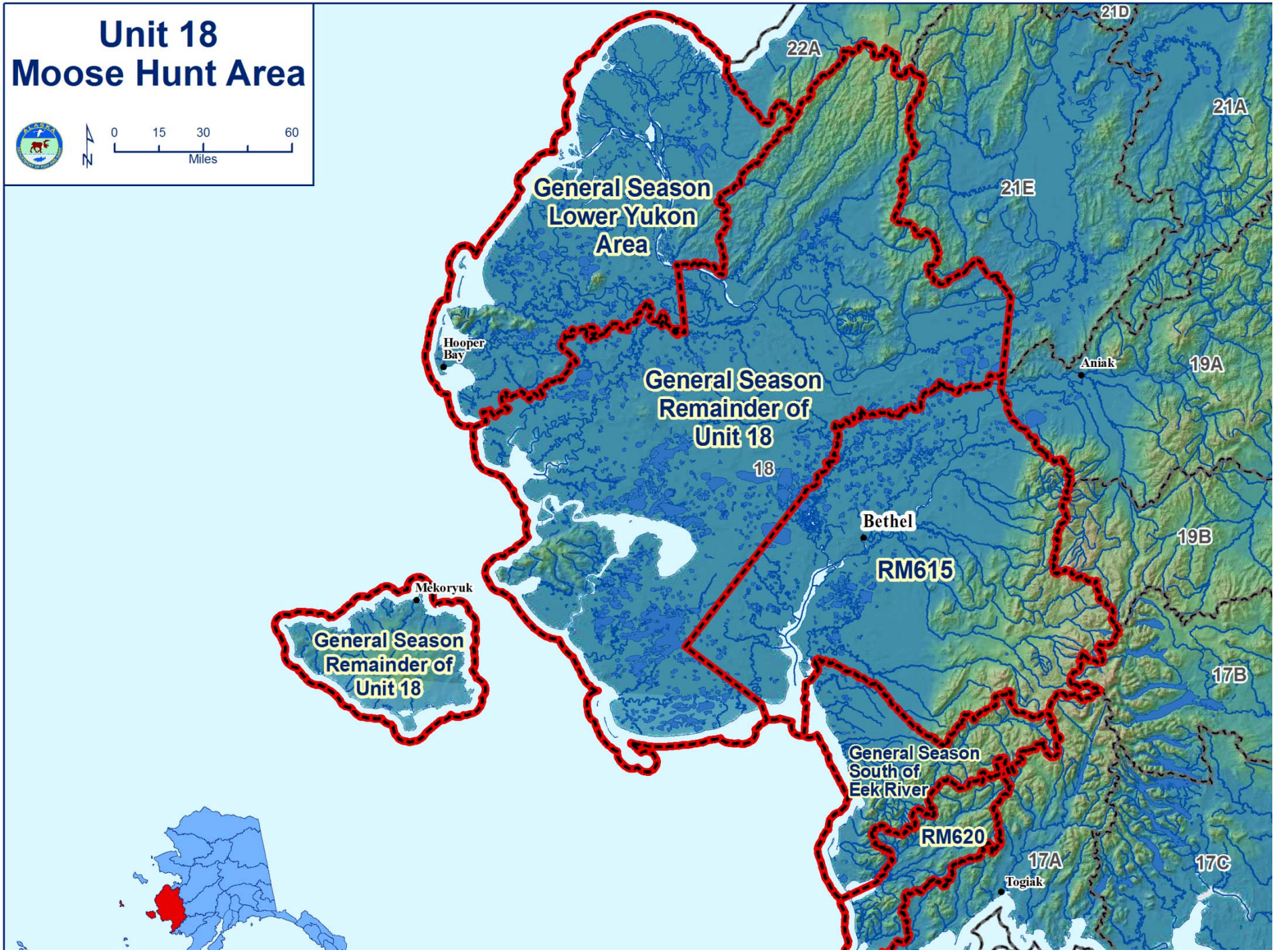
Proposal 5

Department Recommendation:

No recommendation

Presentation Order:

- **Review previous board subsistence findings concerning Unit 18 moose.**
- **Review of recent moose harvest information and numbers of Alaskans participating in GMU 18 moose hunting reported from harvest tickets and permits.**
- **Review best available information on subsistence moose harvests as estimated from recent household surveys conducted since 2009 in 14 Unit 18 communities.**
  - No community estimates of moose harvest from 25 Unit 18 communities during this time period.
  - Board of Game will want to take these data limitations into consideration during their deliberations.


Unit 18
Moose Hunt Area
0 15 30 60
Miles
N
General Season
Lower Yukon
Area
General Season
Remainder of
Unit 18
18
General Season
Remainder of
Unit 18
General Season
South of
Eek River
RM615
RM620
Hooper
Bay
Mekoryuk
Bethel
Aniak
Togiak
21D
22A
21A
21E
19A
19B
17B
17A
17C

State Subsistence Procedures

Board findings on Unit 18 moose

Is there **Customary and Traditional Use** of Unit 18 Moose?

- ✓ **Yes**, positive finding in 1987; reconfirmed 1992.

Is there a **Harvestable Surplus** of Unit 18 Moose?

- ✓ **Yes, 724-1,288** in Unit 18 based on conservative biological information.

State Subsistence Procedures

What is the Amount Necessary for Subsistence (ANS)?

- Previously 80 to 100 moose
  - 1992 Board determination
  - Includes 20 to 30 moose in winter.
- 100 to 200 moose
  - 2009 Board determination

Does the harvestable surplus allow for all or only some uses?

- This is a Board of Game determination.

GMU 18 Moose Harvest Patterns: The Data

Information includes:

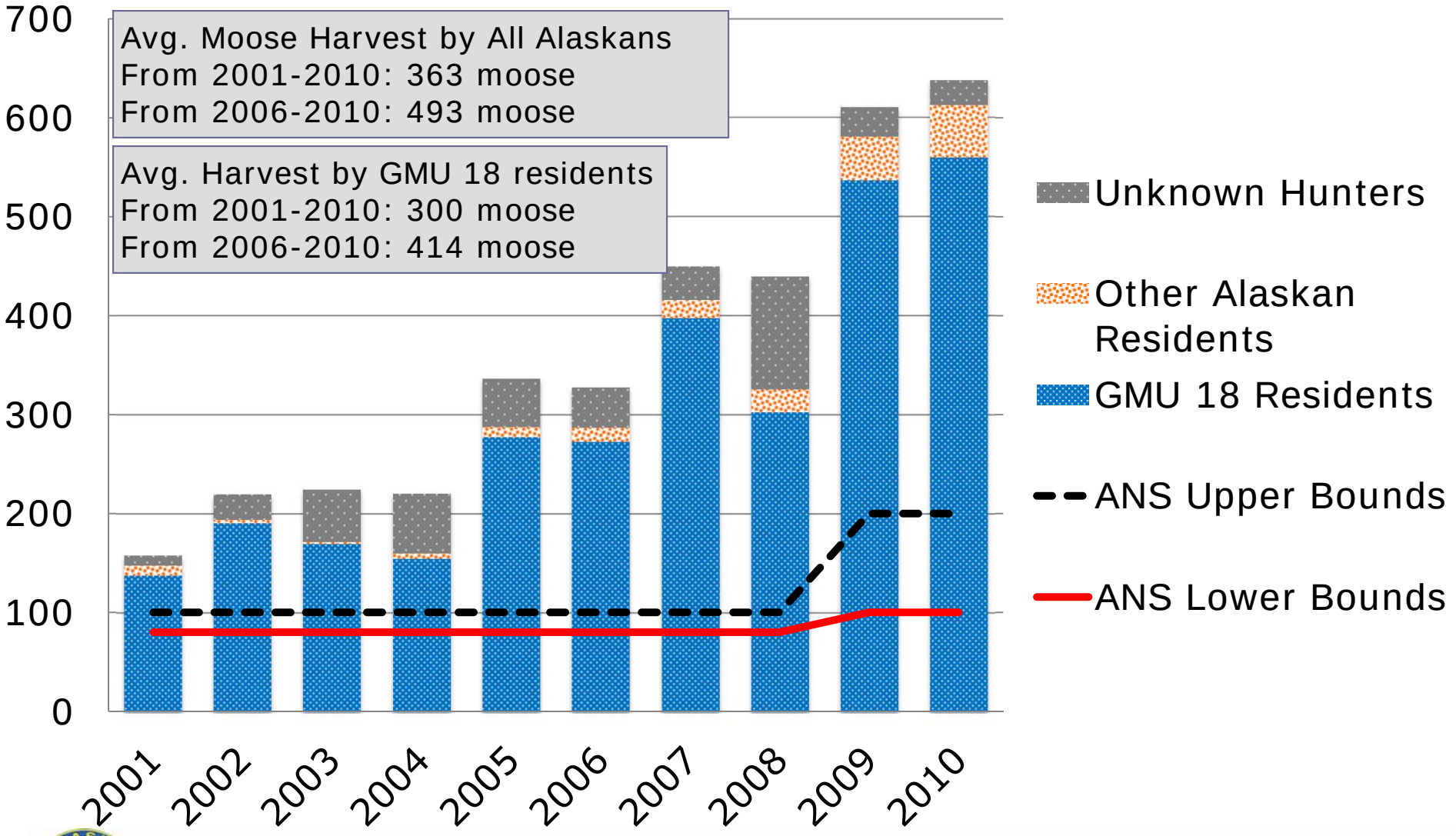
1) Reported number of moose harvested by Unit 18 residents and Other Alaskans, 2001-2010 (WINFONET).

2) Reported number of moose hunters in Unit 18, 2001-2010 (WINFONET).

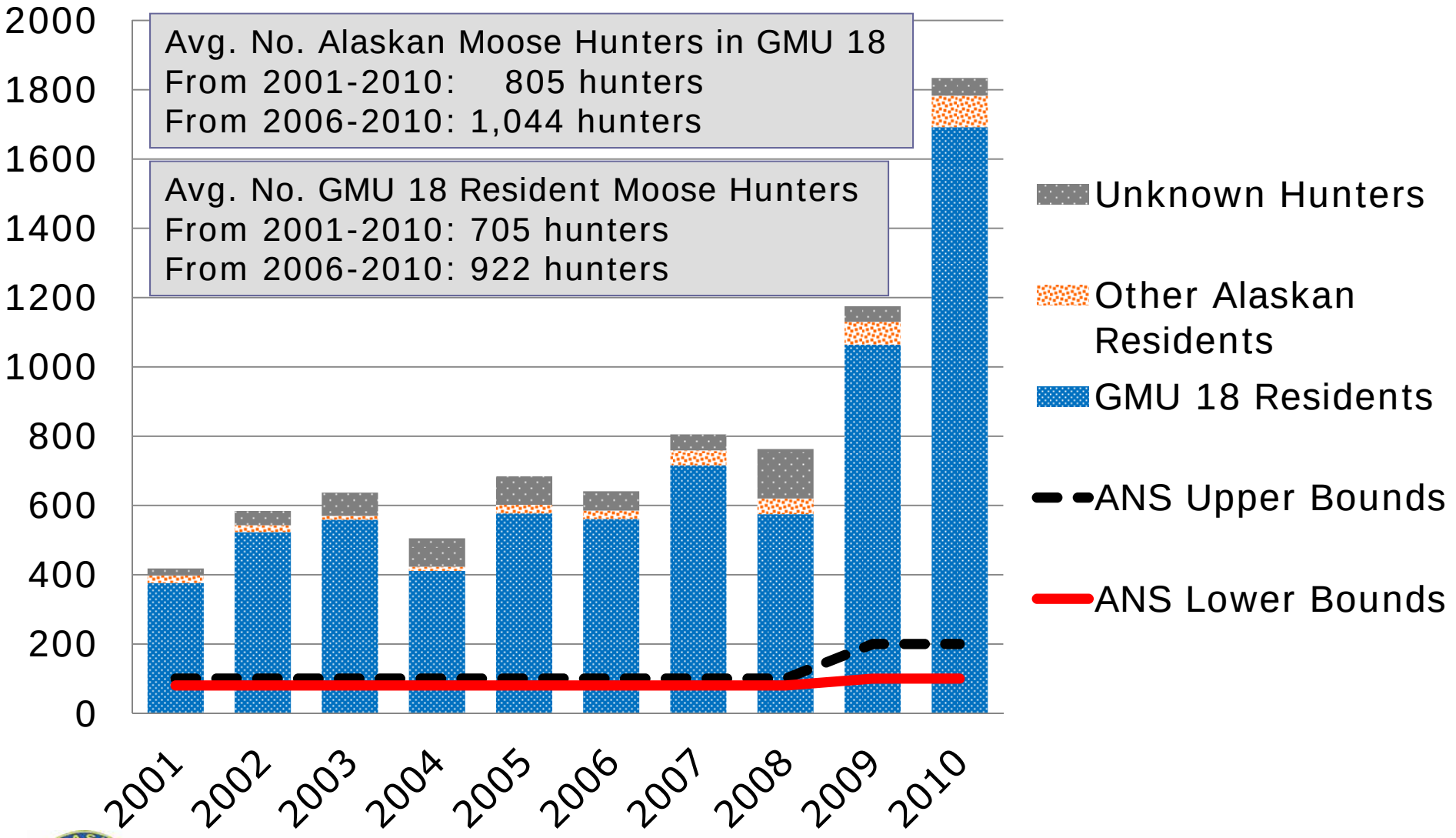
3) Estimated Unit 18 community moose harvests from household surveys (CSIS & SWCA).

4) Examples of community moose hunting areas.

Unit 18 Reported Moose Harvests,
(Source: WINFONET Harvest Ticket Returns)



Unit 18 Reported Moose Hunters,
(Source: WINFONET Harvest Ticket Returns)



Estimated Number of Moose Harvested from GMU 18 (community survey response rate)

	2003	2004	2008	2009	2010
L. Kalskag	13 (47%)	1 (81%)	-	18* (84%)	-
U. Kalskag	2 (58%)	3 (96%)	-	15* (80%)	-
Emmonak	-	-	136 (61%)	-	-
Aniak	-	-	-	35* (83%)	-
Akiak	-	-	-	-	27* (71%)
Kwethluk	-	-	-	-	33* (60%)
Oscarville	-	-	-	-	2* (86%)
Tuluksak	-	-	-	-	20* (79%)

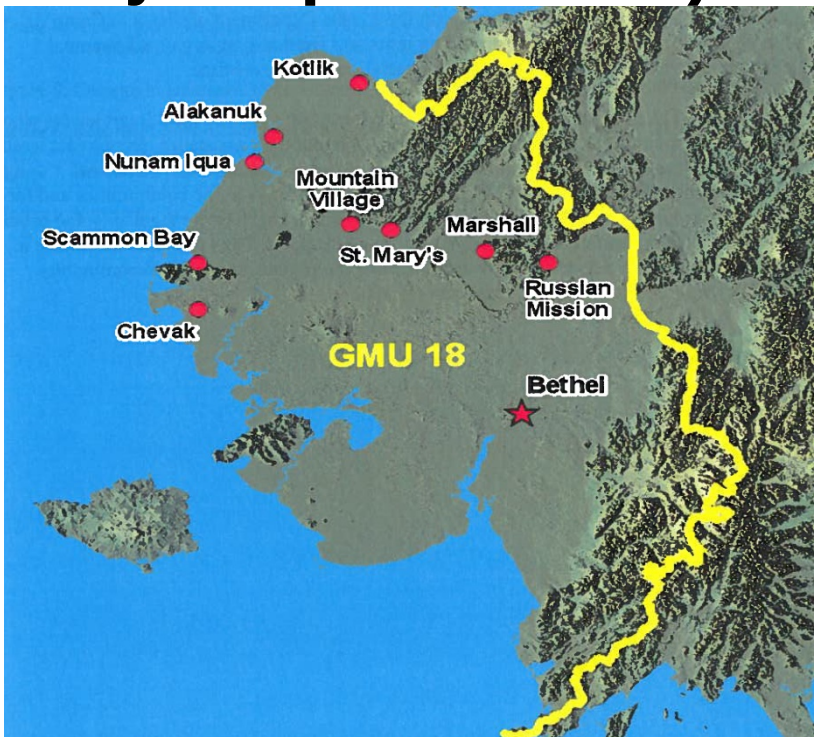
Source: ADF&G, Division of Subsistence, Community Household Survey Research.

Note: Parentheticals represent Survey Response Rates. Asterisks indicate preliminary data such that proportion of community harvest from GMU 18 is unknown at this time. Moose hunting occurs in Units 19 and/or 21 in addition to GMU 18 among residents of these communities.

Estimated Number of Moose Harvested from GMU 18 (community survey response rate)

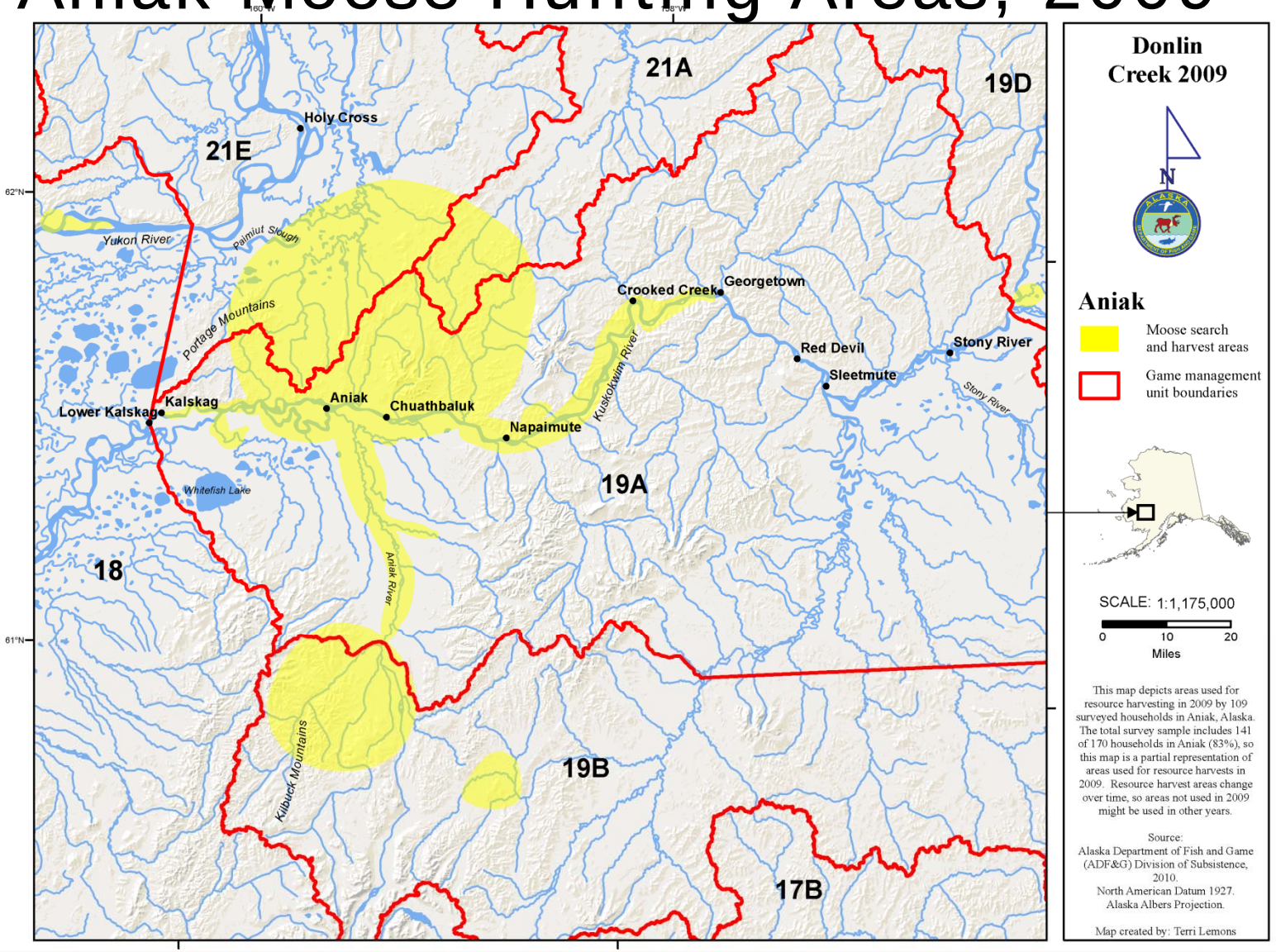
	2009
Alakanuk	54 (55%)
Chevak	29 (38%)
Kotlik	63 (51%)
Marshall	42 (66%)
Mountain Village	102 (45%)
Nunam Iqua	18 (38%)
Russian Mission	38 (64%)
Saint Mary's	39 (8%)
Scammon Bay	43 (59%)

Note: Parentheticals represent Survey Response Rates. Estimated total of 1,047 moose hunters from these 9 communities.

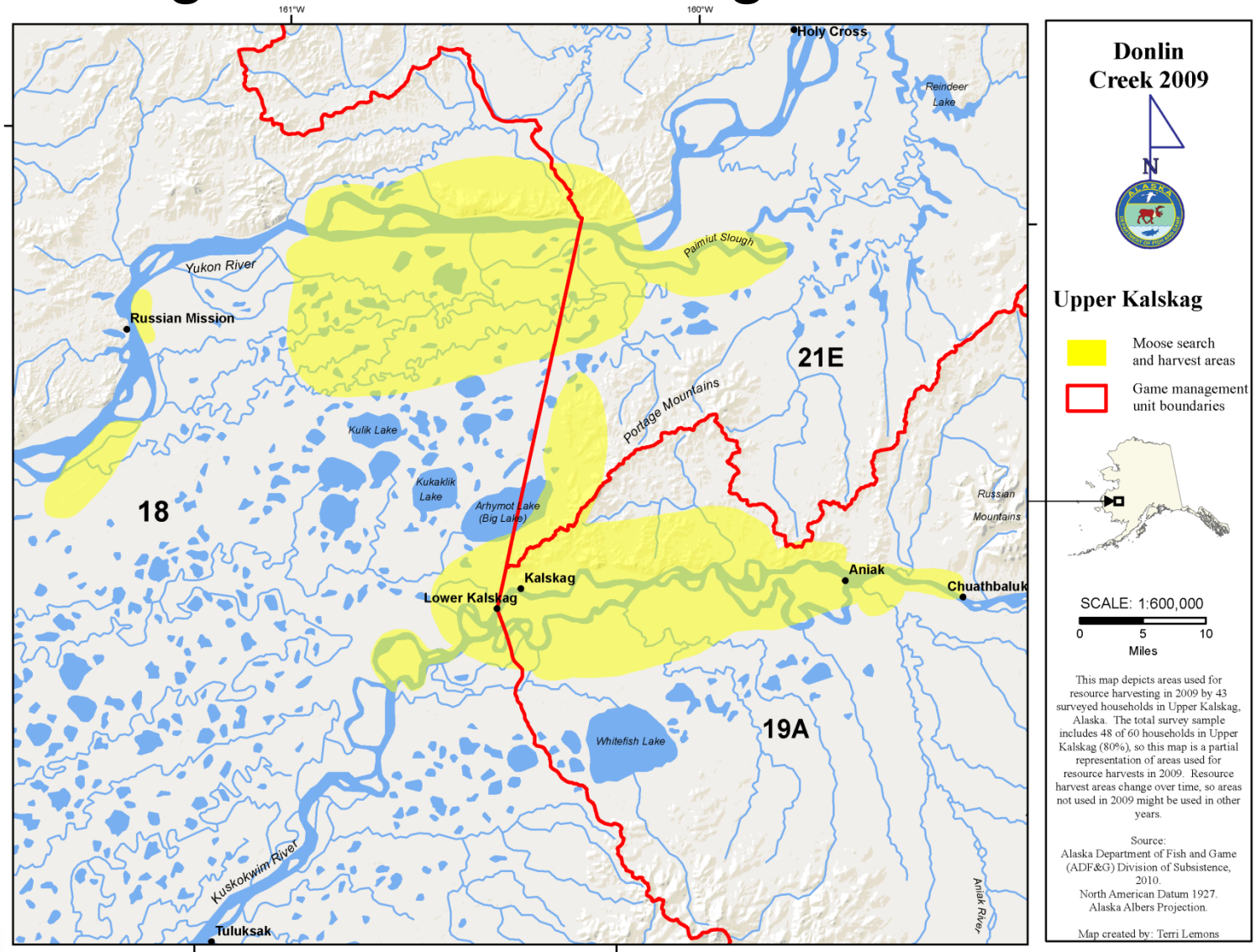


Study Citation: Weekley, G., B. Brettschneider, A. Brettschneider, O. Ramirez, and T. Haynes. 2011. Lower Yukon Large Land Mammal Subsistence Harvest Survey: The 2009-2010 Harvest of Moose, Caribou, Muskox, Bear, Wolverine, and Wolf in Nine Lower Yukon Communities, Alaska. Report prepared for the USFWS Office of Subsistence Management and the Yukon Delta National Wildlife Refuge..

