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
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Study Context & Background

- Very little non-local hunting pressure pre-1980
- Non-local hunting activity increases
  \textit{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. \textit{Low levels of direct field competition} for shared resource, but \textit{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) = \textit{urgency to hunt while in proximity of Noatak and crossing Noatak & Kobuk Rivers}
Management Strategies To Date

- The Alaska BOG implemented a Noatak R. corridor Big Game Controlled Use Area starting in '88 (8/20-9/20)
  - expanded area east to Sapun Cr; reduced dates in '95 (8/25-9/15)
  - expanded dates (8/15-9/30) in ‘10 based on WG recommendations
- AK BOG initiated Unit 23 Pilot and Hunter Orientation (2010)
- Improved communication and recommended new BGCSB authority re: Licensed Transporter (and air taxi) activities in Unit 23

- 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.

Entire WACH range combined: 145,761 sq/mi
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]
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

*Betlles Lodge transferred ownership in 2014
EXPERIENCE YOUR AMERICA
Number of CUA Aircraft Per NPS Unit

- CAKR
- KOVA
- NOAT

Legend:
- Total
Top 10 Most Common Cities of Residence

Noatak Big Game Hunters: 2012

Noatak Big Game Hunters: 2011
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%.
Noatak BG Hunters/Groups: 2009-13

- Hunting Groups
- Hunters

Chart showing trends in hunting group and individual hunter participation from 2009 to 2013.

- High peaks in September 2011 and August 2012 for Hunting Groups.
- Significant increase in Hunters in September 2012.

NOAT
# Flights and Noatak Big Game Hunts 2009-2013

<table>
<thead>
<tr>
<th>Drops &amp; Picks</th>
<th>Total Transporter Flights (round-trip)</th>
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<tbody>
<tr>
<td>610</td>
<td>1305</td>
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<tr>
<td>Drop Only</td>
<td>Annual Average #Flights</td>
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<tr>
<td>83</td>
<td>261</td>
</tr>
<tr>
<td>Pick Only</td>
<td>Total Flight segments (one-way)</td>
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<tr>
<td>2</td>
<td>2610</td>
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WEAR BG Hunters/Groups: 2009-13

Percent of Hunts on NPS Units in GMU 23: Transporting Big Game (i.e., success rate)
- With Game: 86.8%
- Without: 13.2%

Percent of Hunts in Noatak NP: Transporting Big Game (i.e., success rate)
- With Game: 92%
- Without: 8%
Noatak BG Hunters/Groups: 2009-13

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

- No Caribou: 33%
- 1+ Caribou: 67%

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

- Caribou (1230): 89%
- Other Big Game (145): 11%
Monthly (Aug/Sept) Caribou Harvest Levels & Group Harvest Rates

- Caribou Harvest
- Avg Harvest Per Group
- Max of Harvest Per Group

Harvested Caribou Levels and Group Harvest Rates for August and September from 2009 to 2013.
Acoustic Monitoring 2013-2014

Near Sapun Cr. confluence

Near Kugururok R. confluence

Upper Agashashok R.

Upper Cutler R.
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

10am to 3pm block--aircraft audible >5% of each hr; max% time = 7.5% or 4mins 30 secs of the 10am hr
Kugurorok River 2013
Number of Aircraft Events Per Day Over Natural Ambient
08/03 - 08/19

If standard set at max 3 events/day, only 5 days in the sample period exceed standard at Kug site

Agashashok River 2013
Number of Aircraft Events Per Day Over Natural Ambient
08/02 - 09/16

If standard set at max 3 events/day, 14 days exceed standard at Aggie site
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
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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