

UiT

THE ARCTIC  
UNIVERSITY  
OF NORWAY

# Arctic Ecosystem Services: Interviews from Norway, Russia, Alaska..(and Canada)

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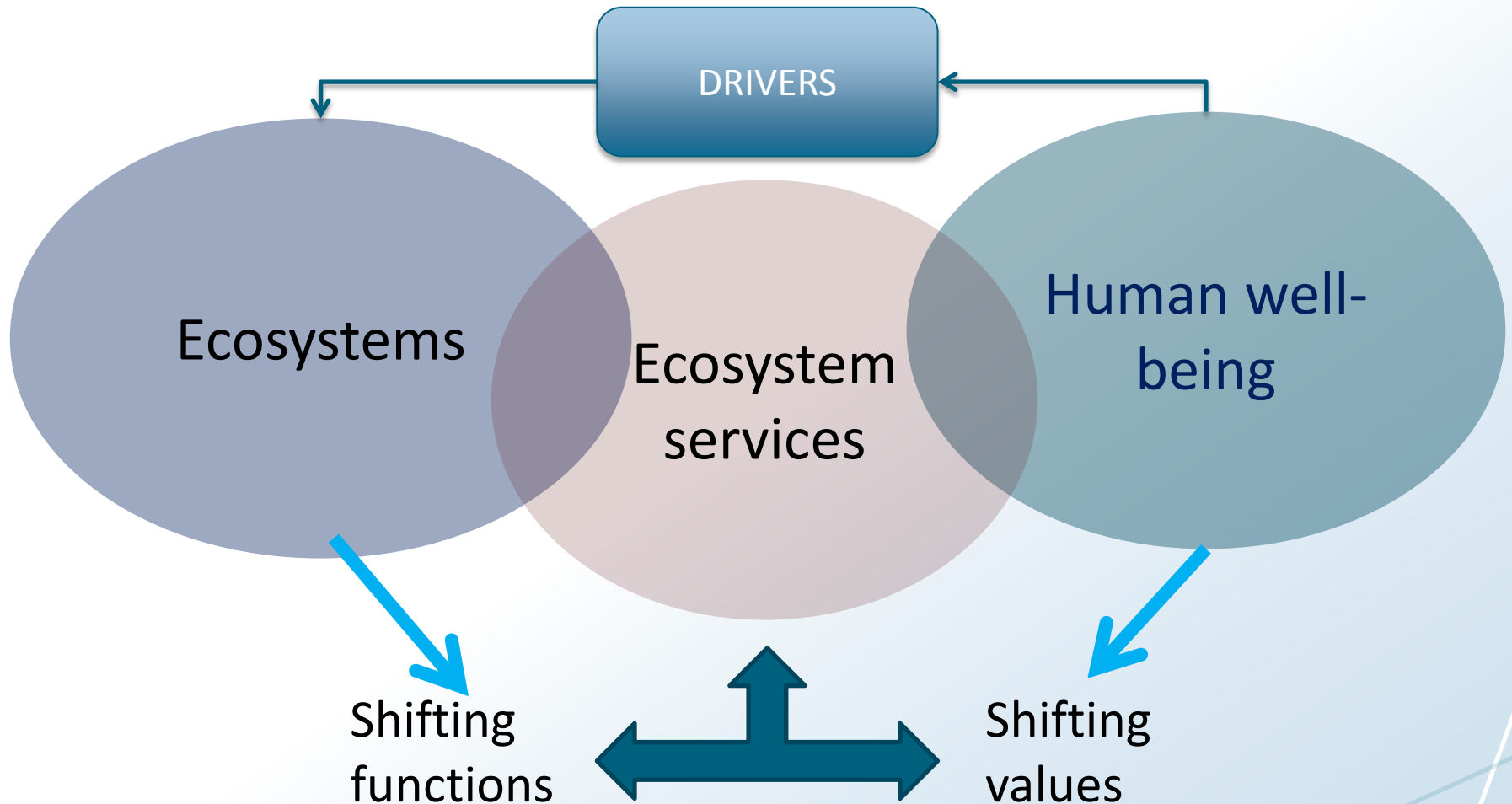