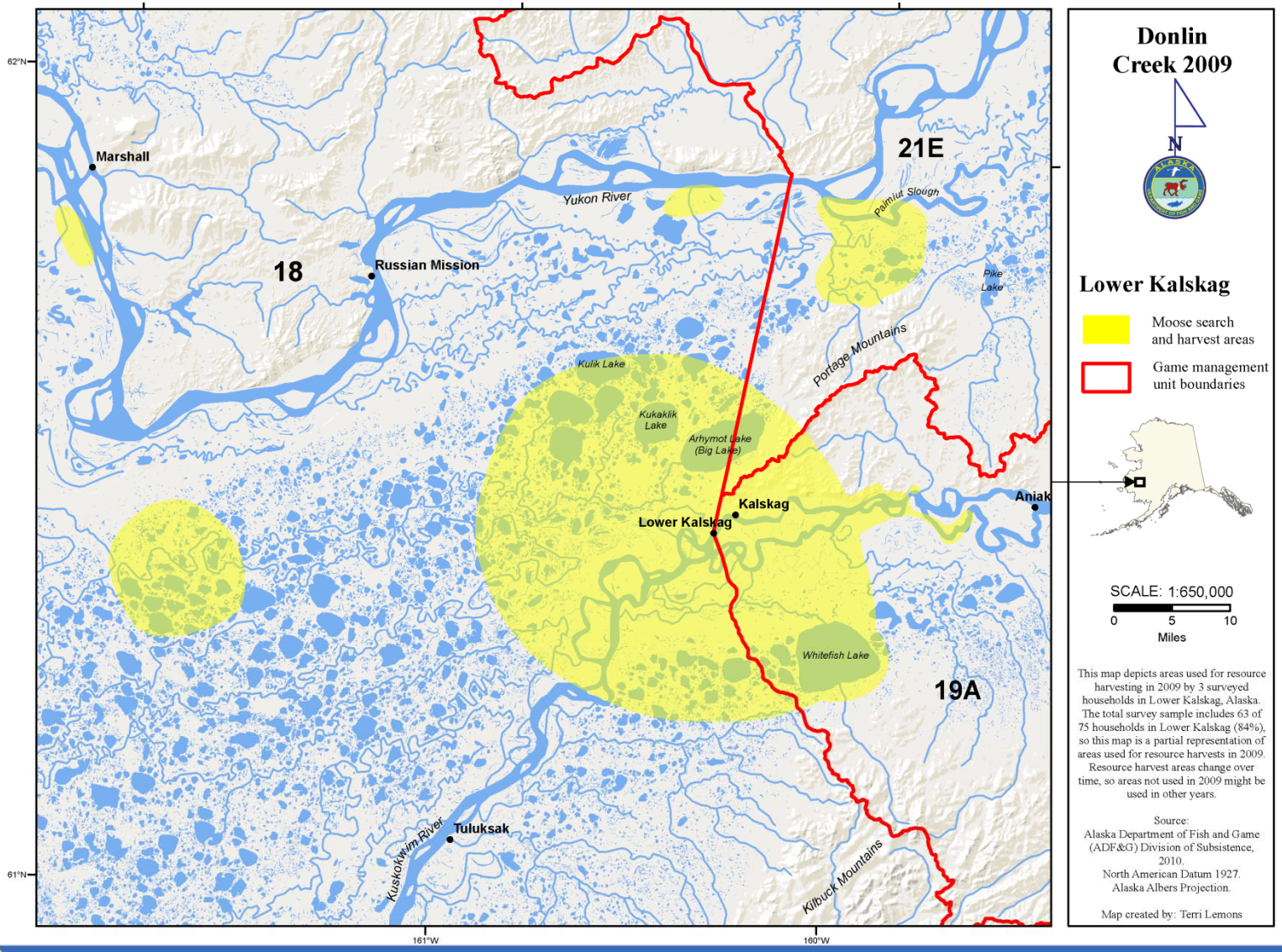
Aniak Moose Hunting Areas, 2009



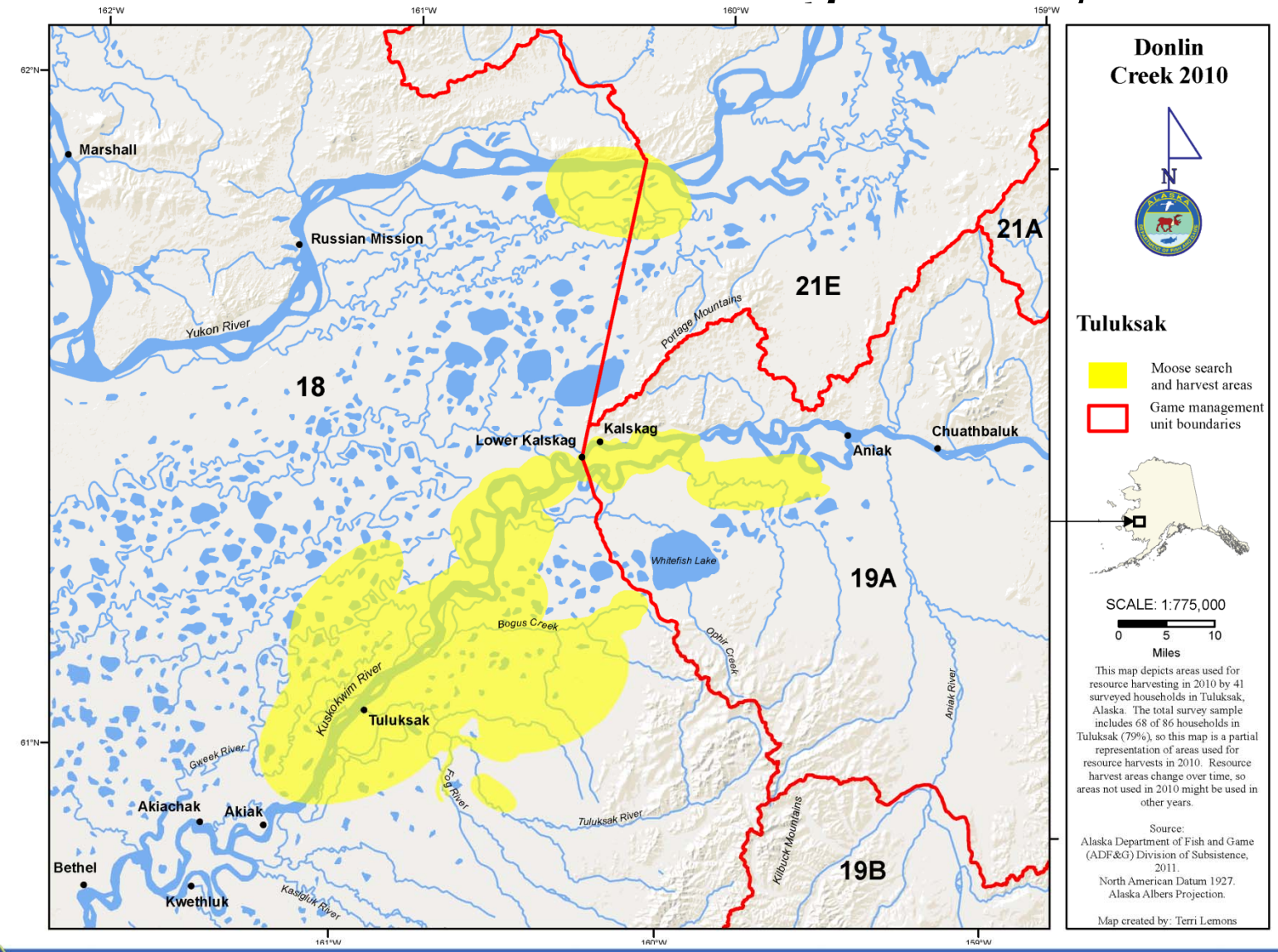
Kalskag Moose Hunting Areas, 2009



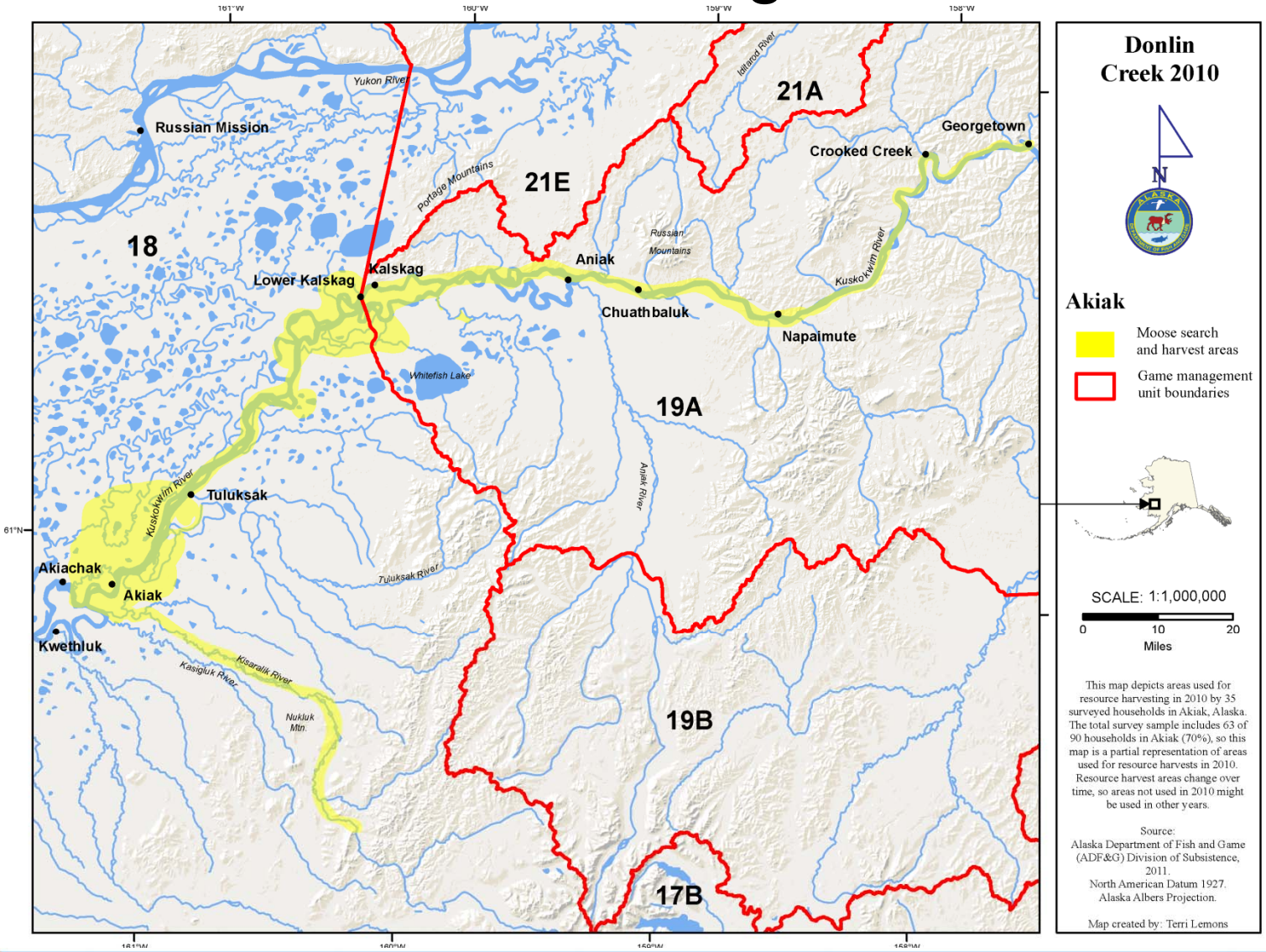
Lower Kalskag Moose Hunting, 2009



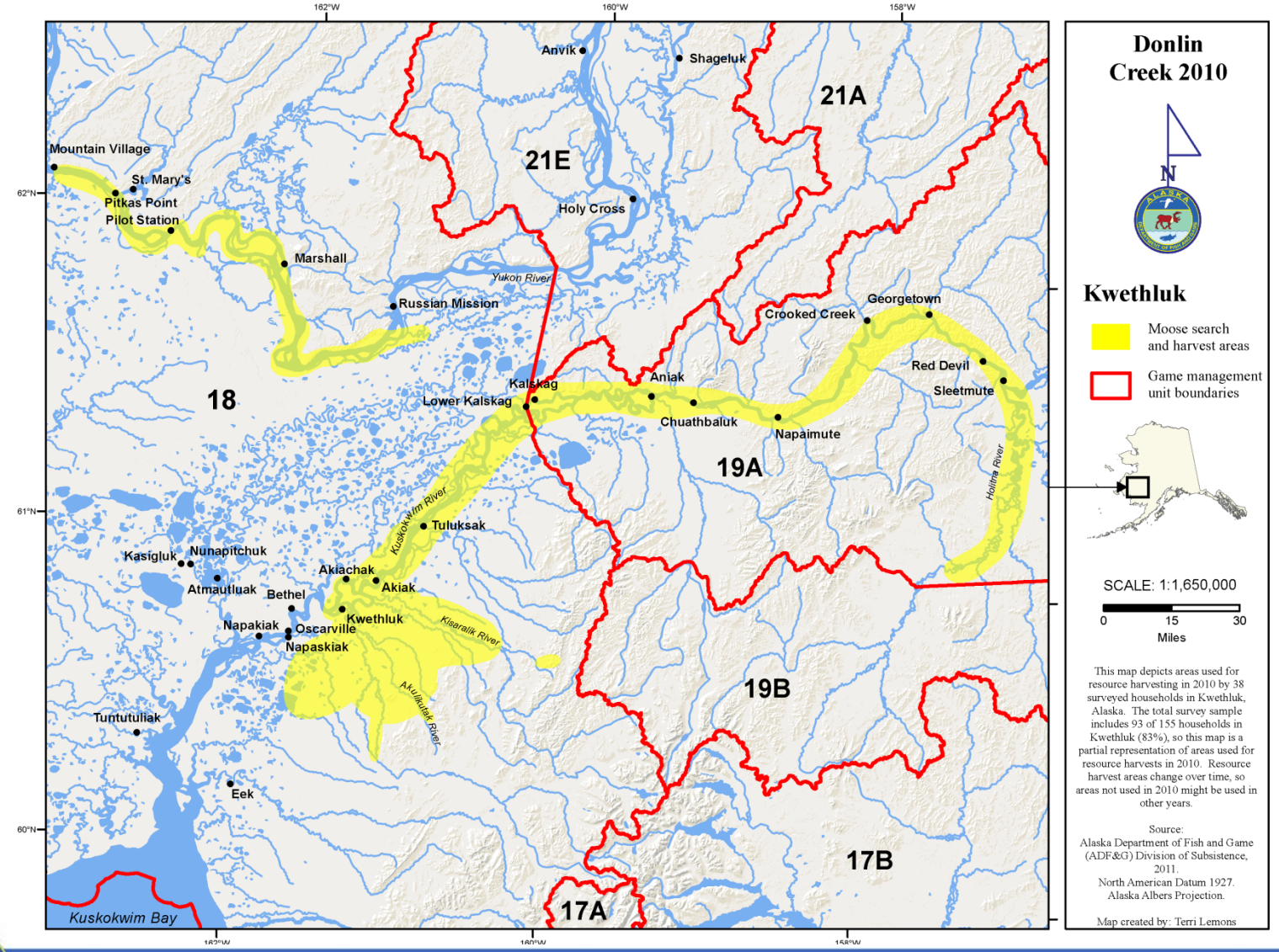
Tuluksak Moose Hunting Areas, 2010



Akiak Moose Hunting Areas, 2010



Kwethluk Moose Hunting Areas, 2010



Proposal 5

Summary:

Adoption of this proposal would revise the Amount Necessary for Subsistence (ANS) finding for moose in Unit 18 from 100 – 200 moose to 500 – 1,000 moose.

Department Recommendation: No recommendation

Questions?

Thank you!

Quyana!

DIVISION OF SUBSISTENCE

Seward Peninsula Muskox

Subsistence Findings & Hunt History

5 AAC 99.025

Customary and Traditional Uses of Game Populations
Amounts Reasonably Necessary for Subsistence Uses

&

PROPOSAL 23

Review of Trophy Nullification

Prepared for the Alaska Board of Game

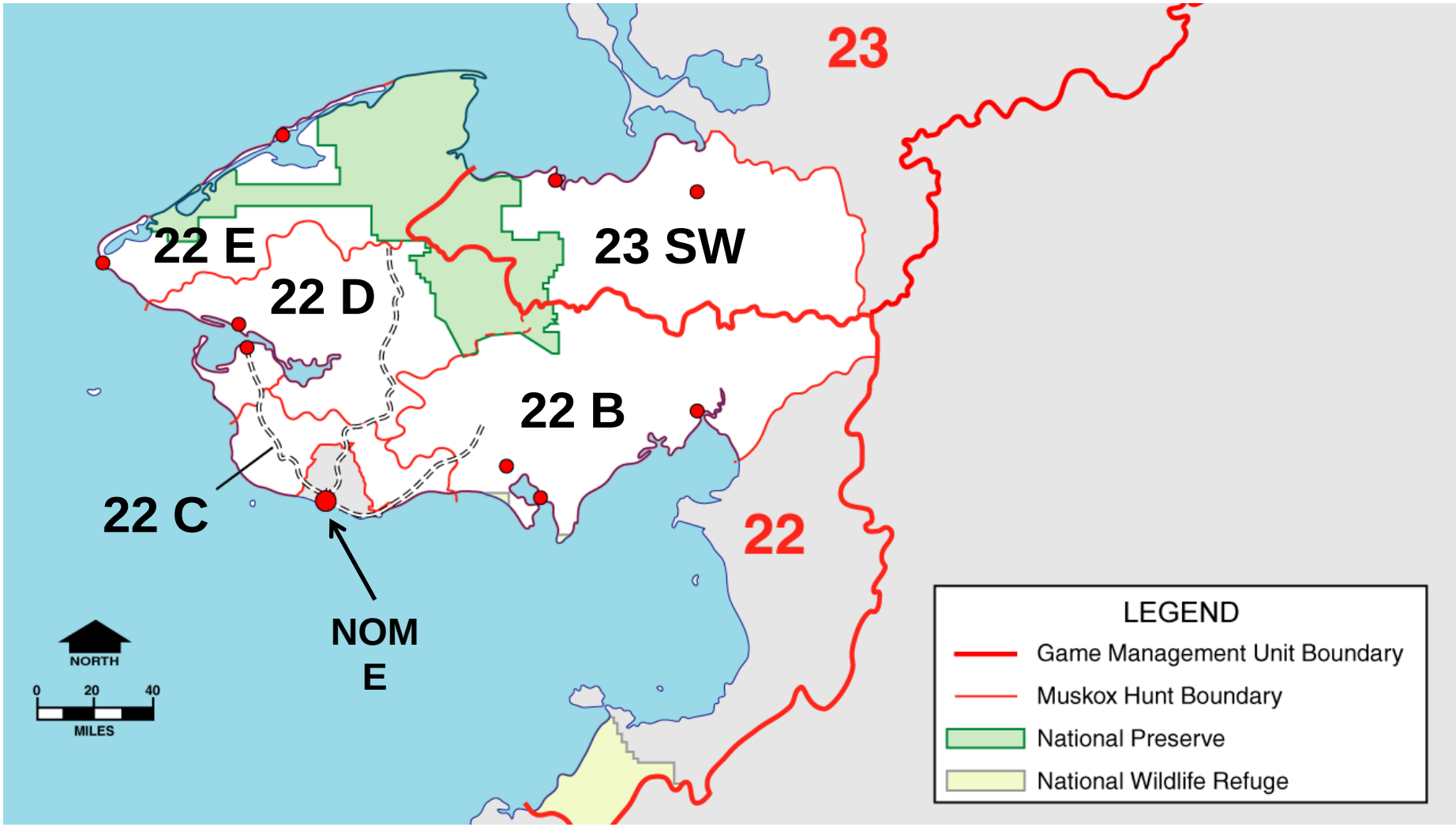
November 2011

RC 2 / TAB H

Presentation Order

- Previous Board of Game Findings
  - Identification of Populations
  - Customary & Traditional Findings
  - Amounts Necessary for Subsistence
- Hunt History
  - Seward Peninsula Population
  - Nested GMU 22E Population
- Proposal 23
  - Options
  - Key Considerations

Seward Pensinsula Muskox



Seward Peninsula Muskox

Previous Board of Game Findings

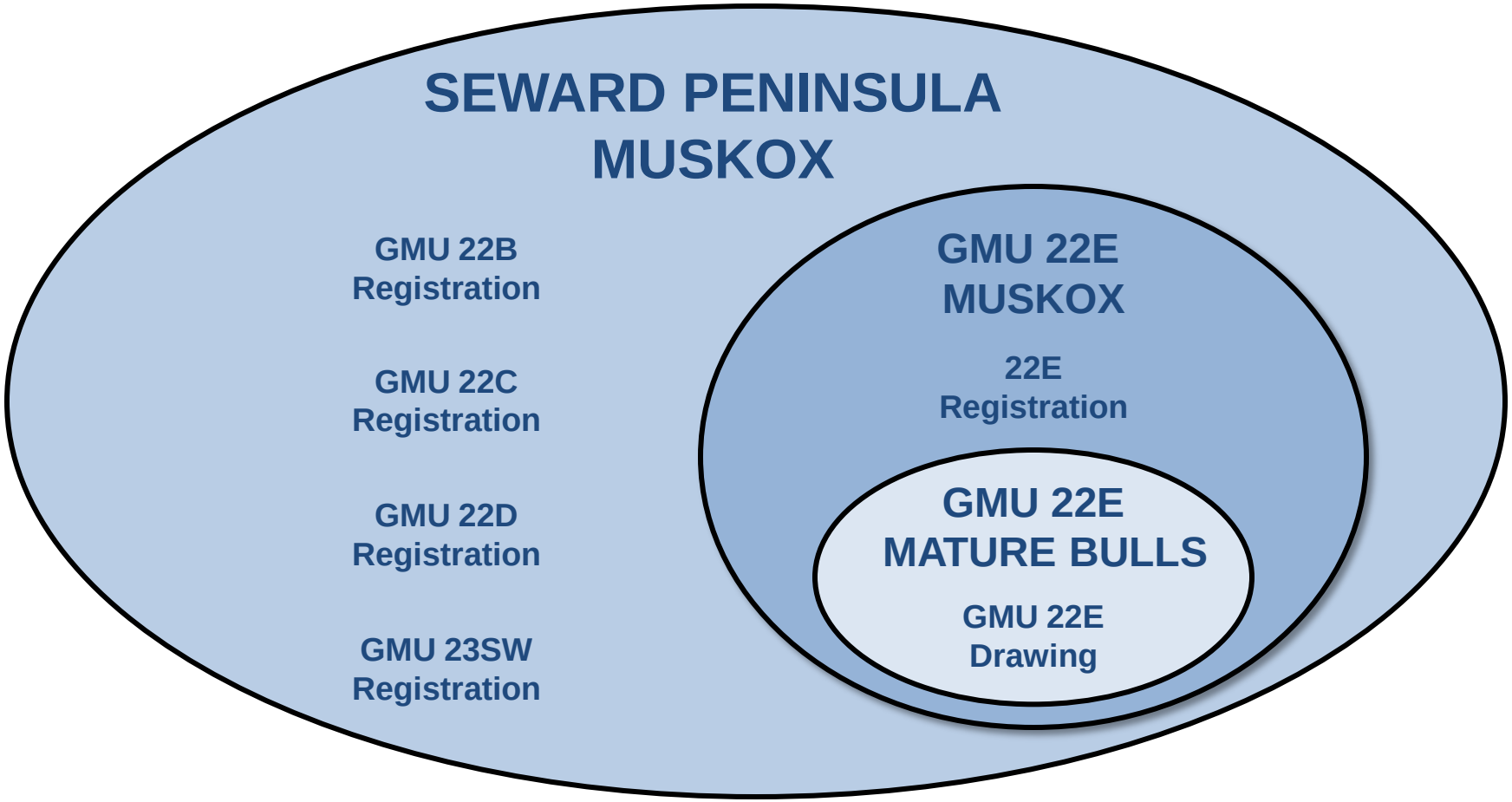
- **Are there Customary and Traditional Uses of Seward Peninsula Muskox?**
  - **NO** ***Alaska Board of Game, January 1995***
  - **YES** ***Alaska Board of Game, October 1997***

- **How Many Muskoxen are Necessary for Subsistence?**
  - **100** ***Alaska Board of Game, March 1998***
    - **40 to 52** ***in Unit 22E, Alaska Board of Game, November 2005***
  - **100 to 150** ***Alaska Board of Game, November 2007***
    - **40 to 50** ***in Unit 22E, Alaska Board of Game, November 2007***

- **Mature Bulls in 22E**
  - **NOT FULLY UTILIZED,** ***Alaska Board of Game, November 2001***

Seward Peninsula Muskox

Populations Identified by the Alaska Board of Game



Seward Peninsula Muskox

Subsistence Pattern Identified by the Alaska Board of Game, 1997

- **No use of aircraft or commercial services, primary transport by snowmachine or on foot.**
- **Harvest is primarily in mid-winter, spring**
- **No trophy use of horns or hide. Hide used for clothing, warmth.**
- **Meat widely shared within identifiable group, according to commonly understood "rules" or standards.**
- **All meat is salvaged and used. Meat not boned in the field.**
- **Group within which sharing is to occur prefers to select hunter.**
- **Hunters tend to select younger bulls.**
- **Hunting is a group experience – shared tasks according to roles understood by the group.**

Board Finding #97-117-BOG for Seward Peninsula Muskox

Seward Peninsula Muskox

Previous Board of Game Findings

- **Do Subsistence Regulations Offer a Reasonable Opportunity?**
  - **YES** ***Alaska Board of Game, March 1998***
- **Is there a "Harvestable Surplus" of Muskox in the Seward Peninsula Population?**
  - **YES** ***based on biological information***
- **Do the Harvestable Surpluses Allow for All or Only Some Uses?**
  - **This is a BOARD DETERMINATION**

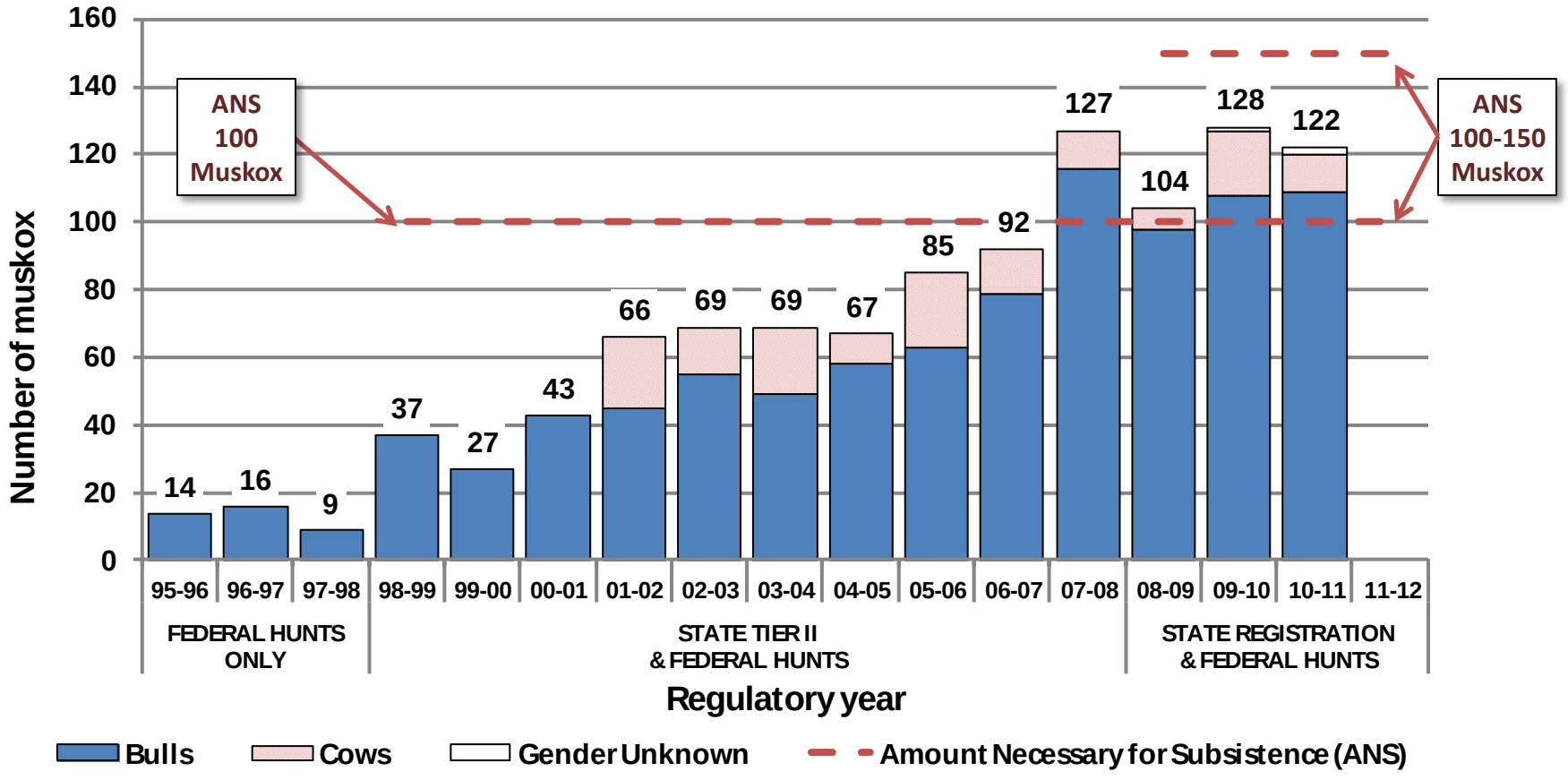
Muskox Cooperators Group

Selected Recommendations

- **January 1997**
  - Coordinated state and federal subsistence hunts
  - 79 to 90 muskox for subsistence uses (ANS)
- **August 2000**
  - Additional permits to meet recommended harvest rates
  - Cow hunts in some areas
- **July 2001**
  - Drawing Permit Hunt in GMU 22E
- **June 2005**
  - Tier I (Registration) Subsistence Hunt in GMU 22E
- **January 2008**
  - 200 to 250 muskox for subsistence (ANS)

