Collecting Inuit Local Ecological Knowledge in the context of ecosystem research and management: Sirmilik Canada National Park

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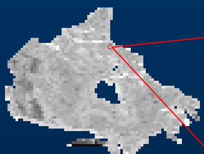
Introduction - ᐱᒋᐊᒃᑲᓂᕐᑐᖅ

The Arctic is experiencing social as well as ecological changes. Arctic indigenous people are prime observers of these changes. Their local ecological knowledge is thus a valuable mean to direct and develop locally sensitive ecosystem-based management strategies. This ongoing project aims at collecting Inuit Local Ecological Knowledge in the Pond Inlet area to: 1) document knowledge about changes observed in the local environment, and 2) broaden baseline data on the local terrestrial ecosystems. The ecology of greater snow geese and arctic and red foxes, and the value of these species to the local population, are emphasized. On a broader level, this project is a first step towards integration of Local Ecological Knowledge in managing the ecological integrity of the changing social-ecological systems of Sirmilik National Park.

ᐃᓄᐃᑦ ᓴᖅᑭᑎᑦᑎᓯᒪᒻᒪᑕ, ᐊᓯᑹᖃᑦᑕᕐᓂᑯᖕᒋᖕᒍᑦ, ᐃᖃᓄᓯᓐᓂᒃᑯᑦ ᐊᒻᒪ ᑲᑎᖕᒐᖃᑦᑕᕐᓂᖕᒋᑎᒍᑦ, ᖃᐅᔨᒪᓂᖃᒻᒪᕆᑦᑐᑎ ᐅᑭᐅᑕᖅᑐᒥ ᓄᓇᐅᑉ ᖃᓄᐃᓐᓂᖓᓂ. ᐊᕐᕋᒍᓚᓗᐅᓕᕐᑐᓂ, ᐱᔪᒪᓂᖃᖅᓯᒪᒻᒪᑕ ᑲᑎᑦᑎᕆᓗᑎ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔾᑐᖃᖕᒋᓐᓂ ᓄᓇᐅᑉ ᒥᒃᒦᓄᑦ 9ᙲᒋᓇᕗ0 ᖃᓪᓗᓲᑦ ᖃᐅᔨᒪᔾᖕᒋᓐᓂᓪᓗ. ᐅᕙᓂ ᑎᑎᕋᖅᓯᒪᔪᓂ, ᒥᕐᖑᐃᓯᕐᕋᓚᓈᑦ ᑲᓇᑕᒥ ᓯᕗᓪᓕᕙᐅᔨᔪᒪᒻᒪᑕ ᐊᑐᕐᓗᑎ 9ᙲᒋᓇᕗ0 ᐊᒻᒪ ᐃᓚᐅᖃᑕᐅᓂᖅᓴᐅᓕᕐᓗᑎ ᐃᓄᐃᑦ ᒥᕐᖑᐃᓯᕐᕋᓇᓂᕐᒥ ᐊᐅᓚᑦᑎᓘᑦ. ᐱᓗᐊᖅᑐᒥ, 2001 ᓯᕐᒥᓚᒃ ᒥᕐᖑᐃᓯᕐᕋᒃ ᓇᓗᓇᐃᔭᖅᓯᒪᓂᖕᒋᓐᓄ ᐃᓚᓐᓂᐊᓯᓐᓲᕐᓂᖅ ᓄᖅᑲᐅᓯᓚᐅᕐᒪᑕ ᓄᐊᑕᐅᔪᑦ ᐊᒻᒪ ᑲᑎᕐᑎᑕᐅᔪᑦ 9ᙲᒋᓇᕗ0 ᐊᑦᑐᐊᓃᑦ ᑎᒻᒥᐊᓄ, ᐋᒪᔪᐃᑦ ᖃᓄᐃ[ᖃᑦᑕᕐᓂᖕᒋᑦ ᐊᒻᒪ ᓇᓄᐃᑦ ᑎᓯᑏᑦ ᓯᕗᓪᓚᑉᐅᔭᐅᔭᓇᐊᖅᑐᑎ. ᐅᓪᓗᒥᒧᑦ, ᐃᓚᐃᓐᓇᑯᓗᐊ ᒥᕐᖑᐃᓯᕐᕋᒃ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᒻᒪᑦ ᖃᐅᔨᓴᖅᑎᓄ. ᑕᐃᒪᐃᓐᓂᖕᒐᓄ, 9ᙲᒋᓇᕗ0 ᑲᑎᒪᓂᓇᓚᐅᖅᑕᖕᒐ ᐃᓚᒋᔭᐅᔪᓄ ᒥᑦᑎᒪᑕᓪᒥ, ᐊᑐᒐᔪ*ᑦ ᒥᕐᖑᐃᓯᕐᕋᓪᒥ, ᑐᓂᓯᔪᓐᓇᓚᐅᕐᖕᒐᑕ ᕐᑯᕙᓇᐊᖅᓯᕐᓗᑎ ᖃᐅᔨᒪᓂᐅᔪᓂ ᓄᓇᐅᑉ ᖃᓄᐃᓐᓂᖕᒐᓂ ᒥᕐᖑᐃᓯᕐ©ᑦ ᐃᓗᐊ#ᑦᑐᑦ. ᑭᐅᔾᔪᑎᒋᓗᒋ ᐃᓴᓴᓇᔭᐅᓯᒪᔪᑦ ᓯᕗᓪᓚᑉᐅᔭᐅᔭᓇᐋᑦ, ᖃᐅᔨᓴᕐᓂᐅᔪᖅ ᓄᐊᑦᑎᓇᓯᐊᕐᓂᕐᒥ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔾᖕᒋᓐᓂ ᐱᔾᔪᑎᑑᑦ 1) ᑲᖕᒍᕐᓂᑦ ᐊᒻᒪ ᐅᑭᐅᑕᖅᑐᒥ ᑎᓇᓗᓂᐊᑦ (ᖃᓄᐃ[ᖃᑦᑕᕐᓂᖕᒋ, ᓯᐊᒪᑉᓚᐊᓂᖕᒋ, ᑐµᖕᒐᔪᑦ, ᐊᓯᖕᒋᓪᓗ) ᐊᒻᒪ 2) ᐊᒻᒪ ᓄᓇᐅᑉ ᖃᓄᐃᓚᖕᒐᓂᖕᒐ, ᖃᐅᔾᔭᐅᖃᑦᑕᖅᑐᑦ ᐃᓄᐃᓐᓄ ᐊᐅᓪᓚᕋᐃᒻᒪᑕ ᓄᓇᒃᑯᑦ (ᖃᓄᐃᑦᑐᓂ ᓄᓇᒥᑦ ᐱᐅᔪᒥ ᐱᖃᑦᑕᕐᒪᑕ, ᓄᓇᐅᔪᑦ ᐱᐅᓂᖅᓴᐅᓕᕐᐸᑦ ᐅᔾᑹ[ᓐ#ᑦ ᐱᐅᖕᒋᓂᖅᓴᐅᓕᕐᐸᑦ ᖃᖕᒐᒃᑯᑐᐃᓐᓇᖅ, ᐊᓯᖕᒋᓪᓗ) ᐱᓕᓇᕙᖅ ᐊᑐᕐᓗᒍ, ᖃᐅᔨᓴᖅᑦ ...ᖅᑭᒃᓯᕚᓪᓕᐊᒻᒥᔪᑦ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖃᖕᒋᓐᓂ ᐊᑐᕐᓂᖅᓴᐅᓗᑎ ᐊᐅᓚᑕᐅᓂᖕᒐᓂ ᓯᕐᒥᓚᒃ ᒥᕐᖑᐃᓯᕐᕕᒻᒥ.

