

National Park Service
U.S. Department of the Interior
Western Arctic National Parklands



Big Game Hunters and Transporter Activity

*An Integrated Study of Hunting and Caribou in
Noatak National Preserve 2009-2013*

Western Arctic Caribou Herd Unit 23 Working Group Meeting

May 15, 2014

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Western Arctic National Parklands

Study Context & Background

- Very little non-local hunting pressure pre-1980
- Non-local hunting activity increases *moderately 1985-1995 ; more significantly 1995-present (+10-15% per year)*

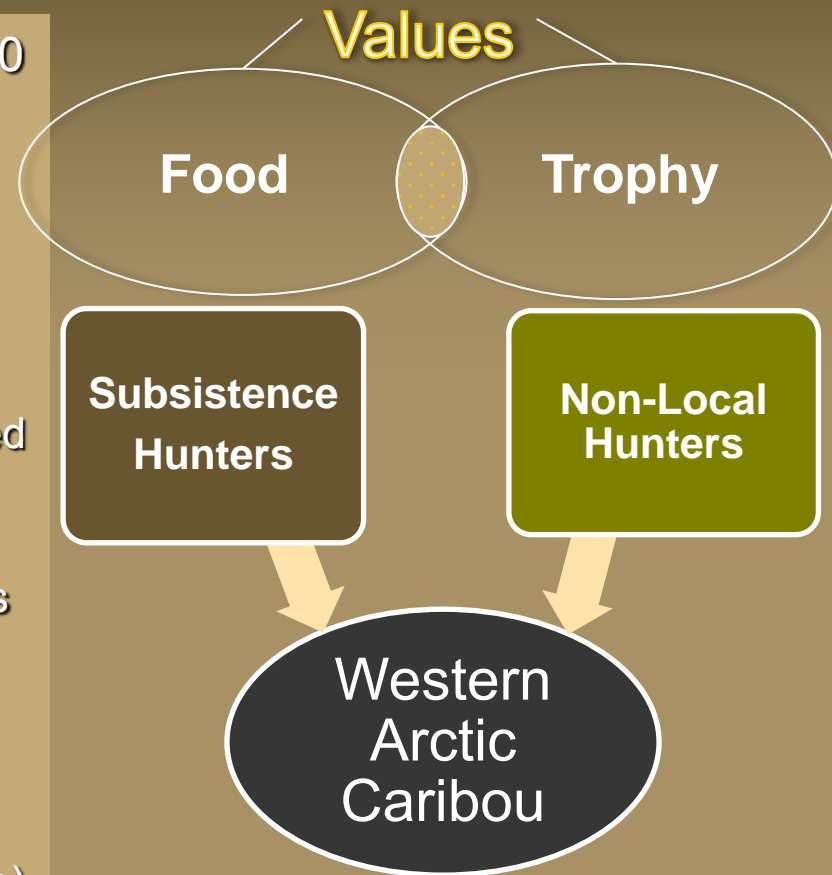
■ Social Values Conflict: Two User Groups

Recent findings in Squirrel (Fix, et. al, 2009):

1. *Low levels of direct field competition for shared resource, but high levels of perceived problems/indirect competition*
2. Hunt conflict is asymmetric; locals describe as problem, but not vice-versa.
3. Issues with non-locals:
 - Hunting for trophy and meat rotting
 - Alteration of migratory patterns & aircraft use

- Mode of Access to Resource—Air (non-locals) vs. Boat (locals): How much overlap???

- Migration period temporally bounded (Aug-Oct) = *urgency to hunt while in proximity of Noatak and crossing Noatak & Kobuk Rivers*

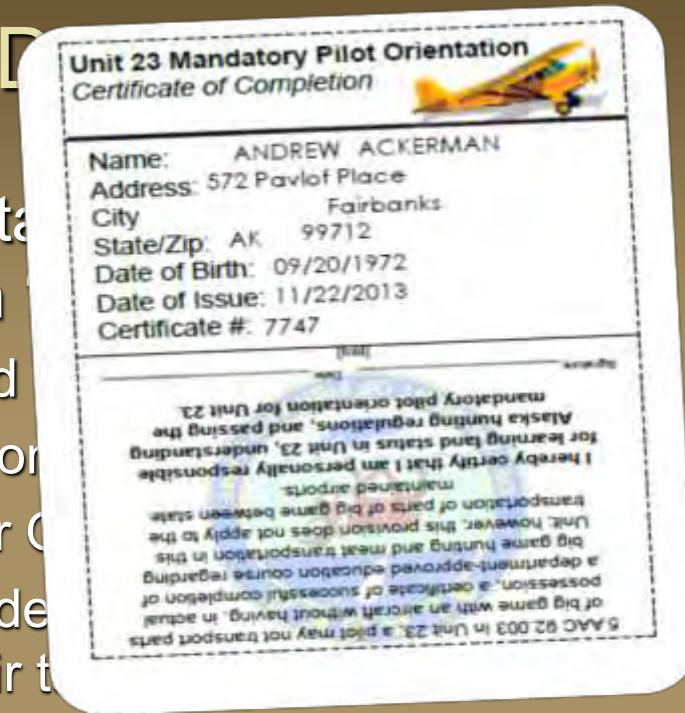


**Shared Resource;
Divergent Objectives &
Values**

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Management Strategies To D

- The Alaska BOG implemented a Noatak Game Controlled Use Area starting in 2010
 - expanded area east to Sapun Cr; reduced
 - expanded dates (8/15-9/30) in '10 based on
 - AK BOG initiated Unit 23 Pilot and Hunter C
 - Improved communication and recommended authority re: Licensed Transporter (and air t
- In 2012, NPS WEAR implemented CUA permit limitations and a transporter delayed entry strategy for the western part of Noatak NP
 - 20-mile wide area of the preserve targets non-local caribou hunts arriving via commercial air 1/1-9/15 each year.



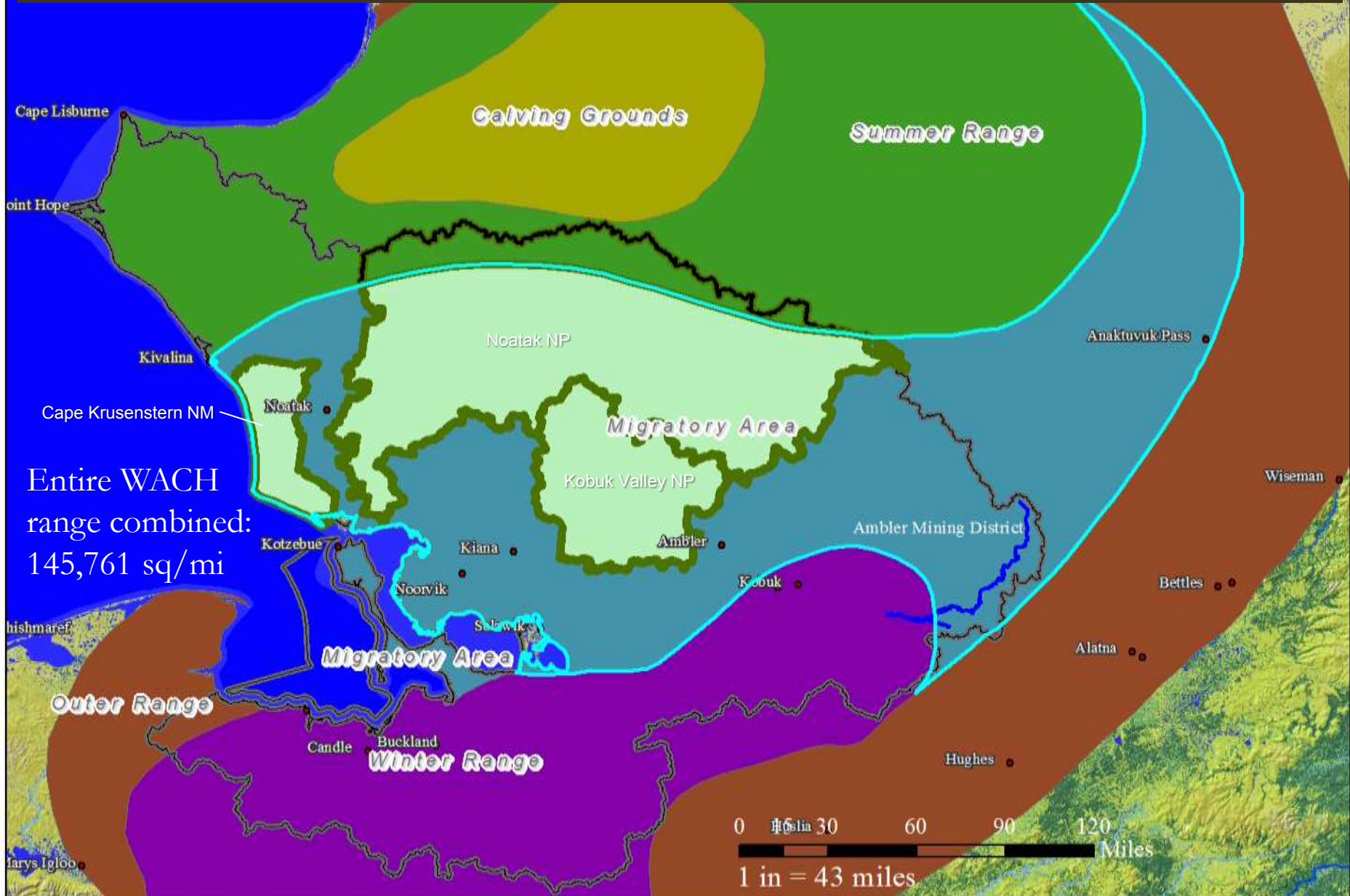
Noatak NP Study Objectives

1. Gather, summarize, and analyze quantitative and qualitative data on non-local hunters, hunt activity, experiences and associated activity (i.e., commercial air transport, guiding activity, etc) [2013-14].
2. Use soundscape monitors to document motorized sounds (air and ground sources) and characterize existing conditions in a variety of areas in NOAT [Fall 2013-14]. Spatial model of sounds along NOAT river corridor will be done 2014-15
3. Conduct spatial analyses: trends or patterns in data gathered in 1. and 2. integrated with WACH gps collar data
4. **Integrate** results with TEK study being done in Noatak in 2013-14.