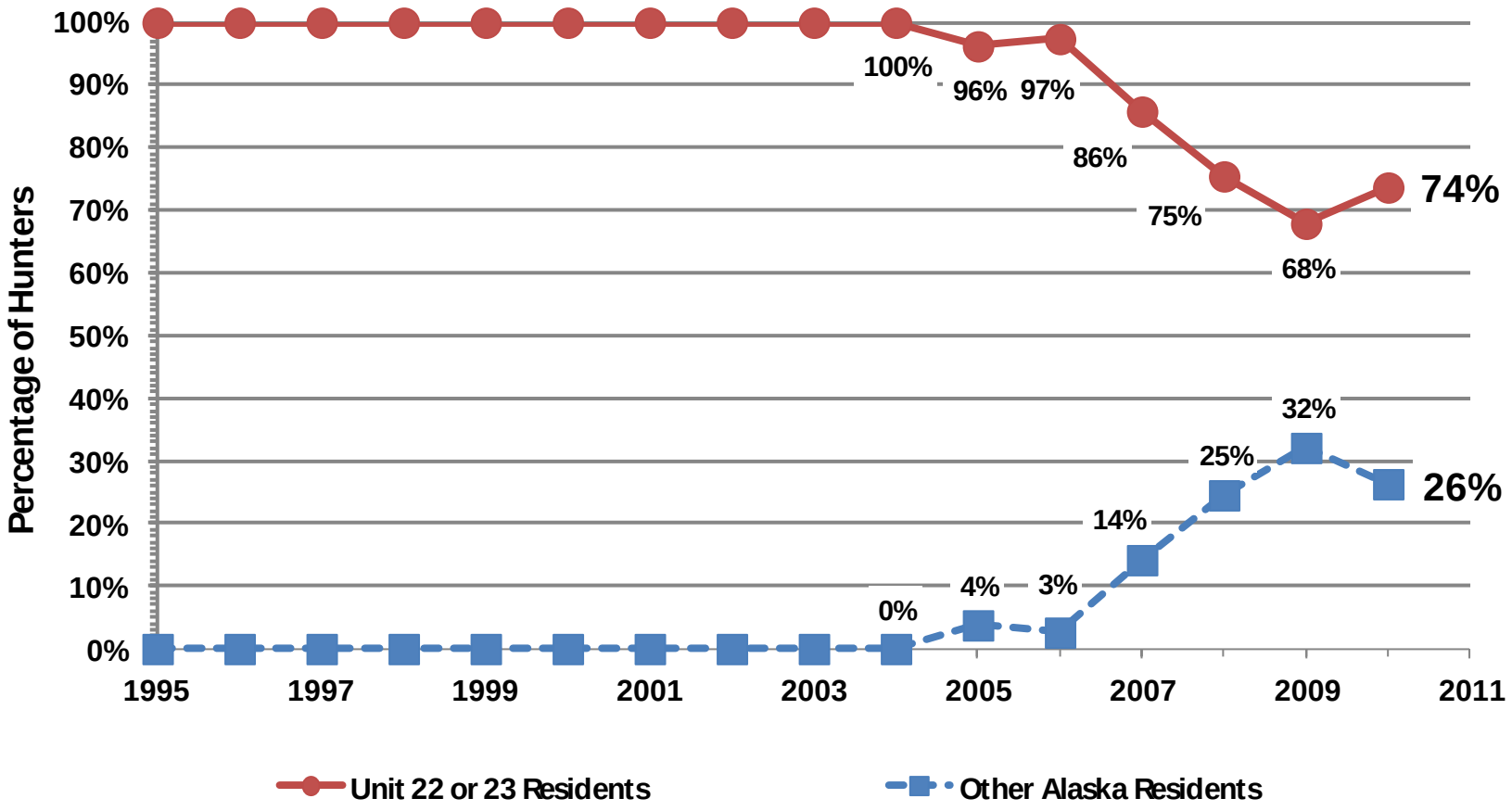
Seward Peninsula Muskox

Subsistence Harvests in Federal & State hunts, 1995-2011



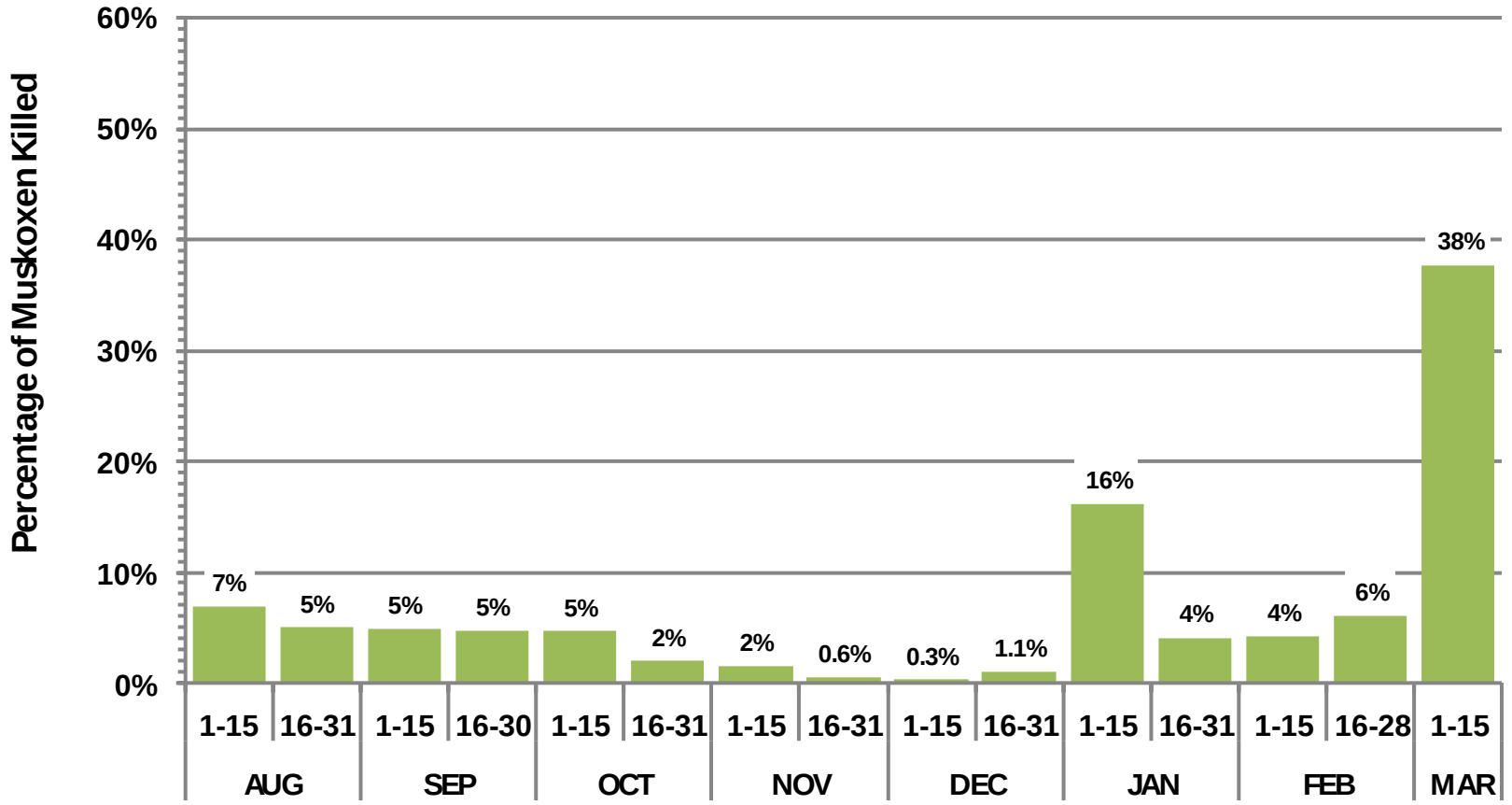
Seward Peninsula Muskox

Residency of Hunters in Subsistence Hunts, 1995-2010



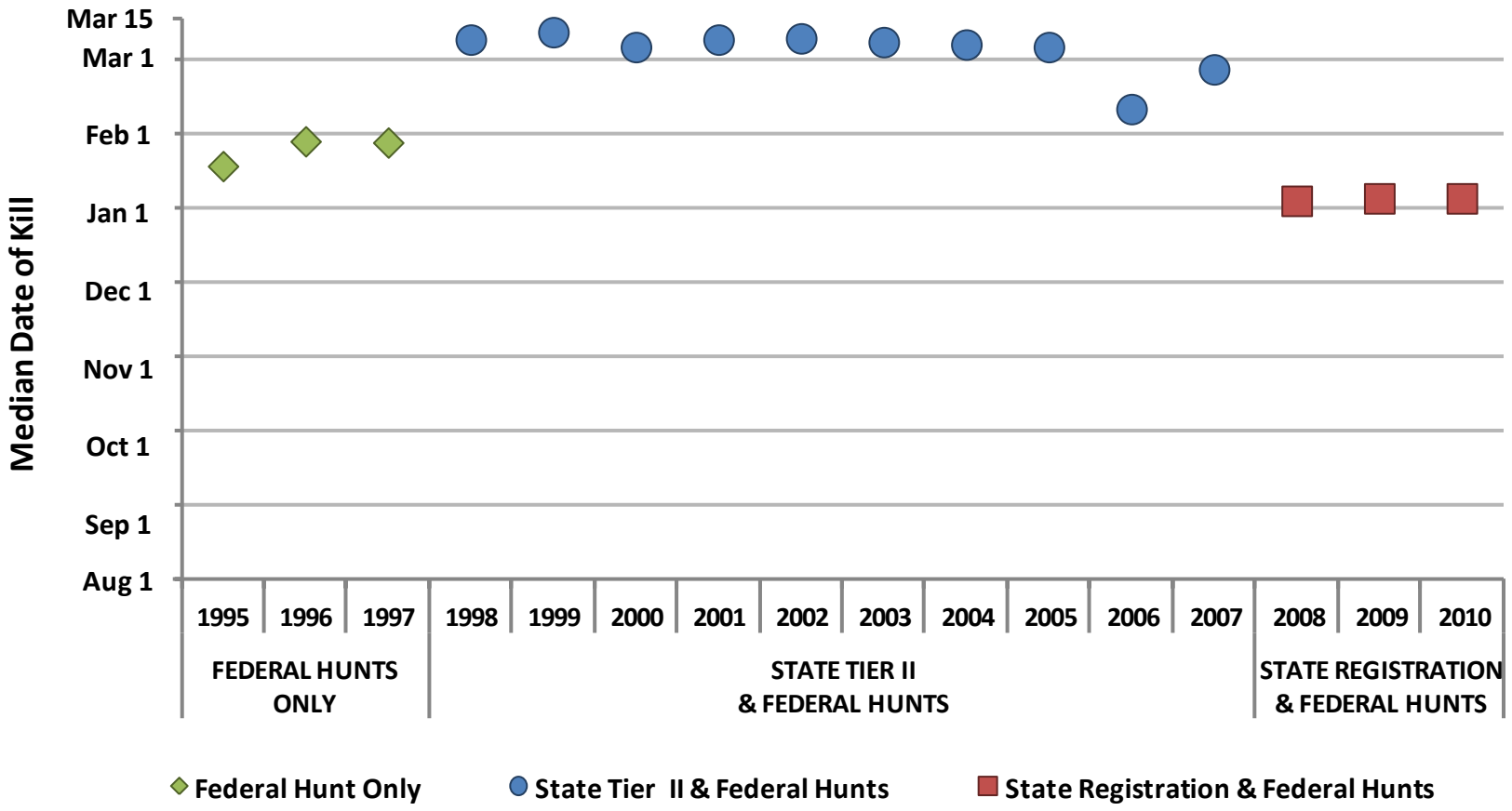
Seward Peninsula Muskox

Subsistence Harvest Timing, 1995-2011



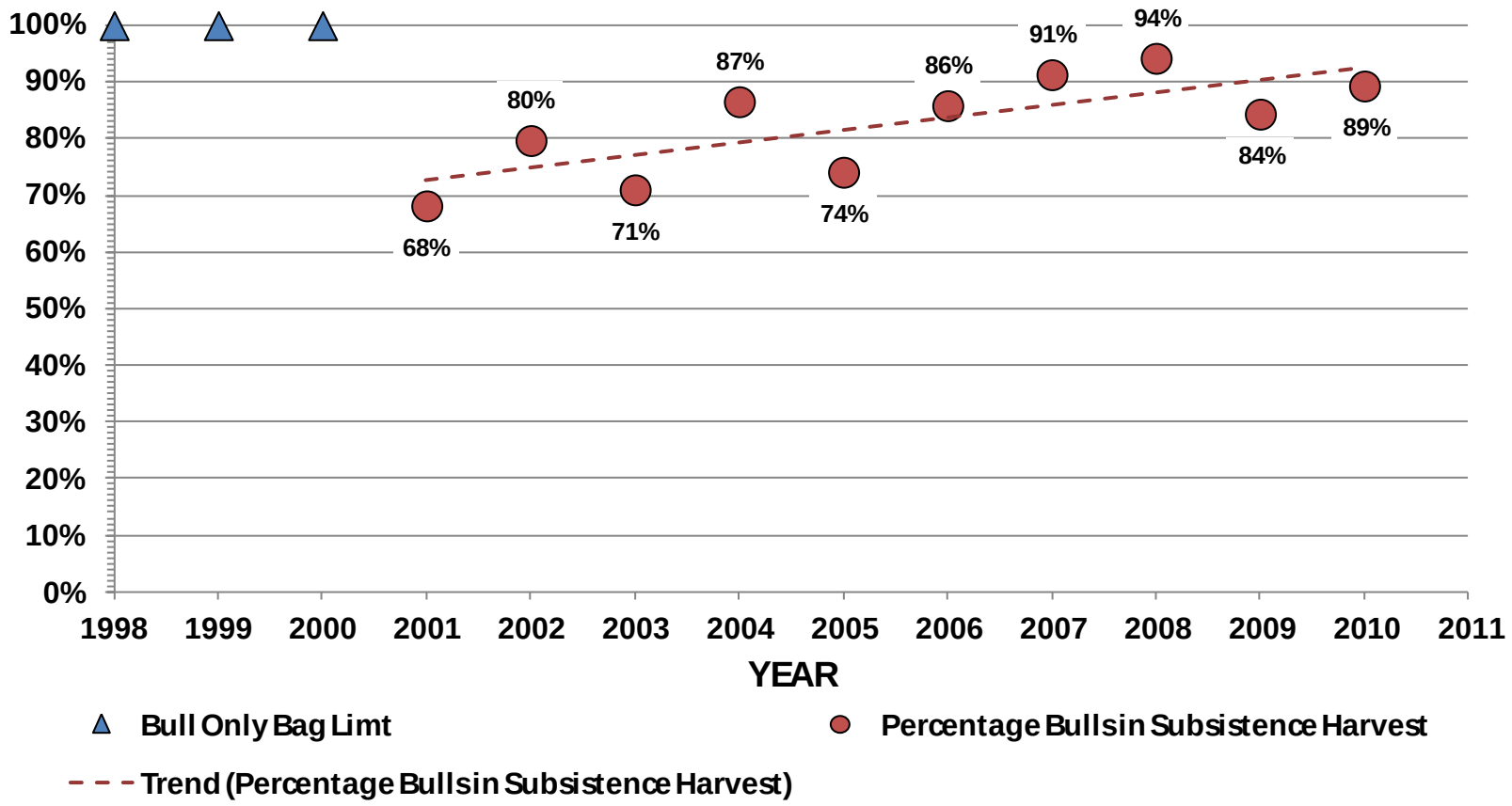
Seward Peninsula Muskox

Median Date of Kill, Subsistence hunts, 1995-2011



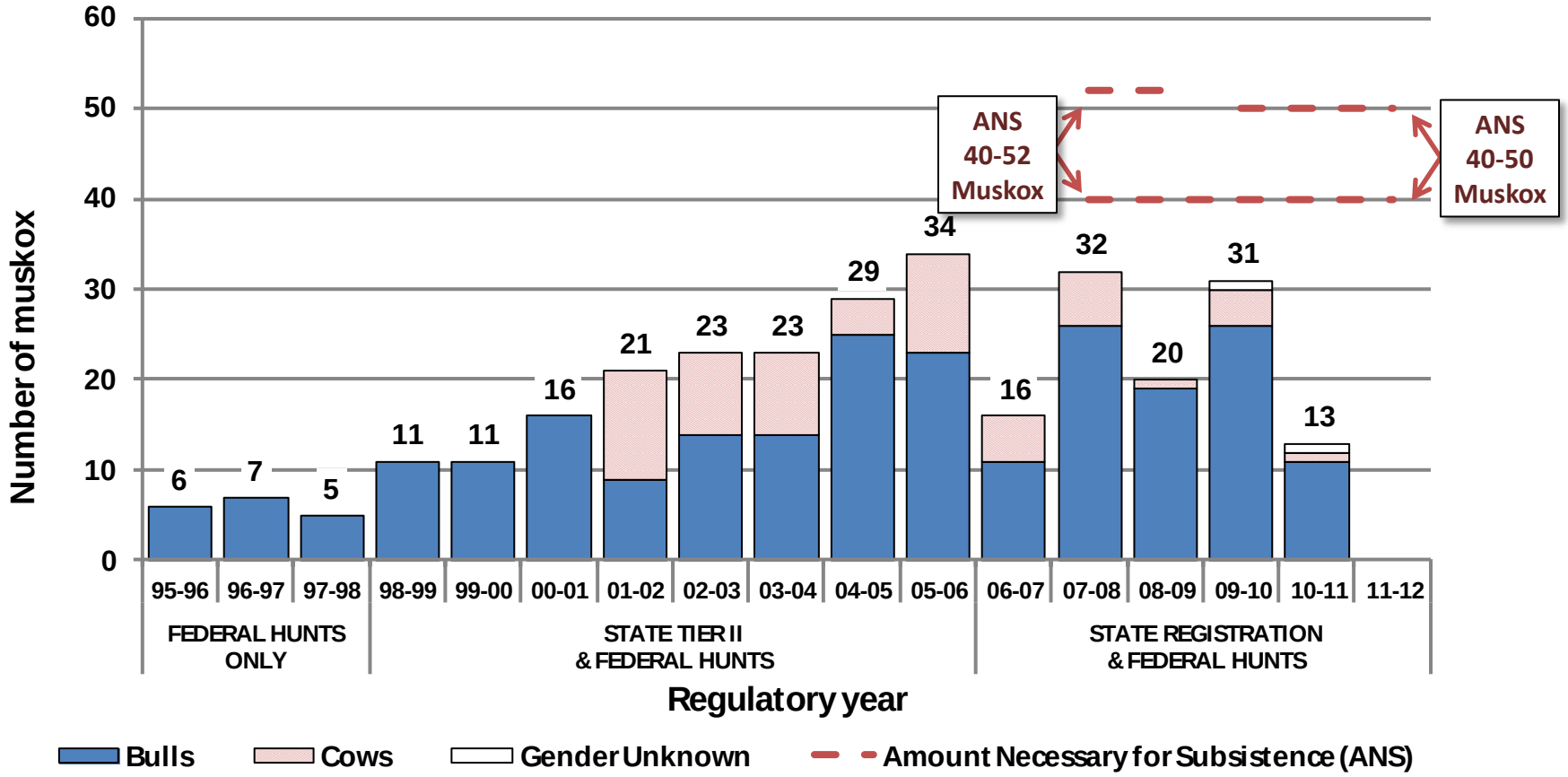
Seward Peninsula Muskox

Proportion of Bulls in Subsistence Harvests, 1998-2011



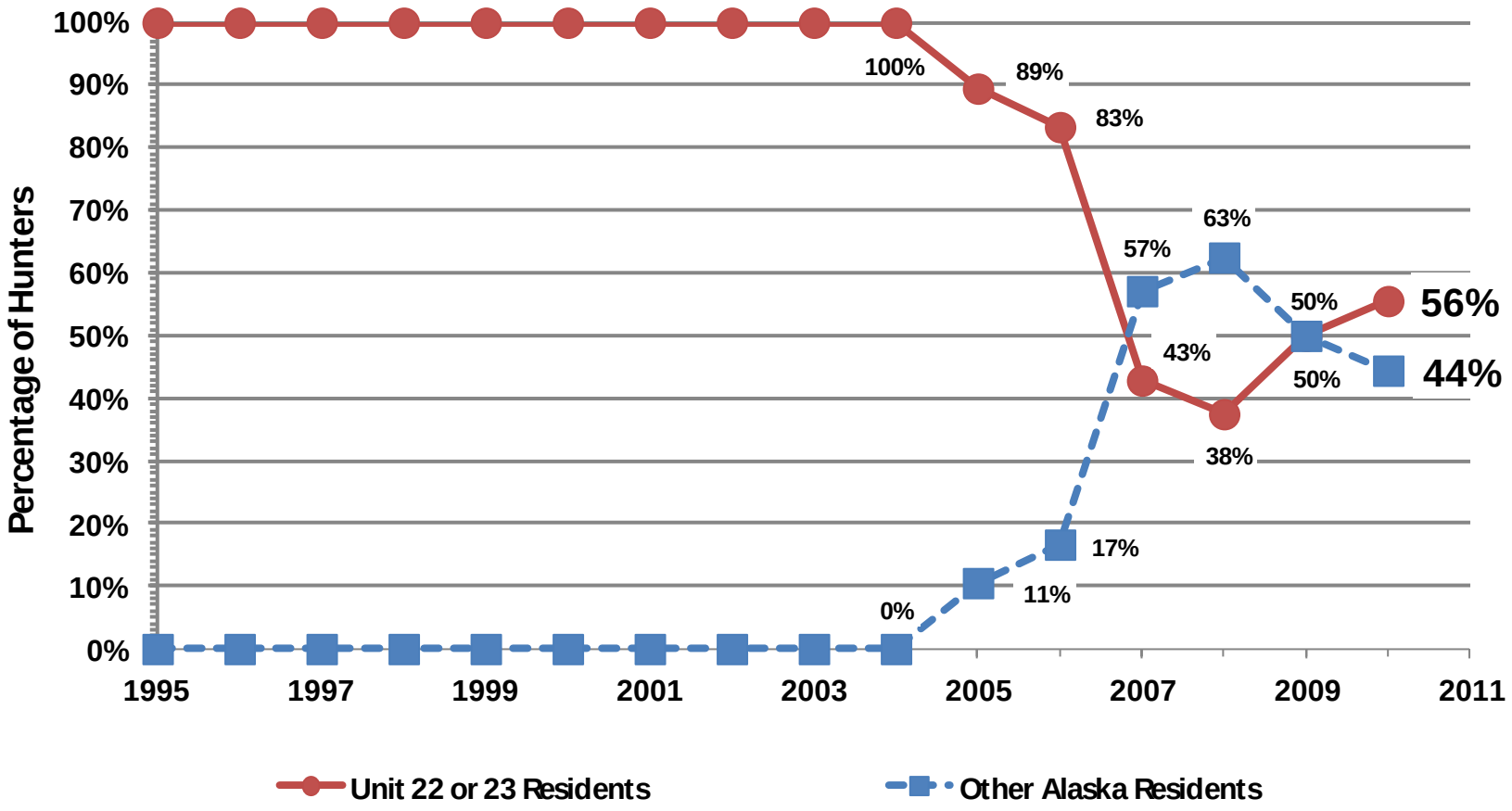
GMU 22E Muskox

Subsistence Harvests in Federal & State Hunts, 1995-2011



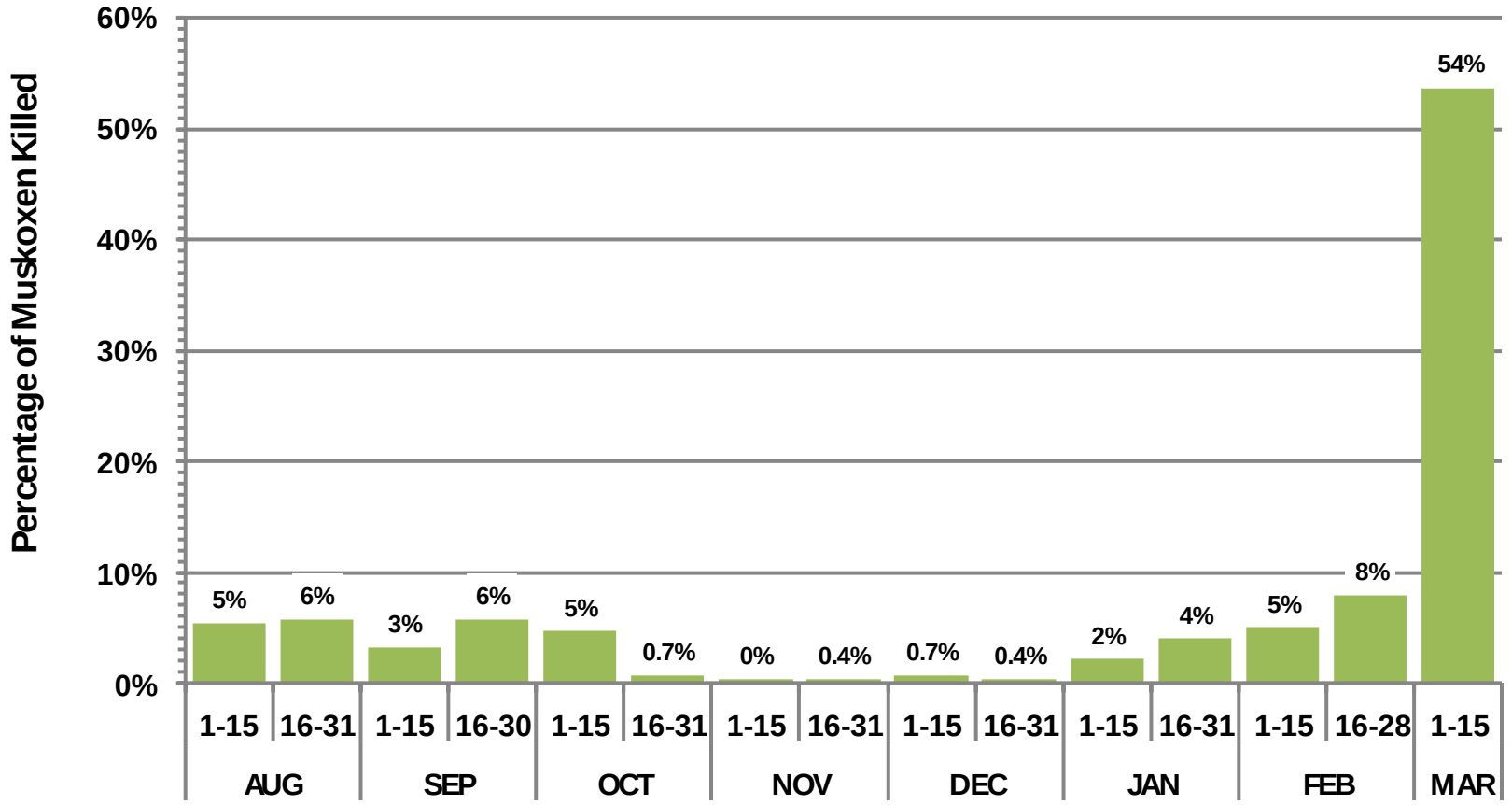
GMU 22E Muskox

Residency of Hunters in Subsistence Hunts, 1995-2010



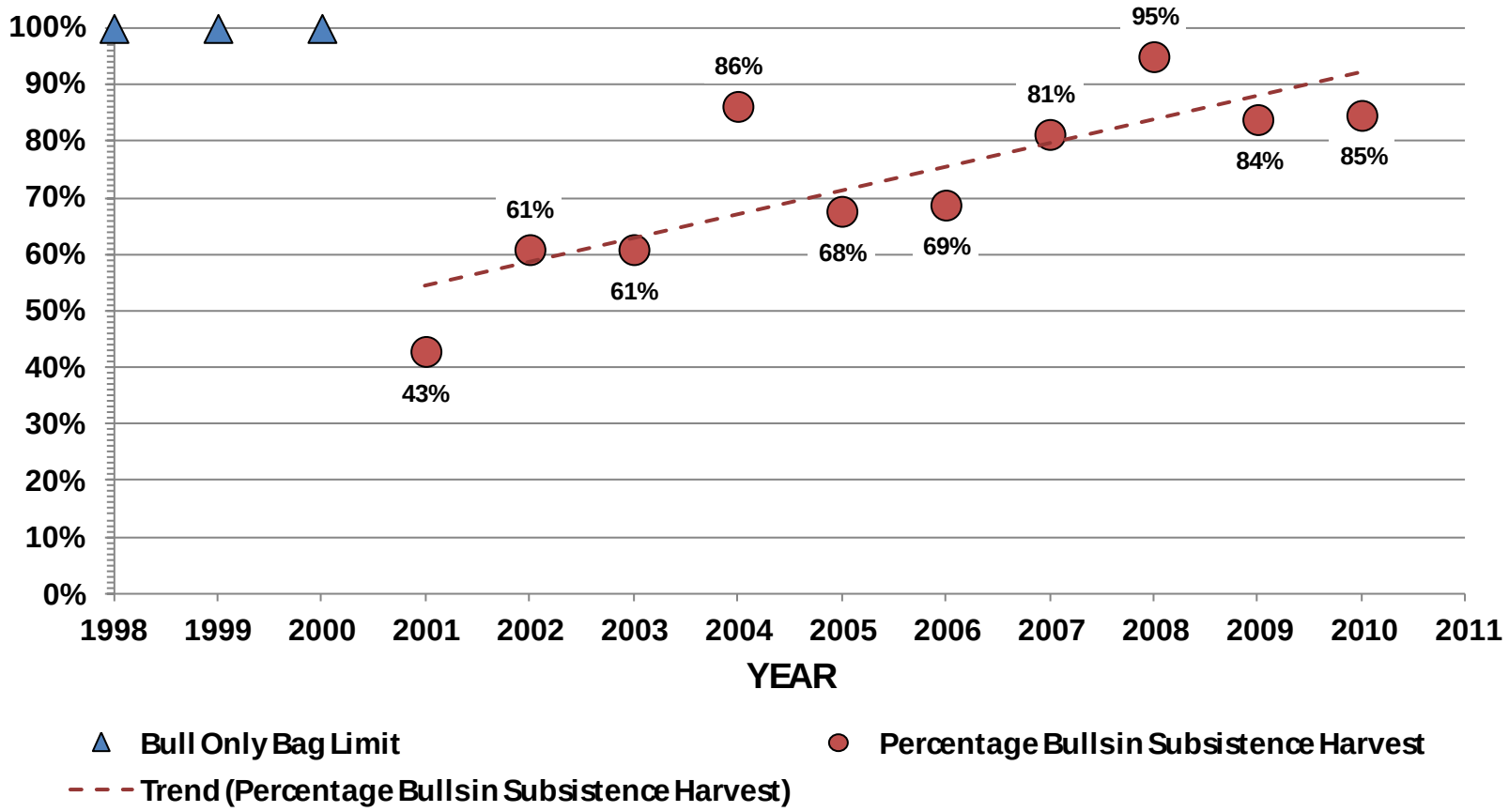
GMU 22E Muskox

Subsistence Harvest Timing, 1995-2011



GMU 22E Muskox

Proportion of Bulls in Subsistence Harvests, 1998-2011



Hunt History

Observations

- **Seward Peninsula**
  - **No Trends in Harvests Since ~2007**
  - **Proportion of Non-Local Resident Hunters Increasing**
  - **Median Date of Kill Much Earlier Since 2008**
  - **Increasing Proportion of Bulls in Subsistence Harvest**
- **GMU 22E**
  - **No Trends in Harvests Since ~2005**
  - **Half of Recent Effort by Non-Local Resident Hunters**
  - **Harvests Occur Primarily in March**
  - **Increasing Proportion of Bulls In Subsistence Harvest**

Proposal 23

Review of Trophy Nullification

- **Proposal 23 invites a review of the discretionary authority requiring the nullification of trophy value of animals taken under a subsistence permit.**
- **Preface to proposal mentions options of "no horn-cutting in subsistence hunts combined with changes to the subsistence hunt bag limit to exclude mature bull muskox."**

- **Department Recommendation: DO NOT ADOPT**

Proposal 23: Options

1. **Adopt Proposal as written**
   - Reviews Discretionary Authority Requiring Trophy Nullification
2. **Do Not Adopt Proposal**
   - Maintains Department Discretionary Authority to Nullify Trophies
3. **Amend Proposal to:**
   - Eliminate Trophy Nullification in Subsistence Hunts
   - Limit Subsistence Harvest to Immature Bull & Cow Muskox
   - Change Recommended Amounts Necessary for Subsistence

Proposal 23: Key Considerations

- **IF trophy nullification is eliminated in subsistence hunts…**
  - Hunter effort is likely to increase substantially
  - Increased effort may result in shorter seasons
- **IF subsistence bag limit is limited to immature bulls and cows…**
  - Subsistence harvest will be shifted to immature bulls
  - Harvestable surplus of immature bulls much less than ANS; Tier II management likely
  - Subsistence harvests likely to decrease
  - Board will need to determine whether the harvest of immature bulls and cows provides a reasonable opportunity for customary and traditional subsistence uses
- **IF Amount Necessary for Subsistence is changed…**
  - Depending on harvestable surpluses and ANS determination, the number of muskox available for non-subsistence use may change

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- ADF&G ADA Coordinator, P.O. Box 115526, Juneau, AK 99811-5526
- U.S. Fish and Wildlife Service, 4401 N. Fairfax Drive, MS 2042, Arlington, VA 22203
- Office of Equal Opportunity, U.S. Department of the Interior, 1849 C Street NW MS 5230, Washington DC 20240.

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- (VOICE) 907-465-6077
- Statewide Telecommunication Device for the Deaf) 1-800-478-3648
- (Juneau TDD) 907-465-3646
- (FAX) 907-465-6078

For information on alternative formats and questions on this publication, please contact the following:

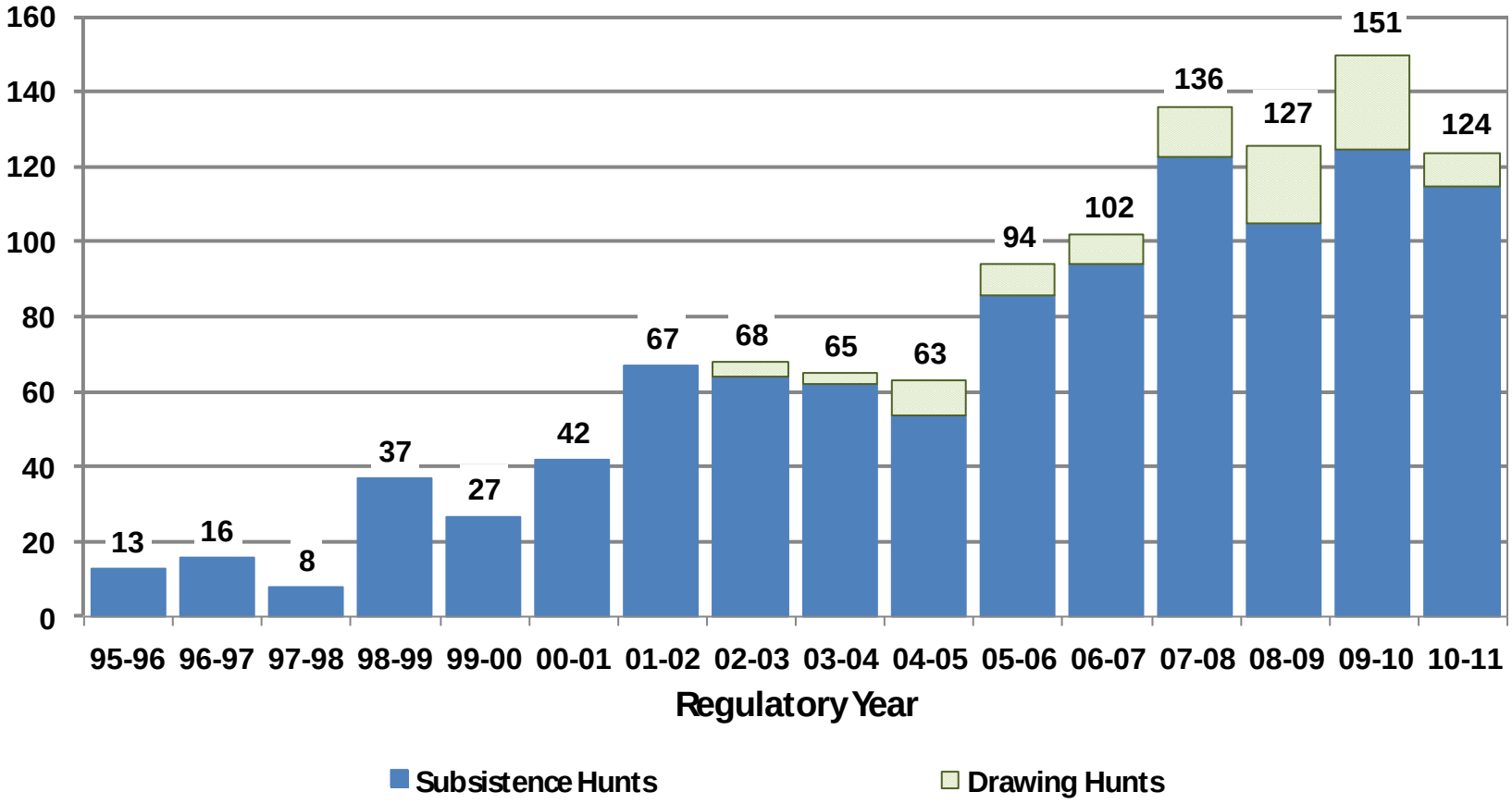
- ADF&G Division of Subsistence at http://www.adfg.alaska.gov/index.cfm?adfg=contacts.anchorage

SEWARD PENINSULA MUSKOX

Supplemental Slides

Seward Peninsula Muskox

Total Harvests in Subsistence and Drawing Hunts, 1995-2011



SEWARD PENINSULA MUSKOX HARVESTS, 1995-2011

	95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	Average
GMU 22B																	
Subsistence Hunts																	
FEDERAL Subsistence							2			2	2	4	2	1			
STATE Tier II							4	5	1	6	10	15	20				
STATE Registration														9	13	27	
22B Total							**6**	**5**	**1**	**8**	**12**	**19**	**22**	**10**	**13**	**27**	**12**
GMU 22C																	
Subsistence Hunts																	
STATE Tier II							2	5	5	4	5	19	26				
STATE Registration														31	31	24	
Drawing Hunt																	
STATE Drawing														1	4		
22C Total							**2**	**5**	**5**	**4**	**5**	**19**	**26**	**32**	**35**	**24**	**16**
GMU 22D																	
Subsistence Hunts																	
FEDERAL Subsistence	1	6	3	4	4	2			1								
STATE Tier II				19	11	18	29	26	31	17	32	36	34				
STATE Registration													1	28	34	48	
Drawing Hunt																	
STATE Drawing														5	5	5	
22D Total	**1**	**6**	**3**	**23**	**15**	**20**	**29**	**26**	**32**	**17**	**32**	**36**	**35**	**33**	**39**	**53**	**25**
GMU 22E																	
Subsistence Hunts																	
FEDERAL Subsistence	6	7	4	5	4	5	8	9	9	2	6	6					
STATE Tier II				6	7	10	13	10	12	15	27						
STATE Registration												10	29	20	30	12	
"S"														1	1		
Drawing Hunt																	
STATE Drawing								4	3	9	8	8	13	15	15	4	
22E Total	**6**	**7**	**4**	**11**	**11**	**15**	**21**	**23**	**24**	**26**	**41**	**24**	**42**	**36**	**46**	**16**	**22**
GMU 23 SW																	
Subsistence Hunts																	
FEDERAL Subsistence	6	3	1	2		2	3		2	2	1	1	1				
STATE Tier II				1	1	5	6	9	1	6	3	3	10				
STATE Registration														16	17	4	
Drawing Hunt																	
STATE Drawing															1		
23 SW Total	**6**	**3**	**1**	**3**	**1**	**7**	**9**	**9**	**3**	**8**	**4**	**4**	**11**	**16**	**18**	**4**	**7**
Subsistence Hunts	**13**	**16**	**8**	**37**	**27**	**42**	**67**	**64**	**62**	**54**	**86**	**94**	**123**	**105**	**125**	**115**	**65**
Drawing Hunts	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**4**	**3**	**9**	**8**	**8**	**13**	**21**	**25**	**9**	**11**
TOTAL HARVEST	**13**	**16**	**8**	**37**	**27**	**42**	**67**	**68**	**65**	**63**	**94**	**102**	**136**	**127**	**151**	**124**	**71**

SOURCE: WinfoNet 11-04-2011

Customary and Traditional Use of Ptarmigans in Game Management Unit 18

5 AAC 99.010. Boards of fisheries and game subsistence procedures ("The 8 Criteria").

5 AAC 99.025. Customary and traditional uses of game populations.

Prepared for the Alaska Board of Game

November 2011

RC 2 Tab G

Criterion 1: Length and Consistency of Use

A long-term consistent pattern of noncommercial taking, use, and reliance on the fish stock or game population that has been established over a reasonable period of time of not less than one generation, excluding interruption by circumstances beyond the user's control, such as unavailability of the fish or game caused by migratory patterns.

- Ptarmigans have a long history in the diets of Western Alaska residents.
- Willow, rock, and white-tailed ptarmigans have been harvested and used for many generations (Fienup-Riordan 1983, 1992, 1994, 2007; Hensel 1996; Nelson 1983[1899]; Oswalt 1959, 1967).

Subsistence Use of Ptarmigans as Surveyed in GMU 18 from 1980 to 2010

Community	Study Year	Percent of Households Harvesting	Estimated Total Community Harvest (individual ptarmigan)	Estimated Annual Harvest (lb per capita)
Akiachak	1998	84	5450	10.4
Akiak	2010	46	725	1.9
Alakanuk	1980	81	4620	7.8
Emmonak	1980	55.6	1078	2.4
Kotlik	1980	92.9	1536	4.1
Kwethluk	1986	48.1	3712	7.2
Kwethluk	2010	22	809	1.1
Lower Kalskag	2009	21	92	0.3
Mountain Village	1980	81.3	2706	5.2
Nunam Iqua (Sheldon Point)	1980	85.7	578	4.2
Nunapitchuk	1983	88.2	3171	5.2
Oscarville	2010	50	130	2.1
Quinhagak	1982	58.3	1846	3.9
Tuluksak	2010	47	913	2.0
Tununak	1986	81.8	1928	5.9

CRITERION 2: SEASONALITY

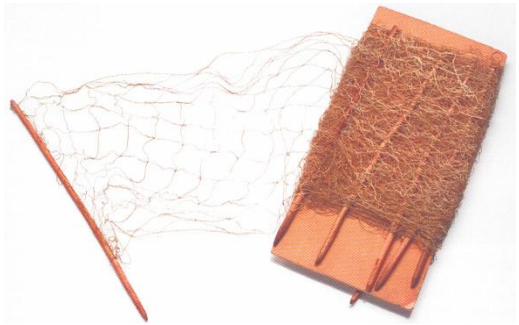
A pattern of taking or use recurring in specific seasons of each year.

- Ptarmigans available year-round, harvested from October through April.
- Travel is easier and ptarmigan a good source of fresh meat when winter food stores have run low.
- Harvested less in summer.

Criterion 3: Means and Methods of Harvest

A pattern of taking or use consisting of methods and means of harvest that are characterized by efficiency and economy of effort and cost.

- Traditional use of snares, nets, and decoys (Nelson 1983[1899], Fienup-Riordan 2007:199-200)
- Contemporary harvests by shotgun and .22 caliber rifle, with travel by snow machine or four-wheeler (e.g., J. Charles, Tuntutuliak, AK, pers. comm., 2011)



"Sinew ptarmigan net from the Kuskokwim." (Fienup-Riordan 2007:199)

"Ptarmigan snare with braided grass and a wooden stake." (Fienup-Riordan 2007:201)

Criterion 4: Geographic Areas

The area in which the noncommercial, long-term, and consistent pattern of taking, use, and reliance upon the fish stock and game population has been established.

- Willow ptarmigan found in willow thickets on river banks and along ponds.
- Rock ptarmigan found on rocky slopes in interior.
- Most hunting occurs close to communities and opportunistically during other activities.
- Traditional harvests targeted ptarmigans when food stores were low.

Criterion 5: Means of Handling, Preparing, Preserving, and Storing

A means of handling, preparing, preserving, and storing fish or game that has been traditionally used by past generations, but not excluding recent technological advances where appropriate.

- Traditional and contemporary harvests of ptarmigans and ptarmigan eggs for human consumption.
- Eaten fresh, frozen, or dried.
- Ptarmigan body parts had other uses.

Criterion 6: Intergenerational Transmission of Knowledge, Skills, Values, and Lore

A pattern of taking or use that includes the handing down of knowledge of fishing or hunting skills, values, and lore from generation to generation.

- Boys in western Alaska spent time with men learning how to hunt ptarmigan.
- Young men encouraged to eat ptarmigan to avoid becoming fearful (Fienup-Riordan 1994:126).
- Ptarmigan body parts used in ceremonial objects.

Mask of Eagle with Ptarmigan.
Yupiit Pyciryarait Museum YP. 84.7.1.

Ptarmigan feather fans.
Yupiit Pyciryarait Museum YP 95.1.4ab.

Criterion 7: Distribution and Exchange

A pattern of taking, use, and reliance where the harvest effort or products of that harvest are distributed or shared, including customary trade, barter, and gift-giving.

- Extensive sharing and distribution of wild resources throughout unit 18.
- Division of Subsistence studies have documented a record of giving and receiving of ptarmigans.

	Akiachak	Akiak	Emmonak	Kwethluk	Lower Kalskag	Tuluksak	Tununak
Study Year	1998	2010	2008	1986	2009	2010	1986
% of HH Giving	54%	19%	30%	35%	8%	19%	30%
% of HH Receiving	35%	17%	24%	25%	5%	16%	33%

Source: Community Harvest Data (ADF&G 2011).

Criterion 8: Diversity of Resources in an Area; Economic, Cultural, Social, and Nutritional Elements

A pattern that includes taking, use, and reliance for subsistence purposes upon a wide variety of fish and game resources and that provides substantial economic, cultural, social, and nutritional elements of the subsistence way of life.

- According to community harvest data, residents in Western Alaskan communities harvest approximately 50 different species and consume a large amount of fish and game resources (e.g., 1,328 lb per capita Akiachak in 1998).
- Due to economic constraints, residents tend to have a strong reliance on wild foods.

Summary Proposal 20: Ptarmigan

This proposal changes ptarmigan hunting in GMU 18:

- Lengthen harvest season.
- Increase bag limit.

Department Recommendation on C&T Determination:

No Recommendation due to allocative nature.

Department Recommendation on Proposal 20:

Amend and Adopt

Questions?

Thank you!

Quyana!

For a copy of our OEO statement, see http://www.adfg.alaska.gov/index.cfm?adfg=home.oeostatement

Proposals 14 & 19

5 AAC 84.270 & 5 AAC 85.060

Furbearer Trapping and Fur Animal Hunting Seasons and Bag Limits.

This proposal would close nonresident trapping and hunting seasons in GMU 18, 22, 23 and 26A for furbearers and fur animals defined in 5 AAC 99.025(a)(13) (a)-(m).