Vera Helene Hausner  
Associate Professor  
....and the tundra team



# Measuring changes in ecosystem services depends on both ecosystem functions and human well-being

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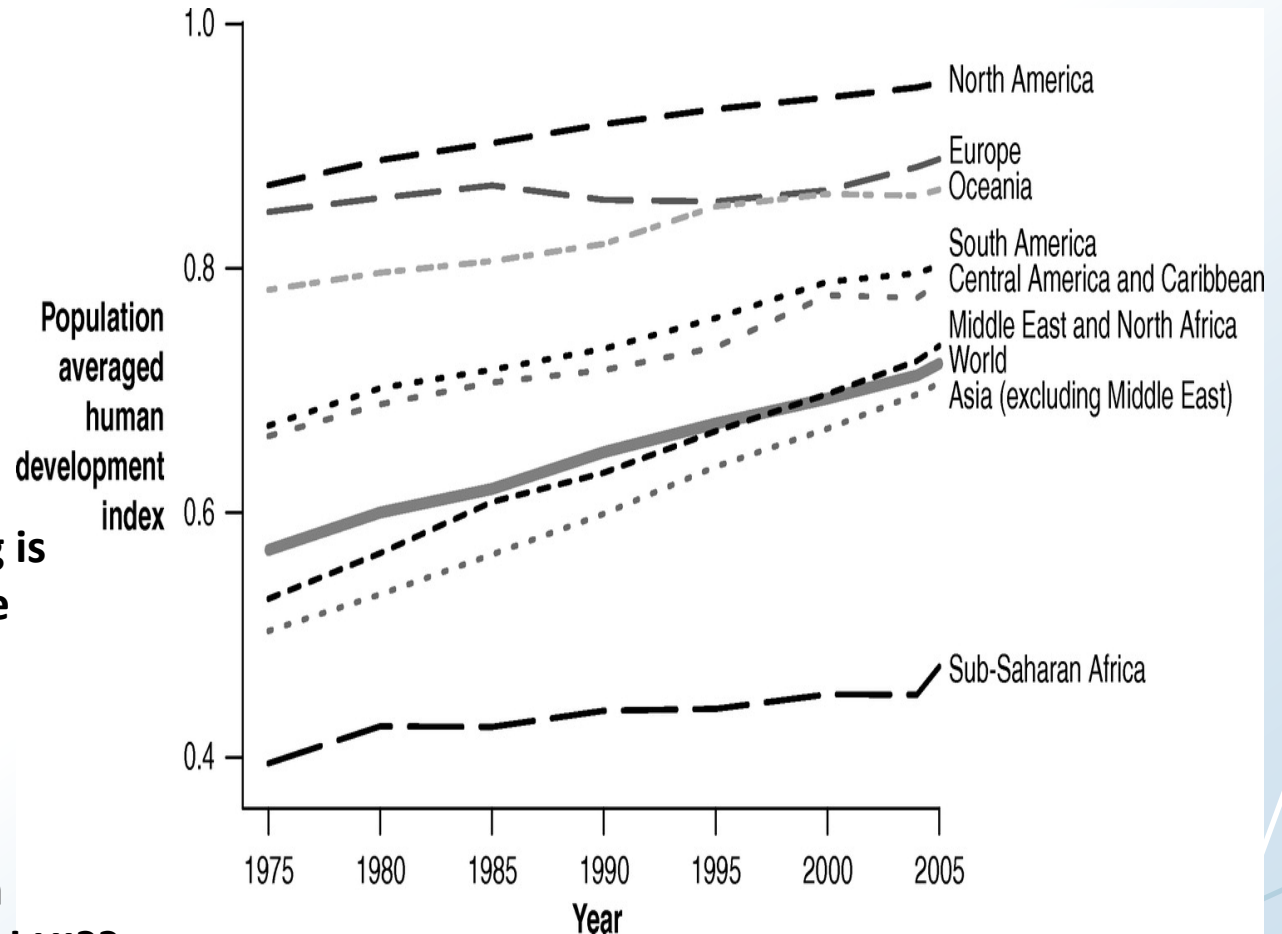