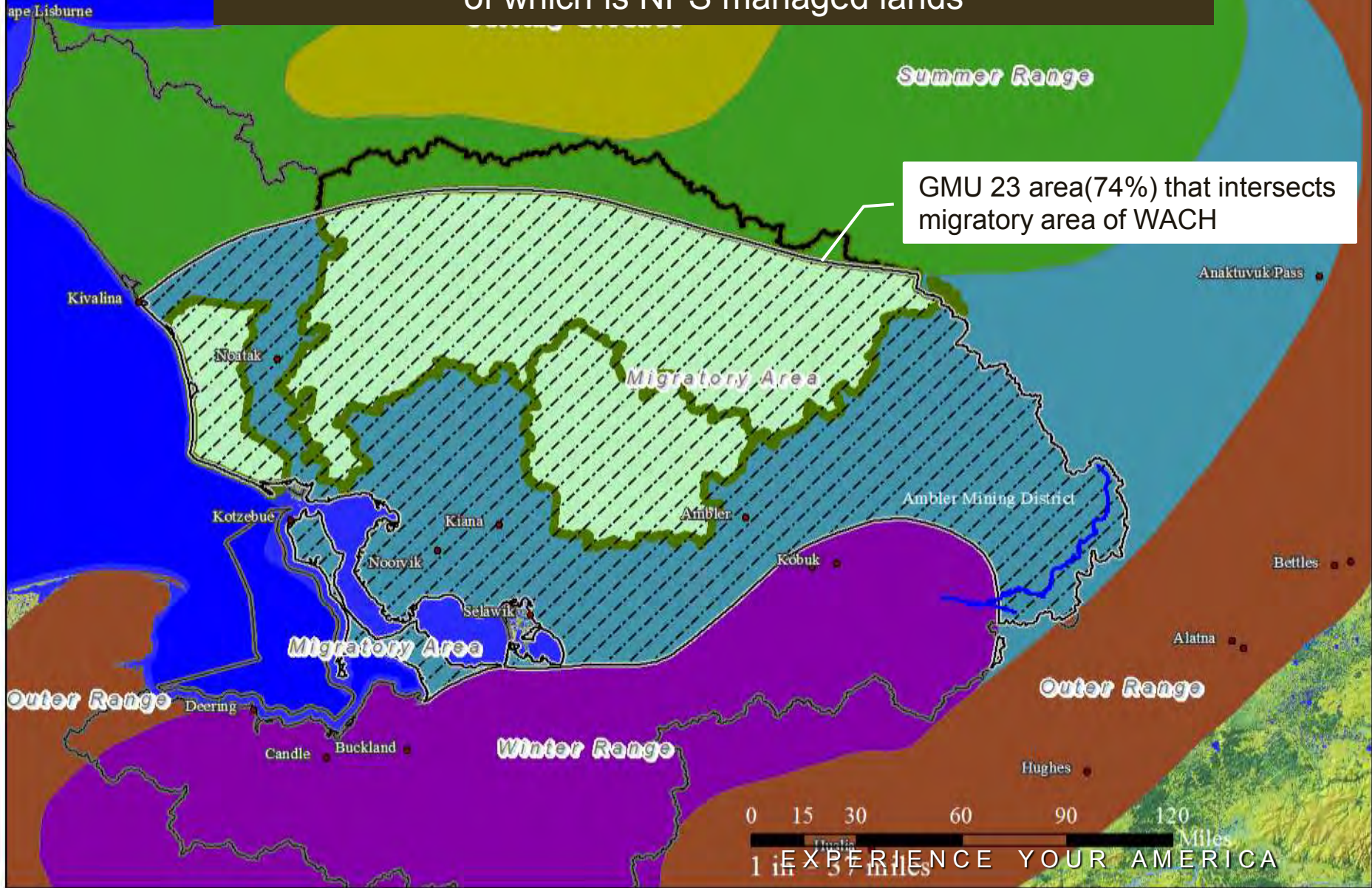
Significance of Western Arctic NPS Units, Specifically Noatak NP to WACH & Unit 23

- Area of WACH migratory range: 34,329 sq/mi.
 - % of migratory range area inside NOAT, CAKR, & KOVA: 36%
 - % of migratory range area in GMU 23: 74%
 - % of GMU 23 migratory range area managed by WEAR: 49%
- Explicit Policy Significance of WACH (NOAT Significance Statement #3 of 4)
 - NOAT “protects natural resources and habitats that provide opportunity for local rural Ak residents to engage in customary and traditional subsistence uses.”
 - “...unimpeded movement of WACH, an essential regional subsistence resource.”
 - Preservation of WACH herd also part of Statement #1: Nationally Significant Ecosystems

12,362 sq./mi or 36% of WACH migratory range is within Noatak National Preserve, KOVA, & BELA. Western Arctic National Parklands is the single largest landholder within the migratory area. If you add GAAR to the mix, >70% of the migratory area is NPS managed lands



25,252 sq./mi. or 74% of the WACH migratory range is represented by GMU 23, 49% (12,362 sq/mi.) or approx. half of which is NPS managed lands



GMU 23 area(74%) that intersects migratory area of WACH

Study Methods

- Compile existing data (2009-13) on commercial hunting and transporter activity in Noatak NP into database & GIS [2013-]
- Mail-survey to Noatak NP non-local hunters over the four year period 2010-13 [2014]
- Structured interviews: non-local hunters, guides, and pilots [2014]
- Monitor acoustic conditions in Noatak NP during peak hunt season and differing management areas [2013-14]
- TEK research in Noatak Village using semi-structured interviews and small group participatory mapping (Kofinas & Halas, UAF) [2013]



Noatak River

Sapun Creek
100 yards



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Analyzing Existing Commercial Use

Noatak National Preserve

2013 Licensed Transporters

- Air Juneau (formerly RAM)
- Brooks Range Aviation
- Coyote Air
- Golden Eagle Outfitters
 - Arctic Backcountry Flying
- Northwestern Aviation
- Transmountain Aviation

Incidental Hunt Transport (Air Taxi)

- Bettles Air*
- Arctic Backcountry Flying

Other Air Taxis

- Shadow Aviation
- Wright Air Service
- 70 North

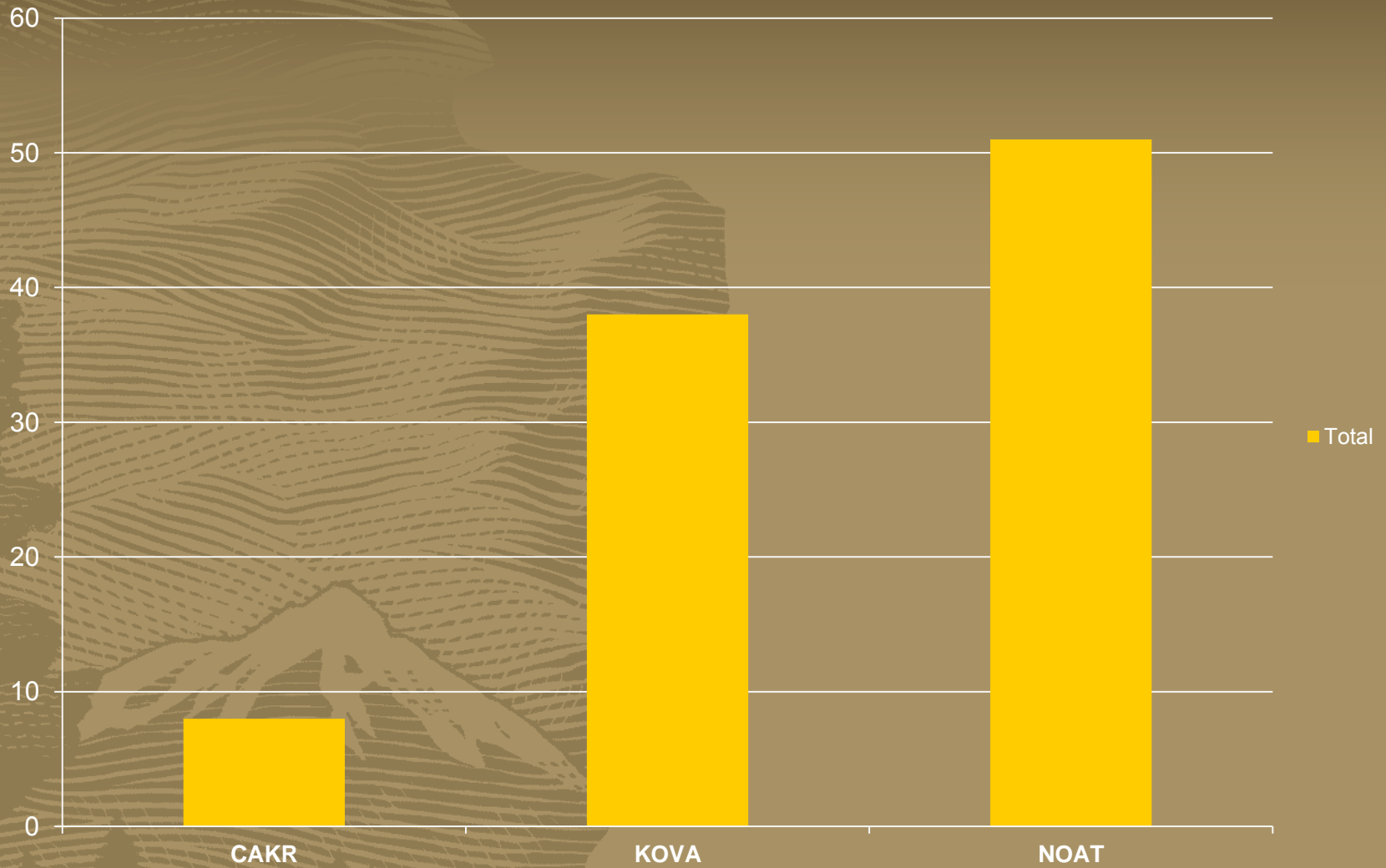
*Bettles Lodge transferred ownership in 2014