Prepared for the Alaska Board of Game

November 2011

RC 2 Tab E

Proposals 14 & 19

Department Recommendation:

No recommendation

Furbearers – Background Information

- **1997 Board of Game directed department to develop statewide proposal for considering whether there were customary and traditional uses of furbearers and fur animals.**

- **January 2000 Statewide Furbearers and Fur Animals Customary and Traditional Use Worksheet presented to board. Proposal deferred to March 2000.**

- **March 2000, Board of Game found that "all resident uses of furbearers and fur animals are customary and traditional uses" (5 AAC 99.025(a)(13)) outside nonsubsistence areas.**

- **Statewide furbearer and fur animal C&T finding includes, beaver, coyote, arctic fox, red fox, lynx, Alaska marmot, hoary marmot, marten, mink, muskrat, land otter, red squirrel, flying squirrel, ground squirrel, least weasel, short-tailed weasel, wolf, and wolverine.**

Furbearers – Background Information

- **Board found that furbearers posed particular complexities for establishing a single ANS because there are 4 types of common subsistence uses of furbearers:**

  1. **Food – certain furbearers are eaten (e.g., beaver, mink)**
  2. **Clothing**
  3. **Handicrafts that are sold**
  4. **Fur sales to fur buyers, an example of customary trade.**

- **Board recognized that ANS varies substantially with fur prices and determined that amounts of specific uses could be established on a case by case basis <u>when specific allocation issues between subsistence, general, and nonresident trapping (and fur animal hunting) required it.</u>**

Furbearers – Background Information

- **The board also found "that furbearers and fur animals, in general, tend to be the focus of these uses, rather than users focusing on individual species or populations" (5 AAC 99.025(a)(13)).**

- **"Given this finding, the board also finds that effort on any given population varies according to its harvestable surplus" (5 AAC 99.025(a)(13)).**

- **Meeting records also indicate this general finding was consistent with the presumption that existing regulations (March 2000) provided reasonable opportunities for subsistence, <u>until proposals were received suggesting otherwise</u>.**

Subsistence Procedures: Furbearers

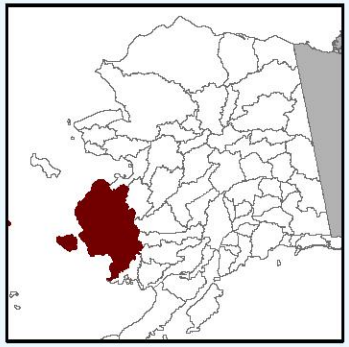
- **Is there a Customary and Traditional Use of Furbearers and Fur Animals**?
  - Yes, in all units statewide outside nonsubsistence areas, all resident uses of furbearers and fur animals are customary and traditional uses (5 AAC 99.025(a)(13)).

- **Is there a Harvestable Surplus of Unit 23 furbearers and fur animals?**
  - Harvestable surpluses vary according to species and area; however, biologists generally have indicated that harvestable surpluses exist for furbearers and fur animals in Region V.

- **What is the amount reasonably necessary for subsistence?**
  - "harvestable portion" of each species

- **Does the harvestable surplus allow for all or only some uses?**
  - This is a Board of Game determination

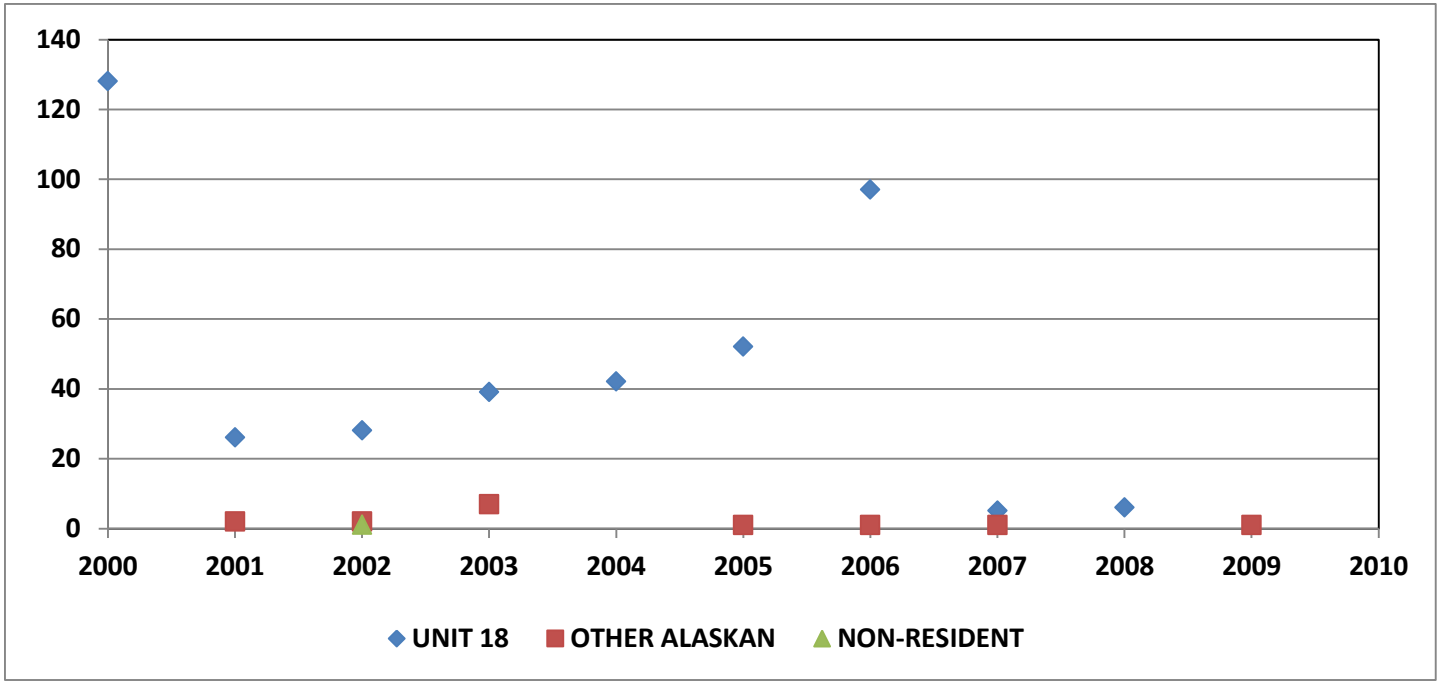
Unit 18 – Background Information



Harvest Information, Beaver

Fur Sealing Data, Unit 18

ADF&G Sealing Records



- Between 2000-2009, 439 beaver hides sealed.
  - 423 beaver, (96%) taken by Unit 18 residents, average 38.4 per year.
  - 15 beaver, (3.4%) taken by Other Alaskans.
  - 1 beaver by Non-Residents.

Harvest Information, Beaver

Community harvest estimates, Unit 18

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Akiak											158
Emmonak									87		
Kwethluk											308
Lower Kalskag										54	
Oscarville											0
Tuluksak											119
Total									87	54	586

Blank cells indicate 'no data', not a zero value

Harvest Information, Coyote

Sealing and subsistence survey data, Unit 18

ADF&G Sealing Records	**No sealing requirements.**
ADF&G Harvest Survey Data	**No harvest data**

Harvest Information, Foxes

Sealing and subsistence survey data, Unit 18

ADF&G Sealing Records

No sealing requirements.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Akiak											3
Emmonak									21		
Kwethluk											0
Lower Kalskag										4	
Oscarville											0
Tuluksak											13
Total									21	4	15
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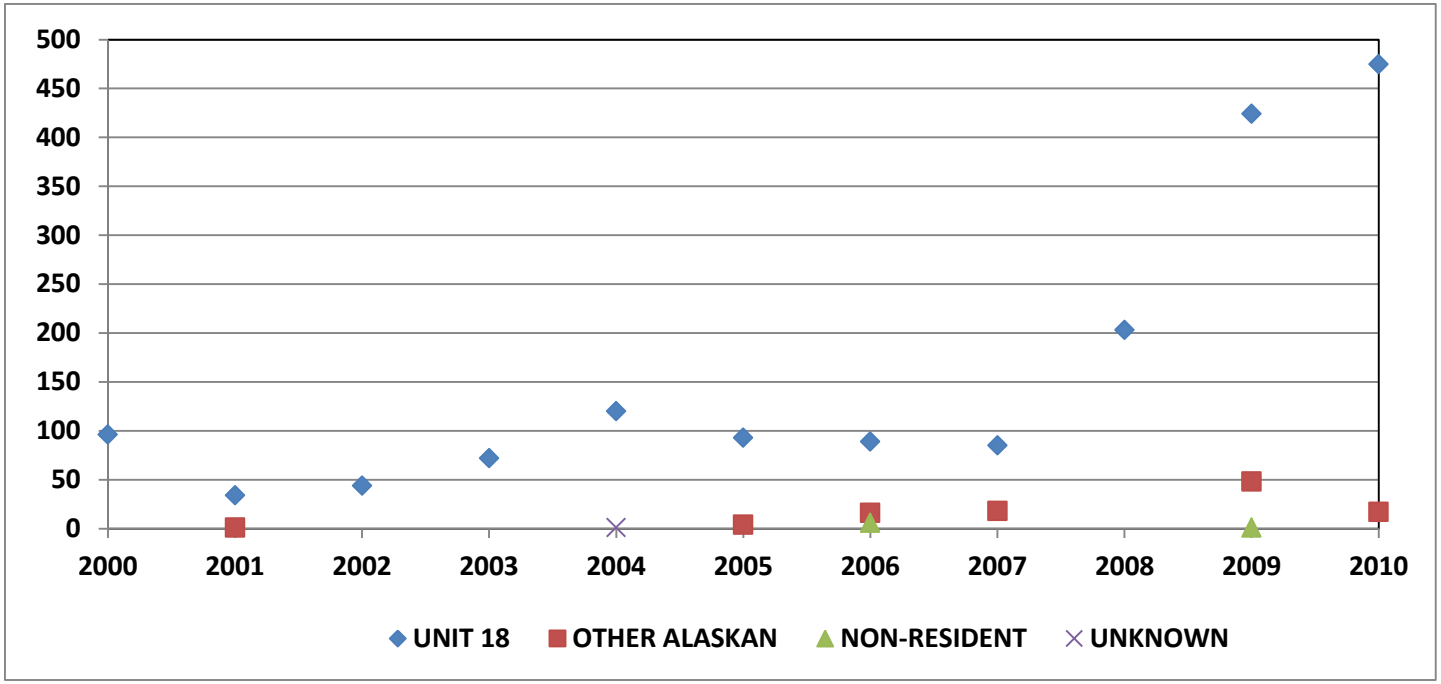
Harvest Information, Lynx

Fur Sealing Data, Unit 18

ADF&G Sealing Records



- Between 2000-2010, 1847 lynx hides sealed.
  - 1735 lynx, (94%) taken by Unit 18 residents, average 157.7 per year.
  - 104 lynx, (5.6%) taken by Other Alaskans.
  - 7 lynx, (0.4%) by Non-Residents and 1 lynx by Unknown.

Harvest Information, Lynx

Community harvest estimates, Unit 18

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Akiak											3
Emmonak									5		
Kwethluk											12
Lower Kalskag										0	
Oscarville											0
Tuluksak											13
Total									5	0	27

Blank cells indicate 'no data', not a zero value

Harvest Information, Marmots

Sealing and subsistence survey data, Unit 18

ADF&G Sealing Records

No sealing requirements.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Akiak											0
Kwethluk											0
Lower Kalskag										0	
Oscarville											0
Tuluksak											0
Total										0	0

Blank cells indicate 'no data', not a zero value

Harvest Information, Marten

Sealing and subsistence survey data, Unit 18

ADF&G Sealing Records

1 marten sealed between 2000-2010
2009: Taken by Unit 18 resident

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Akiak											1
Emmonak									0		
Kwethluk											0
Lower Kalskag										5	
Oscarville											0
Tuluksak											5
Total									0	5	6
Blank cells indicate 'no data', not a zero value											

Harvest Information, Mink

Sealing and subsistence survey data, Unit 18

ADF&G Sealing Records

No sealing requirements.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Akiak											0
Emmonak									5		
Kwethluk											2
Lower Kalskag										0	
Oscarville											0
Tuluksak											4
Total									5	0	5
Blank cells indicate 'no data', not a zero value											

Harvest Information, Muskrat

Sealing and subsistence survey data, Unit 18

ADF&G Sealing Records

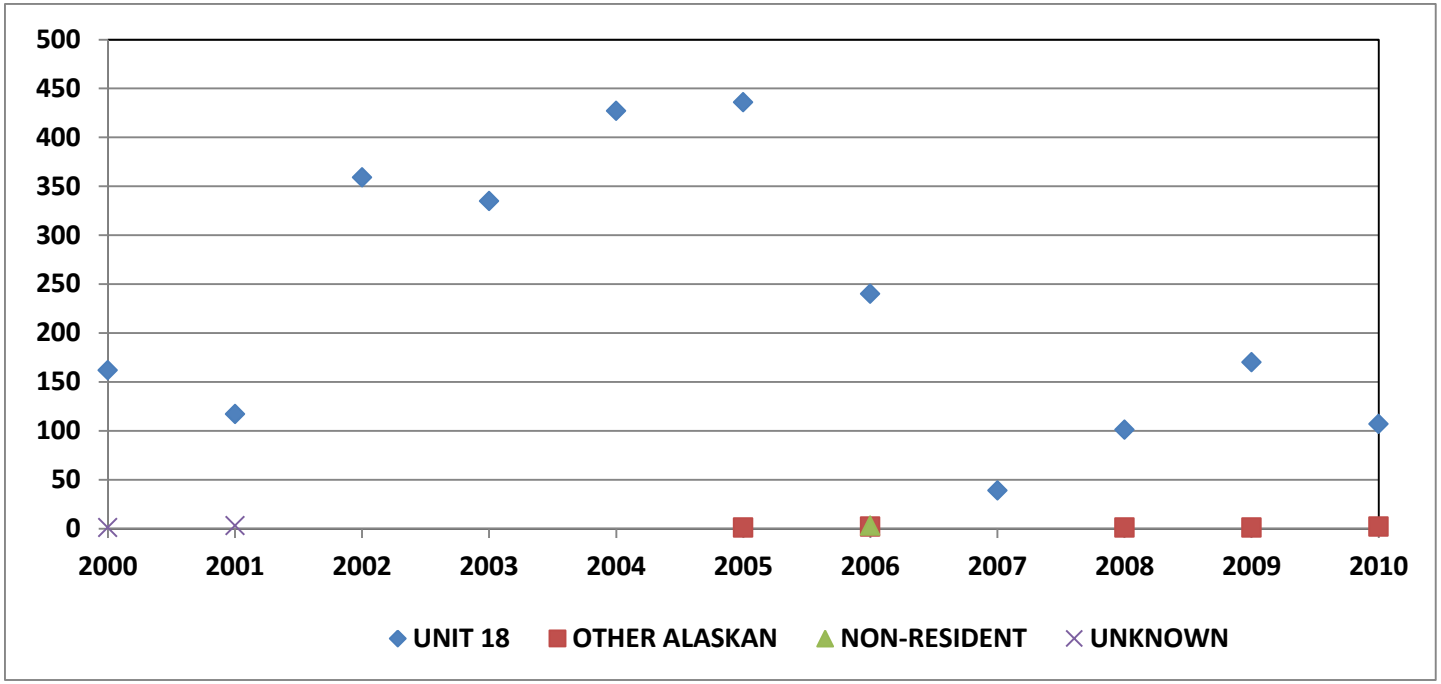
No sealing requirements.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Akiak											52
Emmonak									18		
Kwethluk											170
Lower Kalskag										27	
Oscarville											0
Tuluksak											8
Total									18	27	230
Blank cells indicate 'no data', not a zero value											

Harvest Information, Land Otter

Fur Sealing Data, Unit 18

ADF&G Sealing Records



- Between 2000-2010, 2507 otter hides sealed.
  - 2493 otter, (99%) taken by Unit 18 residents, average 226.6 per year.
  - 7 otter, (0.3%) taken by Other Alaskans.
  - 3 otter, (0.1%) by Non-Residents and 4 otter, (0.2%) by Unknown.

Harvest Information, Land Otter

Community harvest estimates, Unit 18

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Akiak											0
Emmonak									26		
Kwethluk											18
Lower Kalskag										5	
Oscarville											2
Tuluksak											19
Total									26	5	40

Blank cells indicate 'no data', not a zero value

Harvest Information, Squirrels

Sealing and subsistence survey data, Unit 18

ADF&G Sealing Records

No sealing requirements.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Akiak											0
Kwethluk											0
Lower Kalskag										0	
Oscarville											0
Tuluksak											51
Total										0	51

Blank cells indicate 'no data', not a zero value

Harvest Information, Weasels

Sealing and subsistence survey data, Unit 18

ADF&G Sealing Records

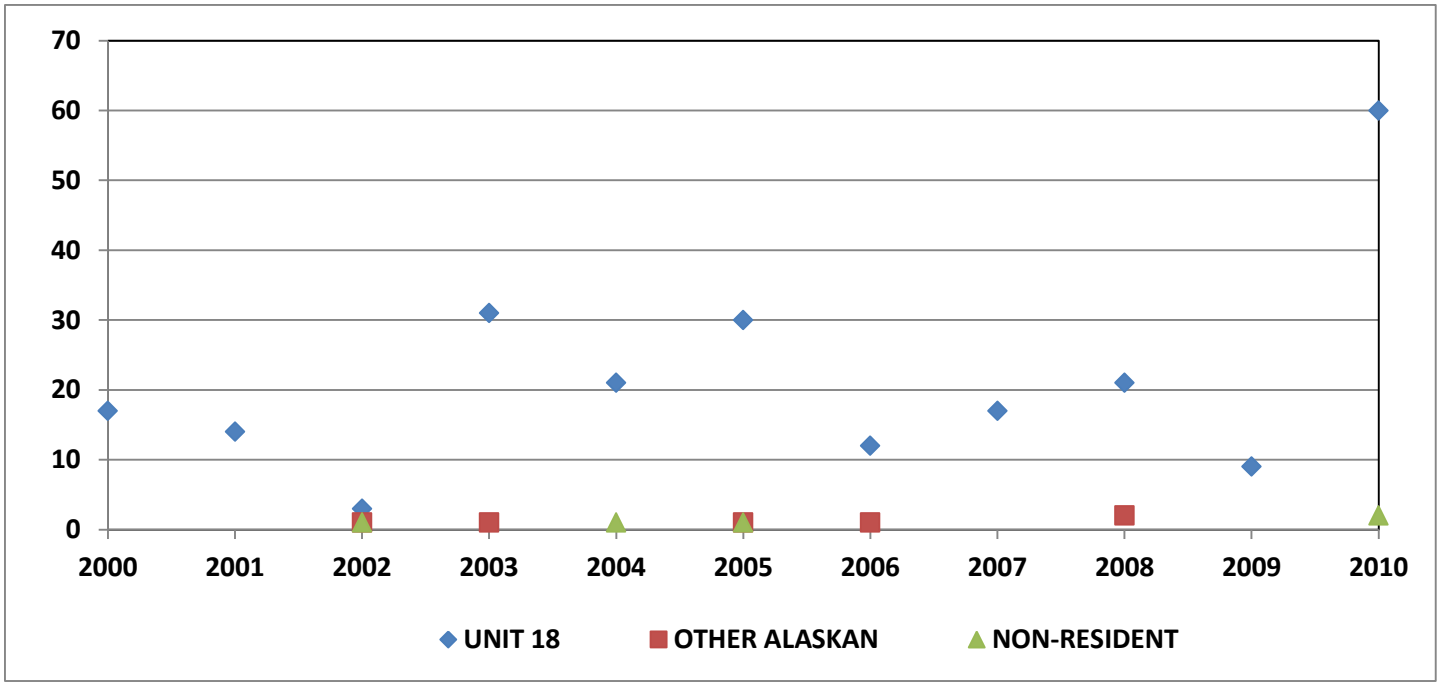
No sealing requirements.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Akiak											0
Emmonak									0		
Kwethluk											0
Lower Kalskag										0	
Oscarville											0
Tuluksak											1
Total									0	0	1
Blank cells indicate 'no data', not a zero value											

Harvest Information, Wolverine

Fur Sealing Data, Unit 18

ADF&G Sealing Records



- Between 2000-2010, 246 wolverine hides sealed.
  - 235 wolverine, (96%) taken by Unit 18 residents, average 21.4 per year.
  - 6 wolverine, (2%) taken by Other Alaskans.
  - 5 wolverine (2%) by Non-Residents.

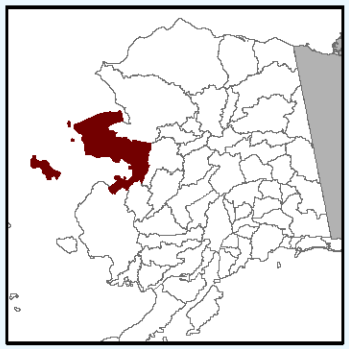
Harvest Information, Wolverine

Community harvest estimates, Unit 18

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Akiak											0
Emmonak									2		
Kwethluk											0
Lower Kalskag										1	
Oscarville											0
Tuluksak											0
Total									2	1	0

Blank cells indicate 'no data', not a zero value

Unit 22 – Background Information

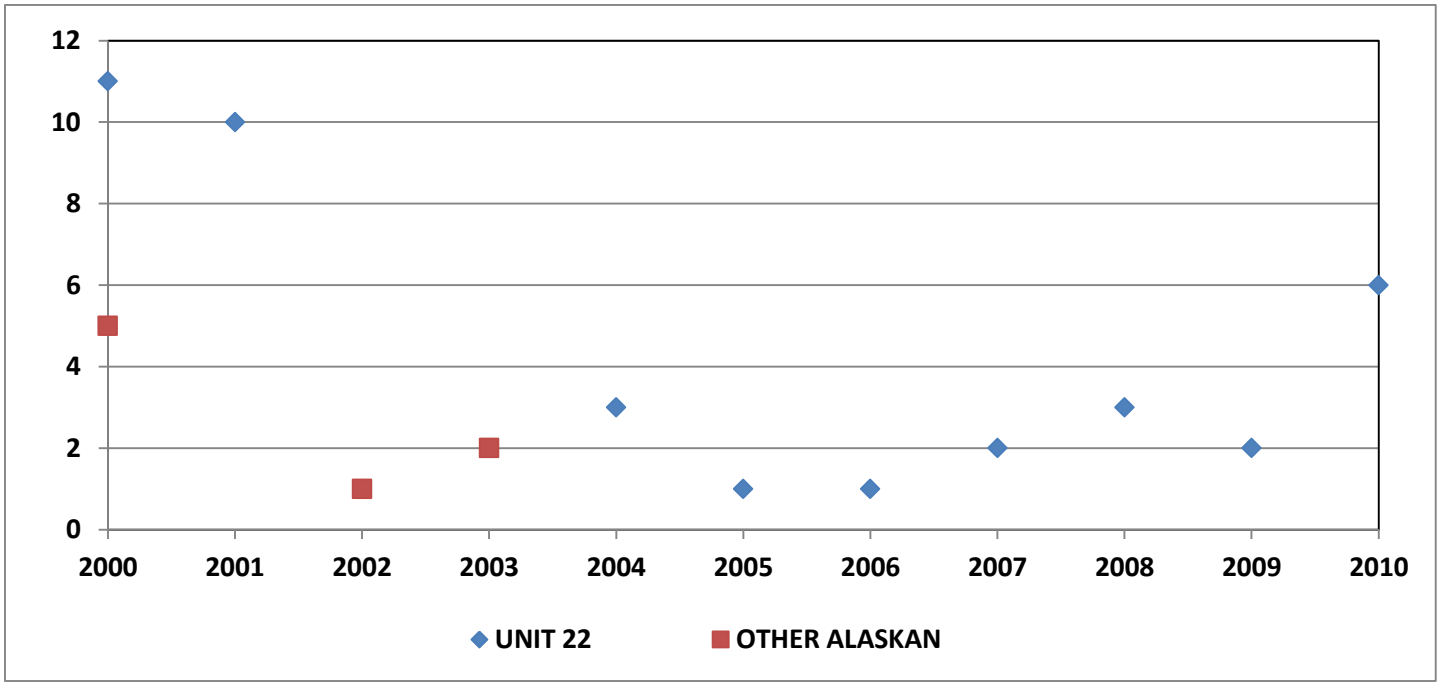


Little Diomede
Shishmaref
Wales
Brevig Mission
Teller
Nome
White Mountain
Koyuk
Elim
Golovin
Gambell
Savoonga
Shaktoolik
Unalakleet
Stebbins
Saint Michael

Harvest Information, Beaver

Sealing data, Unit 22

ADF&G Sealing Records



- Between 2000-2010, 47 beaver hides sealed
  - 39 beaver, (83%) taken by Unit 22 residents, average 3.5 per year
  - 8 beaver, (17%) taken by Other Alaskans
  - None by Non-Residents

Harvest Information, Beaver

Community harvest estimates, Unit 22

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Brevig Mission						0	0				
Elim						14	14				6
Gambell							0				
Golovin											0
Koyuk					5		0				1
Saint Michael				7			0				
Savoonga							0				
Shaktoolik				6						0	
Shishmaref							0			1	
Stebbins							29				
Teller						0	0				
Unalakleet					20		19				
Wales							0				0
White Mountain							2		12		
Total				13	25	14	63		12	1	7

Blank cells indicate 'no data', not a zero value

Harvest Information, Coyote

Sealing and subsistence survey data, Unit 22

ADF&G Sealing Records	**No sealing requirements.**
ADF&G Harvest Survey Data	**No data on coyote harvest.**

Harvest Information, Foxes

Community harvest estimates, Unit 22

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Brevig Mission							1				
Elim							6				0
Gambell							0				
Golovin											2
Koyuk							6				0
Saint Michael							0				
Savoonga							0				
Shaktoolik										0	
Shishmaref							18			6	
Stebbins							11				
Teller							7				
Unalakleet							17				
Wales							7				0
White Mountain							1		4		
Total							74		4	6	2

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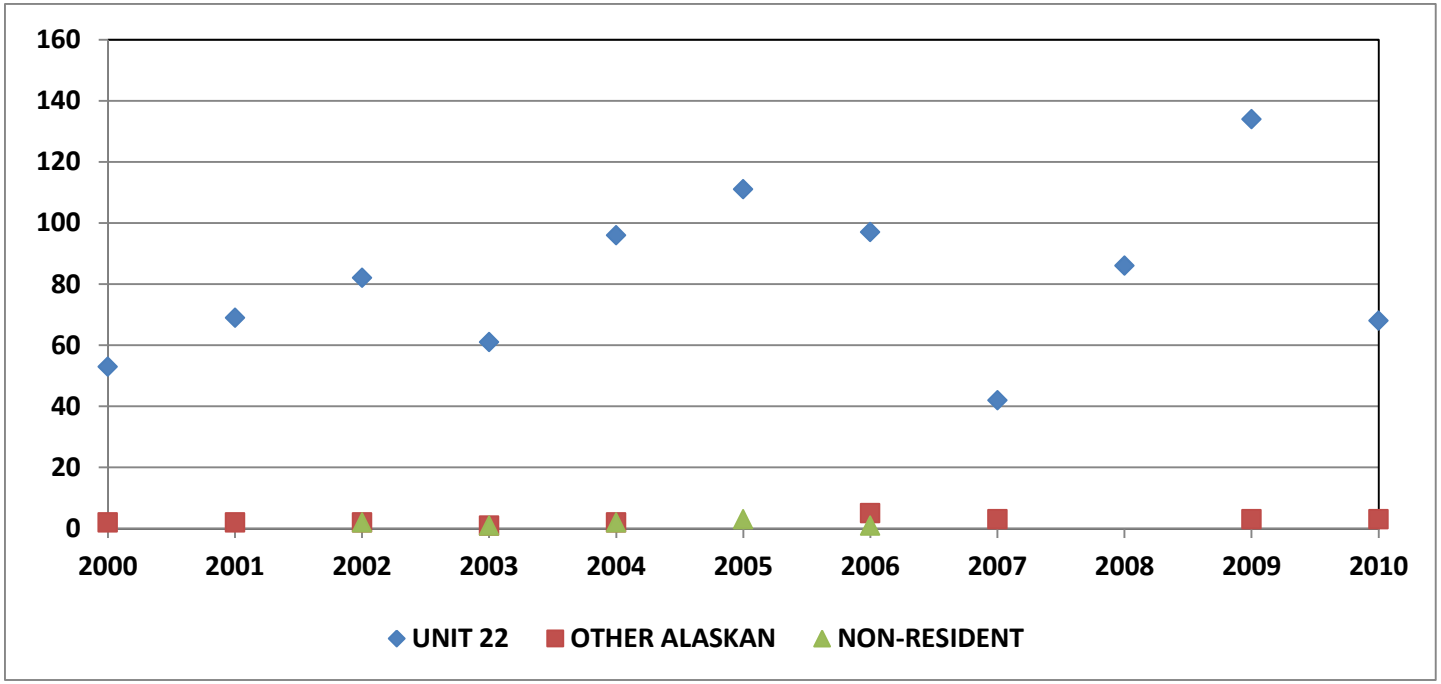
Harvest Information, Lynx

Sealing data, Unit 22

ADF&G Sealing Records



- Between 2000-2010, 931 lynx hides sealed
  - 899 lynx, (97%) taken by Unit 22 residents, average 82 per year
  - 23 lynx, (2.4%) taken by Other Alaskans
  - 9 lynx, (less than 1%) taken by Non-Residents

Harvest Information, Lynx

Community harvest estimates, Unit 22

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Brevig Mission							0				
Elim							2				2
Gambell							0				
Golovin											0
Koyuk							4				11
Saint Michael							0				
Savoonga							0				
Shaktoolik										7	
Shishmaref							0			0	
Stebbins							69				
Teller							0				
Unalakleet							2				
Wales							0				0
White Mountain							7		5		
Total							83		5	7	14

Blank cells indicate 'no data', not a zero value

Harvest Information, Marmots

Sealing and subsistence survey data, Unit 22

ADF&G Sealing Records	**No sealing requirements.**
ADF&G Harvest Survey Data	**No harvest data** **Not common in Unit 22**

Harvest Information, Marten

Community harvest estimates, Unit 22

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Brevig Mission							0				
Elim							11				5
Gambell							0				
Golovin											0
Koyuk							1				0
Saint Michael							0				
Savoonga							0				
Shaktoolik										7	
Shishmaref							0			0	
Stebbins							0				
Teller							0				
Unalakleet							34				
Wales							0				0
White Mountain							0		0		
Total							46		0	7	5

Blank cells indicate 'no data', not a zero value

Harvest Information, Mink

Sealing and subsistence survey data, Unit 22

ADF&G Sealing Records	**No sealing requirements.**
ADF&G Harvest Survey Data	**No data on mink harvest.**

Harvest Information, Muskrat

Community harvest estimates, Unit 22

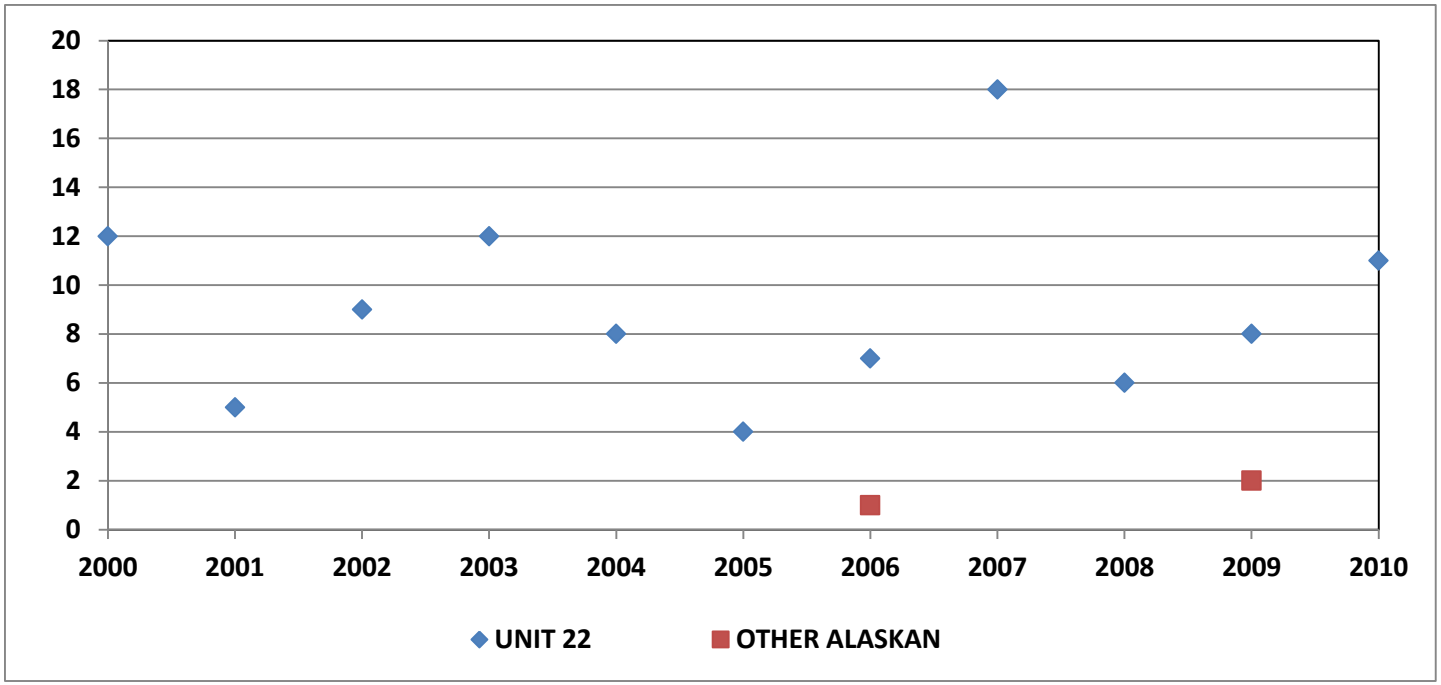
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Shaktoolik										0	
Shishmaref										0	
Unalakleet							28				
White Mountain									0		
Total							28		0	0	

Blank cells indicate 'no data', not a zero value

Harvest Information, Land Otter

Sealing data, Unit 22

ADF&G Sealing Records



- Between 2000-2010, 103 otter hides sealed
  - 100 otter, (97%) taken by Unit 22 residents, average 9 per year
  - 3 otter, (3%) taken by Other Alaskans
  - None taken by Non-Residents

Harvest Information, Land Otter

Community harvest estimates, Unit 22

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Brevig Mission							0				
Elim							4				
Gambell							0				
Koyuk							4				
Saint Michael							0				
Savoonga							0				
Shishmaref							0				
Stebbins							13				
Teller							0				
Unalakleet							17				
Wales							0				
White Mountain							0				
Total							38				

Blank cells indicate 'no data', not a zero value

Harvest Information, Squirrels

Community harvest estimates, Unit 22

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Brevig Mission							0				
Elim							0				
Gambell							0				
Koyuk							0				
Saint Michael							0				
Savoonga							0				
Shishmaref							49				
Stebbins							0				
Teller							0				
Unalakleet							16				
Wales							0				
White Mountain							0				
Total							65				