# The Environmentalist's Paradox

## Human Development Index

- adult literacy,
- life expectancy
- income

**Average human well-being is improving globally, despite resource depletion and degradation of ecosystem**



- **What is the link between ecosystems – services and HI??**

# *What ecosystem services do people say they are dependent on?*

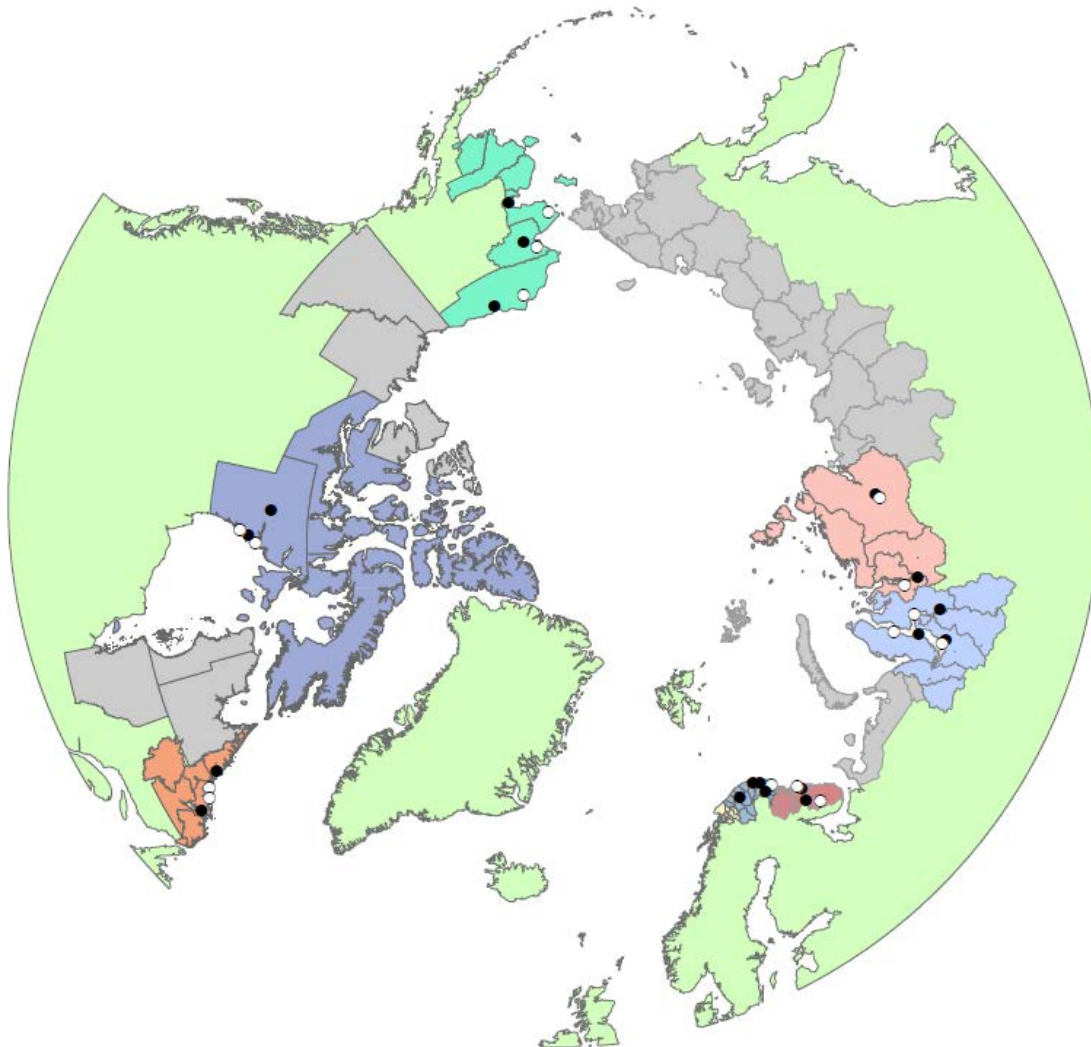
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# Design –selection of 28 communities

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- Similar tundra ecosystems
- Governance contrasts
- Socioeconomic contrasts