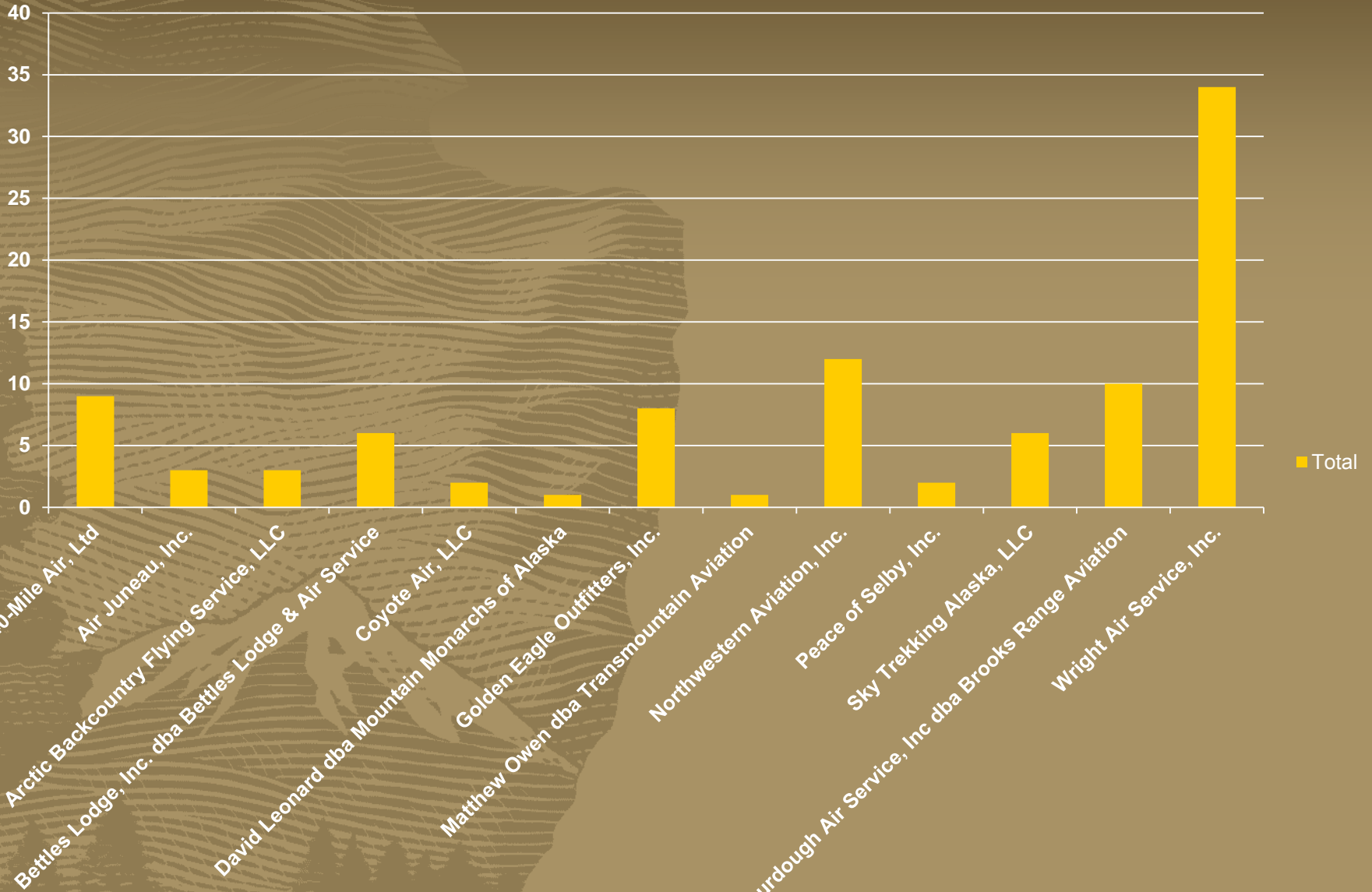


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Number of CUA Aircraft Per NPS Unit

