Towards Adaptive Co-Management?
Lessons from regional comparisons and international cooperation

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Beverley and Qamanirjuaq Caribou Herds Management Boards - established in 1982

Photo from Wakelyn et al
1998: Western Arctic herd
Working Group

1983
B-Q Herd
Co-management Board

1986/87
International and Canadian co-management board

1996: Co-management through land claims

1975
Hunting, Fishing, Trapping Committee

2003 ad hoc Bathurst planning group; 2007 aboriginal group
Elements of “Adaptive co-management”
- Collaboration and power-sharing across levels
- A focus on learning from experience
- Synthesis of different knowledge systems
- Flexibility, responsiveness
Figure 4 Institutional Dimensions of Project Synthesis

International, national, and extra-regional policies

Perceived ecological conditions (risk and uncertainty)

Regional institutional processes (monitoring; research; decision making)

Social-economic change

Local observations; concerns; proposals for regional action

Unresponsiveness, retrenchment; status quo, surprise.

Responsiveness, innovation and adaptive action
Changes in abundance

Pink=decreasing
Green=increasing
Facts point to major decline in Beverly herd

Although the size of the Beverly herd population is still unknown, the Government of the Northwest Territories (GNWT) says evidence from its June 2007 and June 2008 systematic reconnaissance surveys at the peak of calving season shows that the herd's numbers have dropped sharply.

Wildlife director Susan Fleck spoke to BQCMB members at their November 2008 meeting in Winnipeg, and the Board quickly responded by alerting media to the situation. Biologists and wildlife staff met again in February to come up with practical suggestions to aid Beverly caribou. All agreed that Beverly caribou had not abandoned their calving ground. But a clear challenge is figuring out what type of population survey can be done, now that the herd is so sparsely populated.

Signs of trouble
challenges

- **Monitoring**
  - *Population data*
    - Traditional knowledge impeded monitoring
    - Agency unresponsive to co-management;
    - Development priorities by agencies
    - On-going skepticism by locals
  - *Harvest data*
    - *Little to no data*

- **Achieving Regional Consensus**
  - Slow movement of co-management
  - Agency actions taken without consensus
  - Action taken with partial agreement

- **Planning ahead for decline**
  - Less conflict in times of abundance; legal conflicts in times of scarcity
  - Waiting which focusing on user rights instead
Innovations

• **Hunter involved in monitoring**
  – Labor intensive but doable
  – Body condition and pathogens
  – Less intrusive methods

• **Use of decision-support tools**
  – For risk assessment
  – Used in the absence of monitoring
  – Learning curve for use of models
  – Cumulative effects

• **First Nations led consensus building**
  – Can work in simple conditions
December charrette at CARMA Meeting

Take homes:

1. Complacency when lots of caribou
2. Too late to gather information when low
3. Few choices to recover a herd
4. Innovation is possible
Co-evolution of threats and institutions

Institutional responses

Threats & Motivations for action

- Famine/survival
- Science & Economic development
- Compliance & Sovereignty
- Climate change, habitat loss
- Contaminants
- Assumed uncertainty and heterogeneity

Indigenous co-evolution

Imposed state wildlife management, jobs programs

Co-management / land claims

Co-production of knowledge w/ monitoring, models, and policy

Inter-regional assessment of resilience & vulnerability

Assumed uncertainty and heterogeneity

Climate change, habitat loss

Contaminants

Compliance & Sovereignty

Science & Economic development

Famine/survival

Co-evolution of threats and institutions

Institutional responses
Simple take homes

- Rapid change is posing grand challenges in sustaining HRSs
- Performance of institutions raises questions about their capacity to keep pace with emerging conditions.
  - persistent challenges and response lags
- Need to move beyond “co-management” to examine caribou commons across spatial and temporal scales as a dynamic system, with the goal of building resilience