Arctic Beaver Observation Network:

Documenting changes associated with beaver expansion into Arctic Alaska

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Arctic Beaver Observation Network: Traditional and Local Knowledge and Scientific Data

Overarching purpose: To understand ecological and social impacts of beaver encroachment into Arctic Alaska

Current research involves partnership among NWA communities, UAF scientists and ADF&G social scientists

- ✓ UAF: Remote sensing, ecological impacts
- ✓ NWA Communities: Contribute traditional and local knowledge of beavers and their impacts
- ✓ ADF&G: Documentation and analysis of traditional and local knowledge

Research timeline: 2021-2026

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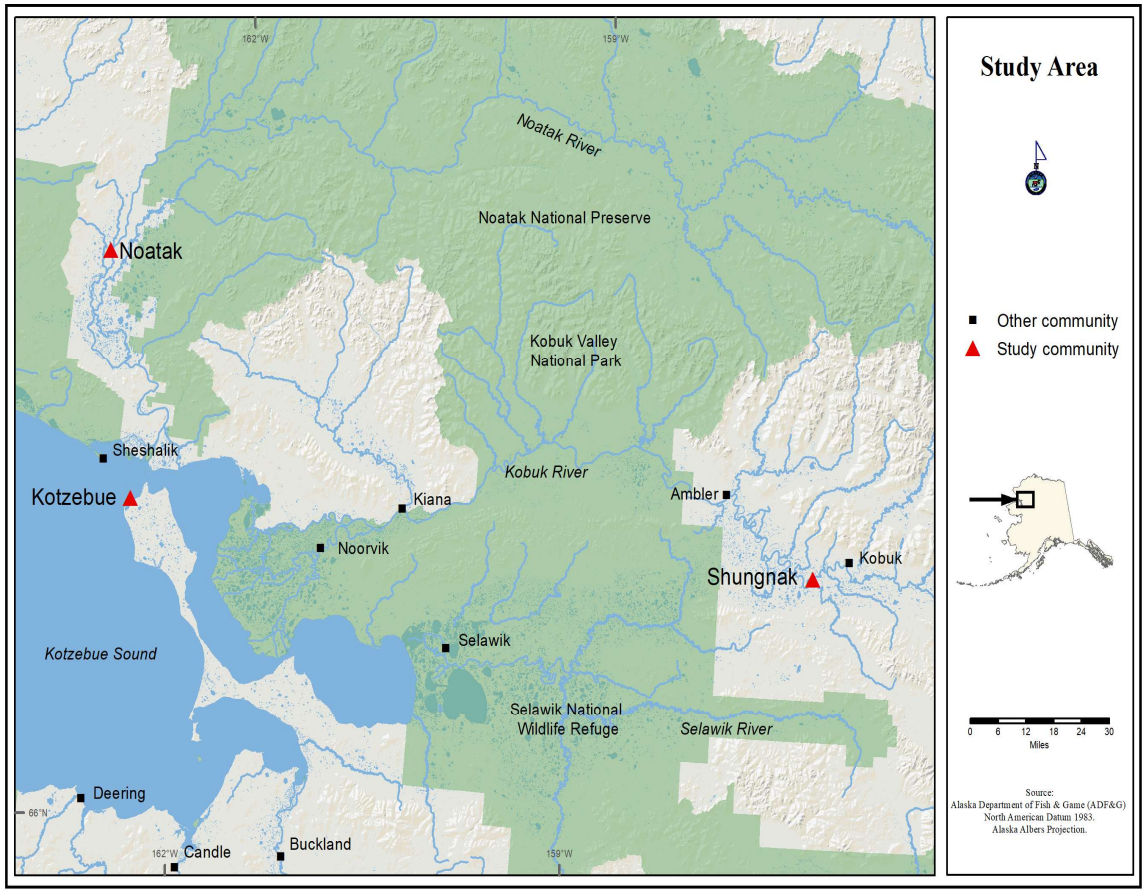
PC Ron Demientieff

Arctic Beaver Observation Network: Traditional and Local Knowledge Component



Collaborate with communities across range of beaver expansion to document:

- ✓ Indigenous and local knowledge of beaver ecology
- ✓ Impacts of beaver presence on subsistence resources, travel and access, and Arctic communities

Collaborating communities: **Shungnak**, **Kotzebue** and **Noatak**

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Social Science Research Methods:

1) Ethnographic Interviews
   - ✓ Life history, including habitat extent
   - ✓ Traditional and contemporary harvest and uses
   - ✓ Abundance and population trends
   - ✓ Observed impacts of beaver activity on subsistence
   - ✓ Beaver interactions with landscape and other species
   - ✓ General observations of environmental change

2) Mapping
   - ✓ Timeline of expansion (dam and lodge sites)
   - ✓ Harvest areas
   - ✓ Impact areas

3) Participant Observation
   - ✓ Visiting impact areas (dams, lodges, acute environmental changes, etc.)
   - ✓ Photo documentation/field notes

Shungnak

Research visits:

March 2023: Ethnographic interviews with mapping

Late 2024 trip rescheduled for 2025

Future visits: Spring 2025, Fall 2025 (Ethnographic interviews and PO)

PCs Caroline Brown

Shungnak

- ✓ Longest history of beaver presence (40-50 years+), but numbers continue to increase
- ✓ Residents trap or hunt for food/fur, potentially fewer than in past