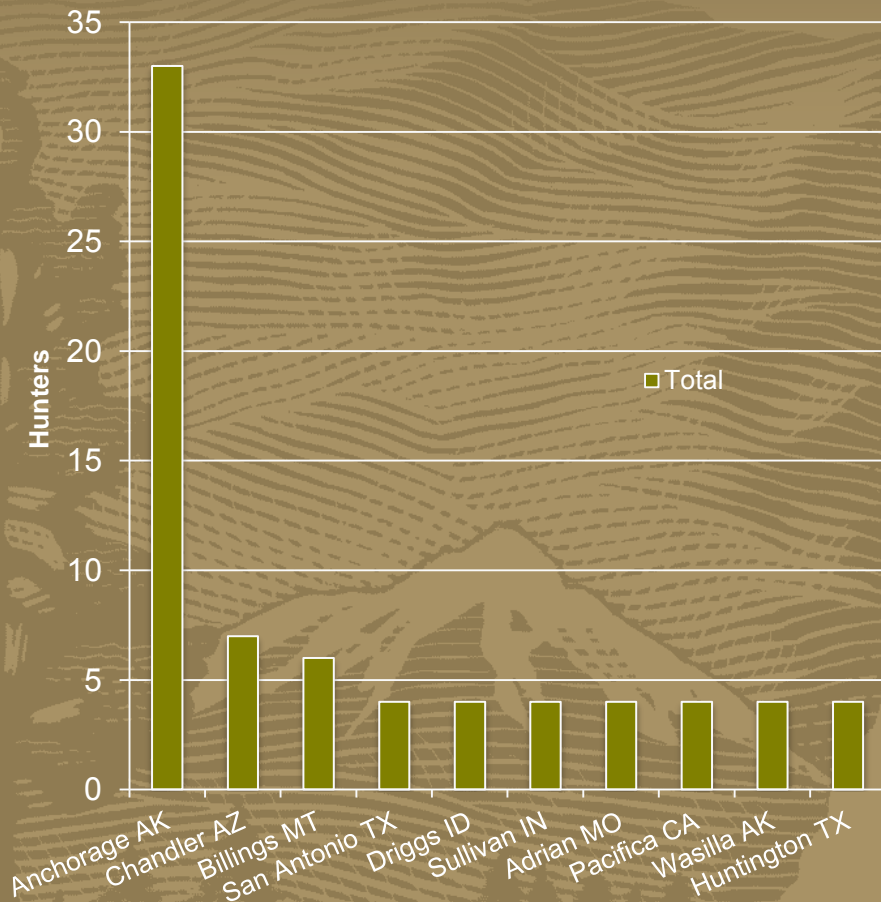


Number of WEAR CUA Aircraft Per Operator

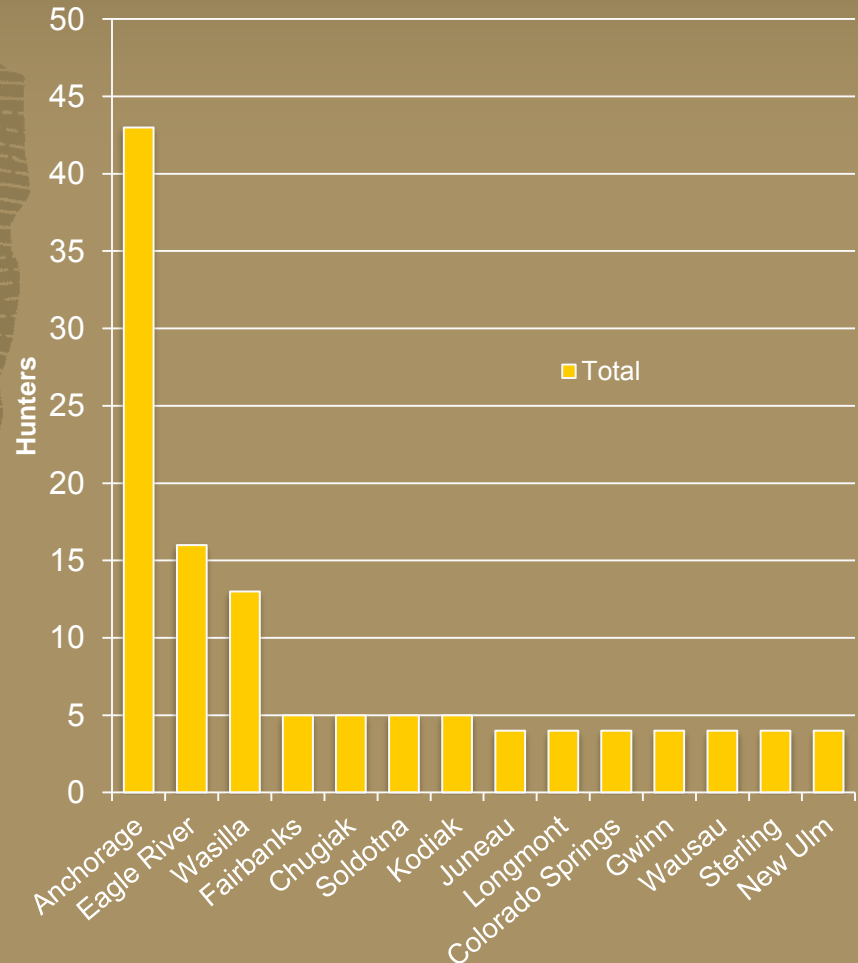


Top 10 Most Common Cities of Residence

Noatak Big Game Hunters: 2012

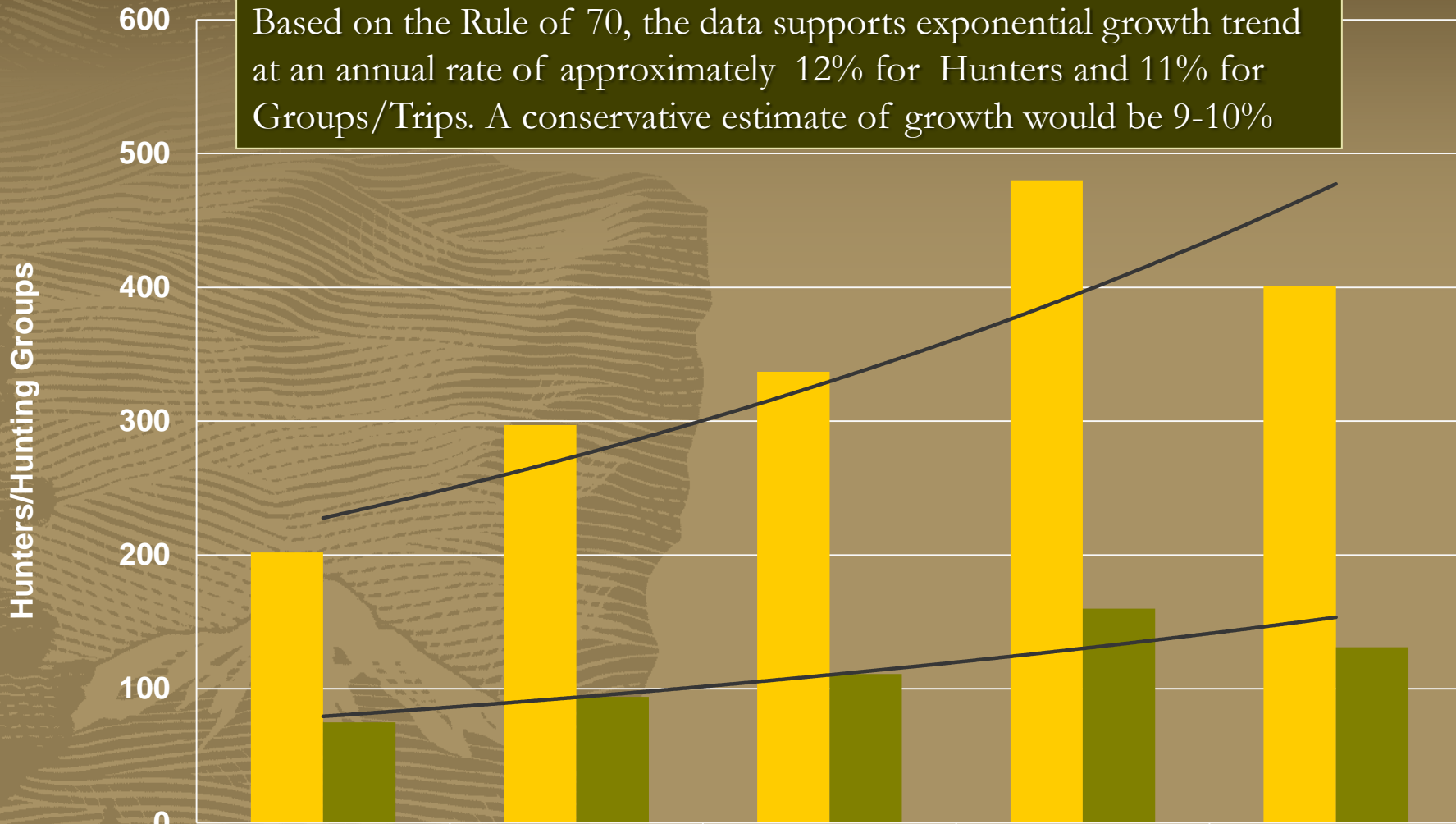


Noatak Big Game Hunters: 2011



Noatak BG Hunters/Groups: 2009-13

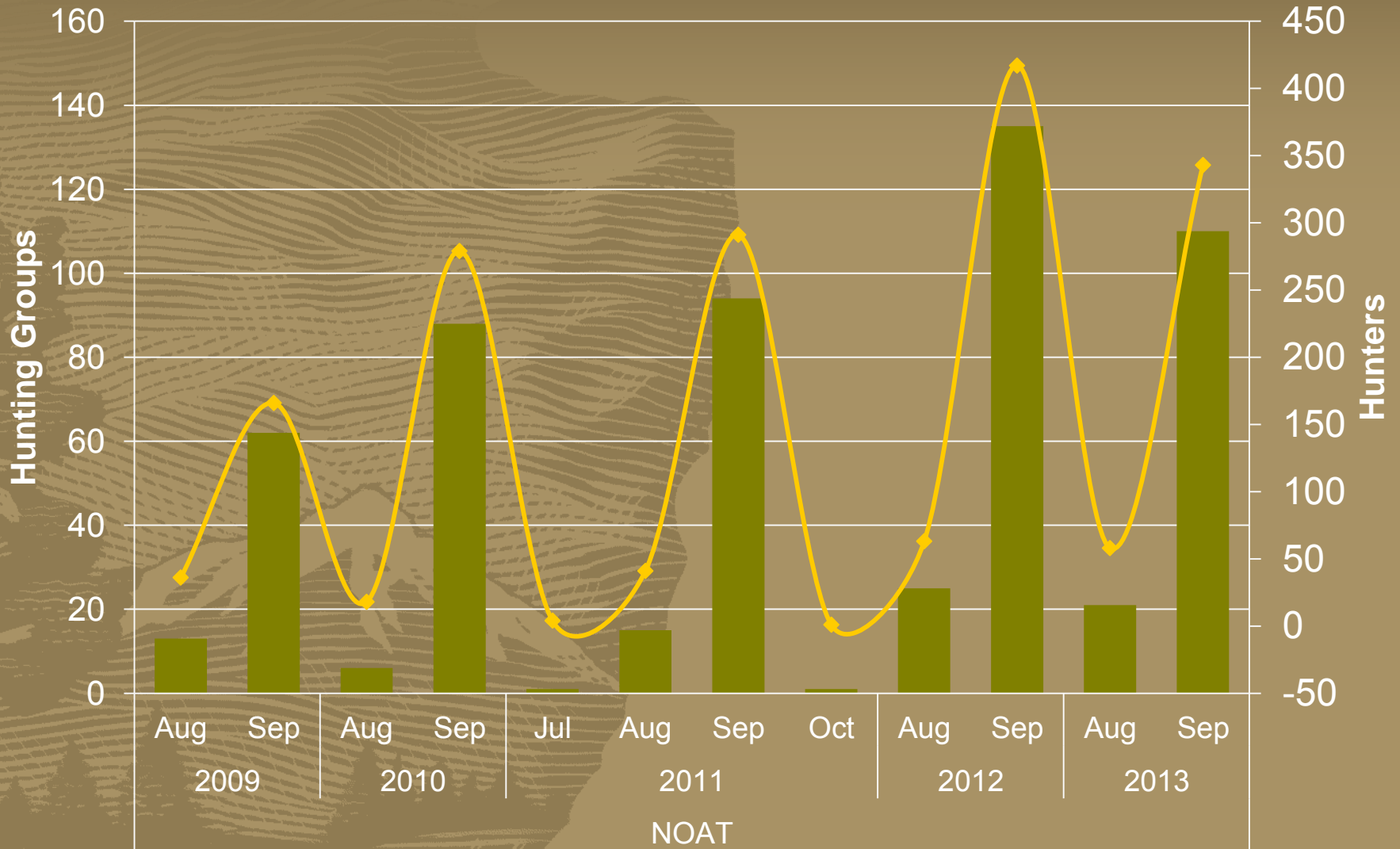
Based on the Rule of 70, the data supports exponential growth trend at an annual rate of approximately 12% for Hunters and 11% for Groups/Trips. A conservative estimate of growth would be 9-10%



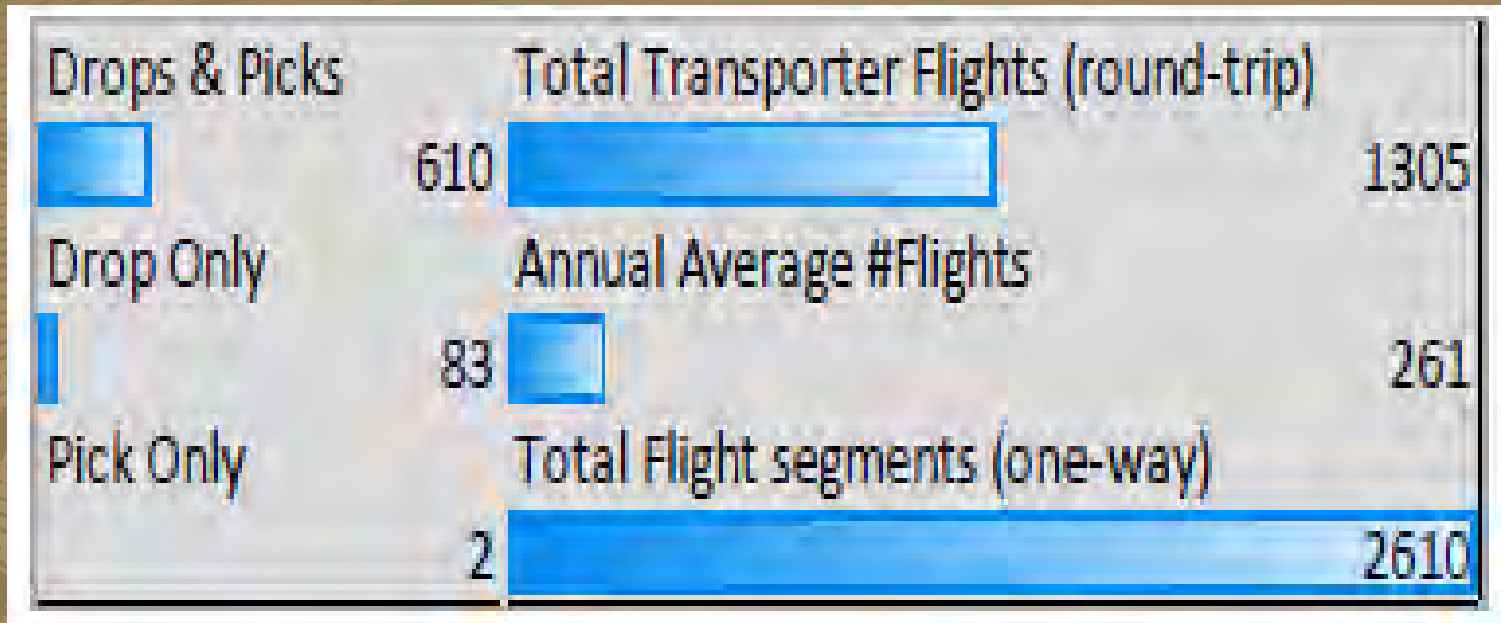
	2009	2010	2011	2012	2013
Hunters	202	297	337	480	401
Hunting Groups	75	94	111	160	131

