Social and Ecological Determinants of Access to Game in Interior Alaska: 
An Urban Hunter Perspective

Casey Brown, Winslow Hansen, and Todd Brinkman
Outline

• Hunting culture and management in Alaska
• Alternatives framework to abundance based wildlife management
• Why is hunter access important?
• Pilot Study
• Future Directions
Throughout the continental U.S., hunter participation has decreased the last 20 years.

Declines are related to hunter retention and recruitment rates.

Pronounced in household’s with income ($25,000-$39,000).

(Leonard 2007)
Hunting Culture in Alaska

(ADFG)

• Long history of active species management.

• Legislative mandate to provide elevated harvest of caribou, moose, and deer.

• Sustained yield principle is central to Alaska’s wildlife management programs.

(Alaska Fish and Game Laws and Regulations Annotated 2008:29)
Hunter Access
Game Abundance
Seasonal Distribution

Game Availability

(Brinkman et al. In Review)
• On Prince of Wales, hunters focused efforts in habitat types that provided best *access* but a low concentration of deer.

• In Wainwright, subsistence bowhead whaling success is highly contingent upon whaling crews’ abilities to *access* the whales.

• Record populations of caribou in Venetie have little value to hunters if *range* does not overlap with traditional hunting grounds.

(Brinkman et al. *In Review*)
Socio-economic trends in Alaska

- Rural residents are increasingly out-migrating to urban areas.

- The number of people moving to urban centers from outside the state is growing.

(DAS 2012)
The environmental conditions vary dramatically dependent on location of the hunter and species being hunted.

- Wildfires
- Rivers

Socio-economic variables can affect hunters’ abilities to access wild game.

- Having proper transportation
- Price of fuel
- Previous hunting experience
- Length of residency
Wildfires
River Levels
Access
Snow Depth
Fall Temps
Seasonal Distribution
Hunting Costs
Opportunity Costs
Regulatory Flexibility
Length of Residence
Hunting Experience
Game Availability
Survey Objectives

• Begin to identify factors affecting urban hunter access in interior Alaska.

• Evaluate the importance of environmental versus social factors in determining access.

• Begin to explore how urban hunting behavior changes due to access factors.

Hunter access: the ability to get to wild game.
Survey

• Active hunters affiliated with University of Alaska Fairbanks
• 30 question survey instrument
  o Likert scale
  o Relative importance
• Statistical Analyses
  o Logistic and Linear Regressions
  o Wald test of Significance
  o ANOVA’s
**Hypothesis 1:** Socio-economic factors are more important than environmental factors in determining hunter accessibility.

Top four out of eleven variables influencing hunter access were defined as socio-economic variables. Scale (1-11)

1) Transportation importance: 8.63 (SE=2.93)
2) Too many hunters on landscape: 7.29 (SE=3.53)
3) Employment: 7.06 (SE=4.21)
4) Hunting regulations: 4.88 (SE=2.05)
5) Snow depth: 3.47 (SE=1.43)
Hypothesis 2: The price of gasoline, is an important determinant of where urban hunters choose to go.

- 43% of hunters claim that gas is of equal or greater importance than other factors.
- Gas was not a significant factor when predicting:
  - distance hunters will travel to hunt (p value=0.16)
  - number of trips a hunter will take in a season (p value =0.71)
  - number of days spent hunting (p value=0.94)
Hypothesis 3: Hunters who have lived in Fairbanks for a long time are more likely to be highly successful at harvesting game.

- Length of residence was not a significant predictor of harvest success.

- Miles per trip is a significant predictor of the likelihood that caribou is the primary species hunted (p value < 0.05)

- Length of residence was a significant predictor of the primary species they harvested.
  - Old timers hunt moose (p value < 0.01)
  - New comers hunt caribou (p value < 0.05)
Future Directions

- Further evaluate framework
- Test this framework in both urban and rural systems
- Broadly applicable outside of Alaska
- Policy Implications
Thank You
Questions?
caseylynnbrown@gmail.com