Blank cells indicate 'no data', not a zero value

Harvest Information, Weasels

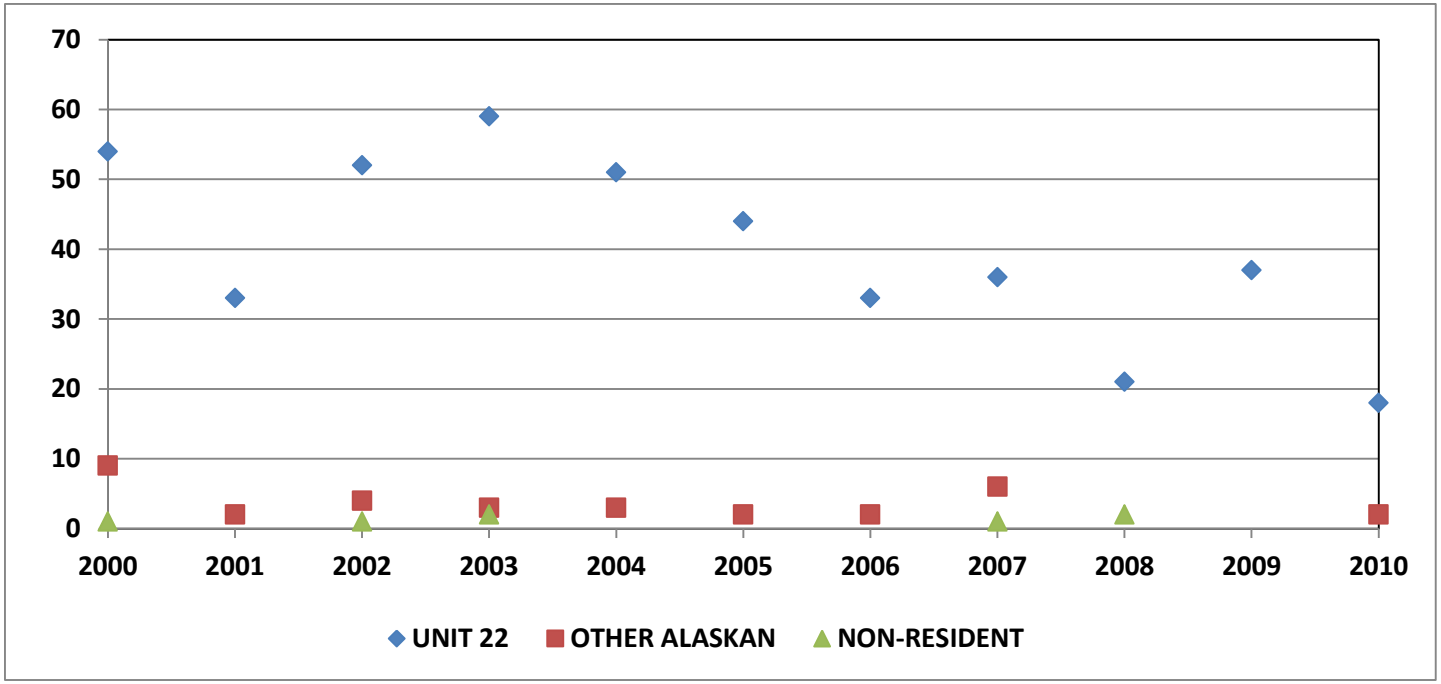
Sealing and subsistence survey data, Unit 22

ADF&G Sealing Records	**No sealing requirements.**
ADF&G Harvest Survey Data	**No data on weasel harvest.**

Harvest Information, Wolverine

Sealing data, Unit 22

ADF&G Sealing Records



- Between 2000-2010, 478 wolverine hides sealed
  - 438 wolverine, (92%) by Unit 22 residents, average 39.8 per year
  - 33 wolverine, (7%) taken by Other Alaskans
  - 7 taken by Non-Residents

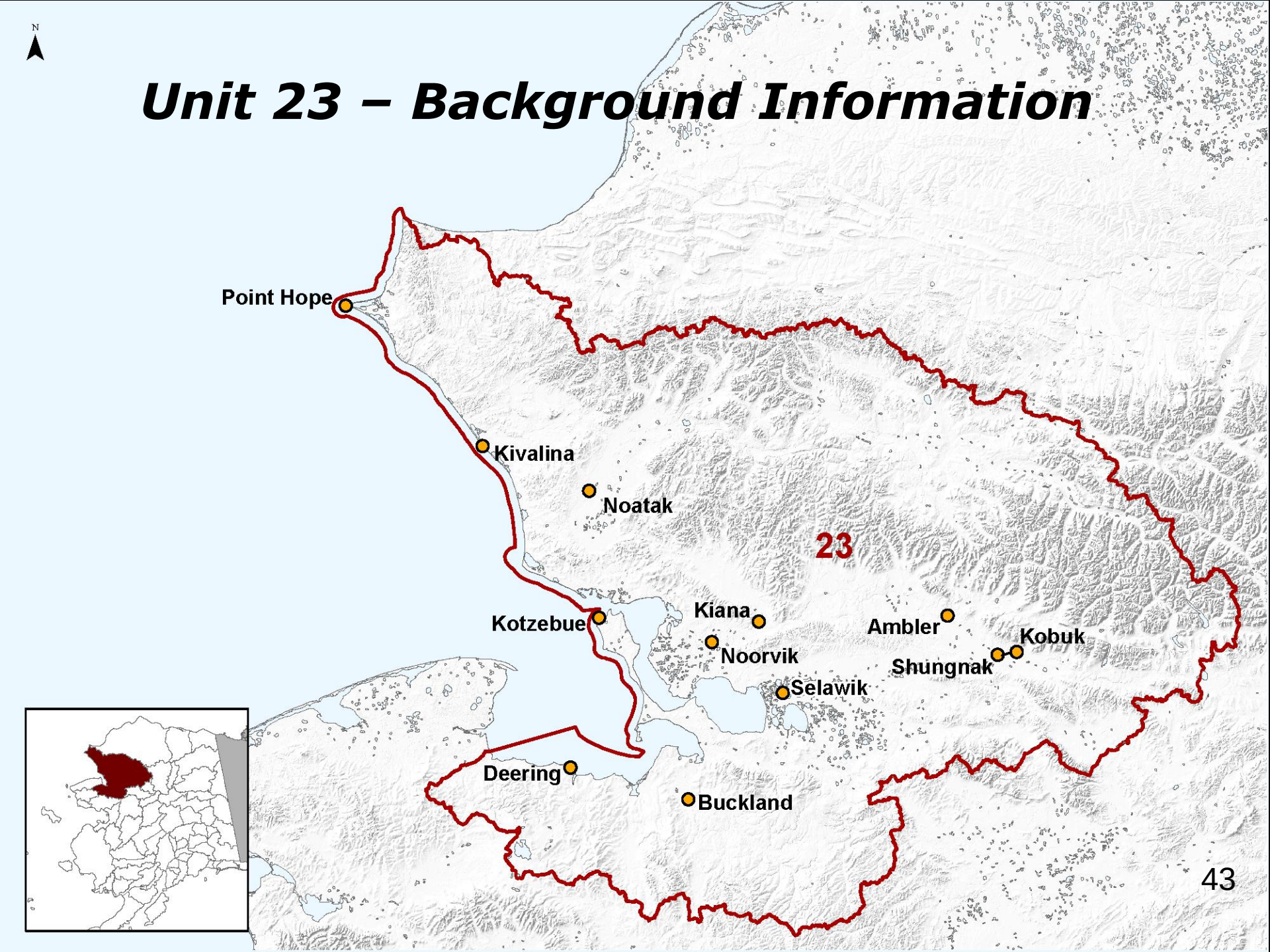
Harvest Information, Wolverine

Community harvest estimates, Unit 22

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Brevig Mission	3						5				
Elim							7				1
Gambell							0				
Golovin		0									0
Koyuk					5		7				5
Saint Michael				0			0				
Savoonga							0				
Shaktoolik				18						5	
Shishmaref	8						4			7	
Stebbins			10				3				
Teller	3						3				
Unalakleet			23		18		3				
Wales	2						3				5
White Mountain							1		1		
Total	16	0	33	18	23		36		1	12	11

Blank cells indicate 'no data', not a zero value

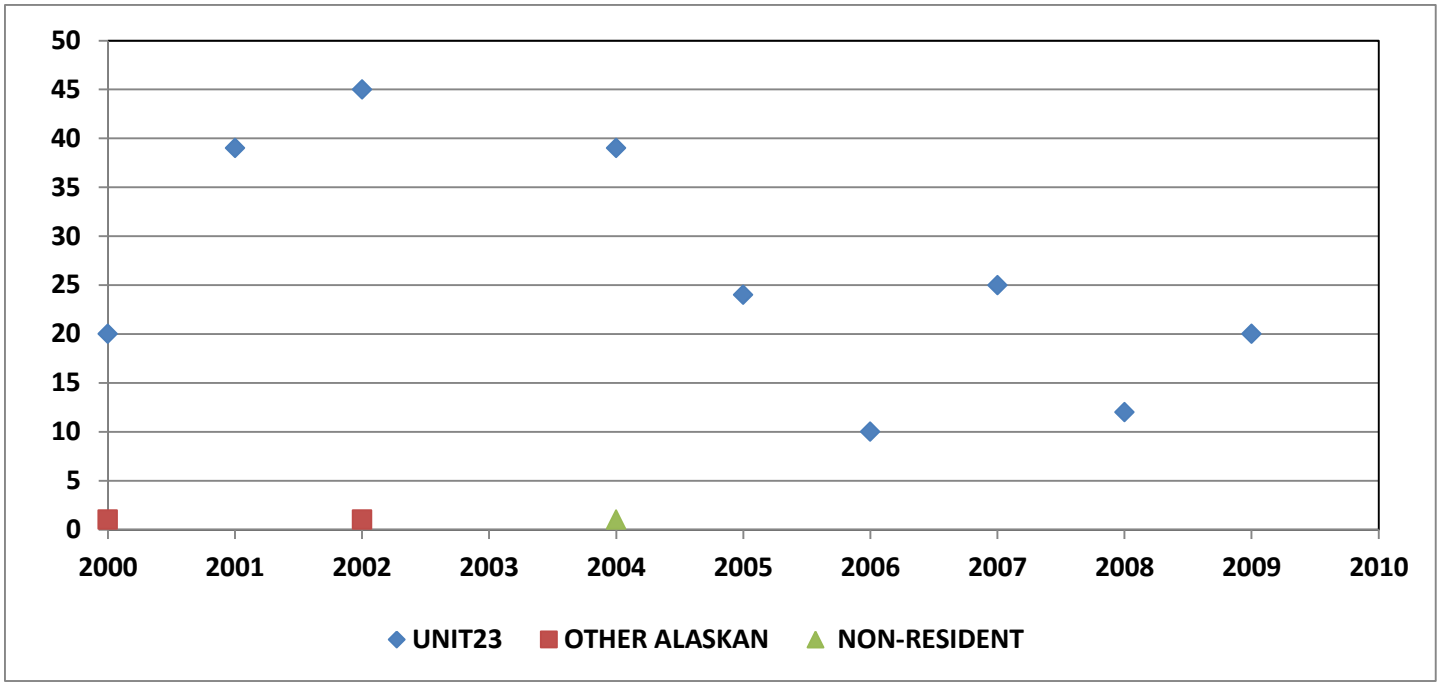
Unit 23 – Background Information



Harvest Information, Beaver

Sealing data, Unit 23

ADF&G Sealing Records



- Between 2000-2010, 237 beaver hides sealed (no requirement to be sealed)
  - 234 beaver taken by Unit 23 residents
  - 2 beaver taken by Other Alaskans
  - 1 by Non-Residents

Harvest Information, Beaver

Community harvest estimates, Unit 23

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Ambler										75	
Buckland										36	
Deering								0			
Kiana							88			57	
Kivalina								1			0
Kobuk					0					28	
Noatak								14			4
Noorvik									49		
Selawik							112				
Shungnak									40		
Total					0		200	15	89	196	4

Blank cells indicate 'no data', not a zero value

Harvest Information, Coyote

Sealing and subsistence survey data, Unit 23

ADF&G Sealing Records	**No sealing requirements.**
ADF&G Harvest Survey Data	**1 data point:** **Kiana, 2006: no coyotes harvested**

Harvest Information, Foxes

Sealing and subsistence survey data, Unit 23

ADF&G Sealing Records

No sealing requirements.

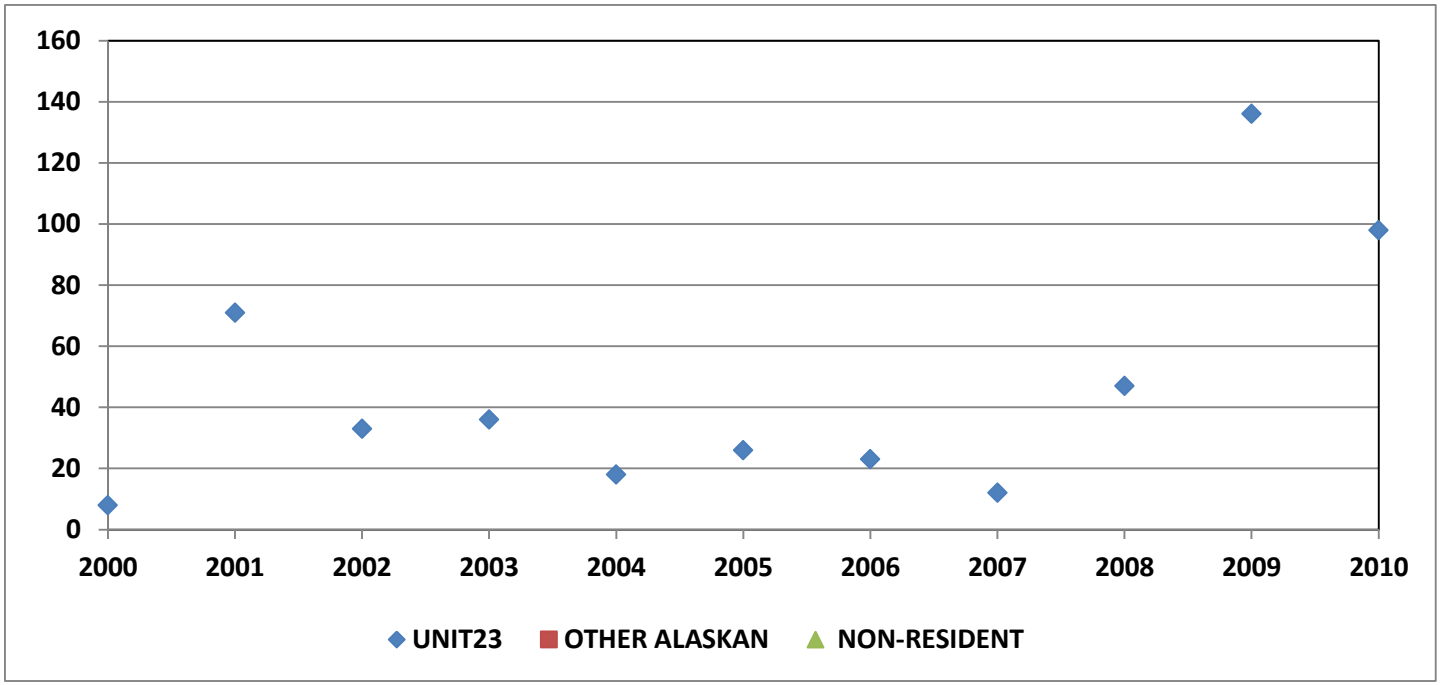
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Ambler										7	
Buckland										5	
Deering								27			
Kiana							32			9	
Kivalina								0			0
Kobuk										9	
Noatak								29			1
Noorvik									19		
Shungnak									0		
Total							32	56	19	30	1

Blank cells indicate 'no data', not a zero value

Harvest Information, Lynx

Sealing data, Unit 23

ADF&G Sealing Records



- Between 2000-2010, 508 lynx hides sealed
  - 508 lynx, (100%) taken by Unit 23 residents, average 46.1 per year
  - 0 lynx taken by Other Alaskans
  - 0 lynx taken by Non-Residents

Harvest Information, Lynx

Community harvest estimates, Unit 23

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Ambler										0	
Buckland										4	
Kiana							1			0	
Kivalina											0
Kobuk										0	
Noatak											4
Noorvik									33		
Shungnak									0		
Total							1		33	4	4

Blank cells indicate 'no data', not a zero value

Harvest Information, Marmots

Sealing and subsistence survey data, Unit 23

ADF&G Sealing Records	**No sealing requirements.**
ADF&G Harvest Survey Data	**No data points. Not usually asked about in community surveys.**

Harvest Information, Marten

Sealing and subsistence survey data, Unit 23

ADF&G Sealing Records

Only 1 hide sealed between 2000-2010
By Unit 23 resident

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Ambler										11	
Buckland										0	
Kiana							37			0	
Kivalina											0
Kobuk										0	
Noatak								21			0
Noorvik									125		
Shungnak									1		
Total							37	21	126	11	0
Blank cells indicate 'no data', not a zero value											

Harvest Information, Mink

Sealing and subsistence survey data, Unit 23

ADF&G Sealing Records	**No sealing requirements.**
ADF&G Harvest Survey Data	**One data point** **Kiana, 2006: 0 mink harvested**

Harvest Information, Muskrat

Sealing and subsistence survey data, Unit 23

ADF&G Sealing Records

No sealing requirements.

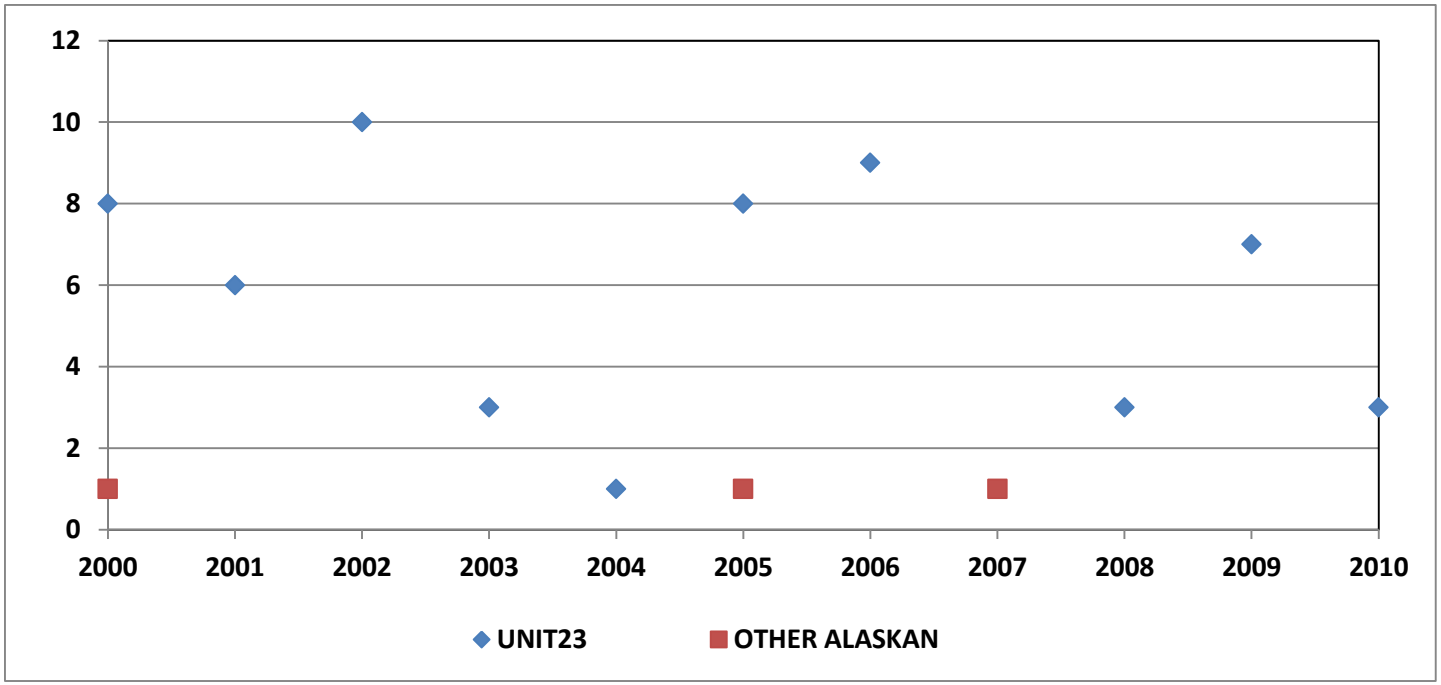
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Ambler										0	
Buckland										0	
Kiana							81			0	
Kobuk										0	
Noatak								1			
Noorvik									76		
Shungnak									0		
Total							81	1	76	0	

Blank cells indicate 'no data', not a zero value

Harvest Information, Land Otter

Sealing data, Unit 23

ADF&G Sealing Records



- Between 2000-2010, 61 land otter hides sealed
  - 58 land ottter, (95%) taken by Unit 23 residents, average 5.2 per year
  - 3 land otter, (5%) taken by Other Alaskans
  - 0 by Non-Residents

Harvest Information, Land Otter

Community harvest estimates, Unit 23

ADF&G Harvest Survey Data

No harvest data

Not usually asked about in surveys

Harvest Information, Weasels

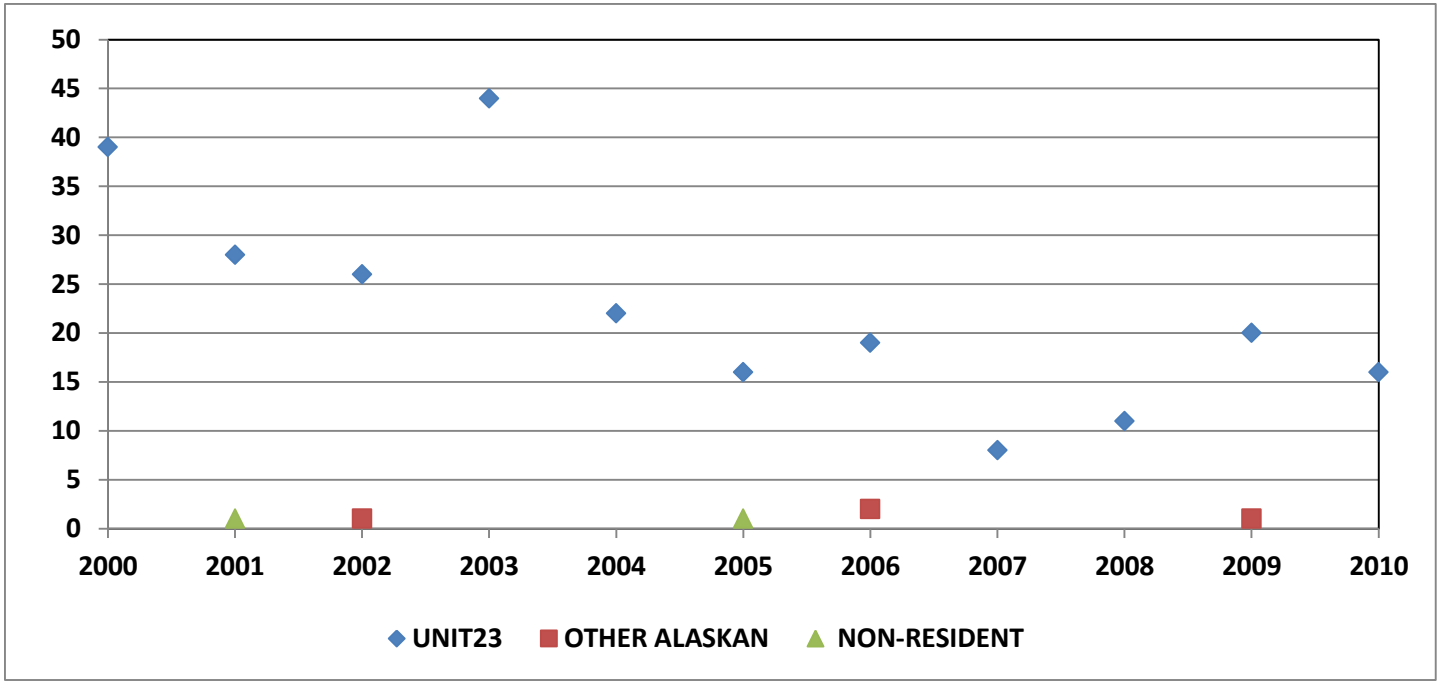
Sealing and subsistence survey data, Unit 23

ADF&G Sealing Records	**No sealing requirements.**
ADF&G Harvest Survey Data	**No data points.** **Not usually asked about in surveys**

Harvest Information, Wolverine

Sealing data, Unit 23

ADF&G Sealing Records



- Between 2000-2010, 255 wolverine hides sealed
  - 249 wolverine, (98%) taken by Unit 23 residents, average 23 per year
  - 4 wolverine, (less than 2%) taken by Other Alaskans
  - 2 wolverine (less than 1%) taken by Non-Residents

Harvest Information, Wolverine

Community harvest estimates, Unit 23

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Ambler				14						0	
Buckland										5	
Deering								3			
Kiana							1			0	
Kivalina								0			13
Kobuk					1					2	
Noatak			9					2			1
Noorvik			76						5		
Selawik							3				
Shungnak									0		
Total			85	14	1		4	5	5	7	14

Blank cells indicate 'no data', not a zero value

Unit 26A – Background Information

Harvest Information, Beaver

Sealing and subsistence survey data, Unit 26A

ADF&G Sealing Records	**Not present in Unit 26A**
ADF&G or NSB Harvest Survey Data	**No data points.** **Not usually asked about in surveys**

Harvest Information, Coyote

Sealing and subsistence survey data, Unit 26A

ADF&G Sealing Records	**Not present in Unit 26A**
ADF&G or NSB Harvest Survey Data	**No data points.** **Not usually asked about in surveys**

Harvest Information, Foxes

Sealing and subsistence survey data, Unit 26A

ADF&G
Sealing
Records

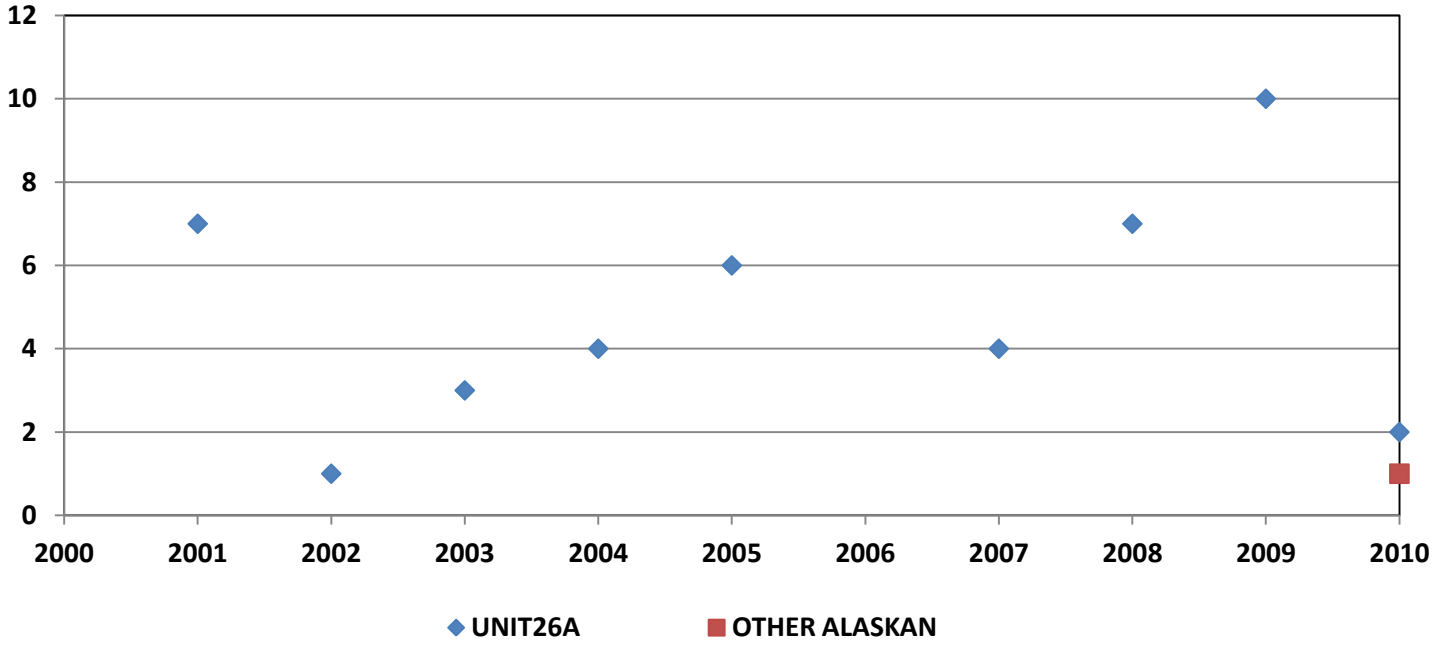
No sealing requirements.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Anaktuvuk Pass			2								
Atqasuk											
Barrow	182	91		40							
Nuiqsut	72										
Point Lay			2								
Wainwright			26								
Total	254	91	30	40							

Harvest Information, Lynx

Fur Sealing Data, Unit 26A

ADF&G Sealing Records



- Between 2000-2010, 45 lynx hides sealed.
  - 44 lynx, (98%) taken by Unit 26A residents, average 4 per year.
  - 1 lynx, (2%) taken by Other Alaskans.

Harvest Information, Lynx

Community harvest estimates, Unit 26A

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Anaktuvuk Pass			2								
Atqasuk											
Barrow											
Nuiqsut											
Point Lay											
Wainwright											
Total			2								

Blank cells indicate 'no data', not a zero value

Harvest Information, Marmots

Sealing and subsistence survey data, Unit 26A

ADF&G
Sealing
Records

No sealing requirements.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Anaktuvuk Pass											
Atqasuk											
Barrow	2										
Nuiqsut											
Point Lay											
Wainwright											
Total	2										

Blank cells indicate 'no data', not a zero value

Harvest Information, Marten

Sealing and subsistence survey data, Unit 26A

ADF&G Sealing Records	**No sealing requirements**
ADF&G or NSB Harvest Survey Data	**No data points.**

Harvest Information, Mink

Sealing and subsistence survey data, Unit 26A

ADF&G Sealing Records	**No sealing requirements**
ADF&G or NSB Harvest Survey Data	**No data points.**

Harvest Information, Land Otter

Sealing and subsistence survey data, Unit 26A

ADF&G
Sealing
Records

No reported harvests.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Anaktuvuk Pass											
Atqasuk											
Barrow											
Nuiqsut											
Point Lay			1								
Wainwright											
Total			1								

Blank cells indicate 'no data', not a zero value

Harvest Information, Squirrels

Sealing and subsistence survey data, Unit 26A

ADF&G
Sealing
Records

No sealing requirements

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Anaktuvuk Pass		9	22								
Atqasuk											
Barrow	36			17							
Nuiqsut	5										
Point Lay											
Wainwright			2								
Total	41	9	24	17							

Blank cells indicate 'no data', not a zero value

Harvest Information, Weasels

Sealing and subsistence survey data, Unit 26A

ADF&G
Sealing
Records

No sealing requirements.

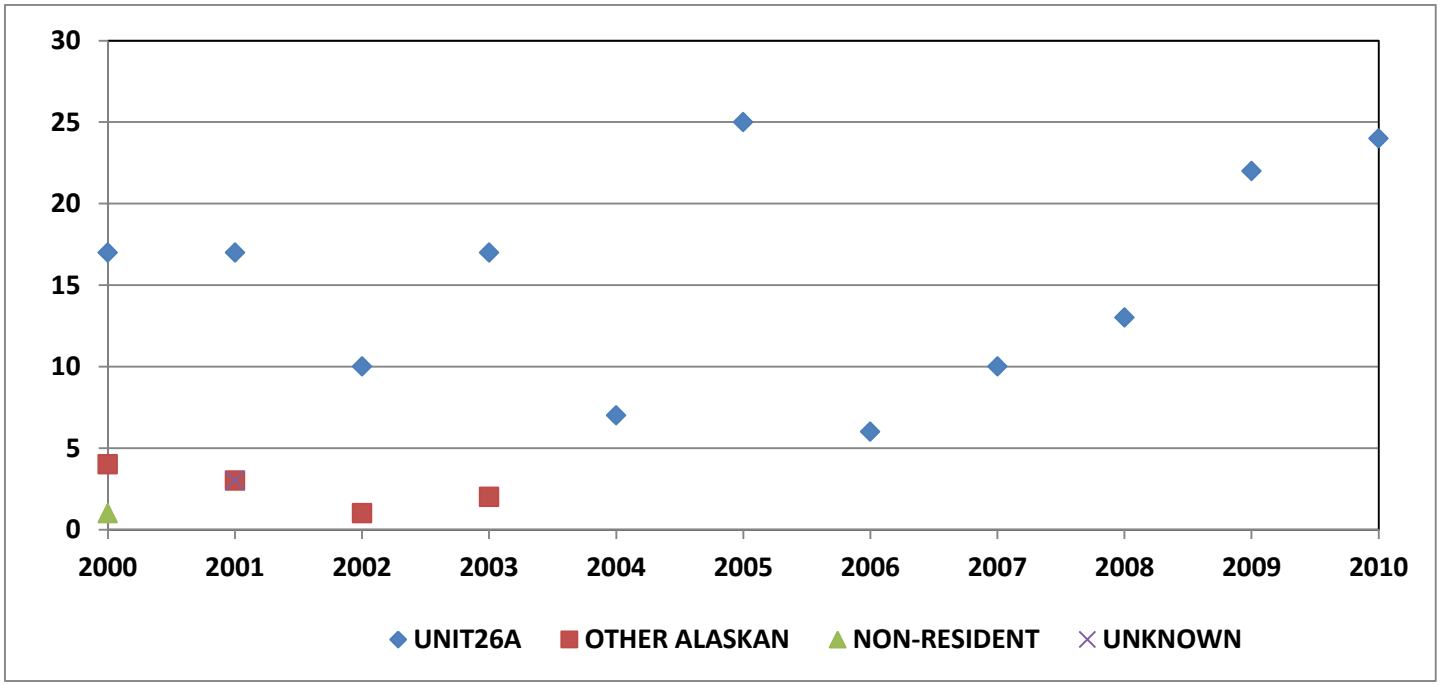
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Anaktuvuk Pass											
Atqasuk											
Barrow	9		2								
Nuiqsut											
Point Lay		1									
Wainwright											
Total	9	1	2								

Blank cells indicate 'no data', not a zero value

Harvest Information, Wolverine

Sealing data, Unit 26A

ADF&G Sealing Records



- Between 2000-2010, 182 wolverine hides sealed.
  - 168 wolverine (92%) taken by Unit 26A residents, average 15.2 per year
  - 10 wolverine (5%) taken by Other Alaskan residents
  - 1 taken by Non-Resident, 3 by Unknown

Harvest Information, Wolverine

Community Harvest Estimates, Unit 26A

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Anaktuvuk Pass		22	2								
Atqasuk											
Barrow	29	18		10							
Nuiqsut	27										
Point Lay											
Wainwright			1								
Total	56	40	3	10							

Blank cells indicate 'no data', not a zero value

Questions?