Noatak BG Hunters/Groups: 2009-13

■ Hunting Groups ◆ Hunters

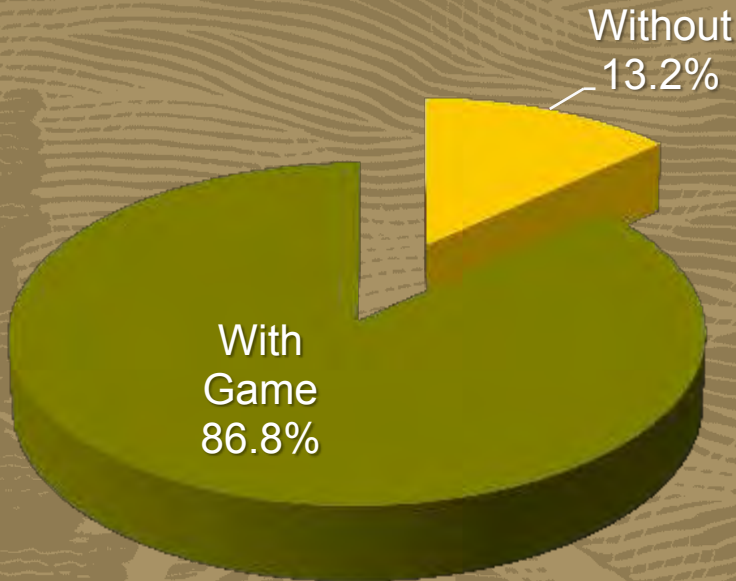


Flights and Noatak Big Game Hunts 2009-2013

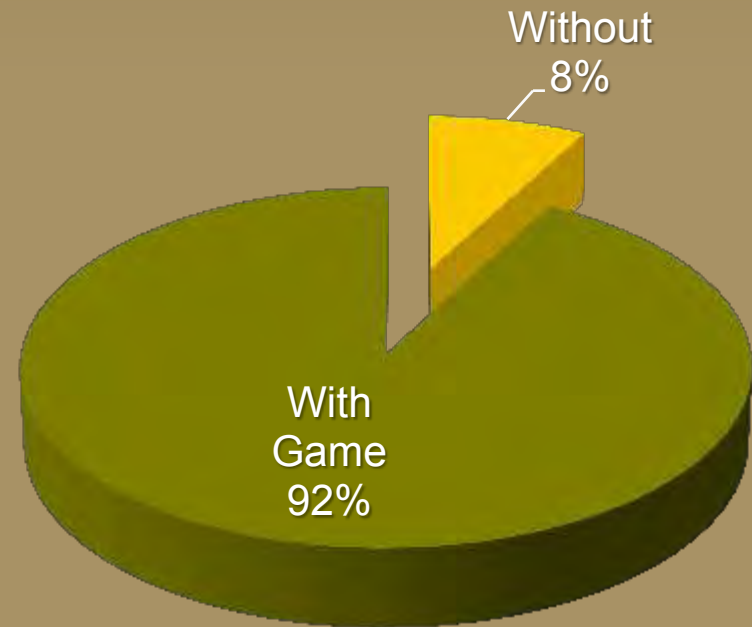


WEAR BG Hunters/Groups: 2009-13

Percent of Hunts on NPS
Units in GMU 23 *Transporting
Big Game* (i.e., success rate)

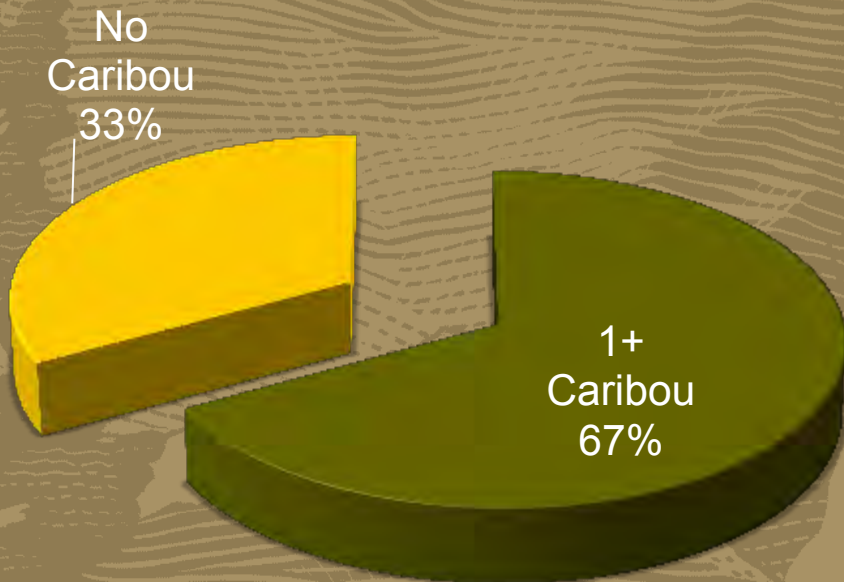


Percent of Hunts in Noatak
NP *Transporting Big Game*
(i.e., success rate)

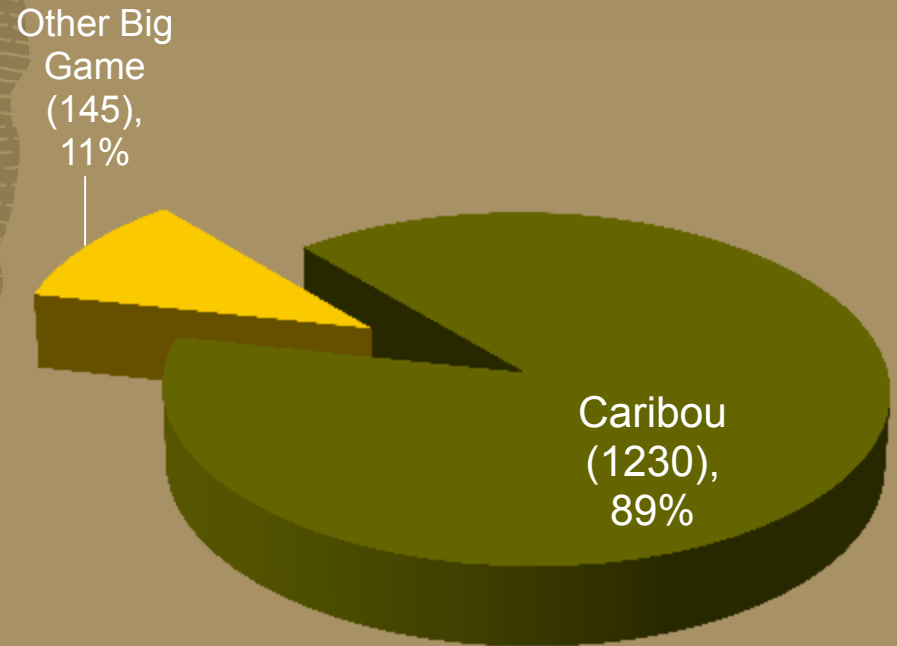


Noatak BG Hunters/Groups: 2009-13

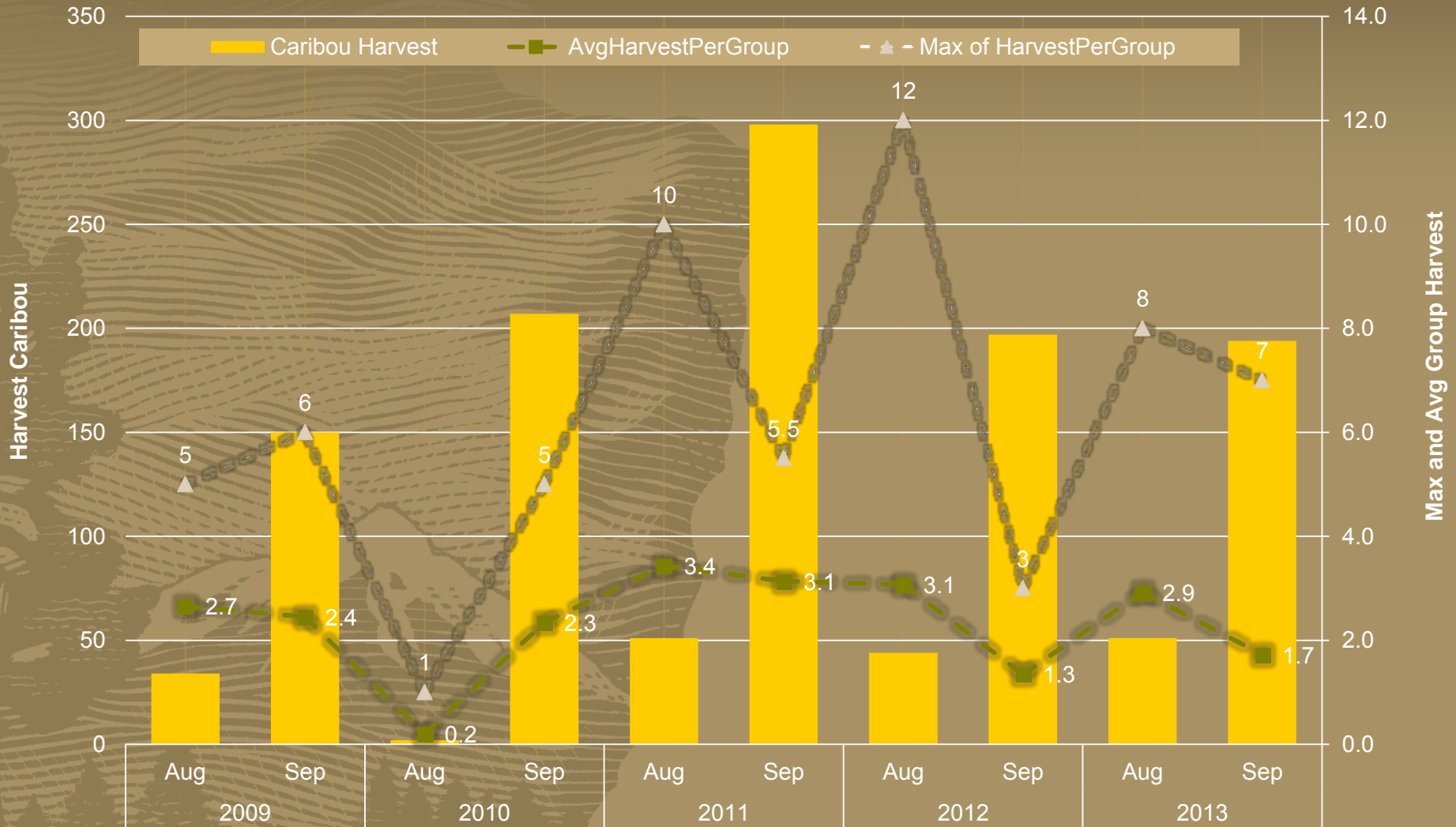
Proportion of All Noatak NP Big Game Hunts (Groups) that Harvested 1 or more Caribou



