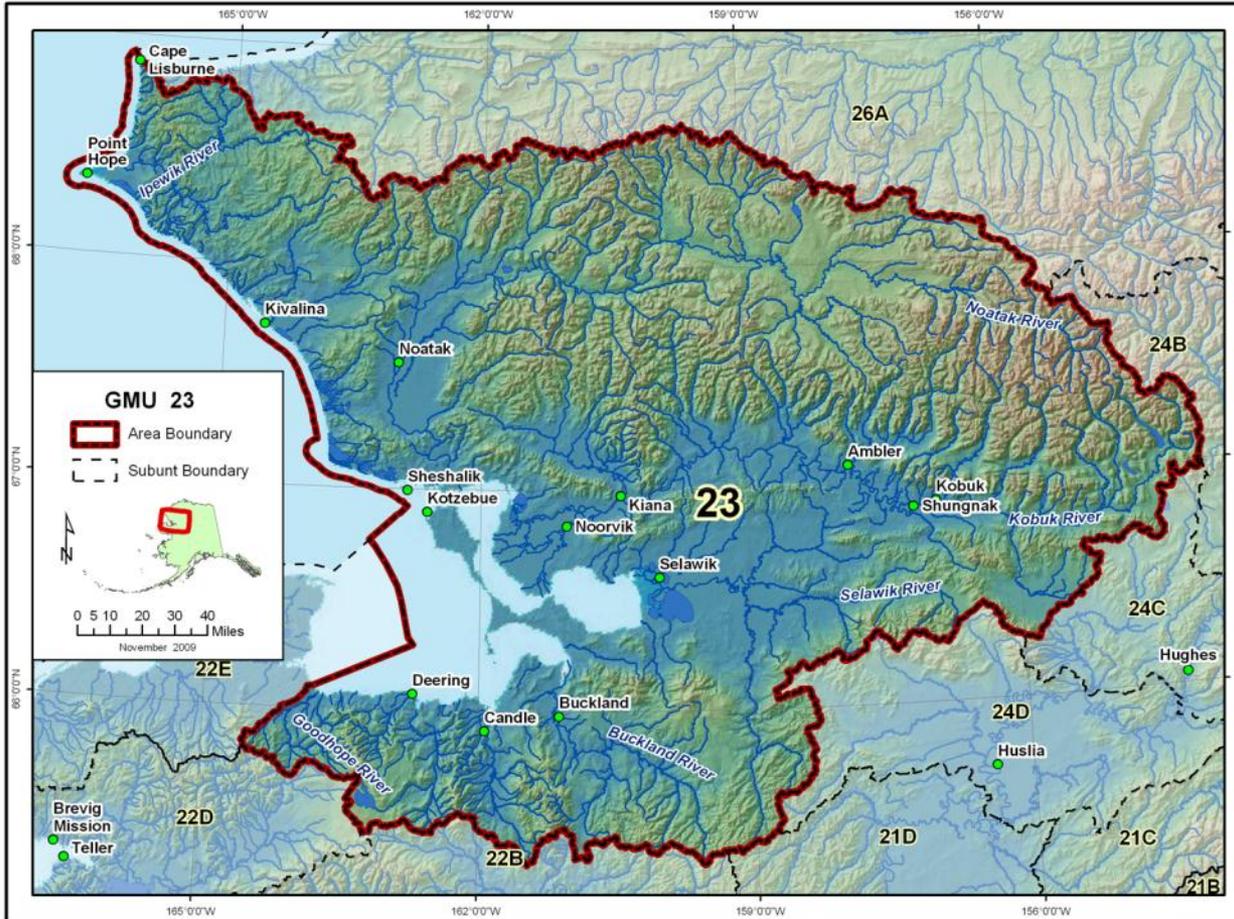




# Summary of Wildlife Management in GMU 23



**Brandon Saito, Area Wildlife Biologist**

# People

## ≈ 7,700 people reside in Unit 23

- Kotzebue-region hub
- 11 outlying villages located on Chukchi Sea coast or along major rivers



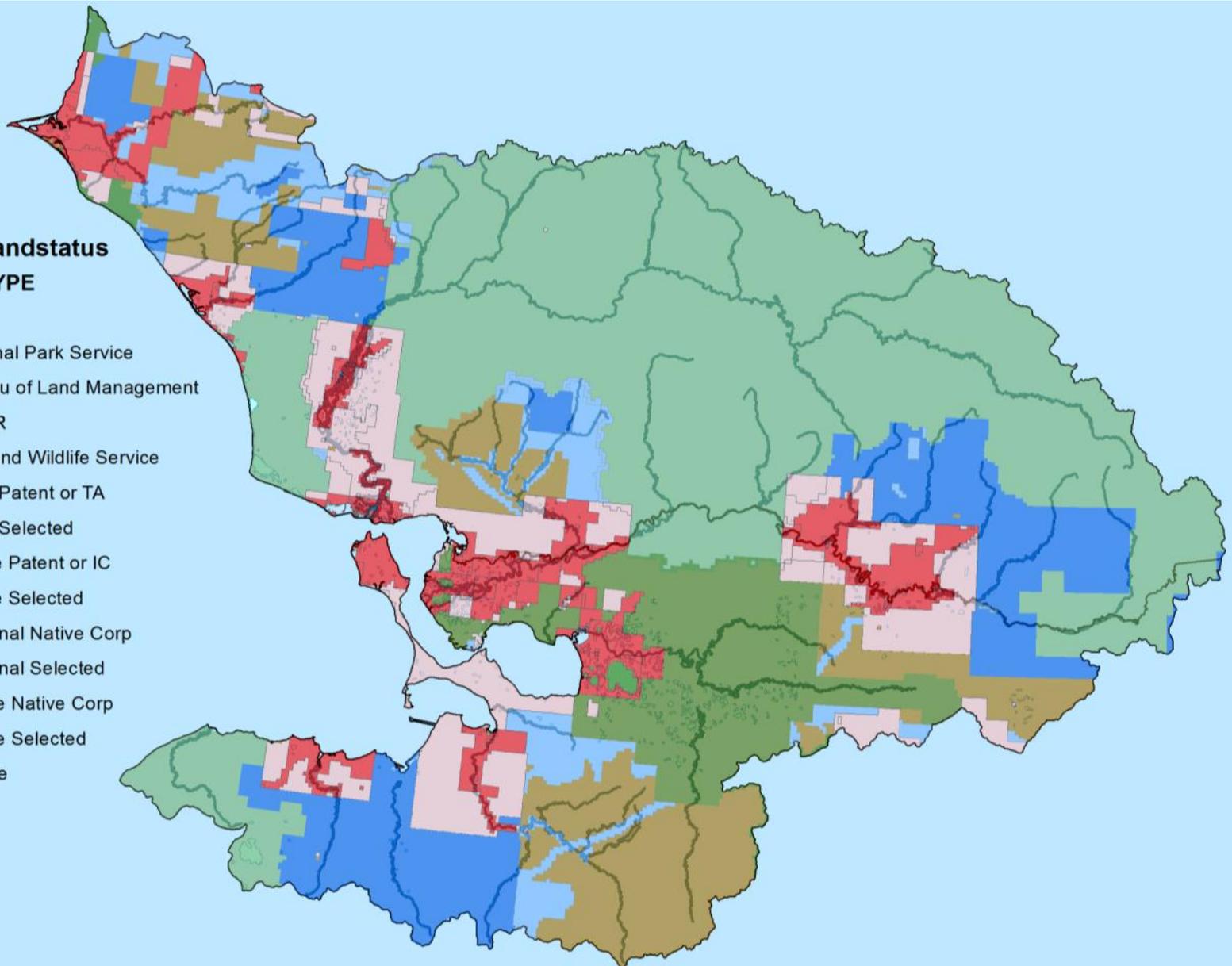
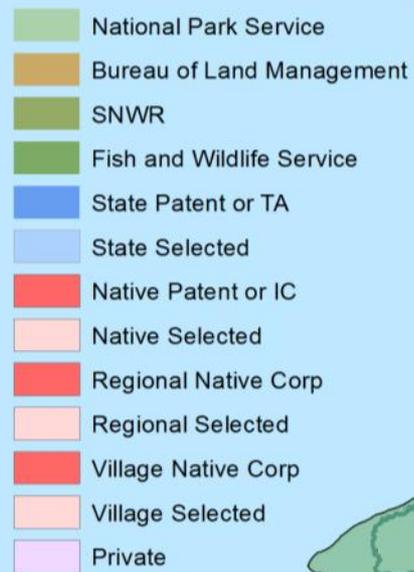
# Advisory Committees

## ➤ Unit 23 Advisory Committees

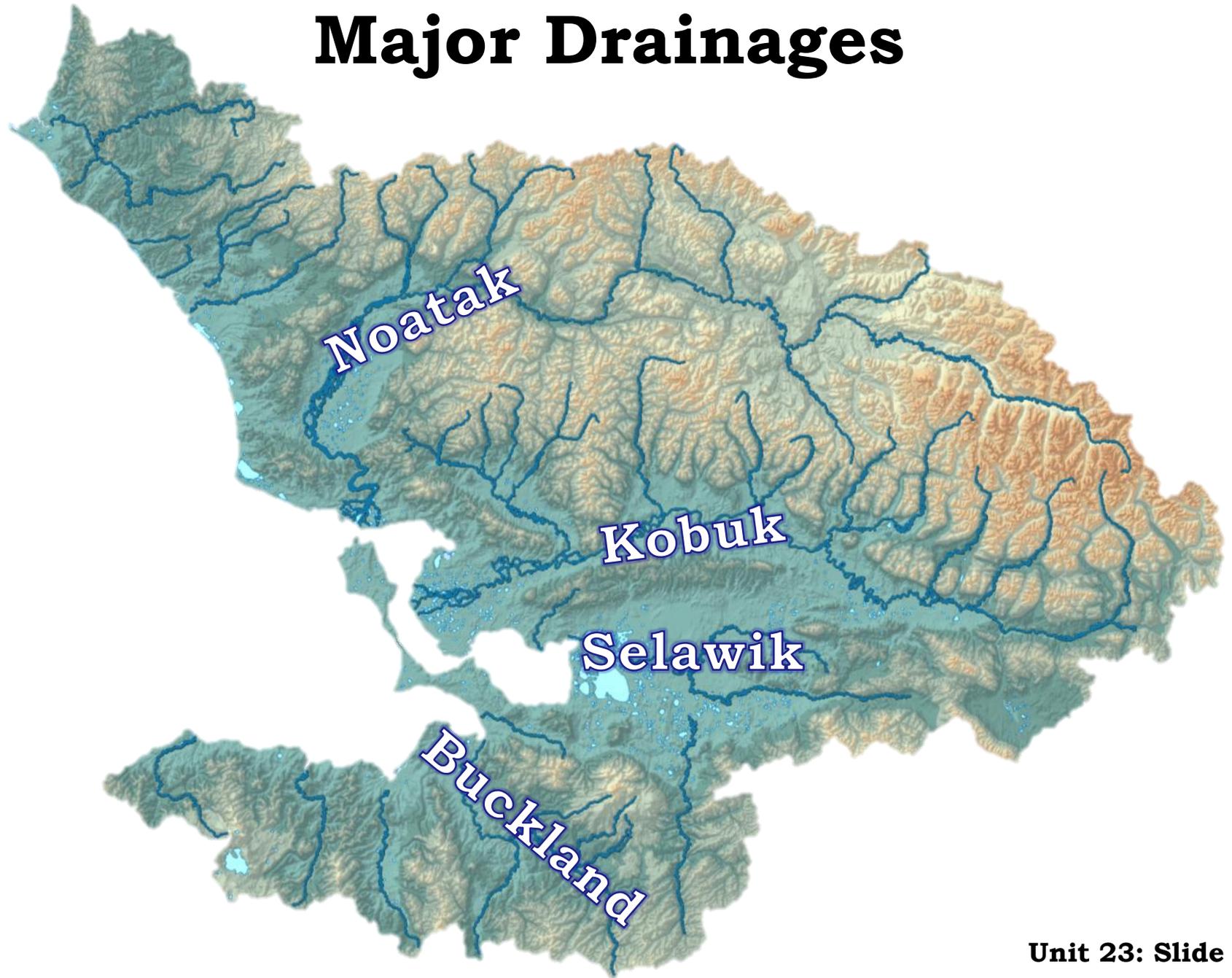
- Kotzebue Sound
- Noatak / Kivalina
- Upper Kobuk
- Lower Kobuk
- Northern Seward Peninsula