Study area

Mittimatalik (Pond Inlet) is a community of 1223 inhabitants located at the northern tip of Baffin Island, Nunavut. Discussions and interviews focus on the environment located within and around Sirmilik National Park.



Questions most deeply investigated

Ecosystem level

- Changes observed
- Sensitive areas and components
- Activities changing the land

Arctic and red foxes

- Cultural uses and importance
- Changes in numbers and distribution
- Winter feeding habits
- Moult
- Arrival of red fox in the area

Snow geese

- Cultural uses and importance
- Changes in numbers and distribution
- Migrating routes
- Timing of moult

Methodology

Data are collected using a combination of semi-directed interviews and mapping, participant observations, and informal discussions. From May to September 2005, 21 local experts were interviewed (6 women, 15 men; 14 Elders; 12 Hunters). More interviews, as well as focus groups, are planned to complete and verify the information collected.

TIMING	GOAL	METHODS USED
February-March 2005	•Introduce study •Obtain advice	•Consultations, radio shows
May - September 2005	•Familiarise with communities •Main data collection •Clarify information	•Live in Pond Inlet •Semi-structured interviews •Participatory observations •Informal discussions
Fall-Winter 2005-2006	•Analyses, interpretation •Data verification •Dissemination of results	•Data codification, documentation •Focus groups, informal discussions, interviews •Radio shows, presentations
Spring 2006	•Data collection •Analyses and verification	•Elder-Youth camp •Meetings, informal discussions, interviews

Preliminary results

Ecosystem level

Level of observed changes varied greatly between informants, ranging from no detected change at all, to changes observed in weather predictability, ice thickness and cracks, erosion patterns and garbage at traditional campsites. Informants also provided valuable geographical information regarding areas and/or ecosystems components considered as particularly sensitive.

Greater snow geese

Local experts provided detailed information about greater snow geese ecology. Most informants identified changes in the numbers and geographical distribution of nesting snow geese in the area since the 1990's. Moreover, informants identified major migration routes and new nesting areas. Interviews revealed the importance of goose meat and eggs as an alternative food to local people and informed about traditional and current uses of goose parts for brooms (wings), mattresses (skins), games (trachea) and bags (feet).

Arctic and red foxes

Interviews first revealed the great importance of arctic foxes as the main source of income for Inuit families from the 1920's to the 1970's, as pelts were sold to the local Hudson's Bay Company trading post. If the era of intensive fox trapping is past, some local experts believe the arctic fox is still important to younger generation as a potential complementary source of income.

Local winter feeding ecology of arctic foxes is not well understood by scientists. Local experts provided unknown information to scientists. According to them, arctic foxes have two types of feeding strategies during the winter: 1) some remain inland most of winter, feeding on lemmings, and migrate to the ice in March and April to hunt newborn ringed seals; 2) others remain on the ice most winter, feeding on carcasses left by polar bears. Experts also provided new evidence as to the timing and consequences of invasion of the area by red foxes.

Conclusion

The project succeeded in gathering close to 60 hours of interviews and detailed mapping. Preliminary (qualitative) analyses of the interviews provide general lines on changes observed in the local ecosystems, and on the ecology of locally valued wildlife species. Detailed analyses and data verification now have to be performed. Preliminary results clearly indicate that the local ecological knowledge of Pond Inlet Elders and hunters could lead toward a greater understanding of the social-ecosystems of Sirmilik National Park. A more integrated management of the park is also expected following this study.

Aknowledgement

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