Thank you!

Quyana!

Proposal 13

5 AAC 99.025(a)(11) and (a)(13)(L).
Customary and traditional uses of game populations.

This proposal would revise the Amount Necessary for Subsistence (ANS) findings for wolves in Units 18, 22, 23, and 26(A).

Prepared for the Alaska Board of Game

November 2011

Proposal 13

Department Recommendation:

No Recommendation

State Subsistence Procedures

Board findings on Unit 18, 22, 23, and 26A Wolves

Is there **Customary and Traditional Use** of Wolves?

- ✓ **Yes**, positive finding in 1989; reconfirmed in 2000 as part of the statewide furbearer C&T determination.

Is there a **Harvestable Surplus** of Wolves?

- ✓ **Yes,** based on observations by area biologist.

What is the **Amount Necessary for Subsistence** (ANS)?

- ✓ Harvestable portion.

Does the harvestable surplus allow for all or only some uses?

- ✓ This is a Board of Game determination.

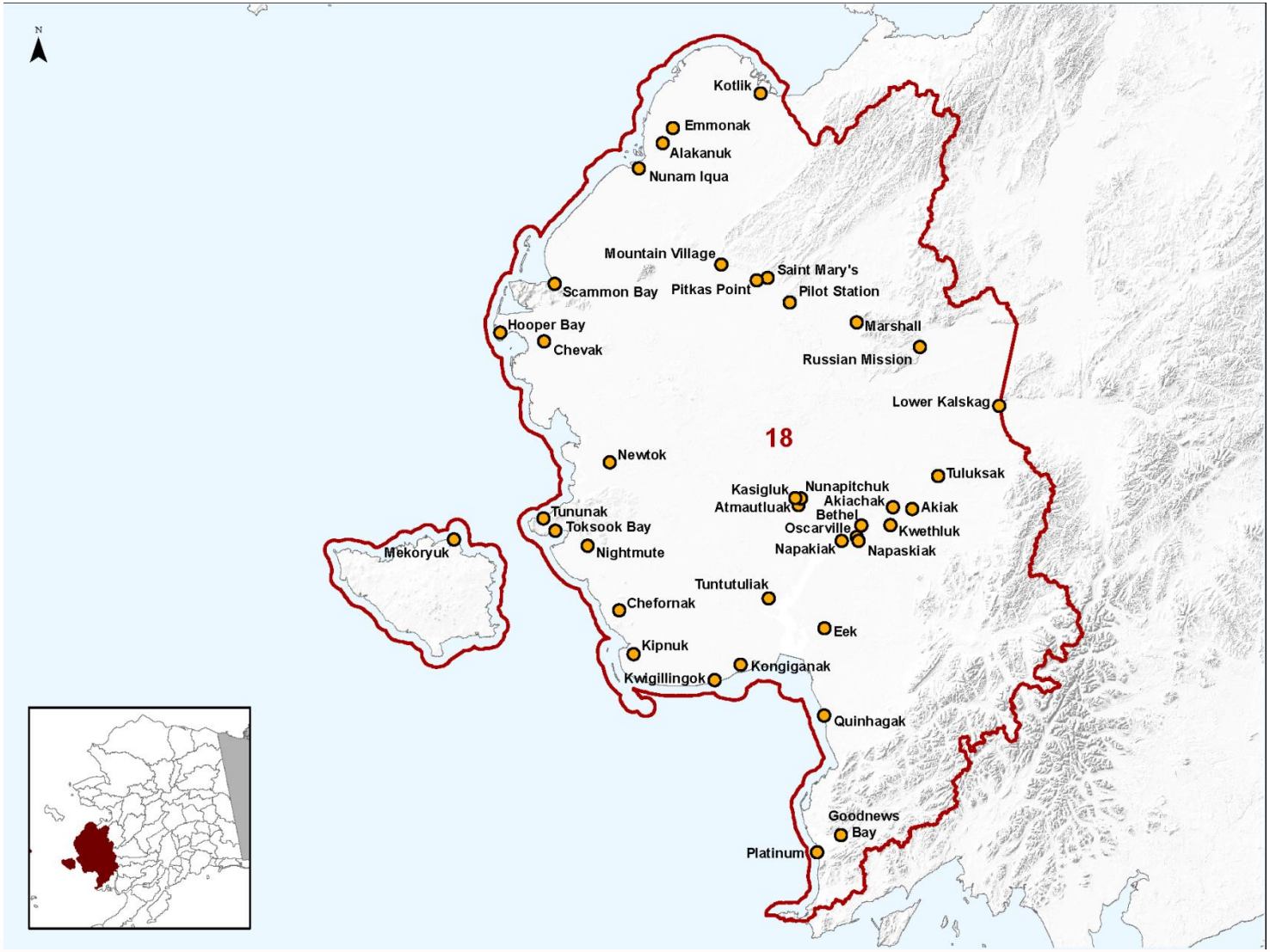
GMU 18, 22, 23, and 26A
Wolf Harvest Patterns: The Data

Information includes:

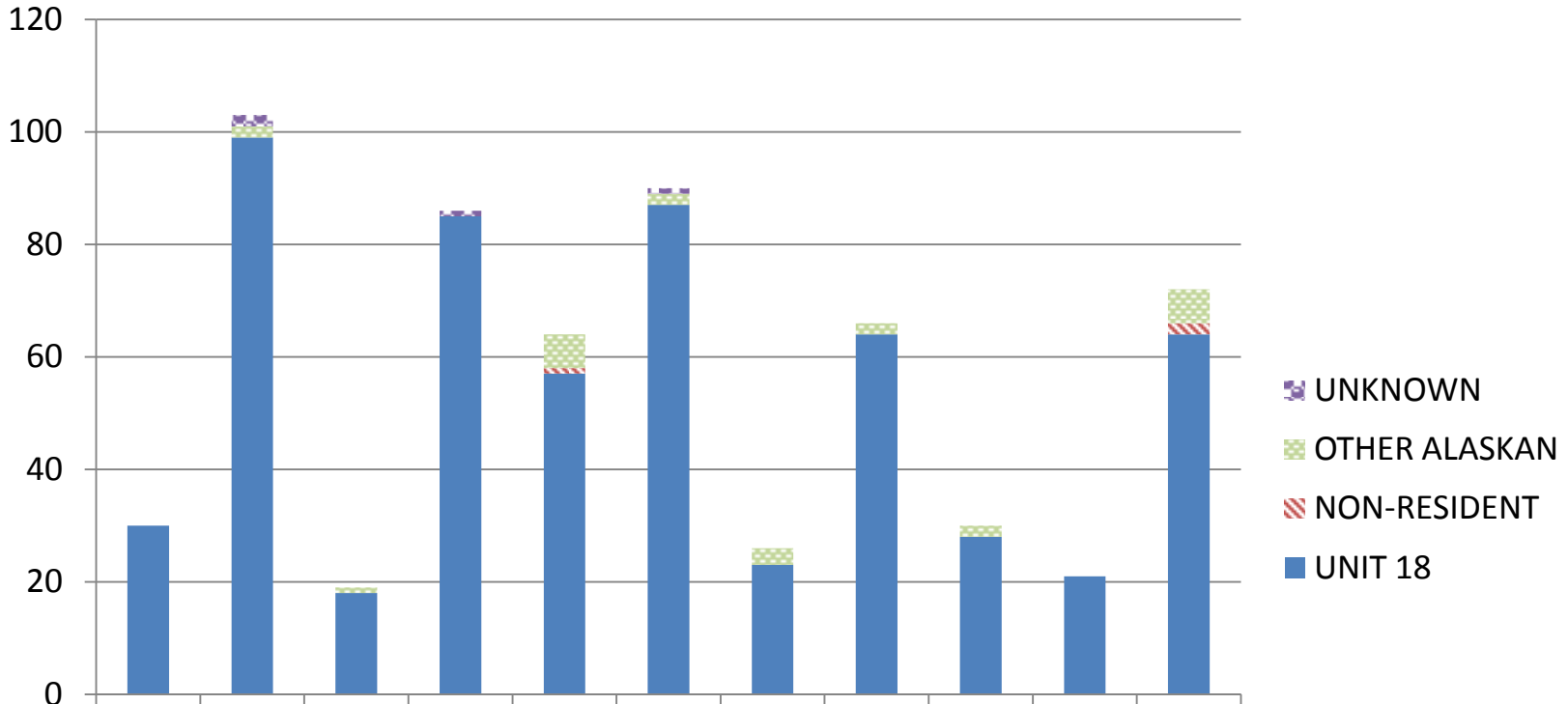
1) Reported number of wolf harvested by residents and Other Alaskans, 2001-2010 (ADF&G sealing records).

2) Estimated community wolf harvests from household surveys.

Unit 18


N
Kotlik
Emmonak
Alakanuk
Nunam Iqua
Mountain Village
Saint Mary's
Scammon Bay
Pitkas Point
Pilot Station
Hooper Bay
Marshall
Chevak
Russian Mission
Lower Kalskag
18
Newtok
Tuluksak
Kasigluk
Nunapitchuk
Akiachak
Atmautluak
Akiak
Bethel
Tununak
Oscarville
Kwethluk
Toksook Bay
Napakiak
Napaskiak
Mekoryuk
Nightmute
Tuntutuliak
Chefornak
Eek
Kipnuk
Kongiganak
Kwigillingok
Quinhagak
Goodnews
Bay
Platinum

Unit 18 Reported Wolf Harvests
(Source: ADF&G Fur Sealing Data)



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
UNKNOWN		2		1		1					
OTHER ALASKAN		2	1		6	2	3	2	2		6
NON-RESIDENT					1						2
UNIT 18	30	99	18	85	57	87	23	64	28	21	64

Unit 18 Estimated Community Wolf Harvests from Households Surveys

	Alakanuk	Chevak	Kotlik	Marshall	Mountain Village	Nunam Iqua	Russian Mission	St. Marys	Scammon Bay	Total
2009	0	0	2	6	10	0	0	0	0	18

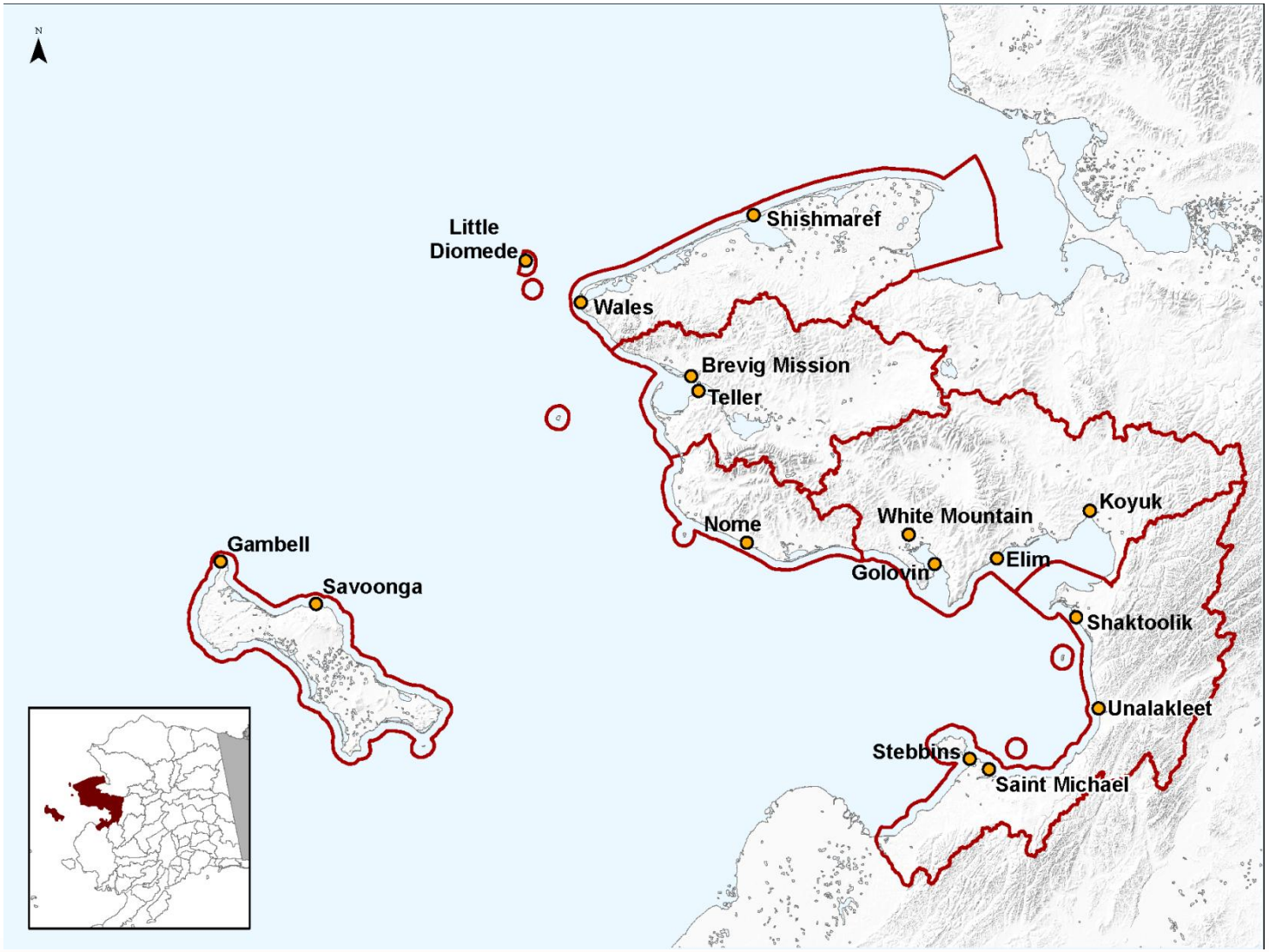
Source: Weekley, G., B. Brettschneider, A. Brettschneider, O. Ramirez, and T. Haynes. 2011. Lower Yukon Large Land Mammal Subsistence Harvest Survey: The 2009-2010 Harvest of Moose, Caribou, Muskox, Bear, Wolverine, and Wolf in Nine Lower Yukon Communities, Alaska. Report prepared for the USFWS Office of Subsistence Management and the Yukon Delta National Wildlife Refuge.

	Akiak	Kwethluk	Lower Kalskag	Oscarville	Tuluksak	Total
2009	-	-	0	-	-	0
2010	0	0	-	0	3	3

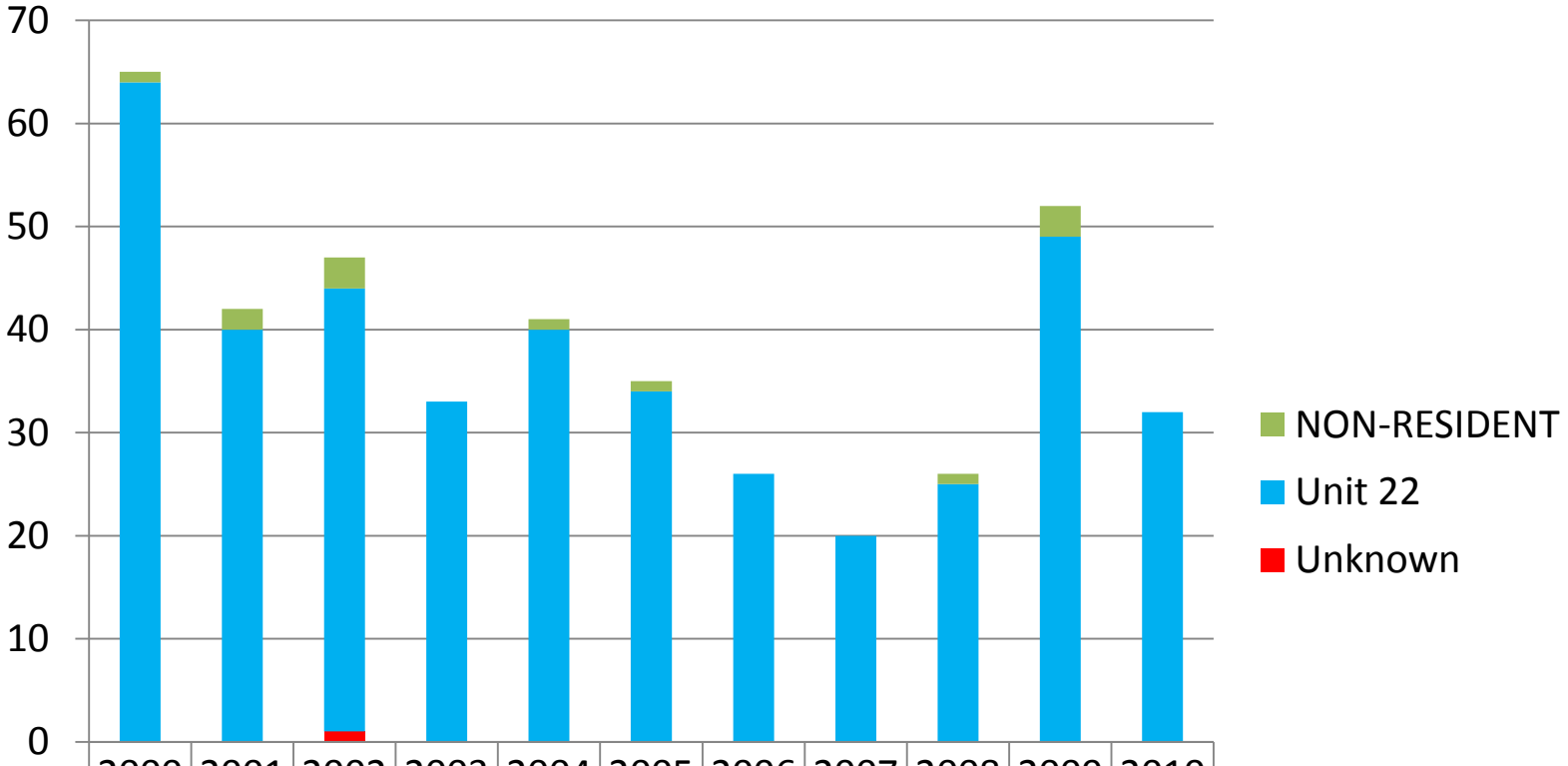
Source: ADF&G Division of Subsistence, Community Household Survey Research

Division researchers, Ted Krieg and Molly Chythlook,, train a local researcher to administer household surveys.

Unit 22


N
Little Diomede
Shishmaref
Wales
Brevig Mission
Teller
Nome
White Mountain
Koyuk
Elim
Golovin
Gambell
Savoonga
Shaktoolik
Unalakleet
Stebbins
Saint Michael

Unit 22 Reported Wolf Harvests
(Source: ADF&G Fur Sealing Data)



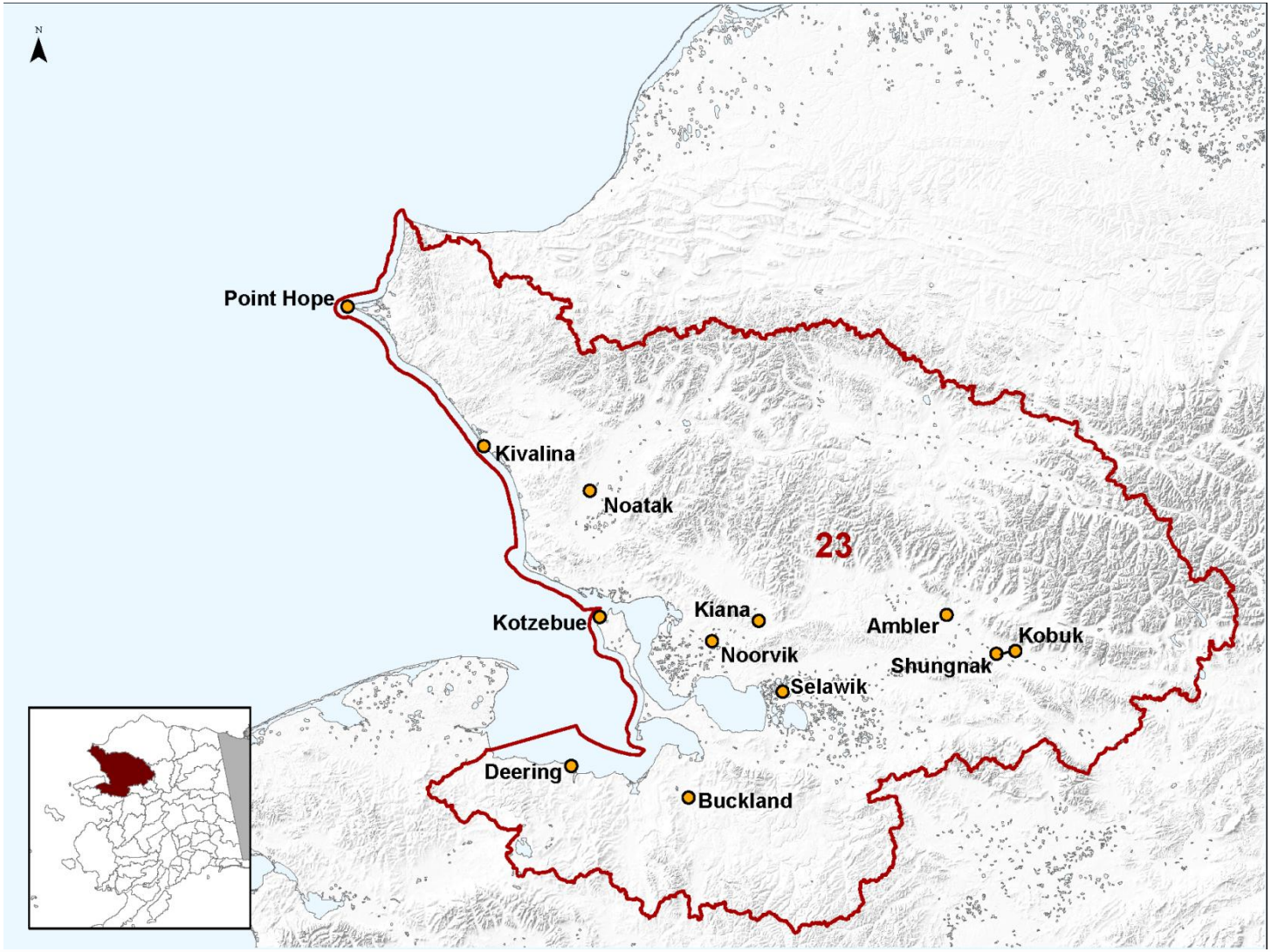
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
NON-RESIDENT	1	2	3	0	1	1	0	0	1	3	0
Unit 22	64	40	43	33	40	34	26	20	25	49	32
Unknown	0	0	1	0	0	0	0	0	0	0	0

Unit 22 Estimated Community Wolf Harvests from Households Surveys

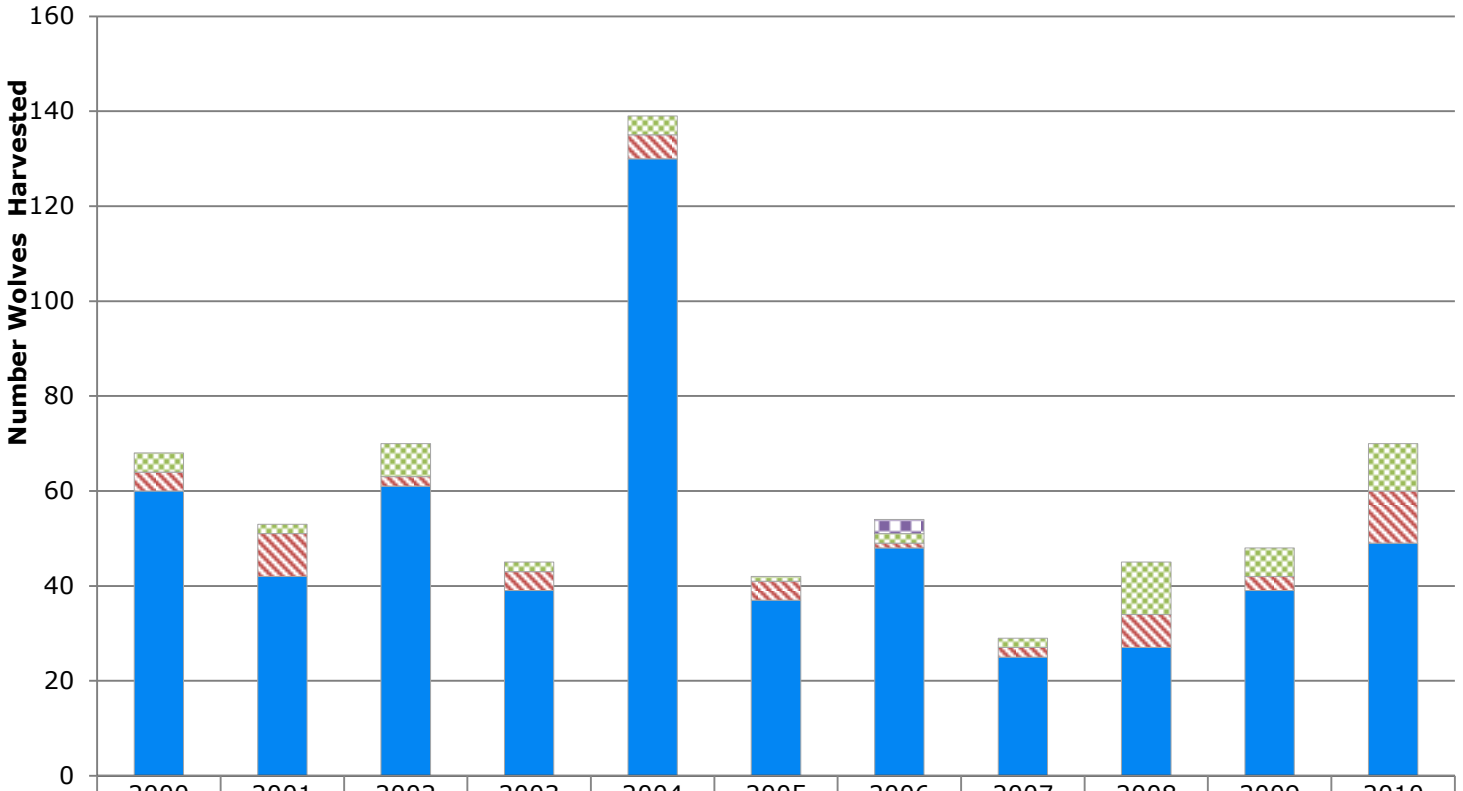
Row Labels	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Grand Total
Brevig Mission	8	-	-	-	-	-	9	-	-	-	-	17
Elim	-	-	-	-	-	-	2	-	-	-	0	2
Gambell	-	-	-	-	-	-	0	-	-	-	-	0
Golovin	-	4	-	-	-	-	-	-	-	-	0	4
Koyuk	-	-	-	-	8	-	11	-	-	-	8	26
Saint Michael	-	-	-	2	-	-	0	-	-	-	-	2
Savoonga	-	-	-	-	-	-	0	-	-	-	-	0
Shaktoolik	-	-	-	17	-	-	-	-	-	10	-	27
Shishmaref	2	-	-	-	-	-	0	-	-	7	-	9
Stebbins	-	-	10	-	-	-	3	-	-	-	-	13
Teller	0	-	-	-	-	-	3	-	-	-	-	3
Unalakleet	-	-	13	-	3	-	5	-	-	-	-	21
Wales	0	-	-	-	-	-	0	-	-	-	0	0
White Mountain	-	-	-	-	-	-	1	-	0	-	-	1
Grand Total	**10**	**4**	**23**	**19**	**11**	**-**	**34**	**-**	**0**	**17**	**8**	**125**

Source: ADF&G Division of Subsistence, Community Household Survey Research

Unit 23


N
Point Hope
Kivalina
Noatak
23
Kotzebue
Kiana
Noorvik
Selawik
Ambler
Shungnak
Kobuk
Deering
Buckland

Unit 23 Reported Wolf Harvests
(Source: ADF&G Fur Sealing Data)



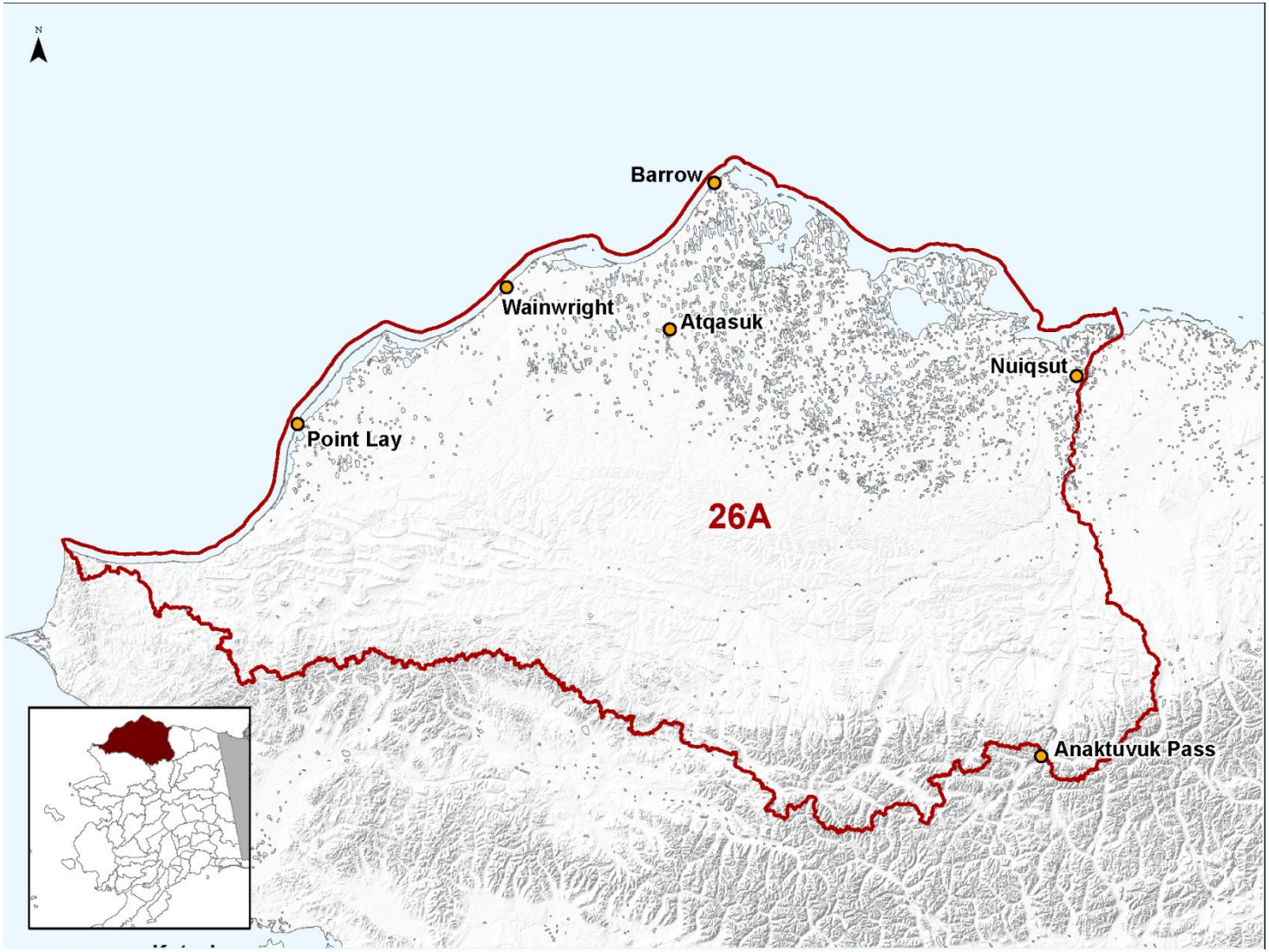
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
UNKNOWN							3				
OTHER ALASKAN	4	2	7	2	4	1	2	2	11	6	10
NON-RESIDENT	4	9	2	4	5	4	1	2	7	3	11
UNIT 23	60	42	61	39	130	37	48	25	27	39	49

Unit 23 Estimated community wolf harvests from households surveys

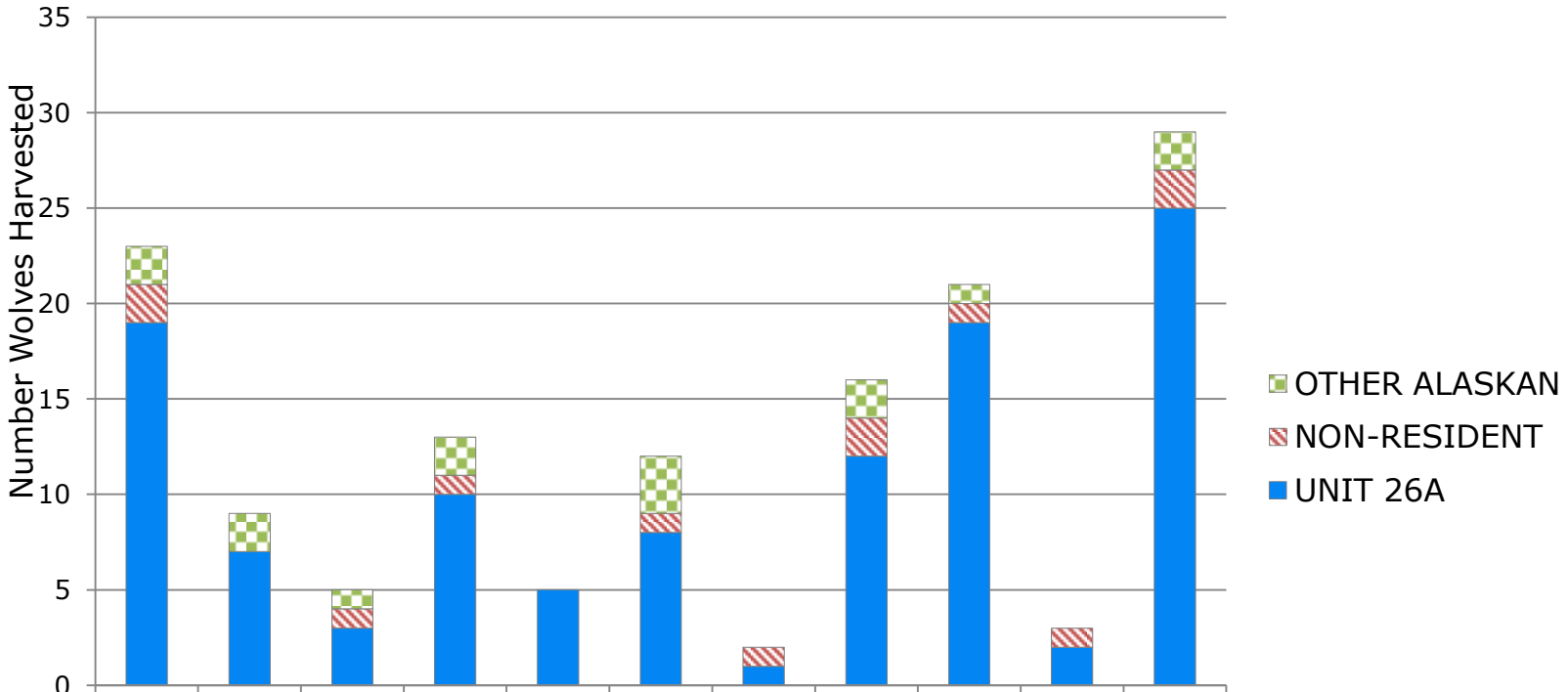
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Ambler	-	-	-	19	-	-	-	-	-	15	-	34
Buckland	-	-	-	-	-	-	-	-	-	22	-	22
Deering	-	-	-	-	-	-	-	6	-	-	-	6
Kiana	-	-	-	-	-	-	1	-	-	1	-	2
Kivalina	-	-	-	-	-	-	-	23	-	-	26	49
Kobuk	-	-	-	-	1	-	-	-	-	5	-	6
Noatak	-	-	7	-	-	-	-	2	-	-	6	15
Noorvik	-	-	104	-	-	-	-	-	11	-	-	115
Selawik	-	-	-	-	-	-	18	-	-	-	-	18
Shungnak	-	-	-	-	-	-	-	-	17	-	-	17
Total	**-**	**-**	**111**	**19**	**1**	**-**	**19**	**31**	**27**	**43**	**32**	**283**

Source: ADF&G Division of Subsistence, Community Household Survey Research

Unit 26A


N
Barrow
Wainwright
Atqasuk
Nuiqsut
Point Lay
26A
Anaktuvuk Pass

Unit 26A Reported Wolf Harvests (Source: ADF&G Fur Sealing Data)



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
OTHER ALASKAN	2	2	1	2	0	3	0	2	1	0	2
NON-RESIDENT	2	0	1	1	0	1	1	2	1	1	2
UNIT 26A	19	7	3	10	5	8	1	12	19	2	25

Unit 26A Estimated community wolf harvests from households surveys

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Total
Anaktuvak Pass	-	28	6	-	-	-	-	-	-	-	-	34
Atqasuk	-	-	-	-	-	-	-	-	-	-	-	-
Barrow	4	9	-	14	-	-	-	-	-	-	-	27
Nuiqsut	5	-	-	-	-	-	-	-	-	-	-	5
Point Lay	-	-	1	-	-	-	-	-	-	-	-	1
Wainwright	-	-	2	-	-	-	-	-	-	-	-	2
Grand Total	**8**	**37**	**9**	**14**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**68**

Source: ADF&G Division of Subsistence, Community Household Survey Research

Proposal 13

Summary:

Adoption of this proposal would revise the Amount Necessary for Subsistence (ANS) finding for wolves in Unit 18, 22, 23, and 26A from harvestable portion.