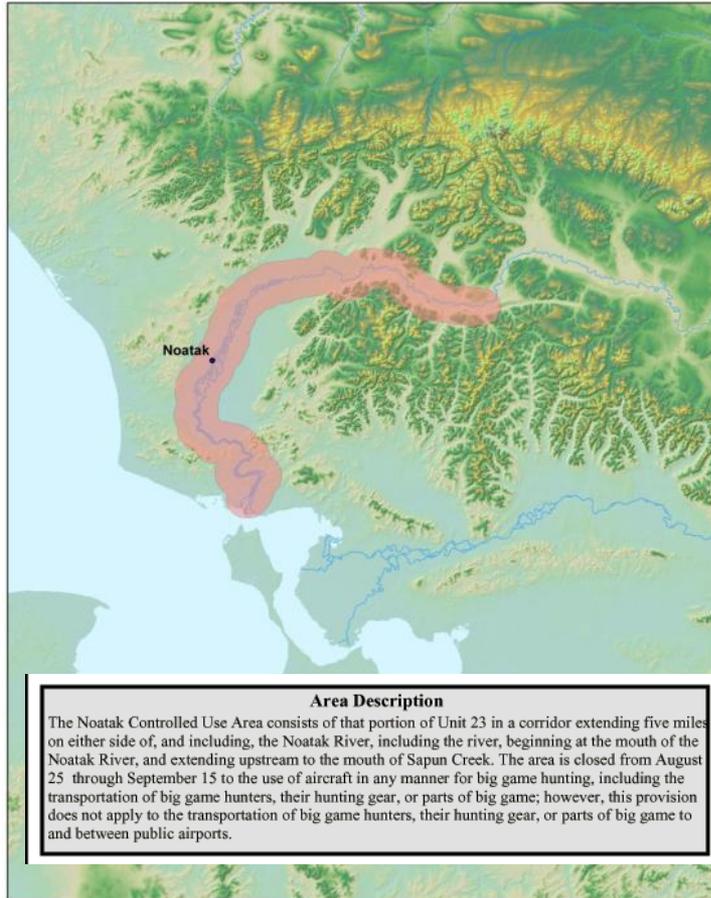
## Unit 23 Landstatus STATUS TYPE



# Major Drainages



# User Conflicts and CUA



≈ **Locals**

≈ **Alaskans**

≈ **Non-Residents**

≈ **International**

Activities:

Hunting/Fishing

Aircraft access

Float trips

Backpacking

Wildlife viewing

# Caribou Proposal

## • There is one caribou proposal

- Proposal 29
- Would allow the sale of antlers from harvested caribou in Unit 23



# Moose Regulations

Moose		<ul style="list-style-type: none"> <li>In areas indicated by a ★ federal restrictions exist, see page 8.</li> <li>In bag limit, "moose" means an animal of either sex; "bull" means a male moose.</li> <li>50-inch antlers and brow tines are defined on pages 34-35.</li> <li>In all hunts limited to one sex, evidence of sex must remain naturally attached to the meat.</li> <li>Meat taken in Unit 23 prior to Oct 1 must remain on the bones of the front quarters, hindquarters and ribs until removed from the field or processed for human consumption.</li> </ul>		Review Unit 23 Hunter Orientation <a href="http://hunt.alaska.gov">http://hunt.alaska.gov</a>	
R	23 north of and including Singoalik River drainage	One bull by permit available in person at license vendors within Unit 23 villages June 1-July 15		RM880	July 1-Oct 31
R		OR One moose by permit available in person at license vendors within Unit 23 villages June 1-July 15	Taking of a calf or cow accompanied by a calf prohibited	RM880	Nov 1-Dec 31
R		One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side		HT	Sept 1-Sept 20
N		One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side by permit		DM871	Sept 1-Sept 20
R	23 remainder	One bull by permit available in person at license vendors within Unit 23 villages June 1-July 15		RM880	Aug 1-Oct 31
R		OR One moose by permit available in person at license vendors within Unit 23 villages June 1-July 15	Taking of a calf or cow accompanied by a calf prohibited	RM880	Nov 1-Dec 31
R		One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side		HT	Sept 1-Sept 20
N		One bull with 50-inch antlers or antlers with 4 or more brow tines on at least one side by permit		DM871-876/885	Sept 1-Sept 20

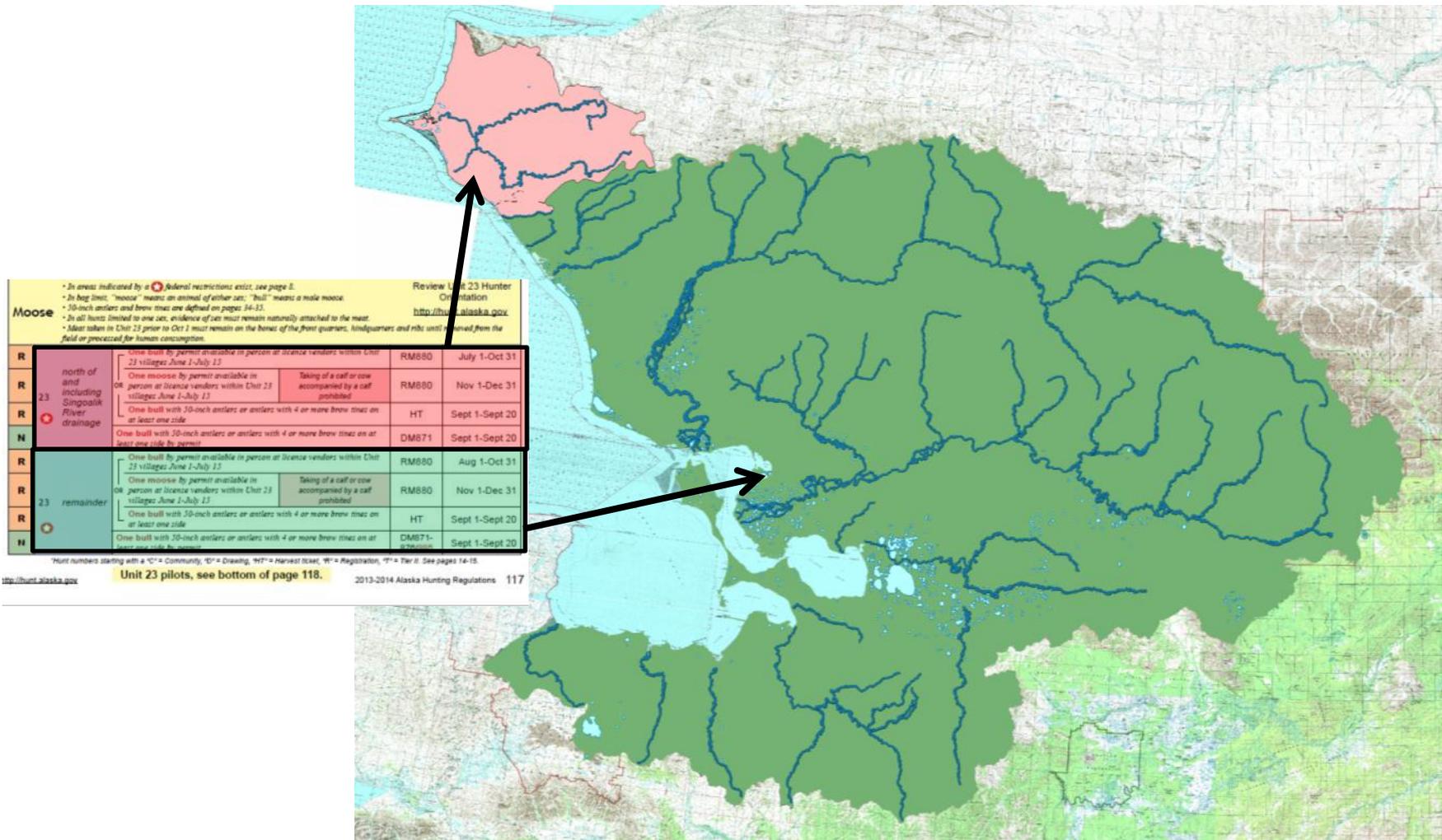
\*Hunt numbers starting with a "C" = Community, "D" = Drawing, "HT" = Harvest ticket, "R" = Registration, "T" = Tier II. See pages 14-15.

<http://hunt.alaska.gov>

Unit 23 pilots, see bottom of page 118.

2013-2014 Alaska Hunting Regulations 117

# Moose Hunt Areas



# Moose

## ❧ Population

- Population Estimates
- Composition Data

## ❧ Population Objectives

- 8,100-10,000 moose
- 40 bull:100 Cow ratio
- Positive C&T finding
- ANS is 325 – 400 moose