Observations and Concerns:

- Concerns about more dams blocking fish passage (whitefish)
- Dams and beaver structures obstruct travel in sloughs (example – waterfowl hunting)
- Water quality/human health concerns
- Moose like beaver ponds (more aquatic vegetation)

PC Caroline Brown

Kotzebue

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Research visits:

March 23-28, 2023: Ethnographic interviews with mapping

April 3-12, 2024: Participant observation (snowmachine travel across Baldwin Peninsula and north of Sisualik)

August 2-7, 2024: Ethnographic interviews with mapping

Future visits: Spring 2025, Fall 2025 (Ethnographic interviews and PO)

Kotzebue

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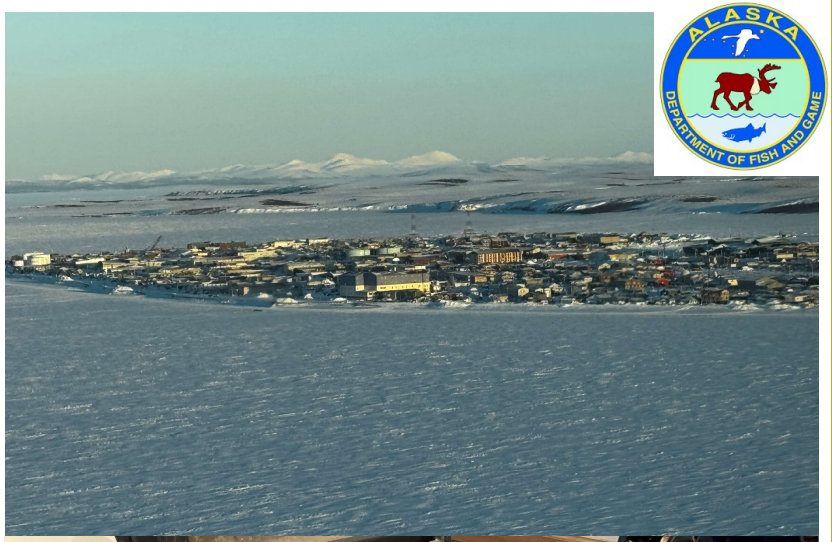

- ✓ More recent use practices than Shungnak
- ✓ Beavers have been present for several decades (late 1980s/early 1990s), huge increase in last 20 years
- ✓ Some trapping and use (fur, food), not widespread
- ✓ Current trapping generation learned from others around Alaska or out of state (no local history of use)

Observations and concerns:

- Changes to local hydrology, likely impacting whitefish and Arctic Char spawning areas
- Concerns about water quality
- Desire to learn more about uses (Interior residents, trapping workshops with schools, etc.)

Noatak

PCs Tim Bembenic

Research visits:

September 7-12, 2023: Ethnographic interviews with mapping, participant observation (fall river trip)

April 7-9, 2024: Community informational meeting, school activities

May 24-31, 2024: Ethnographic interviews with mapping, participant observation (spring beaver hunting)

Future trips: Spring 2025, Fall 2025 (Ethnographic interviews, mapping and PO)

Noatak

- ✓Beavers arrived ~ 20 years ago, spread widely across Noatak River basin
- ✓Little trapping, some spring hunting

Observations and concerns:

- Fish health is biggest community concern
- Concerns about water quality
- Access impacted in small tributaries, but not major travel corridors.
  - Winter vs summer travel
- Evidence of beavers migrating overland to new locations (ridgetops)
- Desire to learn more about management strategies and beaver uses

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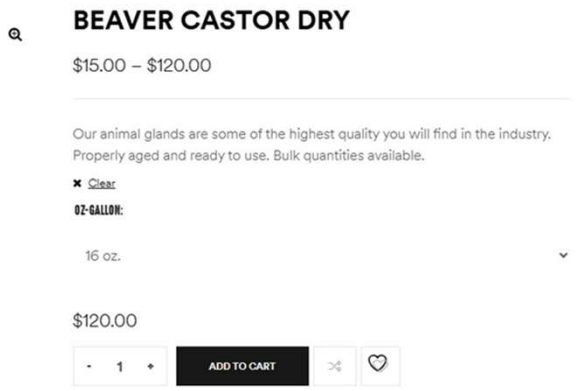
Overarching Themes (all communities)

- Most common concerns are **effects on fish** and **human health/water quality**
- Ecosystem changes caused by beaver have cascading effects
  - Hydrologic changes – whitefish spawning – marine mammal populations (beluga example)
- Local access to resources impeded by beaver structures and changes to hydrology/natural travel corridors
- Desire to incorporate beavers into local subsistence economies by learning more about possible uses (knowledge sharing network)



Future work and ways to get involved

- ✓ Annual ABON meetings (https://sites.google.com/alaska.edu/a-bon/)
- ✓ Future ABON research (fish and water quality focus)
- ✓ Workshops and other knowledge-sharing events:
  - ✓ USDA APHIS: nuisance beaver management, teach tailored management techniques
  - ✓ ATA: Home - Alaska Trappers Association
  - ✓ ADF&G beaver trapping workshops: contact Bob Hunter at bob.hunter@alaska.gov
  - ✓ Other workshops/informational sessions TBA

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Questions?

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