ADF&G wildlife biologist, Todd Rinaldi works on a sedate wolf.

Department Recommendation:

No recommendation

Questions?

Thank you!

Quyana!

For a copy of our OEO statement, see http://www.adfg.alaska.gov/index.cfm?adfg=home.oeostatement

DIVISION OF SUBSISTENCE

Customary and Traditional Use of Ptarmigans in Game Management Unit 22

5 AAC 99.010. Boards of fisheries and game subsistence procedures ("The 8 Criteria").

5 AAC 99.025. Customary and traditional uses of game populations.

Prepared for the Alaska Board of Game

November 2011

RC 2 Tab J

CRITERION 1: LENGTH AND CONSISTENCY OF USE

A long-term consistent pattern of noncommercial taking, use, and reliance on the fish stock or game population that has been established over a reasonable period of time of not less than one generation, excluding interruption by circumstances beyond the user's control, such as unavailability of the fish or game caused by migratory patterns.

- Ptarmigans have a long history in the diets of Northwest Alaska residents.
- Some elders remember living on ptarmigans and rabbits when caribou populations were in decline in the past.
- See RC 2 Tab I, Table 1 for harvest data from 1980-2006.

CRITERION 2: SEASONALITY

A pattern of taking or use recurring in specific seasons of each year.

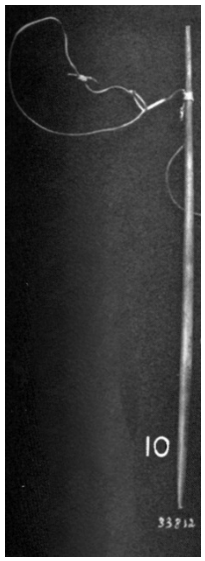
- Ptarmigans available year-round, harvested from October through April.
- Travel is easier and ptarmigan a good source of fresh meat when winter food stores have run low.
- Harvested less in summer.

CRITERION 3: MEANS AND METHODS OF HARVEST

A pattern of taking or use consisting of methods and means of harvest that are characterized by efficiency and economy of effort and cost.

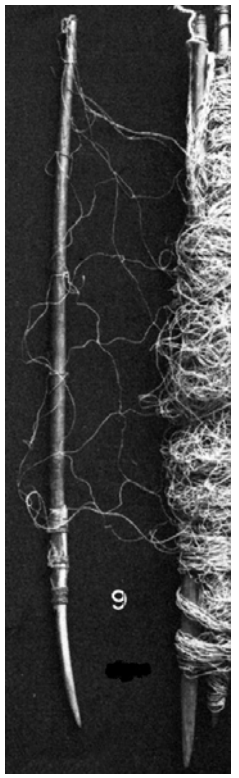
- Traditional use of snares, nets, and decoys (Nelson 1983 [1899]).
- Contemporary harvests by shotgun and .22 caliber rifle, with travel by snow machine and ATV.

Northern Norton Sound, bird snare



(Nelson 1983:132)

St. Michael 1890s sinew net



(Nelson 1983:132)

CRITERION 4: GEOGRAPHIC AREAS

The area in which the noncommercial, long-term, and consistent pattern of taking, use, and reliance upon the fish stock and game population has been established.

- Willow ptarmigan found in willow thickets on river banks and along ponds.
- Rock ptarmigan found on rocky slopes in interior.
- Most hunting occurs close to communities and opportunistically during other activities.
- Traditional harvests targeted ptarmigans when food stores were low.

CRITERION 5: MEANS OF HANDLING, PREPARING, PRESERVING AND STORING

A means of handling, preparing, preserving, and storing fish or game that has been traditionally used by past generations, but not excluding recent technological advances where appropriate.

- Traditional and contemporary harvests of ptarmigans and ptarmigan eggs for human consumption.
- Eaten fresh, frozen, or dried.
- Ptarmigan body parts had other uses.

CRITERION 6: INTERGENERATIONAL TRANSMISSION OF KNOWLEDGE, SKILLS, VALUES AND LORE

A pattern of taking or use that includes the handing down of knowledge of fishing or hunting skills, values, and lore from generation to generation.

- Hunting knowledge on the Seward Peninsula is typically taught parent to child.
- According to a survey conducted in Wales by the Division of Subsistence in 1994, The most commonly cited “teachers” were parents, grandparents, and older siblings.
- Knowledge concerning ptarmigans was also passed from generation to generation through stories such as, “Starving Time at Wales,” reproduced in the C&T Worksheet in Appendix A.

CRITERION 7: DISTRIBUTION AND EXCHANGE

A pattern of taking, use, and reliance where the harvest effort or products of that harvest are distributed or shared, including customary trade, barter, and gift-giving.

- Extensive sharing and distribution of wild resources throughout Unit 22; see RC 2 Tab I, Table 1 for ptarmigan sharing data.
- Division of Subsistence and Kawerak Inc. studies have documented sharing (giving and receiving) of ptarmigan, for example:
  - Shishmaref (1989) 38% of households harvested ptarmigan, but 67% reported use of ptarmigan; 29% gave away and 48% received ptarmigan
  - Stebbins (2006) 32% of households harvested ptarmigan, 34% used; 30% gave away and 26% received ptarmigan.

Source: CSIS (ADF&G 2011).and Kawerak, Inc. 2007

CRITERION 8: DIVERSITY OF RESOURCES IN AN AREA; ECONOMIC, CULTURAL, SOCIAL AND NUTRITIONAL ELEMENTS

A pattern that includes taking, use, and reliance for subsistence purposes upon a wide variety of fish and game resources and that provides substantial economic, cultural, social, and nutritional elements of the subsistence way of life.

- According to harvest data, residents of Western Alaskan communities typically harvest ~50 different species
- Consumption of large amounts of fish and game resources. Pounds per capita harvests range from 596 per person in Brevig Mission (1986) to 996 in Stebbins (1980)
- Due to economic constraints, residents tend to have a strong reliance on wild foods.

Summary Proposal 27: Ptarmigan

This proposal changes ptarmigan hunting in GMU 22:

- Lengthen harvest season.
- Increase bag limit.

Department Recommendation on C&T Determination:
No Recommendation due to allocative nature.

Department Recommendation on Proposal 27: Adopt

Questions?

Thank you!

Quyana!

For a copy of our OEO statement, see http://www.adfg.alaska.gov/index.cfm?adfg=home.oeostatement

RC 2 Tab I

Special Publication No. BOG 2011-05

Customary and Traditional Use Worksheet, Ptarmigans, Game Management Unit 22

Prepared by

Jim Magdanz, Lisa Slayton, and Jim Simon

for the November 2011 Barrow Board of Game meeting

November 2011

Alaska Department of Fish and Game **Division of Subsistence**

Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Division of Subsistence. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)

centimeter	cm
deciliter	dL
gram	g
hectare	ha
kilogram	kg
kilometer	km
liter	L
meter	m
milliliter	mL
millimeter	mm

Weights and measures (English)

cubic feet per second	ft^3/s
foot	ft
gallon	gal
inch	in
mile	mi
nautical mile	nmi
ounce	oz
pound	lb
quart	qt
yard	yd

Time and temperature

day	d
degrees Celsius	°C
degrees Fahrenheit	°F
degrees kelvin	K
hour	h
minute	min
second	s

Physics and chemistry

all atomic symbols	
alternating current	AC
ampere	A
calorie	cal
direct current	DC
hertz	Hz
horsepower	hp
hydrogen ion activity (negative log of)	pH
parts per million	ppm
parts per thousand	ppt, ‰
volts	V
watts	W

General

Alaska Department of Fish and Game	ADF&G
Alaska Administrative Code	AAC
all commonly accepted abbreviations	e.g., Mr., Mrs., AM, PM, etc.
all commonly accepted professional titles	e.g., Dr., Ph.D., R.N., etc.
at	@
compass directions:	
east	E
north	N
south	S
west	W
copyright	©
corporate suffixes:	
Company	Co.
Corporation	Corp.
Incorporated	Inc.
Limited	Ltd.
District of Columbia	D.C.
et alii (and others)	et al.
et cetera (and so forth)	etc.
exempli gratia (for example)	e.g.
Federal Information Code	FIC
id est (that is)	i.e.
latitude or longitude	lat. or long.
monetary symbols (U.S.)	$, ¢
months (tables and figures): first three letters	Jan,...,Dec
registered trademark	®
trademark	™
United States (adjective)	U.S.
United States of America (noun)	USA
U.S.C.	United States Code
U.S. state	use two-letter abbreviations (e.g., AK, WA)

Measures (fisheries)

fork length	FL
mideye-to-fork	MEF
mideye-to-tail-fork	METF
standard length	SL
total length	TL

Mathematics, statistics

all standard mathematical signs, symbols and abbreviations	
alternate hypothesis	HA
base of natural logarithm	e
catch per unit effort	CPUE
coefficient of variation	CV
common test statistics	(F, t, $\chi 2$,etc.)
confidence interval	CI
correlation coefficient (multiple)	R
correlation coefficient (simple)	r
covariance	cov
degree (angular)	°
degrees of freedom	df
expected value	E
greater than	>
greater than or equal to	≥
harvest per unit effort	HPUE
less than	<
less than or equal to	≤
logarithm (natural)	ln
logarithm (base 10)	log
logarithm (specify base)	log2, etc.
minute (angular)	'
not significant	NS
null hypothesis	HO
percent	%
probability	P
probability of a type I error (rejection of the null hypothesis when true)	α
probability of a type II error (acceptance of the null hypothesis when false)	β
second (angular)	"
standard deviation	SD
standard error	SE
variance	
population	Var
sample	var

SPECIAL PUBLICATION NO. BOG 2011-05

CUSTOMARY AND TRADITIONAL USE WORKSHEET, PTARMIGANS, GAME MANAGEMENT UNIT 22

by

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November 2011

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This document should be cited as:
Magdanz, J., L. Slayton, and J. Simon. 2011. Customary and traditional use worksheet, ptarmigans, Game Management Unit 22. Alaska Department of Fish and Game Division of Subsistence Special Publication No. BOG 2011-05, Fairbanks.

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INTRODUCTION

BACKGROUND

The administrative history of customary and traditional use determinations (C&T) for ptarmigans *Lagopus spp*. in Game Management Unit (GMU) 22 is unclear as administrative records provide some contradictory information. The Alaska Board of Game appears to have first made a positive customary and traditional use finding for ptarmigans in Game Management Unit (GMU) 22 on November 13, 1989. The codified regulations from August 10, 1991 include a positive customary and traditional use determination for GMU 22 ptarmigan (5 AAC 99.025), which was reconfirmed in November 1992 when state subsistence regulations were readopted following the McDowell decision and the repeal of the 1986 subsistence statute. However, by July 1995 the codified regulations no longer listed a positive C&T for GMU 22 ptarmigan. As a result, the department again provided a C&T worksheet for GMU 22 ptarmigan to support the Board of Game's subsistence procedures pursuant to 5 AAC 99.010 and Alaska Statute 16.05.258 at the October 1997 regulatory meeting (RC41). However, the board took no action at that meeting to redress the Unit 22 ptarmigan C&T finding. As a result, the department has again prepared a C&T worksheet for the board's consideration at its November 2011 meeting in Barrow.

This revised customary and traditional use summary for ptarmigan in Unit 22 (see Figure 1) provides an expanded description of customary and traditional harvest and use practices for ptarmigans from the ethnographic and ethnohistorical literature of this region of Northwest Alaska. Appendix A is included at the end of this report to provide pertinent quotations related to customary and traditional uses of ptarmigans from the literature.

THE EIGHT CRITERIA

CRITERION 1: LENGTH AND CONSISTENCY OF USE

A long-term consistent pattern of noncommercial taking, use, and reliance on the fish stock or game population that has been established over a reasonable period of time of not less than one generation, excluding interruption by circumstances beyond the user's control, such as unavailability of the fish or game caused by migratory patterns:

Ptarmigans have a long history in the diets of Northwest Alaska residents. Willow Ptarmigan (*aqargiq* or *aqalgiq*), rock ptarmigan (*Niqsaaqtufig*), and white-tailed ptarmigan have been harvested and used since before historic contact to the present. There exists several early historical accounts of ptarmigan harvest and use. They are a relatively easy bird to catch, when compared to waterfowl. They are available year-round, but are especially important in winter and early spring, when other sources of food may be scarce or non-existent. Like some other important Arctic populations, ptarmigan populations fluctuate. When large land mammal populations are low, ptarmigans can be an important source of meat. Some elders remember living on ptarmigans and rabbits when caribou populations were in decline in the past (see literature excerpts section in Appendix A). Harvest history estimates from selected Seward Peninsula communities appear in Table 1. A regulatory history of ptarmigan harvesting for GMU 22 appears in Table 2.

CRITERION 2: SEASONALITY

A pattern of taking or use recurring in specific seasons of each year:

Ptarmigans are available year-round, but are harvested primarily from October through April, when overland travel on frozen ground is easier. The long warm days of March and early April can be especially productive. March and April were traditionally "hungry times" when winter stores of food were typically low. As a result, ptarmigans became a heavily targeted resource at that time. Ptarmigans are less commonly harvested in summer, partly because they are well camouflaged and partly because people travel less in upland habitat. Figures 5-8 depict the contemporary seasonal rounds of Shishmaref, Stebbins, Shaktoolik, and Nome. Each seasonal round includes the usual and occasional harvest times for ptarmigan for each community.

CRITERION 3: MEANS AND METHODS OF HARVEST

A pattern of taking or use consisting of methods and means of harvest that are characterized by efficiency and economy of effort and cost:

Today, ptarmigans are taken primarily with shotguns and .22 caliber rifles by individual hunters. Some individuals still use snares. Hunters travel by snow machine and on snowshoes. Traditionally ptarmigans were taken by individuals with bows and blunt-tipped arrows, small nets, and snares (see figures 2 and 3). Ptarmigan drives involving groups of people using large nets were common. Decoys made of stuffed hawks were sometimes used to frighten the ptarmigans into to nets (see literature excerpts section). Snares, nets, and decoys are now primarily used in educational contexts (e.g. elder demonstrations).

CRITERION 4: GEOGRAPHIC AREAS

The area in which the noncommercial, long-term, and consistent pattern of taking, use, and reliance upon the fish stock and game population has been established:

Hunters find willow ptarmigan principally in willow thickets along river bottoms and surrounding tundra lakes, but may encounter them just about anywhere including willow covered slopes. Rock ptarmigan are found in treeless areas in the interior only. All ptarmigans are almost always found on the ground, usually in willow patches, except during nesting season, when they spread out over the tundra. Areas closest to communities are most heavily used, but ptarmigans are taken opportunistically by hunters or trappers traveling throughout community harvest areas. Traditionally, families would travel in search of ptarmigan during "hungry times", staying wherever they found them in great abundance. Hunting camps were often selected in part due to their proximity to areas of abundant ptarmigans, which could be harvested for fresh meals and snacks (see Figure 4 for example of Shishmaref residents' small game hunting areas, which include ptarmigan hunting).

CRITERION 5: MEANS OF HANDLING, PREPARING, PRESERVING, AND STORING

A means of handling, preparing, preserving, and storing fish or game that has been traditionally used by past generations, but not excluding recent technological advances where appropriate:

Ptarmigans and ptarmigan eggs are primarily used as food for human consumption. Now, as in the past, most ptarmigan are eaten fresh or frozen for later use. Ptarmigan feathers in combination with seal oil are used by some as wormer for sled dogs. Traditionally, the absorbent feathers were used for cleaning purposes, and as an additive (leg feathers) for tempering clay pottery. Ptarmigan sinew was sometimes used to make line for snares.

Because ptarmigans are taken primarily in winter, freezing was a traditional preservation technique. Sometimes a ptarmigan was dried whole. Often ptarmigans were boiled or roasted without being eviscerated. Currently some people store frozen ptarmigans in electric freezers, but it is not uncommon to store ptarmigans in storm sheds for a few days or weeks.

CRITERION 6: INTERGENERATIONAL TRANSMISSION OF KNOWLEDGE, SKILLS, VALUES, AND LORE

A pattern of taking or use that includes the handing down of knowledge of fishing or hunting skills, values, and lore from generation to generation:

Hunting knowledge on the Seward Peninsula is typically taught parent to child. Learning commonly occurs experientially, when children follow their parents hunting, fishing, gathering, and to camp. The Division of Subsistence conducted a survey in Wales in 1994 which ask some questions on this topic. The most commonly cited "teachers" were parents, grandparents, and older siblings. The most commonly cited "students", were children, grandchildren, and younger siblings. An occasional exception was crafts, like carving and sewing, which have been taught in schools as well at home. Today, children learn hunting skills such as how to shoot accurately by first using small caliber rifles to hunt small game such as ptarmigans. Similarly, in the past, young children learned hunting skills by first learning to snare ptarmigans. Knowledge concerning ptarmigans was also passed from generation to generation through stories such as, "Starving Time at Wales" (see Appendix A) which told of a time in Wales when there were no seal or fish in the sea and the ptarmigans and caribou had disappeared from the mountains and tundra.

CRITERION 7: DISTRIBUTION AND EXCHANGE

A pattern of taking, use, and reliance where the harvest effort or products of that harvest are distributed or shared, including customary trade, barter, and gift-giving:

In every community in Northwest Alaska where Division of Subsistence has conducted studies, researchers found extensive sharing and distribution of wild resources. Sharing typically involves almost every household in the study samples. Certain resources, such as seal oil or whale muktuk, are more commonly shared than others, which was as true in traditional times as it is today. Certain communities are recognized as particularly good sources for certain resources, as Shishmaref is recognized for seal oil. Some sharing occurs ceremonially, in feasts at Thanksgiving, Christmas, and Easter, or on the occasion of a child's first kill. But whatever, however, and whenever it occurs, sharing of wild foods is a key feature of life on the Seward Peninsula. Table 1 lists the percentage of households in selective GMU 22 communities using, harvesting, giving, and receiving ptarmigan, and serves to document the extent of sharing of this particular resource over time. Every community that reported harvesting ptarmigans also reported giving and receiving this resource. In most communities, households use wild foods harvested by others through sharing networks, so the percentages of households harvesting usually are lower than the percentages of households using wild foods.

CRITERION 8: DIVERSITY OF RESOURCES IN AN AREA; ECONOMIC, CULTURAL, SOCIAL, AND NUTRITIONAL ELEMENTS

A pattern that includes taking, use, and reliance for subsistence purposes upon a wide variety of fish and game resources and that provides substantial economic, cultural, social, and nutritional elements of the subsistence way of life:

Seward Peninsula communities take, use, and rely upon a wide diversity of fish and game resources. Documented harvests in Seward Peninsula communities ranged from 579 pounds per capita in Brevig Mission in 1989 to 996 pounds per capita per year in Stebbins in 1980 (Alaska Department of Fish and Game 1997). The typical community harvests approximately 50 different species of plants, fish, and wildlife each year. The mix of species depends upon species availability. For some coastal and island communities, as much as 80 percent of the total harvests, by weight, may come from marine mammals. For other coastal and island communities, terrestrial mammals, fish, and marine mammals comprise approximately equal portions of the total community harvest. Small game, such as ptarmigans, are one type of wild resource that is harvested during the year in communities. They are somewhat different in that they are commonly available during the lean times of winter and spring when other wild resources may be seasonally unavailable. They provide a taste of fresh meat, which is a break from the dried or frozen stored foods used within the household. Figures 5-8 depict the contemporary seasonal rounds of Shishmaref, Stebbins, Shaktoolik, and Nome. Each seasonal round includes the usual and occasional harvest times for ptarmigans for each community.

The amount of cash available in most Seward Peninsula communities is relatively small, compared to urban parts of Alaska. According to the U.S. Census Bureau (2011),[1] Median household income for the Nome Census Area in 2009 was $48,174 compared to the median household income of $66,712 for Alaska as a whole. At the same time, imported food costs are very high. The people of the Seward Peninsula use and rely upon virtually all the edible wild game species available in their region. Many people in these communities cannot afford to buy meat or fish, and wild foods are essential to the quality of their diet. The harvesting of wild foods continues to evolve in many ways as social, economic, and environmental conditions change.

[1] http://quickfacts.census.gov/qfd/states/02/02270.html accessed on November 7, 2011.

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TABLES AND FIGURES

Table 1. Subsistence uses of ptarmigans in surveyed GMU 22 communities 1980 to 2006.

Community	Study Year	Percentage of Households Using	Percentage of Households Harvesting	Percentage of Households Receiving	Percentage of Households Giving	Estimated Total Number Harvested	Estimated Pounds Per Capita	Estimated Pounds Per Household
Brevig Mission	1989	53.3	46.7	7.0	57.0	376	1.4	6.1
Brevig Mission	1995		21.4	27.0	40.0	203	0.8	3.5
Brevig Mission	2006	3.0	3.0	2.0	2.0	23	0	0.2
Diomede	1995		0.0			0	0	0
Elim	1993		27.8			236	0.9	3.3
Elim	2006	27.0	27.0	13.0	23.0	156	1.8	1.8
Gambell	2006	0	0	0	0	0	0	0
Golovin	1989	97.0	81.8	39.0	55.0	957	4.0	16.3
Koyuk	1995		24.3			201	0.7	2.9
Koyuk	2006	5.0	5.0	1.0	4.0	100	0.2	0.9
Nome	1995		22.0			4,117	1.1	3.7
Savoonga	2006	0	0	0	0	0	0	0
Shaktoolik	1993		26.1			288	1.0	4.7
Shishmaref	1989	66.7	38.1	48.0	29.0	1,113	1.7	6.6
Shishmaref	1995	48.9	42.2	13.0	40.0	1,487	2.7	10.6
Shishmaref	2006	19.0	17.0	12.0	17.0	734	0.9	4.0
Saint Michael	2006	13.0	13.0	9.0	13.0	171	0.2	1.3
Stebbins	1980		58.3			630	1.7	10.5
Stebbins	1993		38.3			915	1.9	9.7
Stebbins	2006	34.0	32.0	26.0	30.0	718	0.9	4.0
Teller	1995		17.5			156	0.5	2
Teller	2006	19.0	19.0	15.0	15.0	111	0.4	1.3
Unalakleet	1995		19.8			438	0.6	2.1
Unalakleet	2006	18.0	18.0	11.0	16.0	378	0.4	2.2
Wales	1993	28.6	23.8	7.0	10.0	133	0.9	2.7
Wales	2006	3.0	3.0	3.0	3.0	6	0	0

Community	Study Year	Percentage of Households Using	Percentage of Households Harvesting	Percentage of Households Receiving	Percentage of Households Giving	Estimated Total Number Harvested	Estimated Pounds Per Capita	Estimated Pounds Per Household
White Mountain	1995		55.2			615	2.8	9.2
White Mountain	2006	16.0	15.0	2.0	9.0	107	0.4	1.3
Minimum		**0.0**	**0.0**	**0.0**	**0.0**	**0**	**0.0**	**0.0**
Maximum		**97.0**	**81.8**	**48.0**	**57.0**	**4,117**	**4.0**	**16.3**
Mean		**26.6**	**24.8**	**13.0**	**20.1**	**513**	**1.0**	**5.9**

Sources: ADF&G, Subsistence Division, Community Subsistence Information System (CSIS), http://www.adfg.alaska.gov/sb/CSIS/ for 1980-1995 data; and for 2006 data see Ahmasuk et al. 2007.

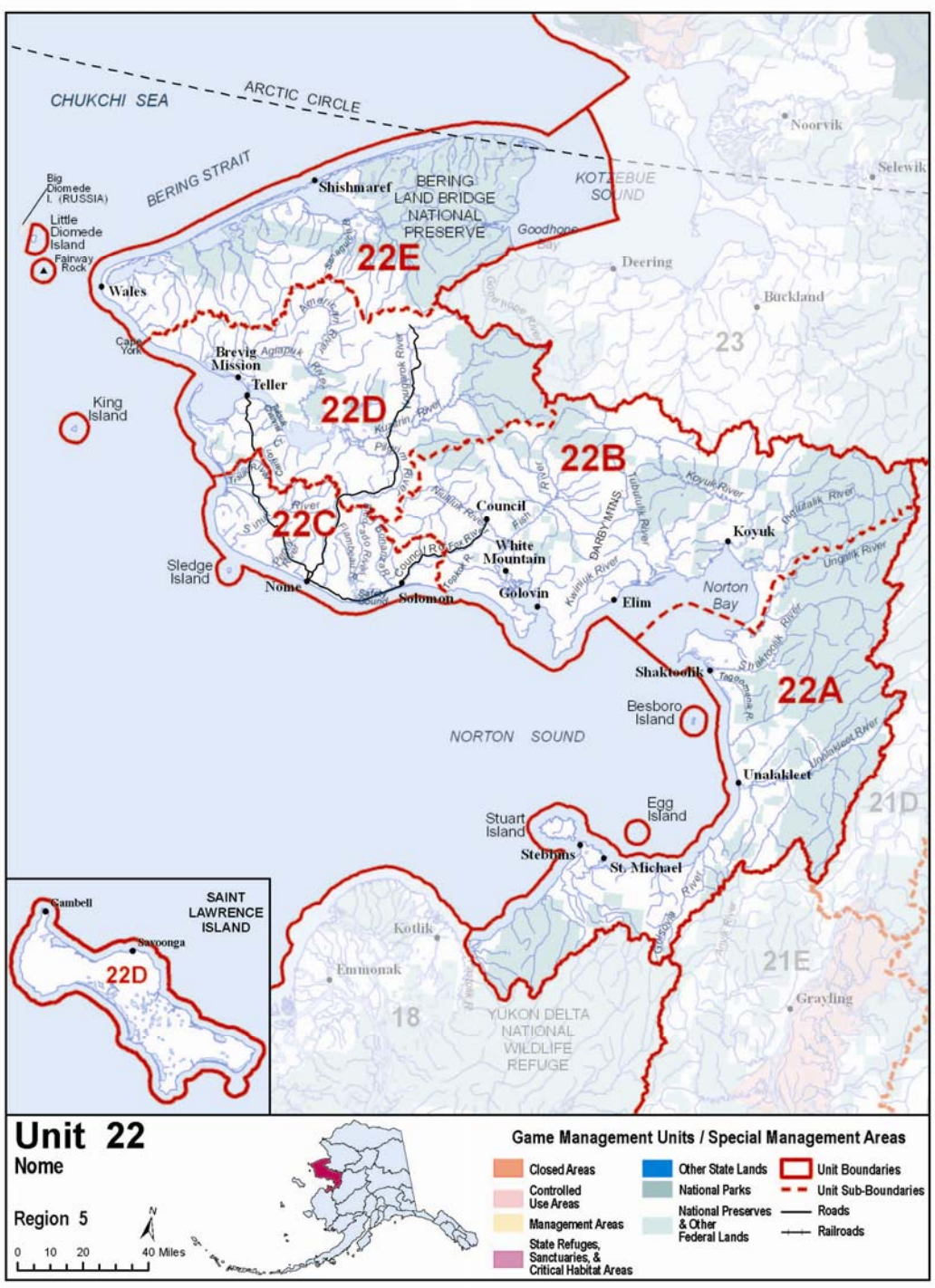

Figure 1. Game management unit 22A through 22E.

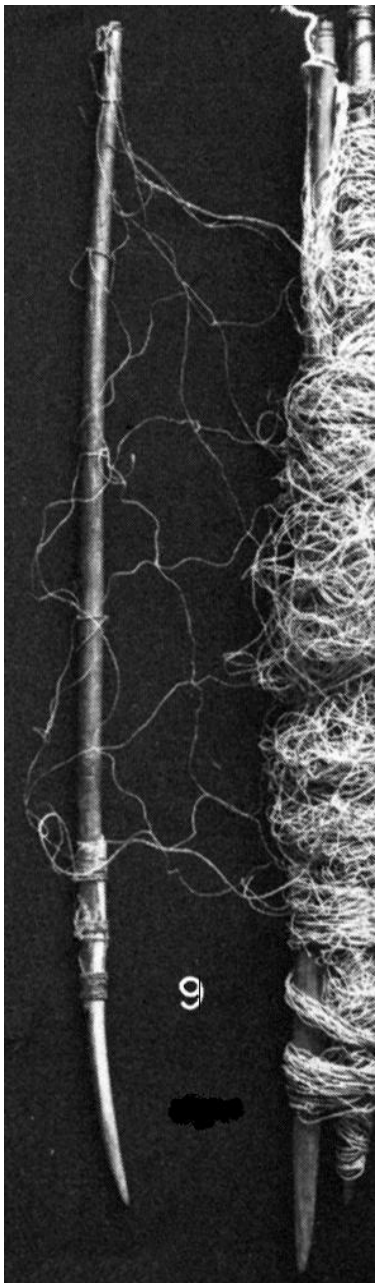

Figure 2. St Michael: 1890s sinew net used for bird hunting.[2]

[2] This 1890s fine meshed ptarmigan net from St. Michael is 16 feet in length with three 18 inch long round wooden spreaders, one at each end and one in the middle. The net is made of sinew cord (Nelson 1983: Pp. 132, Figure 9, plate LI).

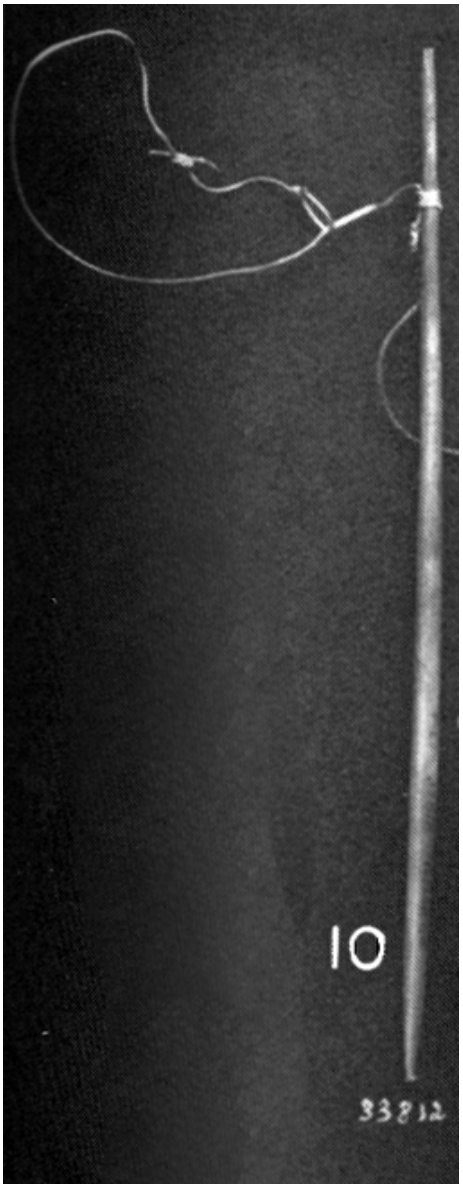

Figure 3. Northern Norton Sound: bird snare, probably for ptarmigans (*Kaviagmut*).[3].