# Moose Objectives

## Unit-wide Estimate

- Population = 7,600 moose
- Harvestable surplus = 450

## Subsistence ANS

- Positive C&T finding
- ANS ..... 325 – 400 moose

## IM Objectives

- Population ..... 3,500 – 9,200 moose
- Harvest ..... 210 – 920 moose

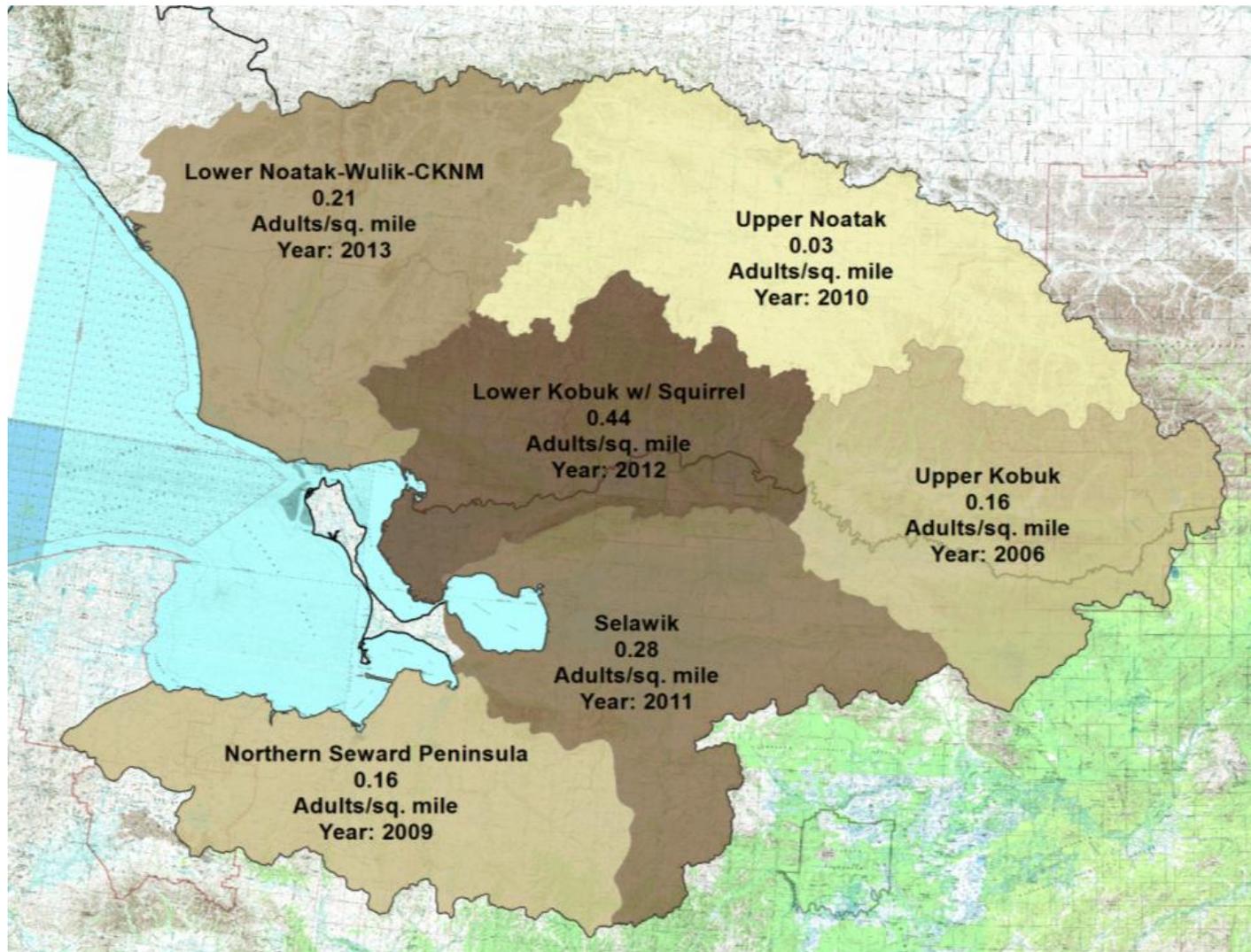
# Harvest Opportunity

- Current Regulations
  - ☒ General Moose Hunt
  - ☒ RM880
  - ☒ DM871-877

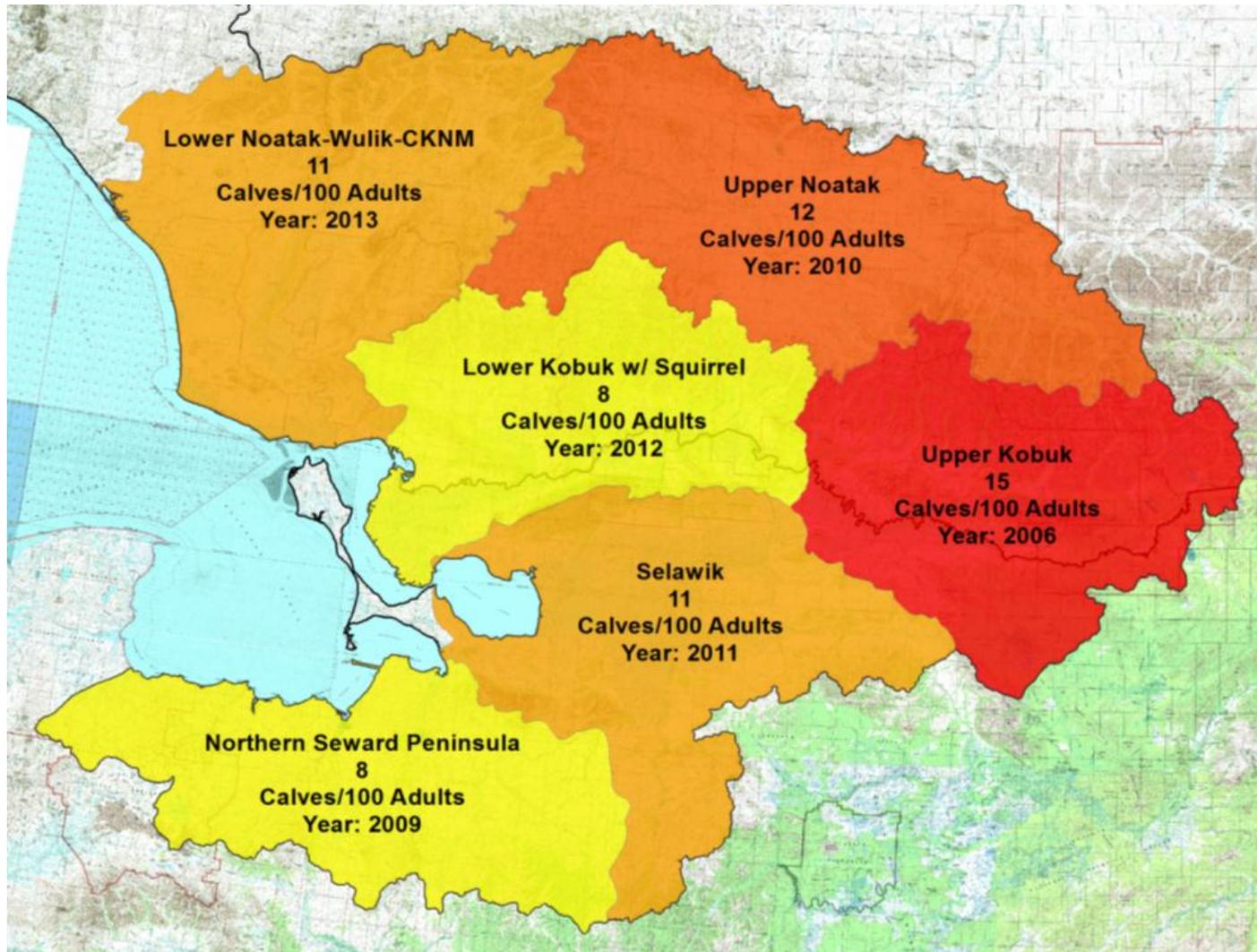


- Average Reported Harvest = 160 moose
- Average Antlerless = 10 cows

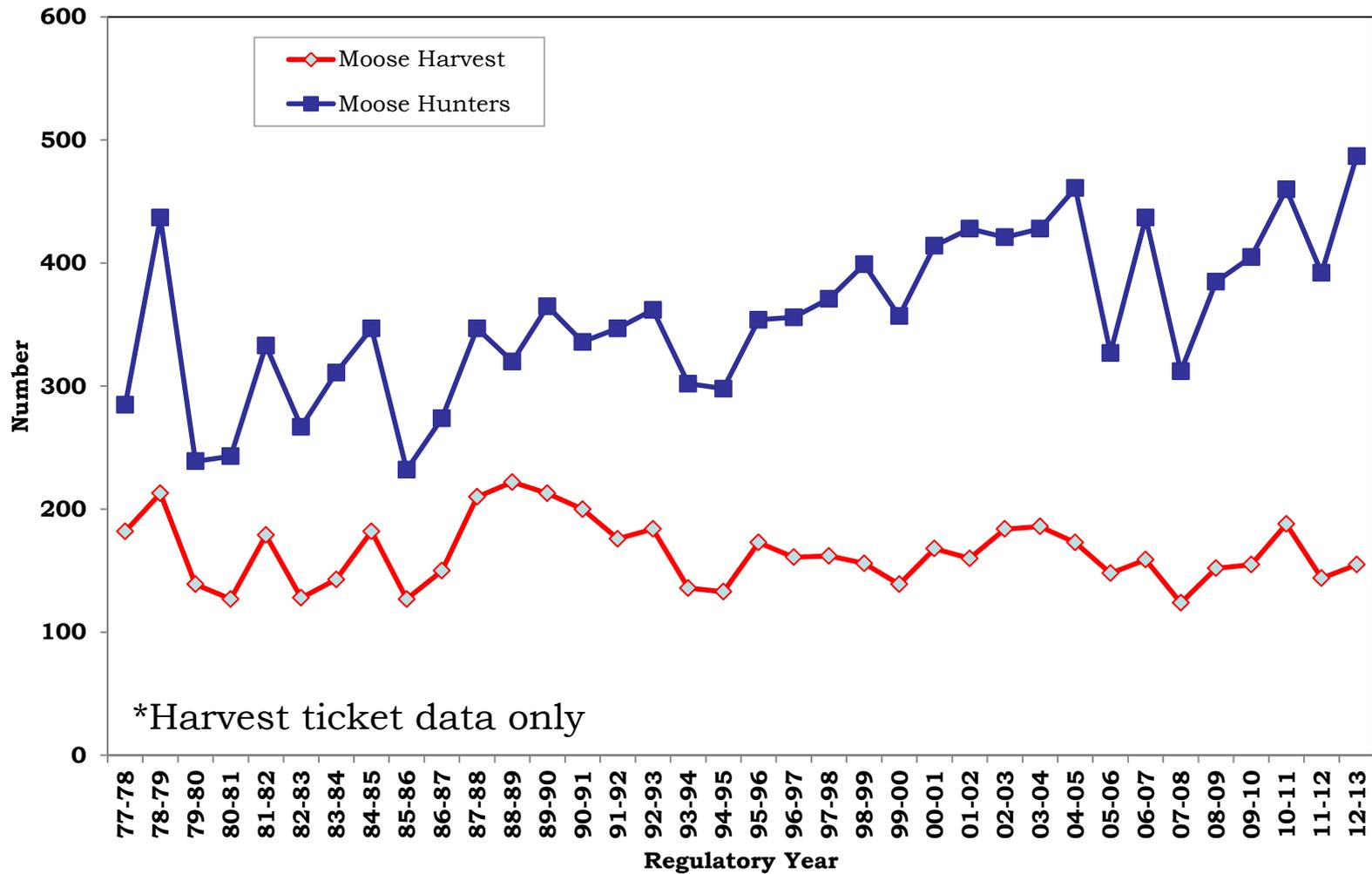
# Comparative Densities



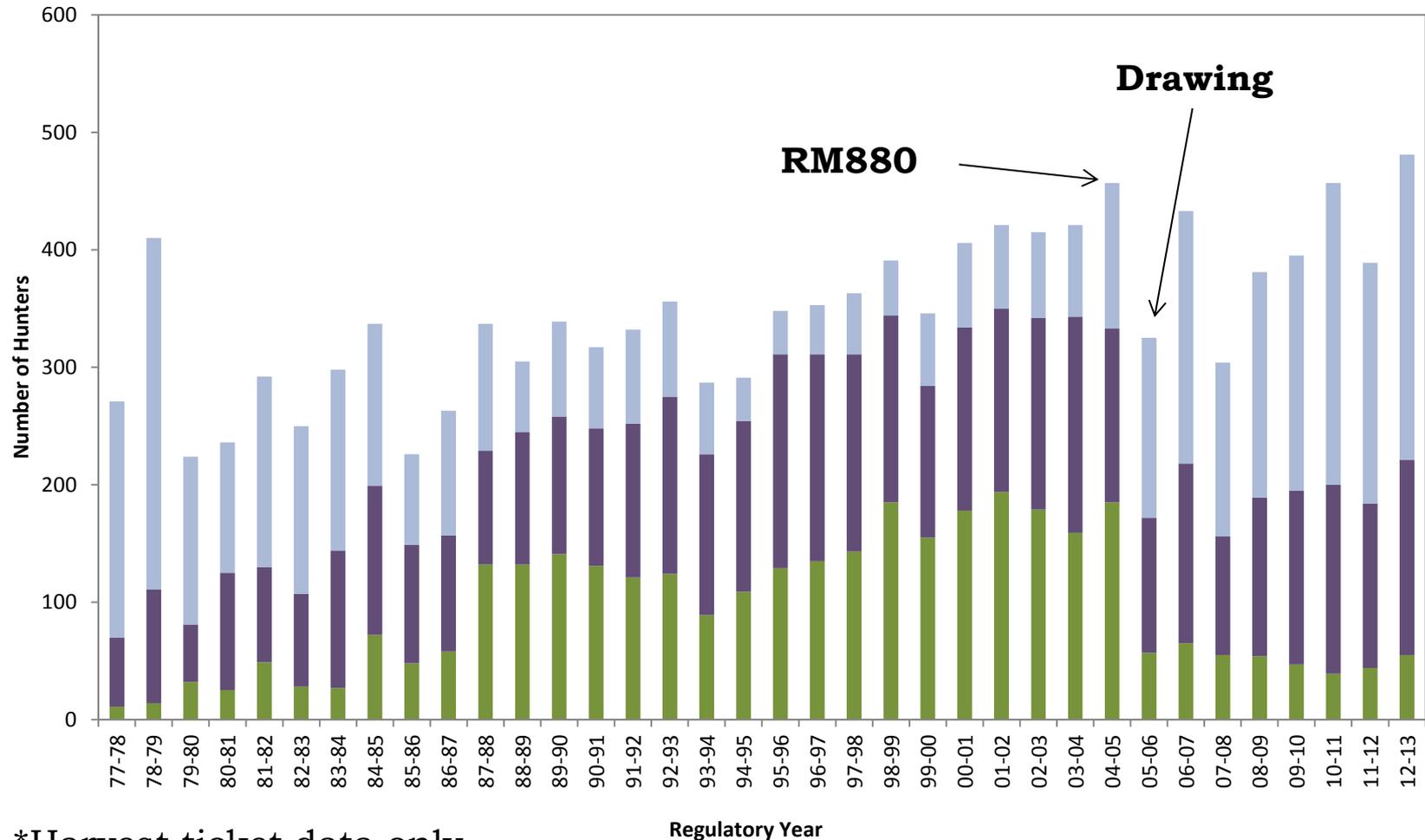
# Spring Calf Recruitment



# Hunter Participation and Harvest

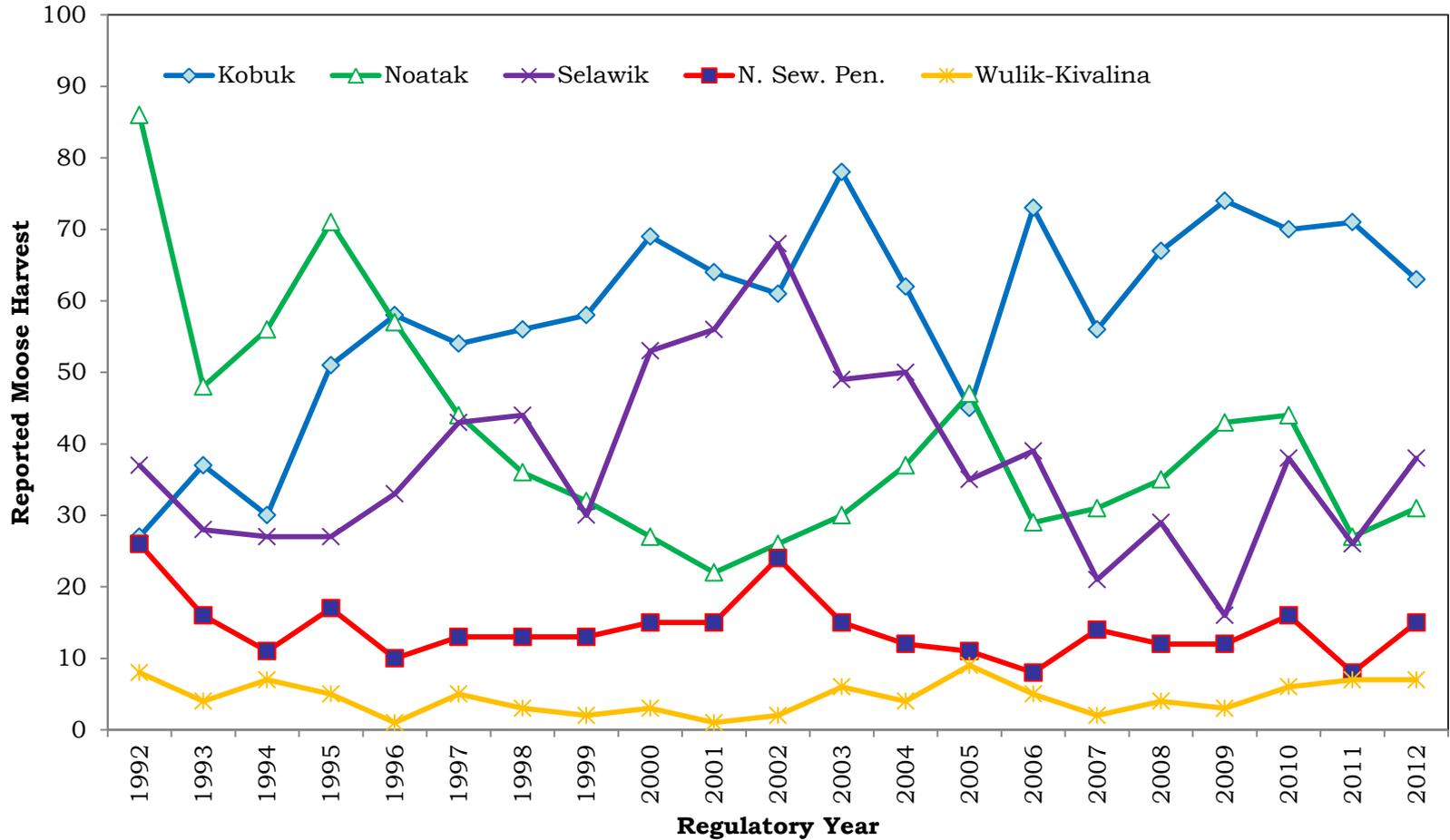


# Hunter Effort by Residency



\*Harvest ticket data only