Proportion of All Noatak NP Big Game Animals Harvested that were Caribou



Monthly (Aug/Sept) Caribou Harvest Levels & Group Harvest Rates



Acoustic Monitoring 2013-2014

Near Kugururok R.
confluence

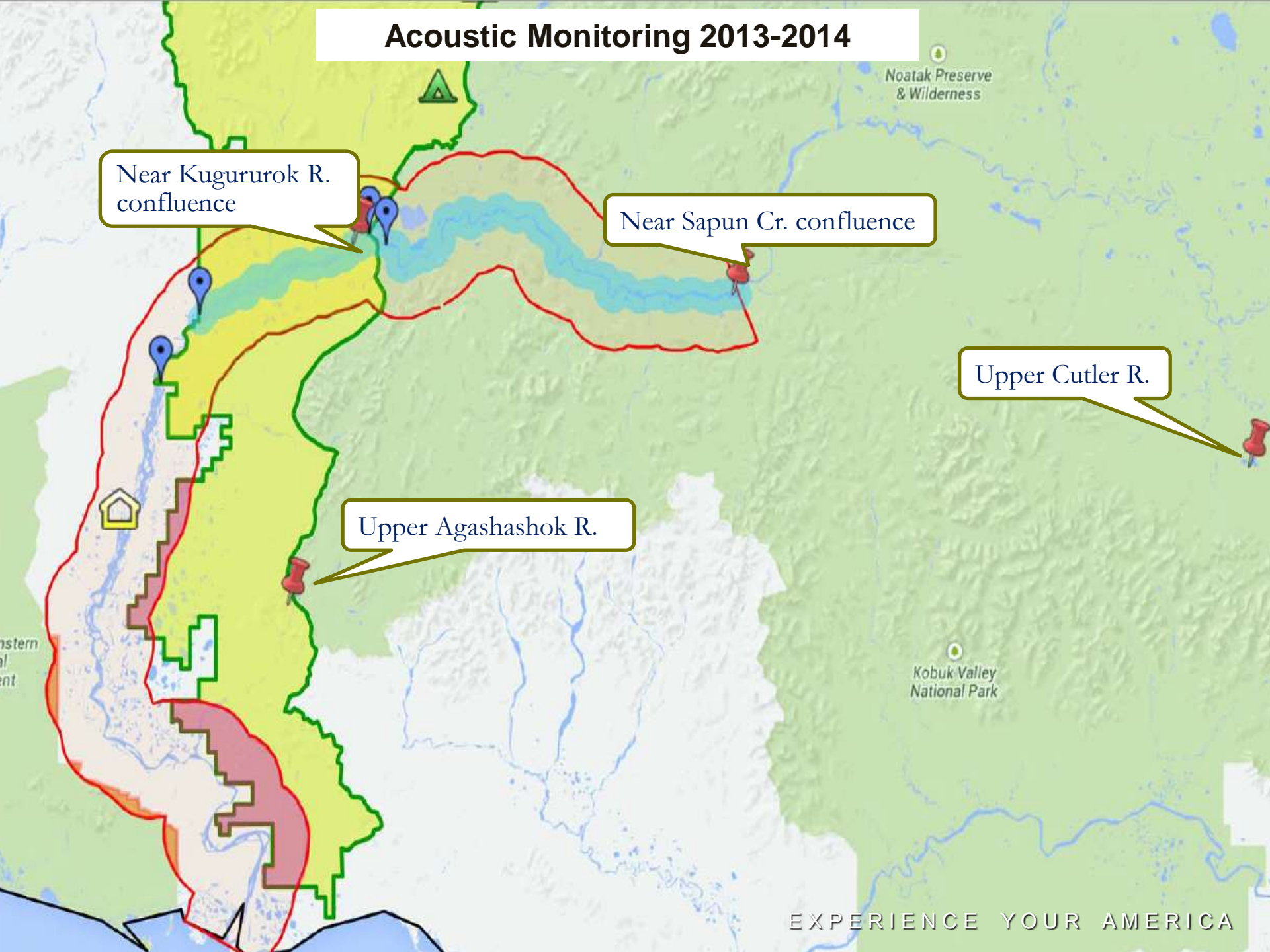
Near Sapun Cr. confluence

Upper Cutler R.

Upper Agashashok R.

Noatak Preserve
& Wilderness

Kobuk Valley
National Park



NOAT Soundscape Monitoring: 2013

Kugurorok River 2013

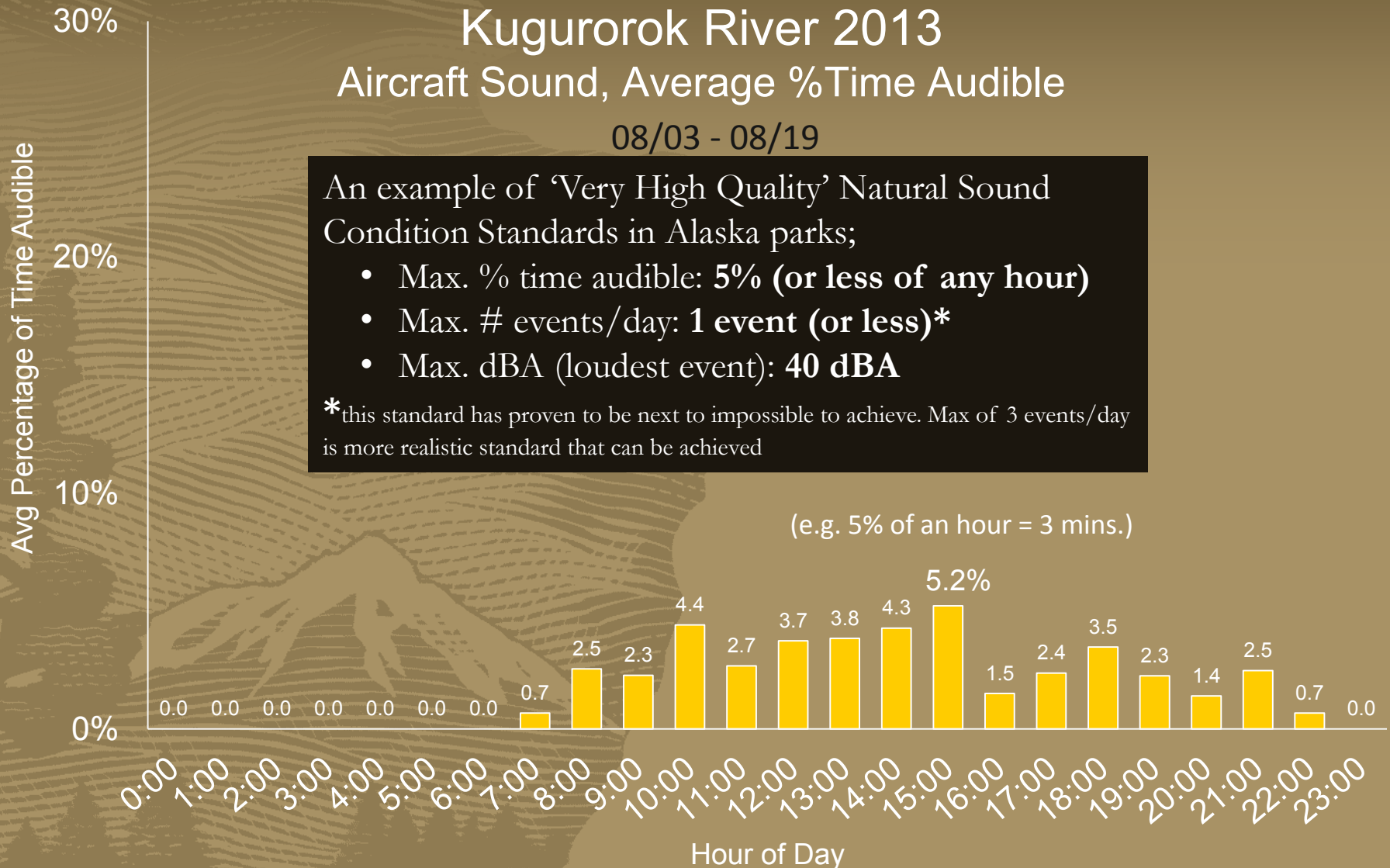
Aircraft Sound, Average %Time Audible

08/03 - 08/19

An example of 'Very High Quality' Natural Sound Condition Standards in Alaska parks;