[3] The wooden stake of this 1890s snare is approximately 14 inches in length with a running rawhide noose at the upper end attached with a sinew lashing (Nelson 1983: Pp. 132, Figure 10, plate LI)

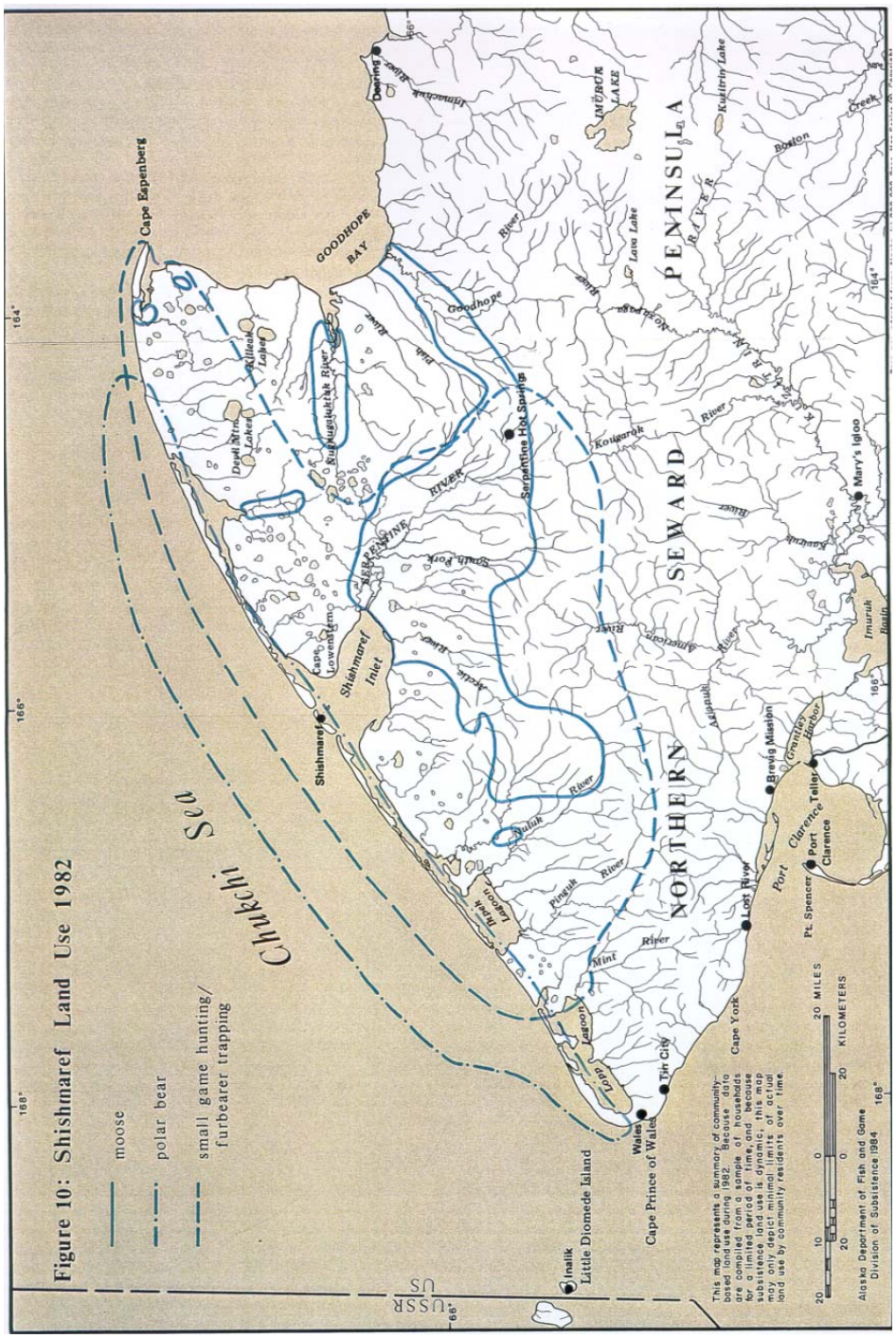

Figure 4. Map depicting land use for small game, including ptarmigans, for Shishmaref in 1982 (Sobelman 1985: Pp. 97, Figure 10).

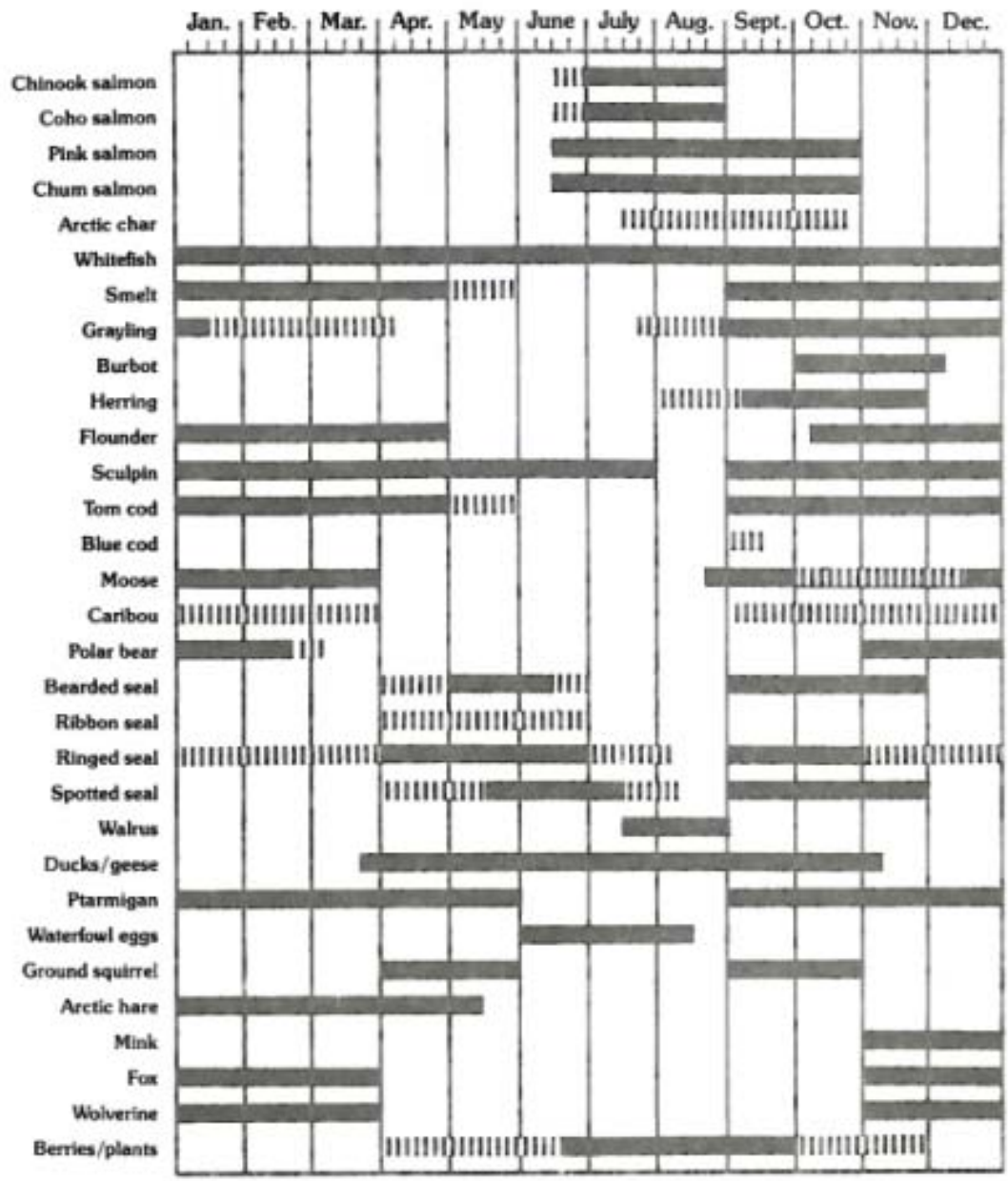

Figure 5. Contemporary seasonal round of harvest activities by Shishmaref residents (Schroeder et al. 1987: 133 citing Sobelman 1985).[4]

[4] Solid line indicates usual harvest effort. Broken line indicates occasional harvest effort.

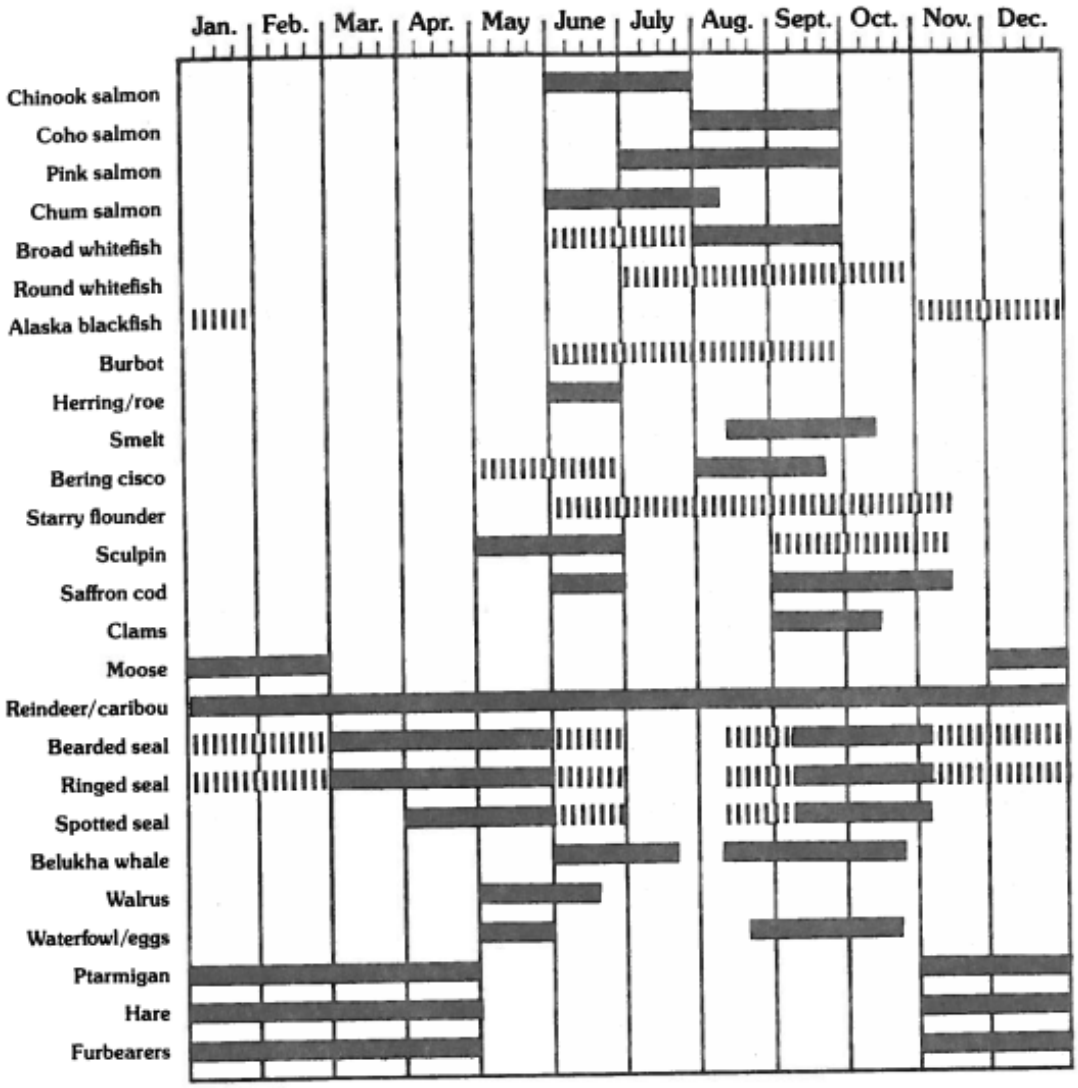

Figure 6. Contemporary annual round of harvest activities by Stebbins residents (Schroeder et al. 1987: 151 citing Wolfe 1982).

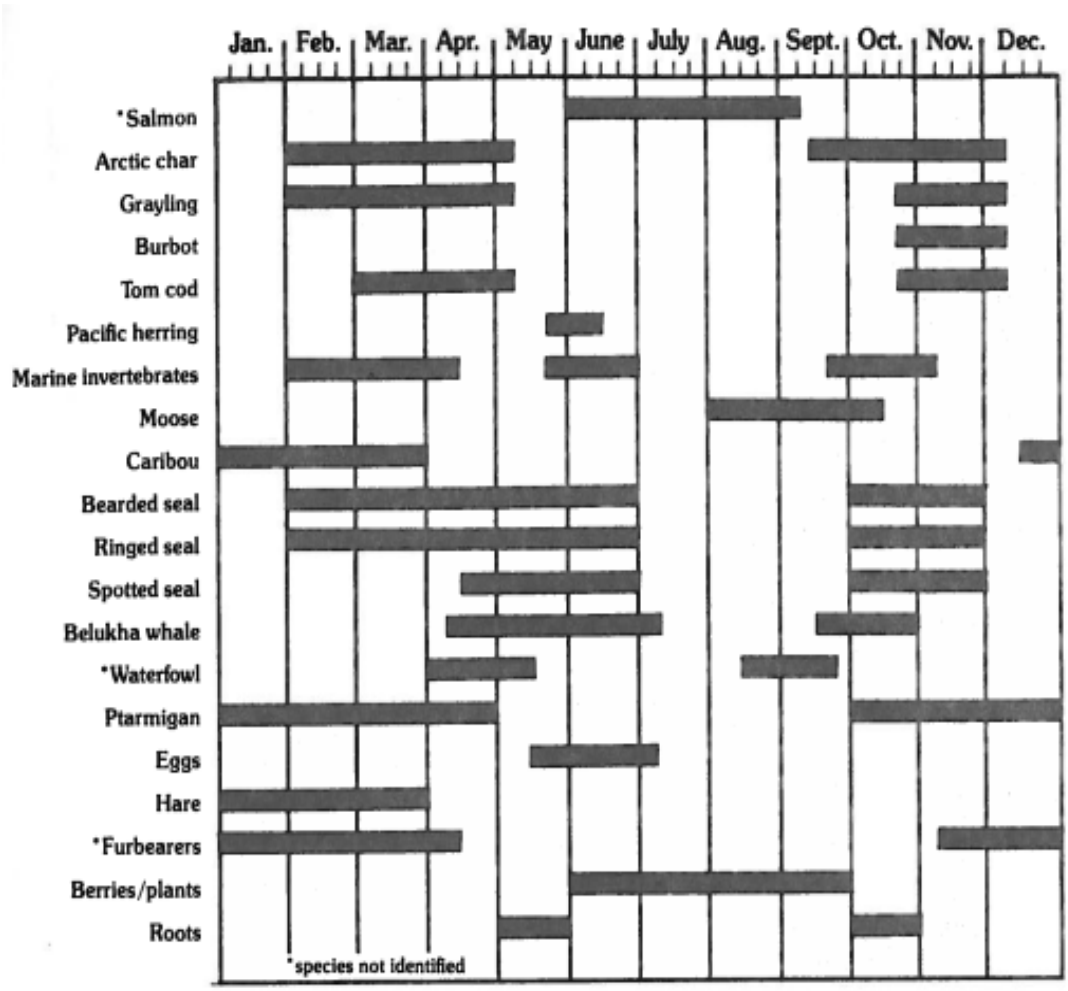

Figure 7. Contemporary annual round of harvest activities by Shaktoolik residents (Schroeder et al. 1987: 149 citing Thomas 1982).

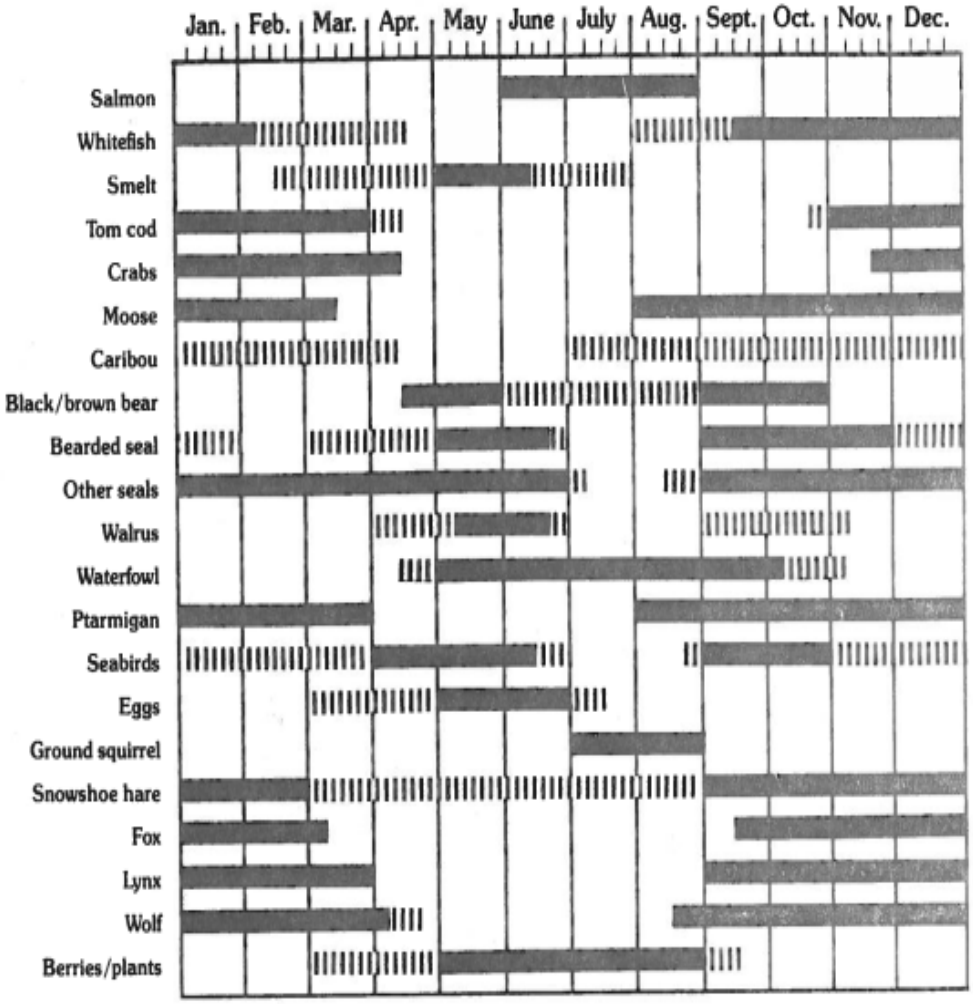

Figure 8. Contemporary annual round of harvest activities by Nome residents (Schroeder et al. 1987:144 citing Ellanna 1983b).

Table 2. Ptarmigan hunting regulations, 1925-2012, game management unit 22.

Regulatory Year	**Season**	**Total Days**	**Bag Limits, Areas, & Conditions**
1925-1932	Sept. 1 – Feb. 28	181	In any one day during the open season 25 in the aggregate of all kinds; but no to exceed 25 in the aggregate of all kinds of grouse and ptarmigan.
1933-39	Sept. 1-Feb. 28	181	15 grouse, 25 ptarmigan, a day but not more than 25 in aggregate a day.
1940	Aug. 20-Jan.31	165	Grouse 10; ptarmigan 15, but not to exceed 15 in the aggregate of all kind of grouse and ptarmigan a day.
1941-1942	Aug. 20-Jan.31	165	Grouse 10; ptarmigan 10, but not to exceed 10 in the aggregate of all kind of grouse and ptarmigan a day.
1943	Sept.1-Jan. 31	153	Grouse 10; ptarmigan 10, but not to exceed 10 in the aggregate of all kind of grouse and ptarmigan a day.
1944[5]	Fur District 5 Sept. 15-Feb. 28	167	Grouse 10; ptarmigan 10, but not to exceed 10 in the aggregate of all kind of grouse and ptarmigan a day.
1945-1946	Fur District 5 Sept. 1-Feb. 28	181	Grouse 10; ptarmigan 10, but not to exceed 10 in the aggregate of all kind of grouse and ptarmigan a day.
1947-1948	Fur District 5 Aug. 20-Feb. 28	193	Grouse 10; ptarmigan 10, but not to exceed 10 in the aggregate of all kind of grouse and ptarmigan a day.
1949[6]-1951	In the Territory Sept. 1-Feb. 28	181	10 singly or in the aggregate of all kinds of grouse or ptarmigan in a day.
1952	In the Territory Aug. 20-Feb. 28	193	10 singly or in the aggregate of all kinds of grouse or ptarmigan in a day.

[5] GMU 22 is referred to as part of Fur District 5 for the first time.

[6] No reference to districts or GMU at this time.

1953	In the Territory Aug. 20-April 15	239	10 singly or in the aggregate of all kinds of grouse or ptarmigan in a day.
1954	In the Territory Aug. 20-April 15	239	15 a day in the aggregate of all kinds of grouse and ptarmigan, of which not more than 10 shall be grouse.
1955	In the Territory Aug. 20-April 15	239	20 ptarmigan a day.
1956[7]	GMU 22 Aug. 20-April 15	239	20 ptarmigan a day.
1960	Jan. 1-April 15 & Aug. 20-Dec.31	239	20 ptarmigan a day.
1961	Aug. 20-April 15	239	20 ptarmigan a day.
1962-1964	Aug. 10- April 15	249	20 ptarmigan a day.
1965-1967	Aug. 20-April 30	254	20 ptarmigan a day, 40 in possession.
1968-1997	Aug. 10-April 30	264	20 ptarmigan a day, 40 in possession.
1998-2012	Sept. 1-April 30	242	20 ptarmigan a day, 40 in possession

[7] Area is first referred to as GMU 22. Data for all subsequent years are attributed to GMU 22.

APPENDICES

APPENDIX A.–LITERATURE EXCERPTS PERTAINING TO CUSTOMARY AND TRADITIONAL PTARMIGAN HUNTING AND USE PATTERNS IN GAME MANAGEMENT UNIT 22[8]

Following are quotations from selected literature pertaining to customary and traditional ptarmigan hunting and use patterns in Game Management Unit 22, Alaska:

Bering Strait Region Local and Traditional Knowledge Pilot Project; A Comprehensive Subsistence Use Study of the Bering Strait Region, Ahmasuk, A.; Trigg, E., North Pacific Research Board, Kawerak, Incorporated, July 2007.

Brevig Mission respondent states comments and concerns about subsistence, 2005-2006: One day I went to an elder's house and ate chicken. The elder has told stories about how her husband went out every night after work to hunt ptarmigans and rabbits. The next day I went to another elder's house and ate chicken. As I was walking home I thought to myself, 'Uh, maybe it is easier to go to the store and buy chicken than go out and chase ptarmigans.'

Burch, Ernest S. Jr. 2006. Social Life in Northwest Alaska The Structure of Inupiaq Eskimo Nations. University of Alaska Press. Fairbanks, Alaska.

Burch (2006:180) describes types of ptarmigan found in the area of concern (most of 22E, 22B and 22D are covered here): Ptarmigan include the rock ptarmigan (*Lagopus mutus)*, and the willow ptarmigan (*Lagopus lagopus*) (Weeden 1994). The willow ptarmigan is found in tundra districts throughout the study region, whereas the rock ptarmigan is found in treeless areas in the interior only. Ptarmigan are almost always found on the ground, usually in willow patches, except during nesting season, when they spread out all over the tundra.

Burch (2006:181) discusses the various traditional methods of harvest: Ptarmigan were an important source of food everywhere except on exposed areas of coast where there are no shrubs. In late winter, ptarmigan were often the only creature available to sustain human life. One of the primary ways they were caught between September and May was with snares set by women and children near virtually every camp made near a patch of shrubs. Another technique consisted of an array of snares set along the ground, which caught the birds by the foot. Ptarmigan were also shot with bows and blunt-tipped arrows, pursued with enthusiasm by young boys learning to hunt (L. Greist 1979; T. Mitchell 1969). The most productive way to take ptarmigan, however, was with nets. A long net, perhaps 30 to 100 feet long and about 18 to 36 inches high, was placed around the end of the willow patch; help upright with sticks thrust into the snow. Usually this long net consisted of two or shorter ones strung together, the sections having been made by, and belonging to, different women. Women and children started at the opposite end of the willow patch and slowly drove the birds forward. Since ptarmigan prefer to flee by running rather than flying, the birds could be gradually herded toward the net. Sometimes the stuffed bodies of hawks were carried on poles to frighten the ptarmigan and prevent them from flying. As the ptarmigan approached the net, the drivers began to shout and run forward, scaring the birds into it. Many of the birds became entangled, and were caught and killed by their pursuers. This technique was particularly productive when the hunters were able to drive the birds into the wind, sometimes hundreds being taken in one drive.

Burch (2006:181) continues: Another variation was used just at the beginning of mating season, when male ptarmigan become quite combative (Stoney 1900:839). Several birds were shot, skinned, stuffed,

[8] The excerpts contained in Appendix A are quotations for the sources indicated. There are additional sources cited within these quotations that are not represented here. Readers who want to further explore this information should refer to these sources directly.

and tied to a net placed out on the tundra. When male birds attacked the decoys, they became enmeshed in the net. Still a third variation was to cut a number of willows, and thrust them into the snow in an area, such as a frozen and snow-covered lake surface, where they did not grow naturally. Ptarmigan migrating northwards in the spring were often attracted to these artificial willow patches, and were netted there (C. Smith 1970; Sunno 1951:76). Ptarmigan and grouse were kept by the person who snared or shot them. In the case of a drive, they were divided among the people who cooperated in the project and who supplied the nets. I do not have certain evidence on the point, but I strongly suspect that the owner of the net, or of each section of net, got a special share for its use as well.

Burch (2006:181) describes use and preparation: Grouse and Ptarmigan were plucked, then often boiled or roasted without being eviscerated (Anderson et al. 1998:296; Wolfe 1893:149-50). Sometimes a ptarmigan was dried whole, but this was not true of grouse. Ptarmigan and ruffed grouse eggs were boiled and eaten, but spruce grouse eggs were not eaten. Ptarmigan leg feathers were often used to temper pottery (Keats 1969:2), and ptarmigan sinew was sometimes used to make line for snares (J. Evok 1970; Clinton Swan 1984:2).

Burch (2006:56) discusses early ptarmigan use in the seasonal round: The winter search for food involved the division of settlements into smaller units than existed in the fall. It was a time when most households moved about the country looking for caribou and places where they could hook for fish through holes chopped in the river ice. Whenever they found caribou, fish, ptarmigan, or hares, they stopped. When supplies gave out, they moved on.

Burch (2006:56-57) continues: Famine, or at least severe hunger, often stalked the land in late winter. As the situation deteriorated and people became weak from hunger, movement became increasingly difficult. Ultimately, it became impossible. The daily routine in such circumstances seems to have been pretty much limited to setting snares for ptarmigan and hares in nearby shrubs and hoping for the best. Otherwise, people stayed in bed to conserve energy. Instead of the routine of breakfast, nibbling during the day, and eating a large dinner in the evening, people were reduced to an occasional snack. In extremis, people ate ptarmigan dung, pieces of boiled clothing, and eventually their dogs, who also would have been starving. Sometimes meals disappeared altogether from the daily agenda.

Late March usually brought better conditions. Fish began moving about in the rivers, ptarmigan began arriving in increasingly large numbers, caribou started their spring migration, and seals began to sun themselves on top of the sea ice. These developments signaled major seasonal changes with regard to subsistence, and to a number of relocations of the human population (Burch 2006:57).

Burch (2006:106) speaks to selection of past settlement sites: In interior districts, houses were usually erected along and facing a stream or river, less often a small lake, on ground that was above spring flood level. They were also often built in the midst of or very near heavy willow growth, which served as a windbreak, source of fuel, a home to ptarmigan and hares that could be snared for food, and camouflage from enemy raiders.

Burch (2006:287) speaks to selection of camp sites: The ideal camping place had freshwater or freshwater ice close by; willows to provide a windbreak and possibly game in the form of hares and ptarmigan; and convenient access to seals, caribou, or fish.

Burch (2006:214) states: As the Kivallinigmiu elder Regina Walton (1965.2) told me, ‘We never stayed the whole winter along the river when there was no caribou and no fish either. Then we had nothing to eat. The people spread around looking for ptarmigan, staying wherever they found some.’ When ordinary food supplies were exhausted, people turned to emergency foods in order to survive. One option was to eat ptarmigan or hare droppings (Burch 2006:215).

Keithahn, Edward L. Alaskan Igloo Tales. Alaska Northwest Books. Anchorage, Alaska.

Keithahn (1974:62) relates a tale of the starving time at Wales: Years ago, before they had reindeer, the Eskimo frequently had starving times and many people would die before any food could be found. It was in one of these dreadful times that the people of Wales, then known as Kingen, were starving. There were no seal or fish in the sea and the ptarmigan and caribou had disappeared from the mountains and tundra. People were already eating walrus skins, for the dogs had long since been eaten.

Nelson, Edward William 1983 [1899]. The Eskimo About Bering Strait. Smithsonian Institution Press. Washington, D.C.

Nelson (1983:131) writing in 1899 states: The Eskimo have various ingenious methods of taking ptarmigan and water fowl. During the winter small sinew snares are set among the bushes where the ptarmigan resort to feed or to rest. Sometimes little brush fences are built, with openings at intervals in which the snares are set so that the birds may be taken when trying to pass through. Figure 10, plate LI, (page 9 this publication) illustrates one of these snares, from Norton Sound. It consists of a stake nearly 14 inches in length, having a rawhide running noose attached to its upper end by a sinew lashing; a twisted sinew cord about a foot in length serves to attach the snare and stake to the trunk or branch of an adjacent bush.

As spring opens the male birds commence to molt and the brown summer plumage appears about their necks. At this time they become extremely pugnacious and utter loud notes of challenge, which so excite other males within hearing that desperate battles ensue. The birds occupy small knolls or banks of snow, which give them a vantage point from which to look over the adjacent plain. If, when on his knoll, the male ptarmigan hears another uttering his call within the area he considers his own he flies to the intruder and fiercely attacks him. This habit is taken advantage of by the Eskimos, who stuff the skin of one of these birds rudely and mount it upon a stick which holds the head outstretched. This decoy is taken to the vicinity of one of the calling males, and it is planted on a knoll or snowdrift so that it forms a conspicuous object. The hunter then surrounds it with a finely made net of sinew cord supported by slender sticks. Both netting and sticks are pale yellow in color, and are scarcely discernible at a short distance. The hunter then conceals himself close by and imitates the challenge note; the bird hears it and flies straight to the spot. As he flies swiftly along within a few feet of the ground he sees his supposed rival, dashes at him, and is entangled in the net. The hunter secures him, after which he carries the decoy and the net to the vicinity of another bird (Nelson 1983:131-132).

Figure 9, plate LI, (presented on page 8 of this publication) illustrates one of these fine-meshed ptarmigan nets, from St. Michael. It is made of sinew cord, and is about 16 feet in length. At each end it has a wooden spreader, in the form of a round stake, about 18 inches in length, tapering at the lower end, to which a deerhorn (i.e. caribou antler) point is securely lashed. In the middle of the net is a similar wooden spreader (Nelson 1983:132).

Oquilluk, William A. 1981 People of Kauwerak Legends of the Northern Eskimo. Alaska Pacific University Press. Anchorage, Alaska.

Oquilluk (1981:99) Talks about harvest times: The Eskimos hunted in wintertime, too. The ptarmigan is an Arctic bird (grouse) that stays all year round when the seasons come and go. They stay in the northern part of Alaska. They live way north in the spring of the year and during fall season. They go to the east in the summertime. They stay all through the winter. Then they have feathers on the bottom of their feet. In the springtime they do not have feathers on their feet. At that time, the male is all brown, but the female has a few white specks here and there. In the winter, they are all white. In midwinter the menfolk hunted the ptarmigan with snares

Ray, Dorothy Jean 1975. The Eskimos of Bering Strait 1650-1898. University of Washington Press, Seattle and London.

Ray (1975:117) speaks to ptarmigan use in the period 1778 to 1827: Ptarmigan were an important food resource in the bushy areas of Nome, Kuzitrin, and Fish rivers. Sometimes these birds formed the principal part of the diet for weeks during the winter. Ptarmigan were caught at that time of year in small snares, which were hung, camouflaged, three or four inches above the ground in the same areas year after year by the same families. In the spring, a caribou sinew net was set at the edge of willows or on sandbars with a stuffed ptarmigan (or a white cup or handkerchief) in the middle. A male and female ptarmigan stayed together all year long, and the jealous roosters were easy to catch if lured by such means into the net. Ptarmigan were boiled in kettles or, in earlier days, cooked with hot rocks in clay pots. Their absorbent feathers were used for cleaning purposes.

Ray (1975:183) speaks of early use of ptarmigan snares near Mary's Igloo: Only one tale appears to go back to what might be the first man on the Kuzuitrin River, for it contains elements that suggest an encounter earlier than the others. A man born in 1896 heard the story from his grandfather, who had met the foreigner when he was a young man. He was tending his ptarmigan snares in the snow when he saw strange footprints on the ground and, looking up, saw a 'different-looking man' whom he and his wife named 'Kunchsinuek' ('different blue eyes') because his eyes were the color of blueberries when they are not quite ripe.

Ray (1975:243) Speaks of weapon use between 1867 and 1898: Guns had supplanted all other weapons for land hunting; steel traps were almost universally used, though native snares for smaller animals like squirrels and ptarmigan were still preferred. (Ray 1975:243).

Ray, D.J. 1984. Bering Strait Eskimos. *In* Handbook of North American Indians, Volume 5, Arctic, William C. Sturtevant, gen. ed., David Damas, vol. ed. pp.289. Smithsonian Institution, Washington, D.C.

Ray (1984:289) speaking of resource use in the past: During the winter months of a poor migration, the caribou-hunting tribes eked out their rations with hares and ptarmigan caught in snares or nets and with fish snagged through the river ice.

Sobelman, Sandra S. 1985. The Economics of Wild Resource Use In Shishmaref, Alaska. Technical Paper No. 112. ADF&G Division of Subsistence. Fairbanks, Alaska.

Sobelman (1985:89) reports that: The 1982 ptarmigan hunting season in the vicinity of Shishmaref extended from August 10 to April 30. The majority of ptarmigan are taken during the winter and early spring, when along with arctic hare, they become important sources of fresh meat. Ptarmigan include willow in their diet, and are often found near sheltered slopes (ADF&G 1978).

Spencer, Robert F. 1976. The North American Eskimo A Study in Ecology and Society. Dover Edition. Dover Publications. New York, NY.

Important though the various waterfowl are to the Native food supply, it is of interest to note that few integrated usages appear in association with them. Of the two principal types of fowl, those of the land, the various ptarmigan, play a much more significant role in folklore and legend. On the coasts, the ducks were preserved in oil and fat. When needed, they were skinned rather than plucked and the fat eaten carefully. Essentially similar treatment was accorded the ptarmigan among inland groups, although the facilities for storing the birds were not so readily available (Spencer 1976:36).

Thomas, Daniel C. 1982. The Role of Local Fish and Wildlife Resources in the Community of Shaktoolik, Alaska. Technical Paper No. 13. ADF&G, Division of Subsistence. Nome, Alaska.

Thomas (1982:219) speaking of the winter and spring diet of residents of Shaktoolik: Other sources such as ptarmigan, hares, and grayling are also harvested and of significance to the local diet and activities.