# Harvest by Drainage



\*Harvest ticket data only

# Moose Proposals

## ❧ There is one moose proposal

- Proposal 26
- Antlerless moose reauthorization



# Muskoxen

## ∞ Cape Thompson Population

- Population Estimate
- Composition Data

## ∞ Harvest

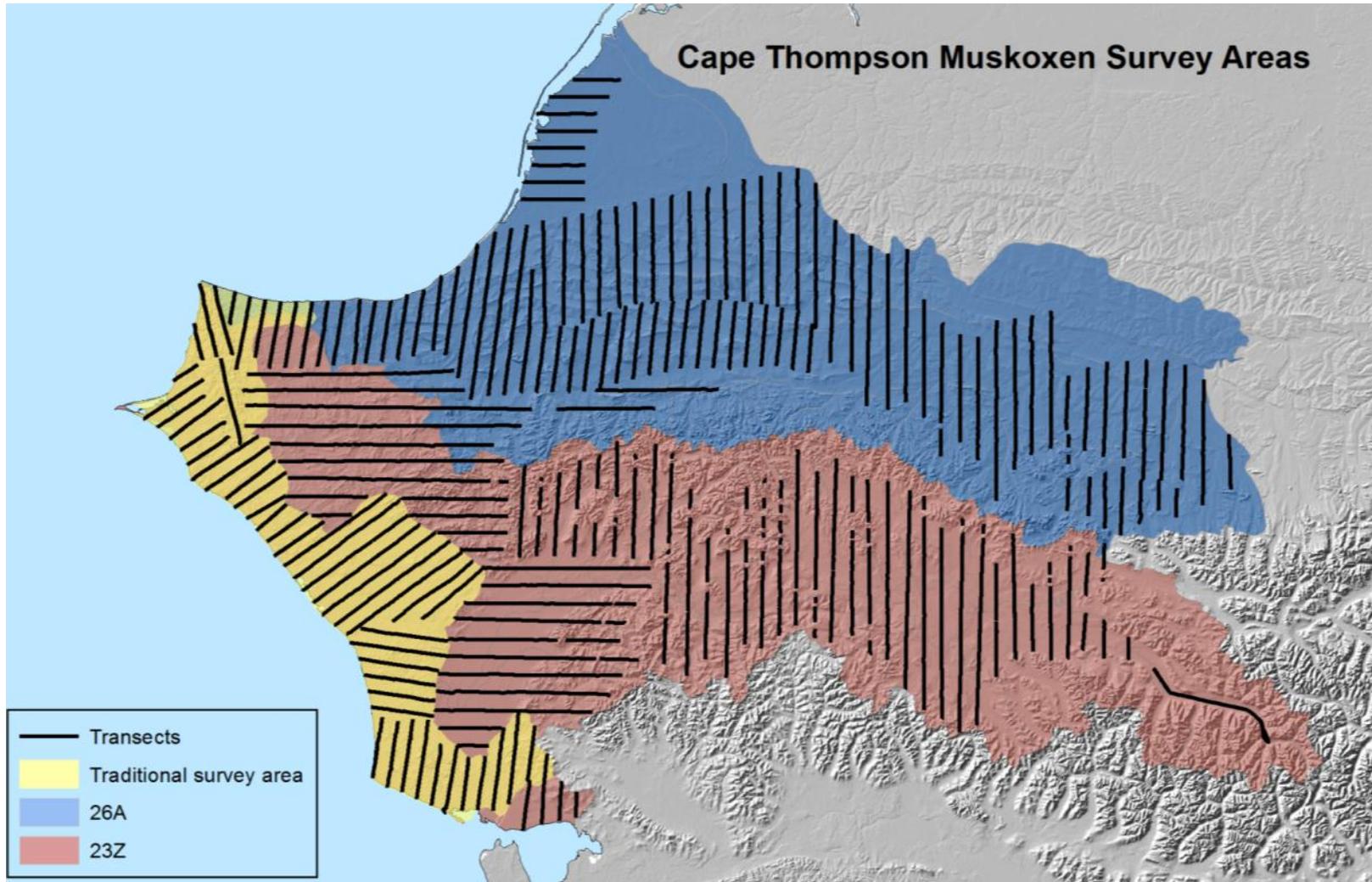
- TX107

## ∞ There is one Muskox proposal

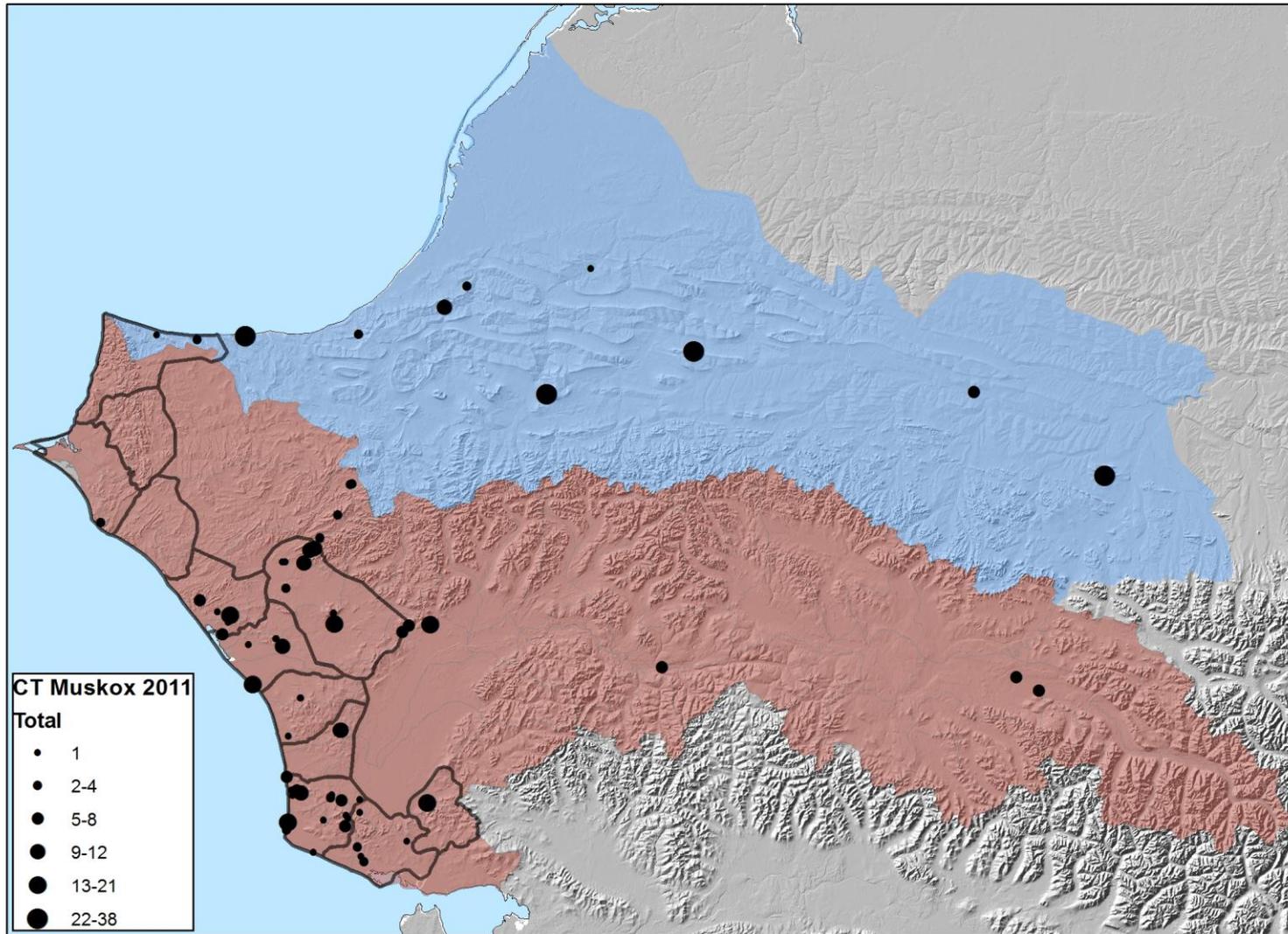
Proposal 25



# Distance Sampling

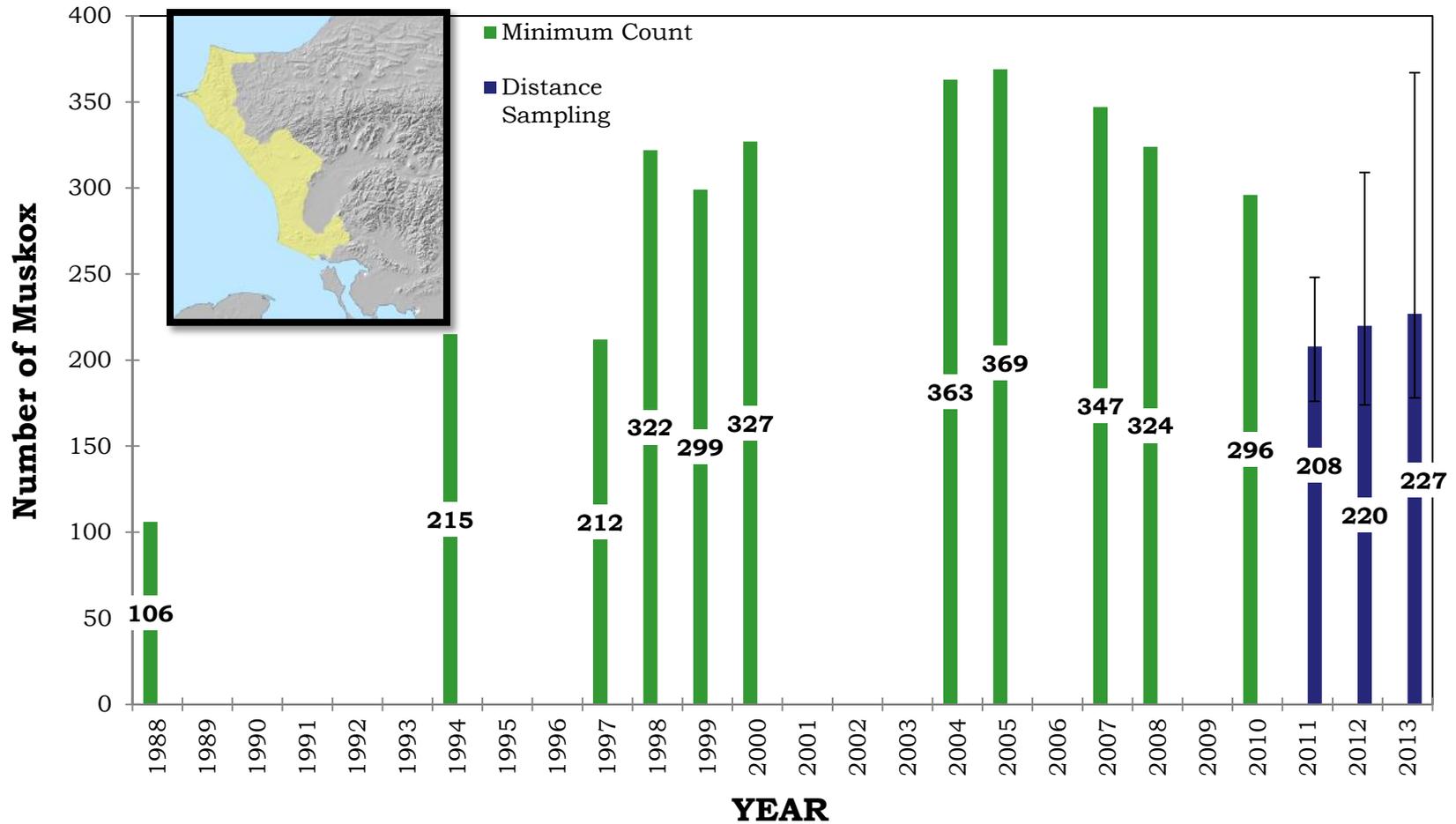


# Distribution of Muskoxen

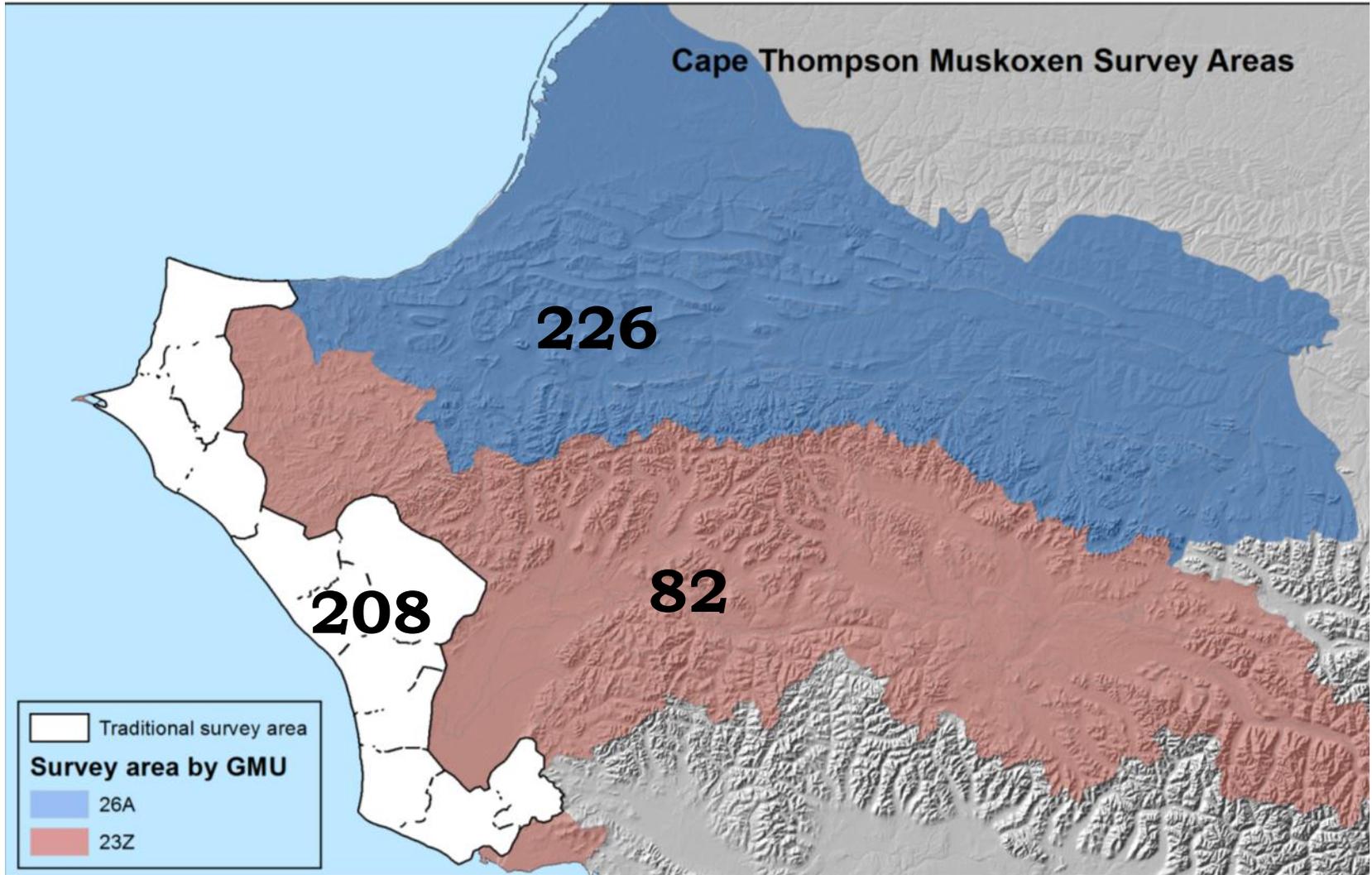


# Cape Thompson Muskoxen

## Unit 23 Cape Thompson Minimum Count Results

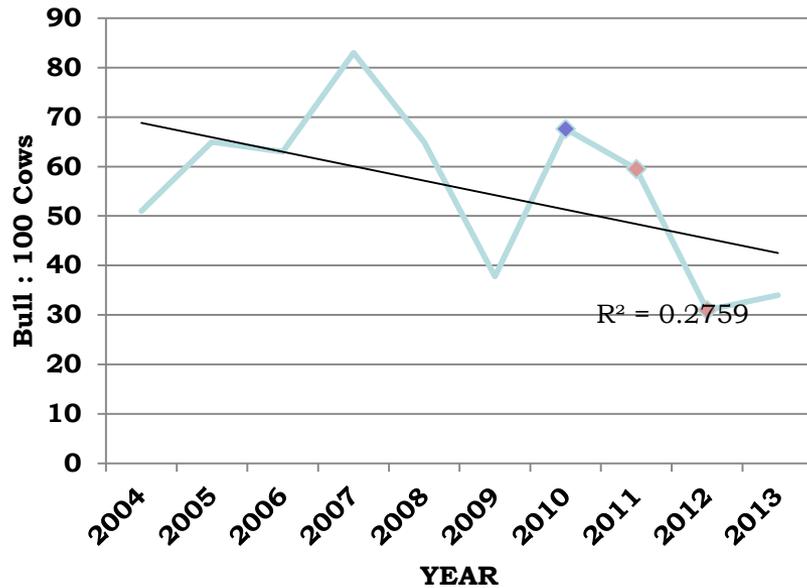


# Muskoxen Estimates by Area

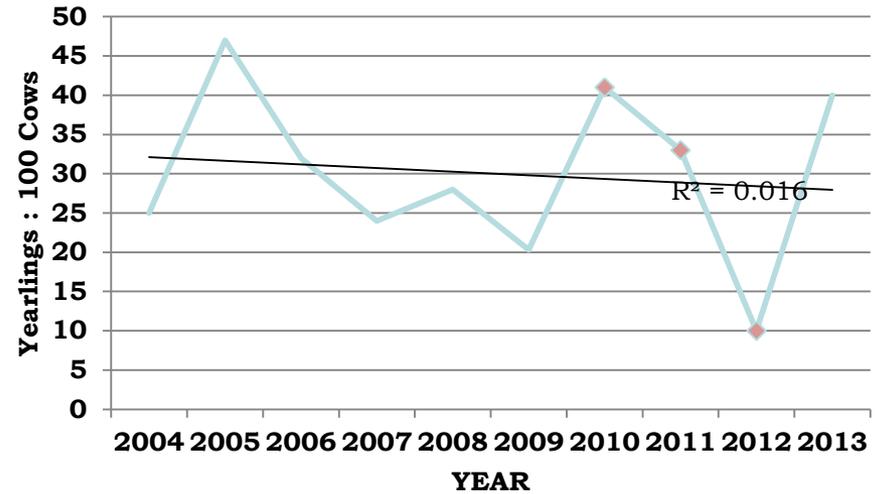


# Muskox Composition

## Bull:100 Cows



## Yearlings:100 Cows



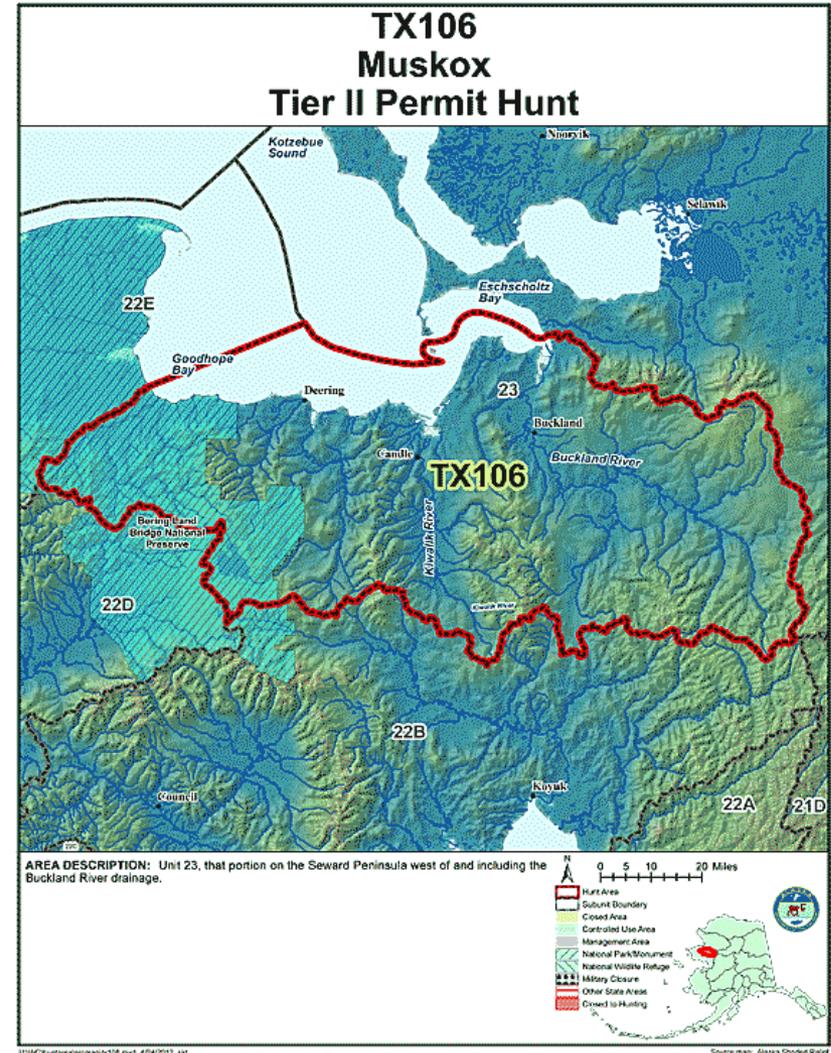