- Max. % time audible: **5% (or less of any hour)**
- Max. # events/day: **1 event (or less)***
- Max. dBA (loudest event): **40 dBA**

*this standard has proven to be next to impossible to achieve. Max of 3 events/day is more realistic standard that can be achieved

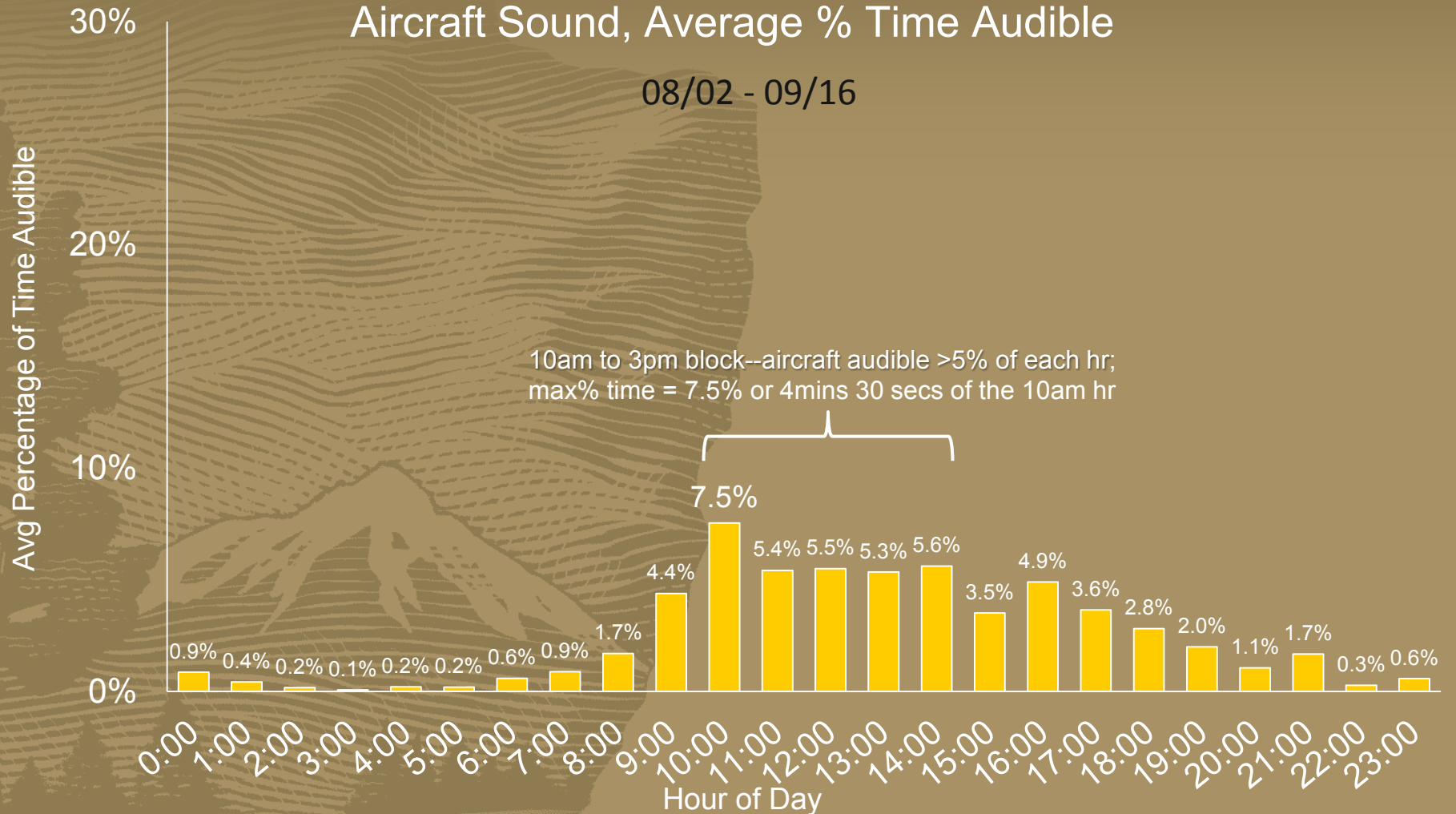


NOAT Soundscape Monitoring: 2013

Agashashok River 2013

Aircraft Sound, Average % Time Audible

08/02 - 09/16

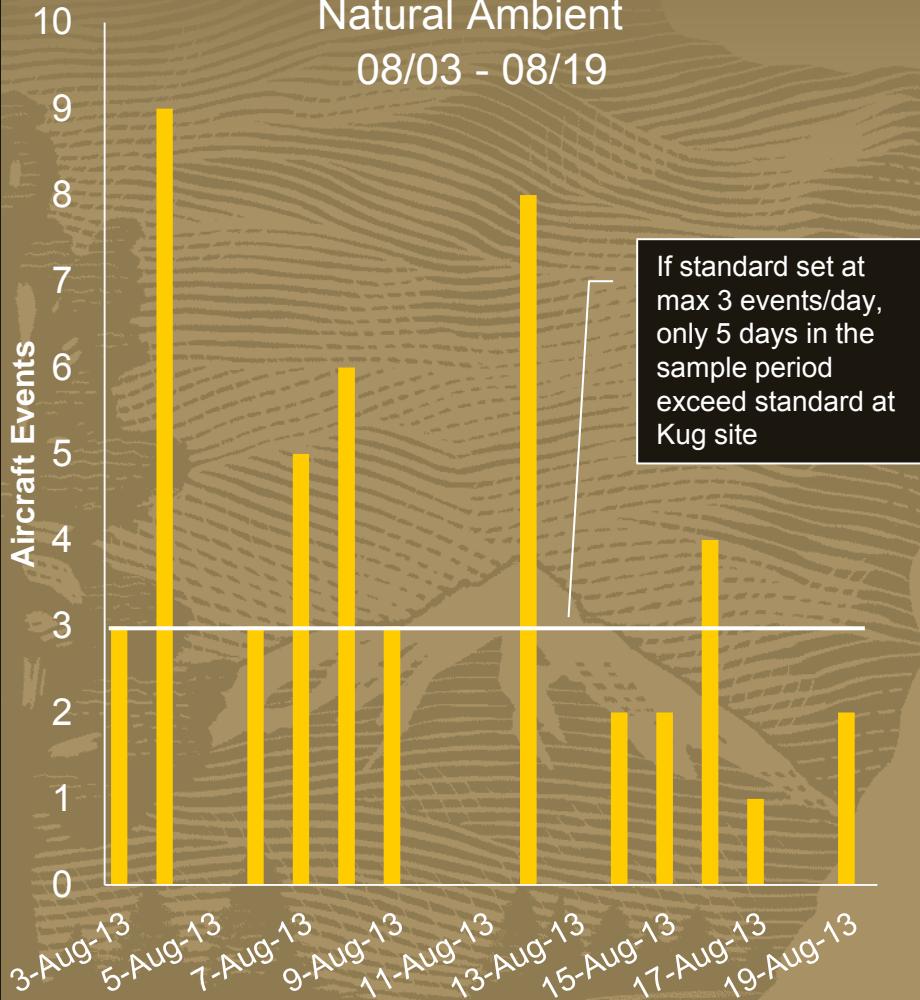


Soundscape Monitoring: 2013

Kugurorok River 2013

Number of Aircraft Events Per Day Over Natural Ambient

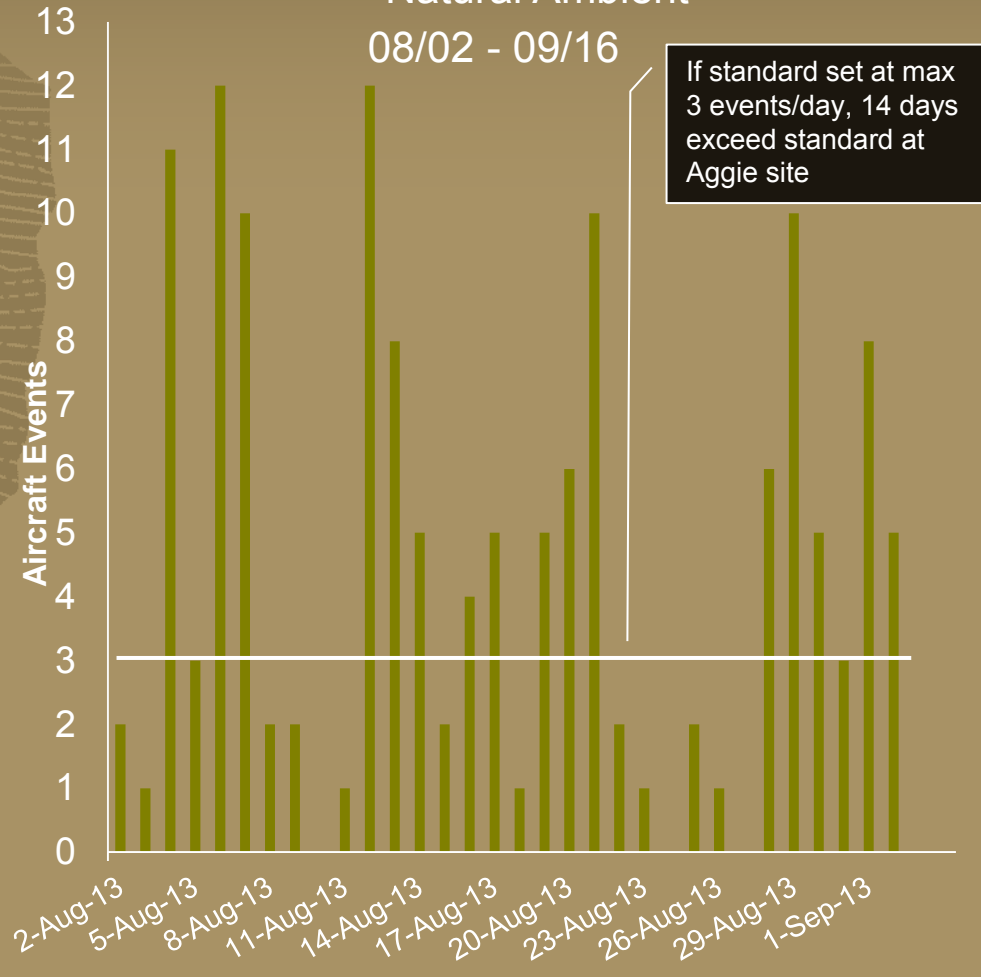
08/03 - 08/19



Agashashok River 2013

Number of Aircraft Events Per Day Over Natural Ambient

08/02 - 09/16



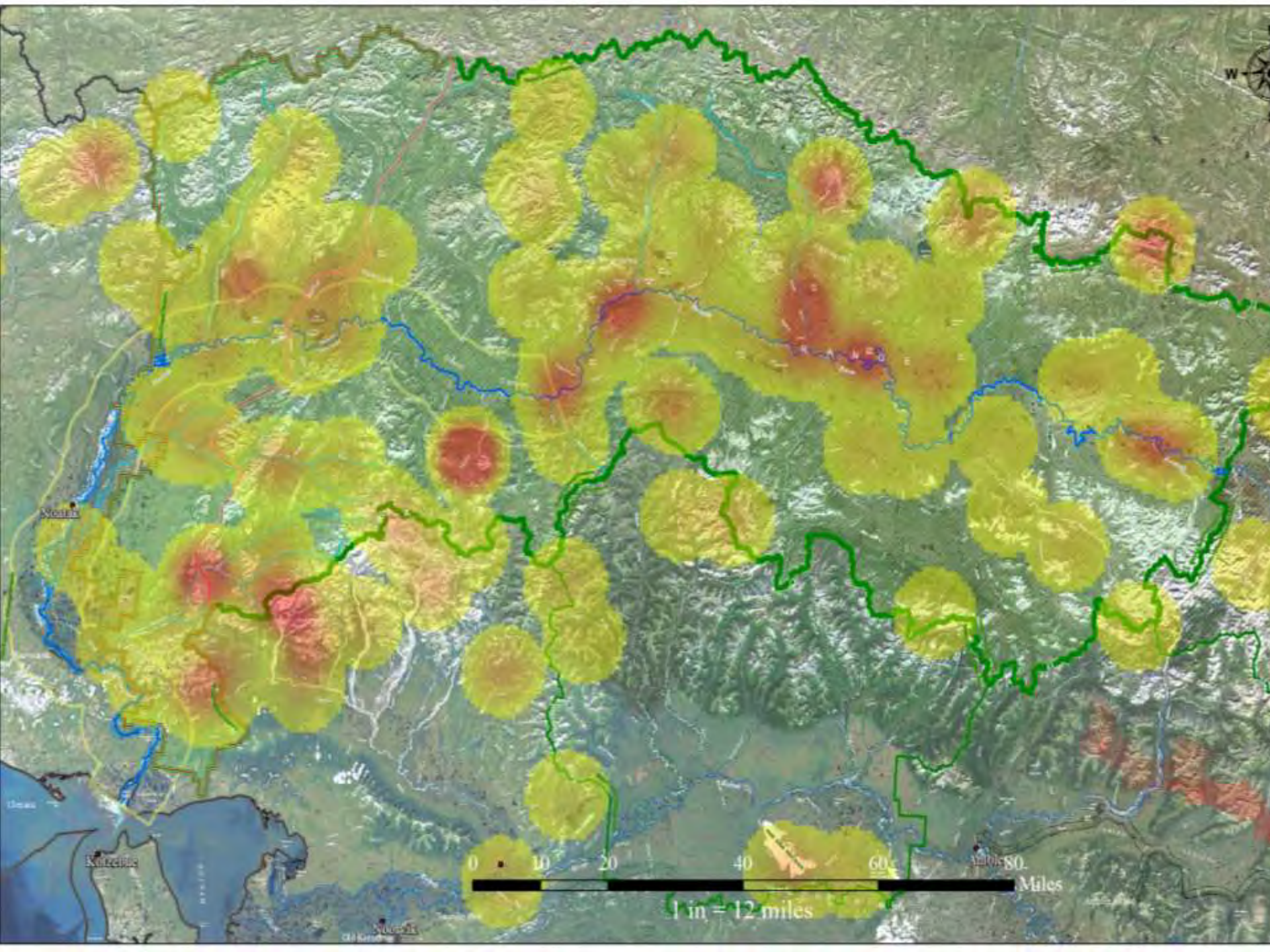
Month of September 2010-12: Collared Caribou Perc Volume Contours

Caribou Collar Data Provided by Kyle Joly

(PVC is the smallest shape that encloses a set percentage of the total # of gps collar records)

Yellow 50%; Light Orange 65%; Dark Orange 90%; Red 95%





Month of September 2010-12 Caribou PVC and Transporter Landing Concentrations

(PVC is the smallest shape that encloses a set percentage of the collar records)

Caribou: Yellow 50% (high conc.); Light Orange 65%; Dark Orange 90%; Red 95%(low conc.) **Flights:** Red = High; Yellow = Low



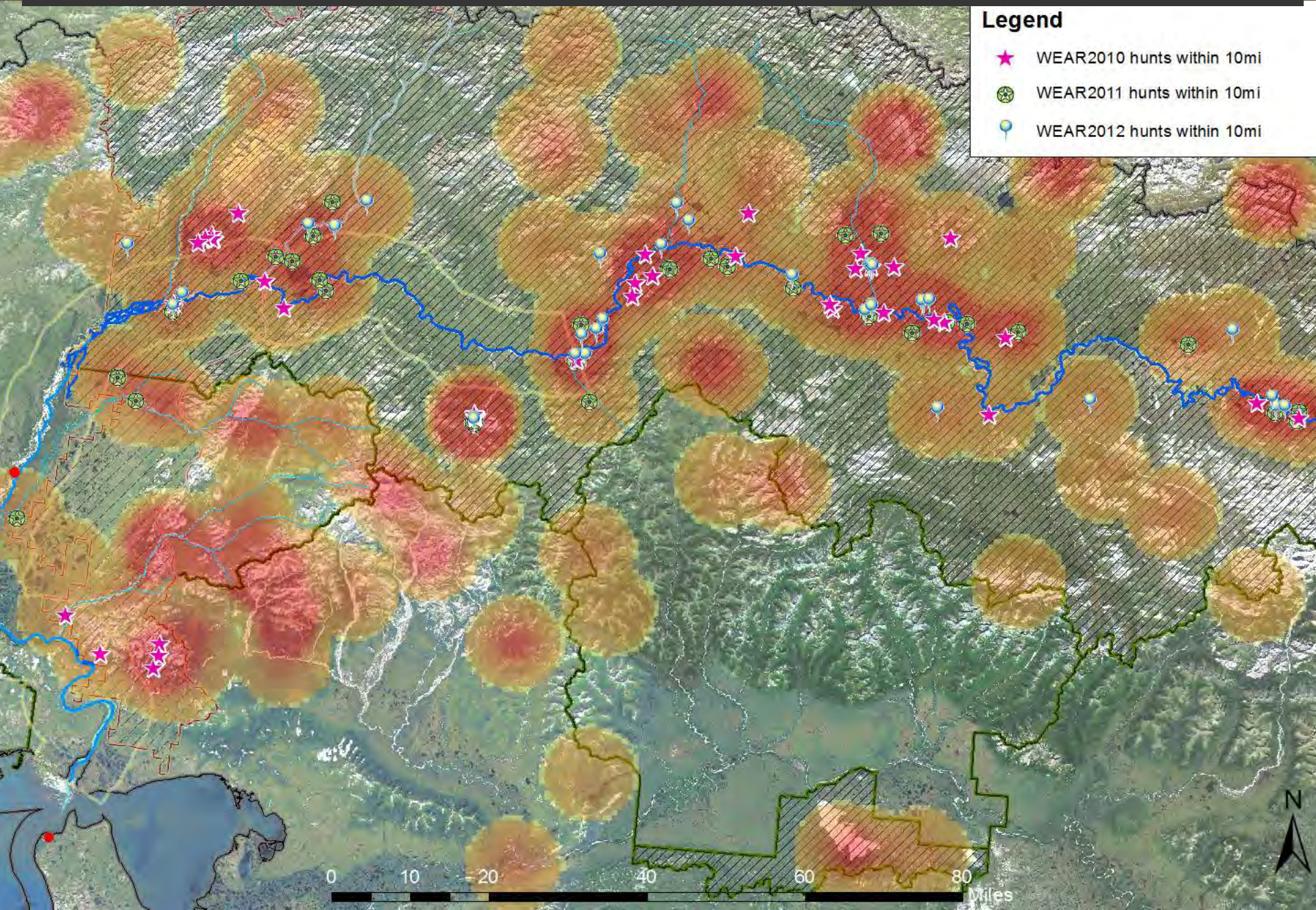
Blk = High flights/High caribou
White = Low flights/High caribou
Green = High flights/Mod caribou
Blue = Mod flights/Very Low caribou

0 10 20 40 60 80 Miles

1 in = 12 miles

2010-12 Transporter Landings within 10 miles of the Noatak River

46, 2010; 41, 2011; 48, 2012



Transported Hunter Survey Data

- Population = 1,280+ or all hunters with an transported via licensed transporter into Noatak Preserve b/t 2010-2013 and includes:
 - ? about the movements of hunters, where and how they harvested game
 - ? about encounters with other parties and motorized sounds
 - ? about levels of knowledge of existing hunt policies and local hunting traditions
 - ? about the adequacy of hunt related services in and around Kotzebue
 - Hypothetical management scenarios intended to get at choices hunters would make when faced with tradeoffs

Survey Response Data

- Frame = 1150 or all hunters with valid address; current return n=390+ [In progress] for about a 35% Response Rate to date (n=400 very high stat confidence;95%±4)
- Data will be analyzed in tabular fashion and spatially to ID patterns or trends in how hunters use NOAT
- Draft Report expected by October 2014
- Should be able to use hunter self-reported maps to verify and supplement Transporter activity data



Questions?

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