# Muskoxen

## ↪ Seward Peninsula Population

- Addressed in Unit 22 overview

## ↪ Harvest

- TX106



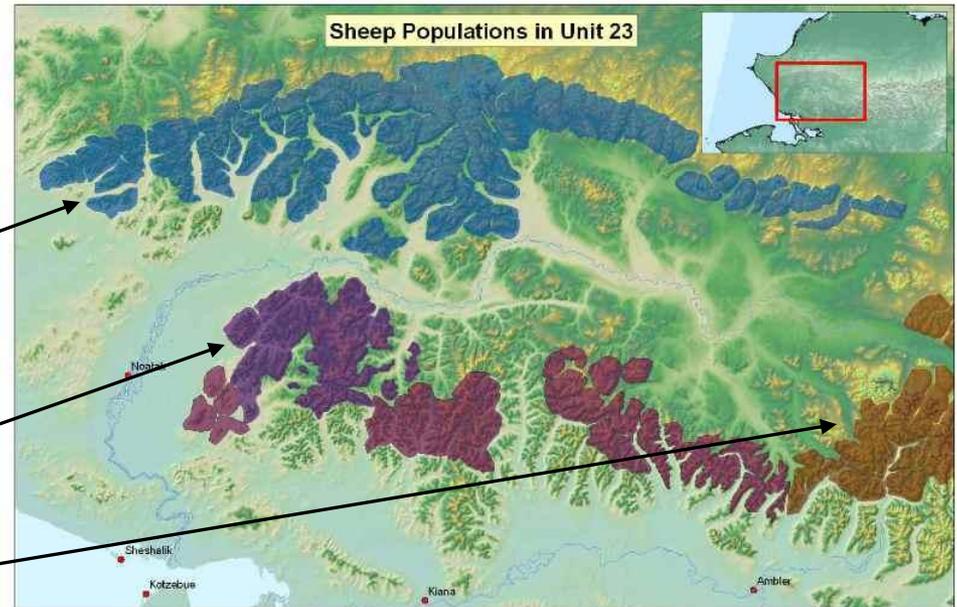
# Sheep

## Population

- Population Estimates

## Harvest

- De Long Mountains
- Baird Mountains
- Schwatka Mountains



**There are four regional proposals that would affect sheep (Proposals 30 – 33)**

# Brown Bear

## ↪ Population Estimate

## ↪ Harvest

- Current Regulations
  - ☒ General Season
  - ☒ RB700 (Subsistence Hunt)
  - ☒ DB761-767 (Fall Hunt)
  - ☒ DB771-777 (Spring Hunt)
- Annual harvest

## ↪ Proposal 27 would modify harvest on NPS managed lands

# Brown Bear Hunting Regulations

## WHAT ARE THE CURRENT REGULATIONS?

### RESIDENT HUNTERS:

- A resident tag is not required for taking a brown bear
- General Season - 1 bear every regulatory year  
Aug. 1 - May 31
- Subsistence Hunt - 1 bear every regulatory year by permit  
Aug. 1 - May 31

### NONRESIDENT HUNTERS:

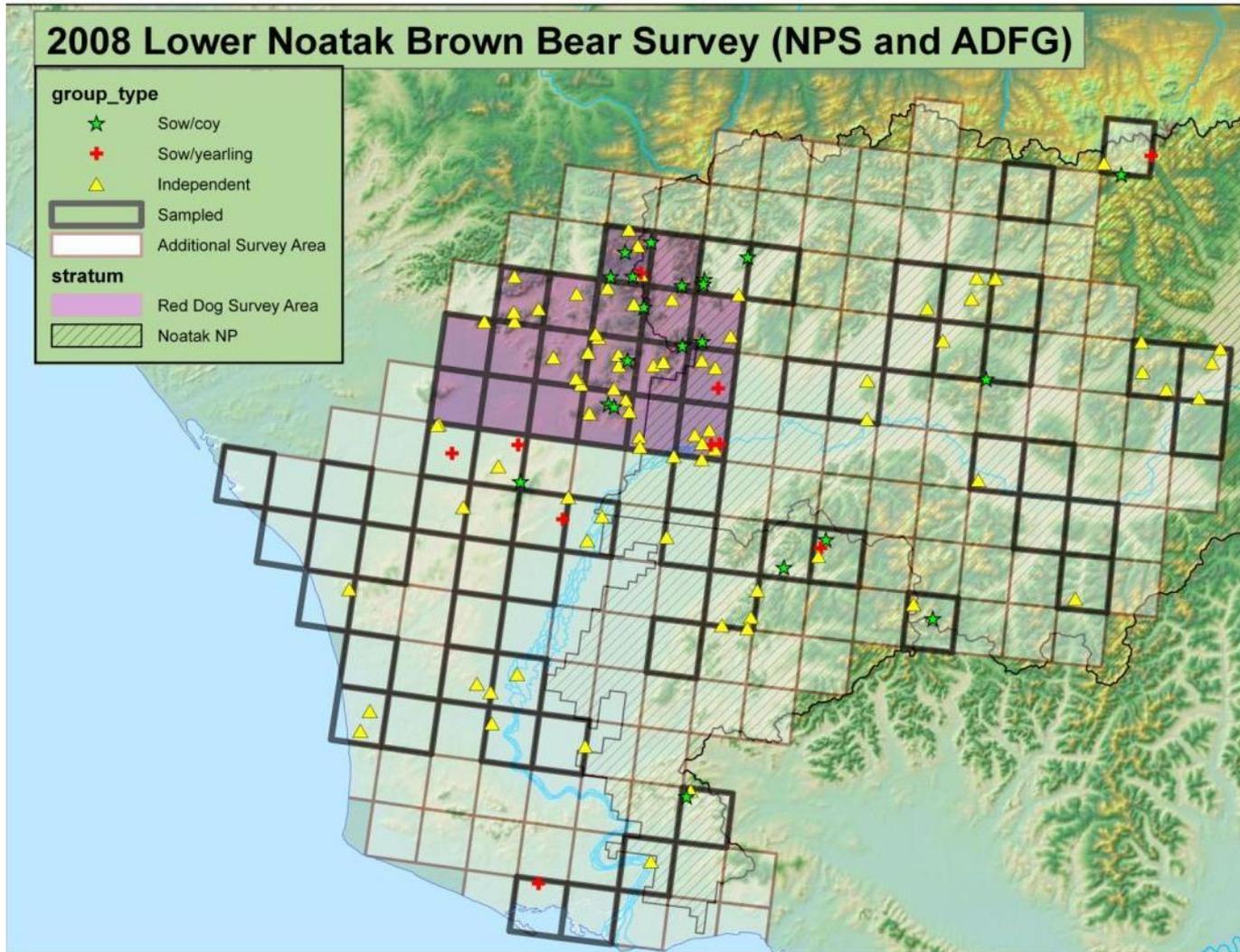
- Fall Drawing hunts - 1 bear every regulatory year  
Sept. 1 - Oct. 31
- Spring Drawing hunts - 1 bear every regulatory year  
Apr. 15 - May 31
- Up to 68 drawing permits may be issued

# Brown Bear Population

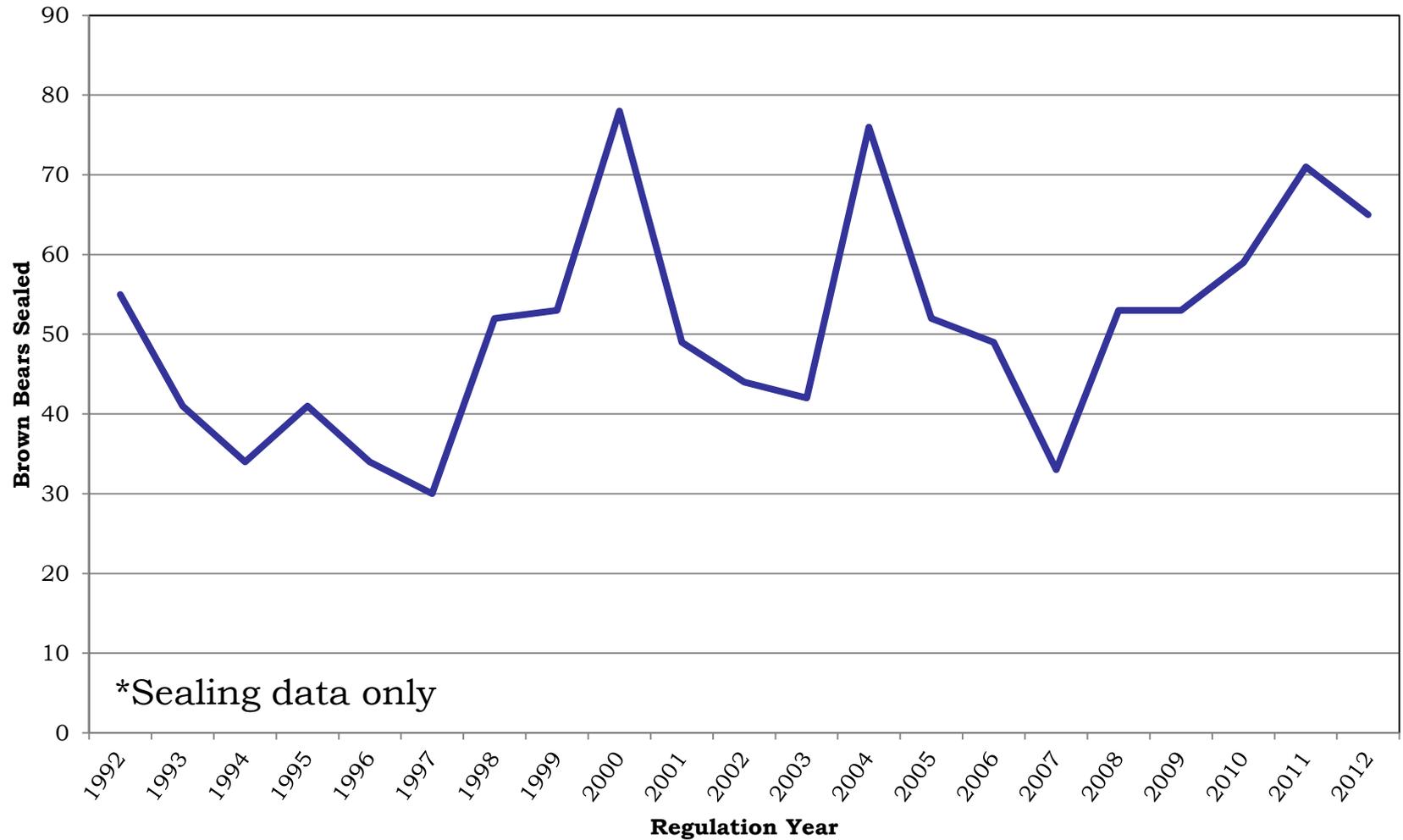
## Population Information

- 1987 study with Sightability Correction Factor (SCF)
  - ☒ Densities of 1 bear/25.7 mi<sup>2</sup>
- 2008 study with NPS- final results pending, no SCF
  - ☒ Preliminary minimum count 1.9-2.2 bears/25.7 mi<sup>2</sup>
- Anecdotal reports, Traditional Ecological Knowledge, and incidental observations suggest an increasing trend.

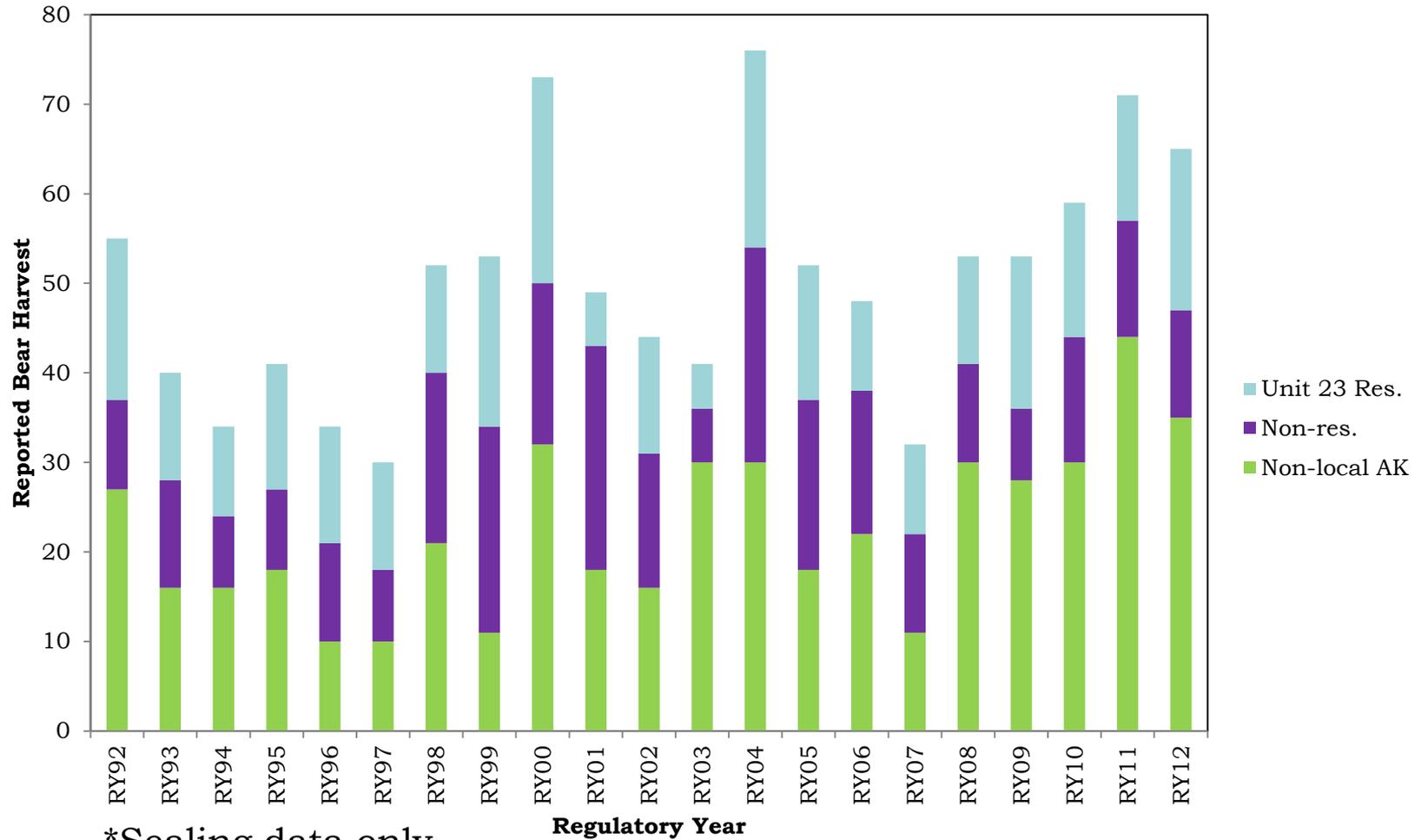
# Brown Bear Population Surveys



# Brown Bear Annual Harvest



# Harvest by Residency



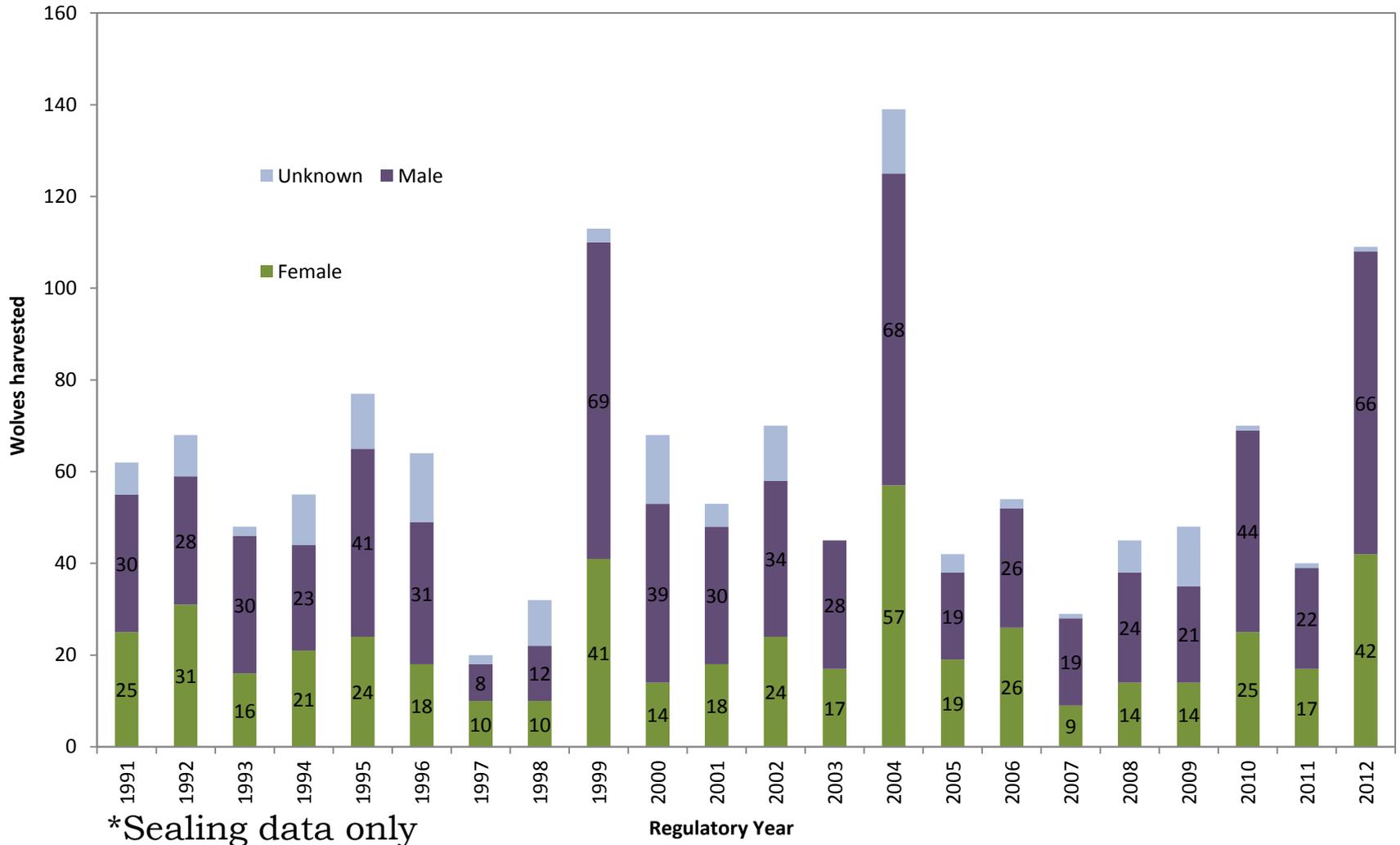
\*Sealing data only

# Changing Brown Bear Numbers

## Anecdotal Reports of Brown Bears

- Substantial reports of increased bear numbers
- Unit-wide.... People think there are more bears
- Bears breaking into camps
- Defense of Life or Property
- Corresponds with population estimates

# Reported Wolf Harvest



\*Sealing data only

# Furbearers

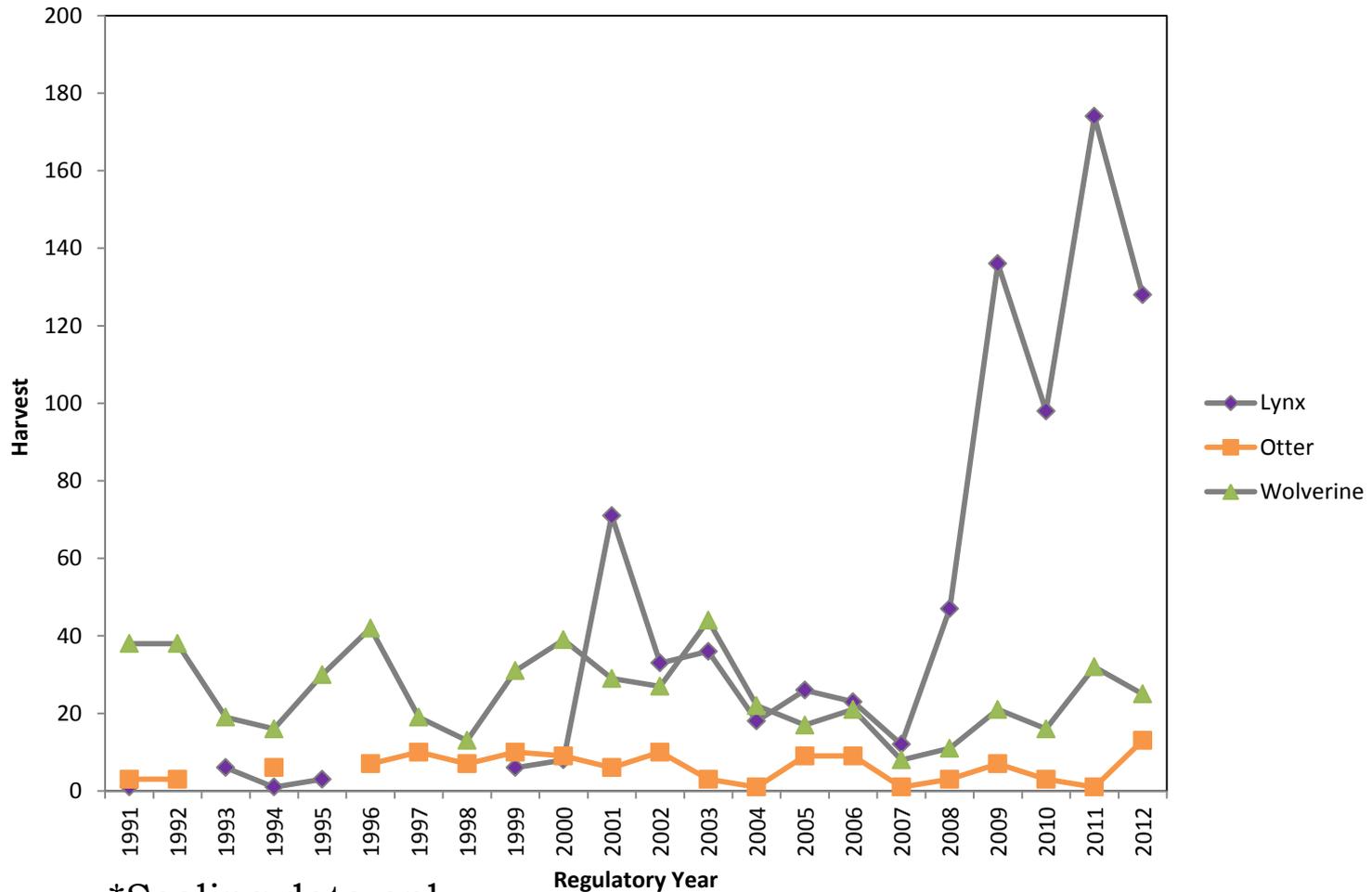
- ❧ **Arctic Fox**
- ❧ **Red Fox**
- ❧ **Beaver**
- ❧ **Squirrels**
- ❧ **Marmots**
- ❧ **Mink**
- ❧ **Marten**
- ❧ **Weasel**
- ❧ **Muskrat**
- ❧ **Black bear**
- ❧ **Coyote**
- ❧ **River otter**
- ❧ **Lynx**
- ❧ **Wolverine**

❧ **There are 2 furbearer proposals:**

- **Proposal 28 Unit 23 Coyote**
- **Proposal 35 Bear snaring in Arctic/Western Region**



# Reported Furbearer Harvest



\*Sealing data only

# Other Species in Unit 23

- ❧ **Hares**
- ❧ **Grouse**
- ❧ **Ptarmigan**
- ❧ **Porcupine**



# Questions?



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## **GAME MANAGEMENT UNIT 23**

*Unit 23: Kotzebue Sound, Chukchi Sea and Arctic Ocean drainages from and including the Goodhope River drainage to Cape Lisburne*

Area Biologist: Brandon Saito  
Caribou Research/Management Biologist: Jim Dau

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### **Arctic and Western Region, Board of Game Meeting, Kotzebue, Jan. 2014**

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***DESCRIPTION*** Unit 23 covers about 43,000 mi<sup>2</sup> and contains several major habitat types. The northern extent of tree line occurs in Unit 23 and much of the unit is tundra. To the north is the western extent of the Brooks Range and to the south a mix of river valleys to coastal wetlands.

***HUMAN POPULATION*** Approximately 7,700 people live in Unit 23; Kotzebue is the regional hub for 11 outlying villages located on the Chukchi Sea coast or along the major rivers. The region's population is mostly Inupiat Eskimo, and heavily depends on subsistence hunting and fishing.

***ADVISORY COMMITTEES*** There are 5 regional advisory committees: Kotzebue Sound, Noatak/Kivalina, Upper Kobuk, Lower Kobuk, and the Northern Seward Peninsula.

***LAND STATUS*** Almost 2/3 of Unit 23 is federal land and the remaining 1/3 is owned by the State or is private land. NANA Corporation is the largest private landowner in the Unit.

***DRAINAGES*** There are 4 major river drainages: Noatak, Kobuk, Selawik, and the Buckland.

***USER CONFLICTS*** Interactions among diverse users have led to conflicts. Subsequently, a Unit 23 User Conflict Group was formed to address concerns among stakeholders. The Noatak controlled use area, the only CUA in Unit 23, is closed from August 25-September 15th to the use of aircraft for big game hunting, including transportation. (Excludes airports) Pre-season registration in the RM880 moose hunt has allowed for an incremental reduction in the number of Alaska resident hunters and was part of a suite of measures initiated in 2004 to reduce the pressure on a low density

moose population and address to User Conflict issues. Orientations have been used to educate hunters to prevent illegal harvest, in the case of the muskox so cows with horns are not mistakenly taken in bull-only hunts. Both the Unit 23 Hunter orientation and the pilot orientation were constructed with the hope that they might prevent some conflicts among users. The late caribou migration this fall caused a concentration of hunters in the upper Noatak.

## ***WILDLIFE POPULATIONS***

### ***Caribou***

The Western Arctic caribou herd report was provided by Jim Dau at the beginning of the meeting. There is one caribou proposal related to sale of antlers in Unit 23 (Proposal 29).

### ***Moose***

The sum total of our unit population surveys is just under 7,600 moose.

In cooperation with federal partners, moose are annually monitored for population size and sex/age composition in the Noatak, Kobuk, and Selawik river drainages or Northern Seward Peninsula drainages on a rotational basis through aerial surveys. Community-based harvest assessments indicate approximately 200–300 moose are harvested annually by residents of Unit 23.

### **Moose regulations (2 slides)**

The Singoalik River Drainage and North has an early season for one bull. The season opens 1 month earlier than the ‘Remainder of Unit 23’. This earlier season was introduced because of the rare occurrence of moose in this area, providing local residents with a chance to harvest a bull wandering through at the end of summer.

### **Moose Objectives**

The sum total of our unit population surveys is just over 7,600 moose, with a harvestable surplus of 450-700 moose. The ‘Amount Necessary for Subsistence’ is 325–400 moose annually. The intensive management objectives are to maintain a population of 3,500–9,200 moose with a harvest rate of 210–920.

### **Comparative Densities**

Moose are present throughout Unit 23 but occur at relatively low densities. Densities range from 0.03 adult moose/mi<sup>2</sup> on the Upper Noatak to 0.44 adult moose/mi<sup>2</sup> on the Lower Kobuk-Lower Squirrel. Every spring the department works with NPS, USFWS, and BLM to conduct a Geospatial Population Estimate (GSPE) of a major drainage in Unit 23. Because we rotate through drainages, some estimates are older than others. The oldest is the Kobuk, surveyed in 2006, the newest in the Lower Noatak, surveyed in

2013. Fall Composition Estimates have traditionally used a reconnaissance approach, and occasionally a modified geospatial approach to obtain fall moose composition information. While these two approaches don't provide data that is directly comparable to each other, we believe the following to be true: Bull:Cow ratios are probably 40 bulls:100 cows in most areas.

### **Spring Calf Recruitment:**

Recruitment rates range from 8-15%. The upper Kobuk has the highest recruitment but is also the oldest survey and a very low density.

### **Harvest opportunity**

Resident General Season moose hunt: September 1-20; 1 bull  $\geq$ 50 inch antlers or  $\geq$  4 brow tines on at least one side. Resident Registration Permit hunt: RM880 went into effect RY2004. Permits are available in person in Unit 23 from June 1-July 15. Season is Aug 1-Oct. 31 for any bull or Nov. 1-Dec. 31 for any moose. Nonresidents have the same season and bag limit as general season for residents but must participate in the drawing (DM871-877.) Drawing moose went into effect RY2005.

### **Hunter Participation, Effort, Drainage, and Harvest (3 slides)**

Moose harvest objective is 210-920 moose.

### **Moose Proposals**

There is one proposal to reauthorize antlerless moose hunts in Unit 23 (Proposal 26).

### ***Muskoxen***

The map on the left shows the area that is available for hunting muskox in the TX107 hunt.

Cape Krusenstern National Monument (CAKR) federal hunt (FX2303) is not included in the State Tier II hunt. The current hunt area is: The portion of Unit 23, north and west of the Noatak River. Residents may apply for a Tier II permit to hunt 1 bull. Aug. 1 - Mar. 15 up to 15 bulls may be taken, but only 6 permits are available. I'll provide an overview of population information but first, I'll characterize the harvest. Tier II hunt for muskox TX107 is for 6 bulls. In the last few years there has been a 50% success rate due to the travel distance required to find young bulls within the hunt area.

There is one proposal addressing the muskox hunt area boundary in Unit 23 (Proposal 25).

### **Distance Sampling**

Since 2011, ADFG and NPS have used distance sampling to estimate the Cape Thompson population. That initial year examined the extent of their current range (66,000km<sup>2</sup>) within Units 23 and 26A, while 2012 & 2013 focused on the Traditional Survey Area, shown here in yellow (10,440 km<sup>2</sup>)

### **Distribution of Muskox**

The core of the Cape Thompson population is the coastal region North of Kotzebue to Cape Lisburne. Introduced in 1970 and then additional animals in 1977. However, in the last 15 years the number of animals seen in new areas in Unit 26A and Eastern Unit 23 has increased dramatically, and includes mixed sex and age groups. Minimum counts between 300-350 muskoxen for the last decade. Since 2005 minimum count surveys within the traditionally sampled area have been declining. The increase of animals seen in new areas in Unit 26A and Eastern Unit 23 includes mixed sex and age groups. Both the NPS and ADFG are focusing on this population.

### **Cape Thompson Muskoxen**

This chart shows minimum counts of the Cape Thompson population in the Traditionally Sampled area since 1988. Since 2011, a distance sampling method has been used and includes the upper 95% CI. Growth of the population in the core area appears to have leveled off may now be decreasing, due to emigration or other factors. The population peaked at 370 muskox in 2005 and was recently estimated at 227 muskox in 2013. The limited size of the population will require conservative harvest rates of less than 3%, yielding a harvestable surplus of 6 bulls per regulatory year. Since the available harvestable surplus is less than the ANS finding of 18-22 muskox for this population, the harvest strategy should remain a Tier II subsistence hunt (TX107) in the future. Enlarging the hunt area does not change the population size or available harvestable surplus, so Tier II management will need to continue until population increases are observed.

### **Muskoxen Estimates by Area**

This graphic shows the groups sizes and locations for muskoxen observed. As you can see, the groups found in Unit 26A are much larger than those in other areas. While more total muskoxen and more groups were observed in the Traditional Area, the estimate for Unit 26A is higher. This may show the difficulties subdividing data to represent smaller areas when it is already highly dependent on information that is not area specific.

### **Muskoxen Composition**

Calf: Cow ratio in most years is 20-35:100. Bull: Cow ratio in most years is 50-65:100

### **Harvest of muskox in Unit 23SW**

The state and federal hunt use a shared quota however, in most years, no federal permits were used. For the first 2 years of the hunt, the quota was 16 bulls. However, the last 3 years, the quota has been reduced in response to declining B:C ratios. We execute a split season to insure that hunters have the opportunity for a winter hunt. RY2014 is planned as a Tier II hunt for 4 bulls August 1-March 15.

### ***Sheep***

Population- NPS completed a distance sampling survey of the Baird and DeLong Mountains in 2010. While the population appeared to be recovering to pre-crash levels, the winter of 2011 and currently this winter may have led to poor lamb production and high adult ram mortality. The 10 year De Long Mountains harvest (federal, registration, and drawing hunts combined) is 9 sheep. In RY2008 it reached a high of 17. Harvest in the Baird Mountains (federal hunt only) has been below 15 sheep annually for the last 10 years. Harvest in the Schwatka Mountains (registration and statewide harvest ticket) has been below 5 sheep for the last 10 years. The DS384 hunt for Units 23 and 26A was started in RY2004 for 11 drawing permits; there has been a maximum harvest of 8 rams per year. Due to low numbers and winter mortality the draw hunt is not being offered in RY2014.

There are four proposals affecting sheep hunts in Unit 23 (Proposals 30-33).

### ***Brown Bears***

Residents may hunt in the general season and fulfill sealing requirements or participate in the RB700 subsistence hunt which requires reporting, not sealing and has meat salvage and trophy nullification requirements. Nonresidents may participate in a drawing for either the spring or the fall hunt. There is one brown bear proposal. Proposal 27- limiting brown bear harvest

#### **Brown Bear Hunting Regulations:**

Hunters may take one brown bear every year. There is no resident tag fee.

Residents may hunt from August 1- May 31 Season dates for residents are August 1-May 31. Nonresidents have two seasons; Fall bear September 1-October 31, and spring bear April 15- May 31.

#### **Brown Bear Population**

Population Estimate- 2008 study with NPS- final results pending, no SCF. Preliminary minimum count 1.9-2.2 bears/25.7 mi<sup>2</sup>. The Department contributed planes, observers, and funding to this effort. Results are pending but seem to indicate that brown bear numbers in the sampled area

(>8,000mi<sup>2</sup>) are increasing. This corresponds with anecdotal reports and TEK indicate that brown bear numbers are currently quite high.

### **Brown Bear Population Surveys**

In Unit 23, brown bears are difficult and expensive to count reliably. Low density and low detection rate. The purple colored area on this map shows the survey area used in both the 1987 and 2008 studies. In 2008, it was completely sampled, whereas the area around it used a stratified random sampling technique to select units. As you can see the Red Dog Area has a higher density of bears than other portions of the study area. The density for the surrounding area was lower. (1.15 bears for 25.7 miles<sup>2</sup>) The purple colored area on this map shows the survey area used in both the 1987 and 2008 studies. In 2008, it was completely sampled, whereas the area around it used a stratified random sampling technique to select units.

### **Brown Bear Population Estimate**

The 1987 survey was conducted in order to assess the possible impacts of Red Dog Mining activity on brown bear denning and movements in the area. No negative impacts have been identified, and Red Dog has an excellent record of responsible operations around wildlife.

The purple area surveyed, has a high density of denning bears, but provides a useful index. In 2008, NPS and ADFG surveyed the area again. The NPS has not produced final results. Using the 1987 sightability with 2008 minimum count, we would conservatively have a density of 3.4 bears/25.7 mi<sup>2</sup>. Final results are pending but preliminary minimum counts strongly suggest that brown bear numbers in the sampled area (>8,000mi<sup>2</sup>) are increasing.

### **Brown Bear Annual harvest**

Annual harvest varies considerably and is influenced greatly by weather, economic factors, population, and popularity. The 20-year average harvest is 48 bears. The 10-year average harvest is 51 bears. Over the years regulations have been liberalized in incremental steps to maximize harvest opportunity. Harvest data for Unit 23 show no trend in the sex ratio, age, or size of bears.

### **Harvest by Residency:**

Since the early 1980s non-local Alaskans have been the most predominant hunters in the harvest data. The proportion of hunters in each residency type has remained relatively constant over the last 20 years.

## **Changing Brown Bear Numbers**

Qualitative information helps us step back and look at the big picture. Anecdotal reports from local hunters, guides, and agency staff were unanimous, everyone is seeing more bears.

These reports correspond to the Red Dog studies showing an increased number of bears.

## ***Wolves***

### **Reported Wolf Harvest**

Population- Although the wolf population has not been formally been surveyed in recent years, we have a number of other indicators showing that wolves are abundant in Unit 23. These include observations of wolves during other survey efforts, anecdotal reports, and traditional ecological knowledge. Harvest- Subsistence division estimates that we may account for as little as 10% of the harvest of wolves in ADF&G sealing data. Most wolves that are taken, are home tanned and go directly into a ruff. Annual harvest fluctuates wildly from year to year due to variability in individual effort, snow conditions, and gas prices. The 20-year average is 58 wolves per year. The 10-year average is 63 wolves per year, this is largely influenced by the spike in harvest in 2004 (1/3 of this total was taken by one hunter)

## ***Furbearers***

The species that I have highlighted in beige are those that have sealing requirements. All others are species for which we have little or no information. Two proposals affect furbearers in Unit 23:

- Proposal 28 – coyote no bag limit and no closed season
- Proposal 35 – prohibiting the use of snares to take bears

### **Reported Furbearer Harvest**

While subsistence division surveys don't ask about most furbearer species, suggest that sealing data only account for <10% of actual harvest. Most harvest is by ground shooting and using a snowmobile.

## ***Other Species***

There are many other species occur in Unit 23 than those that are highlighted in this presentation.