## Access to wage income

- Low
- High

# Design - Selection of participants

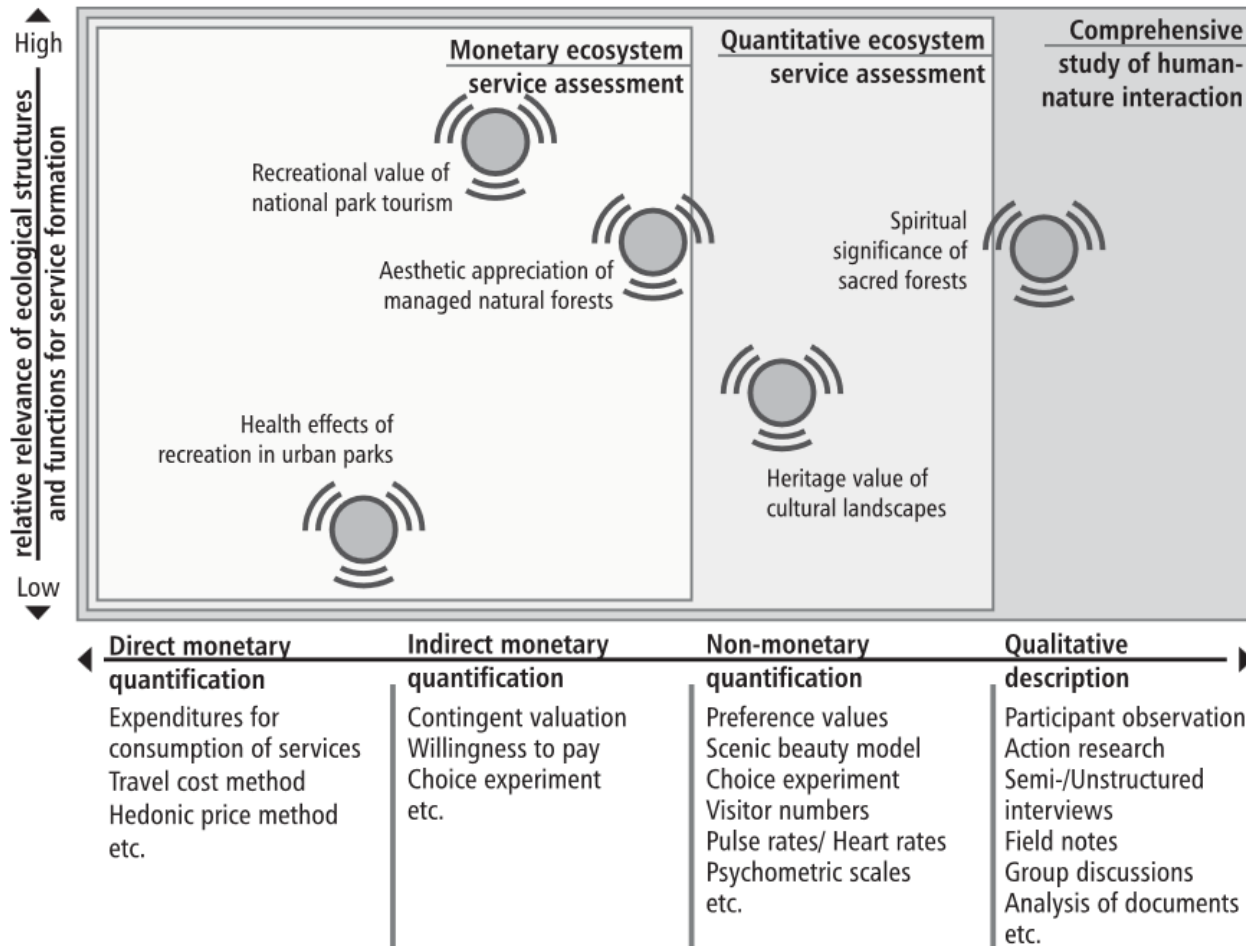
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Demography		Leaders	Non-leaders	Total
Male	Younger	2	2	4
	Elders	2	2	4
Female	Younger	2	2	4
	Elders	2	2	4
<b>Total</b>		<b>8</b>	<b>8</b>	<b>16</b>

## Ranked list of leaders for participation

1. Community mayor/chief
2. Cultural organization (incl schools)
3. Local environmental or recreational NGO's
4. People in local boards of relevance for management of ecosystem services
5. Local politicians

# Which methods are suitable for cross-cultural comparison of ecosystem services in the Arctic?



- Key informant PPGIS
- Structured questions on harvest

Fig. 1. Examples of cultural services represented within an ES framework.

# Field work

1. Those who designed interviews were the leaders of fieldwork in each country
2. Two fieldworkers, 1-2 weeks in each community



## 3. Selection of participants:

Norway – municipal list of leaders - cross-references for members

Alaska - Tribal council - interpreter – select members

Canada – Hunters and trappers org – interpreter – select members

Russia -Administration – helper – select members



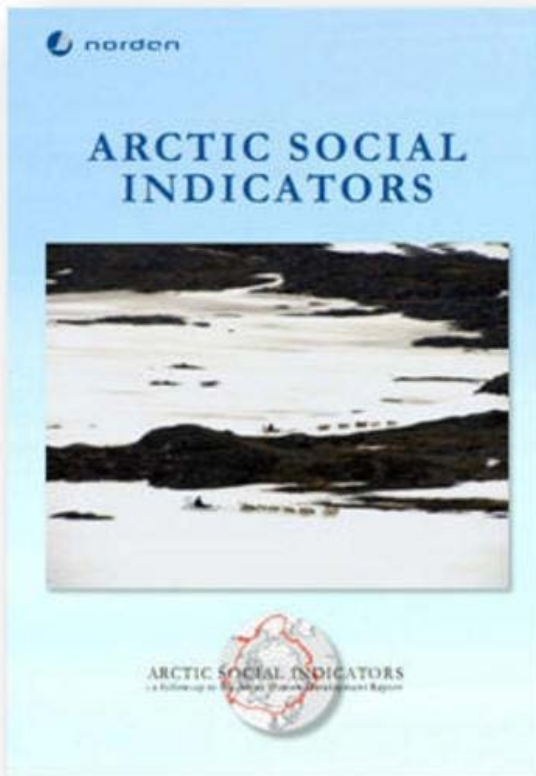
# Dependency on ecosystem services

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- **Material** (e.g. species and landscape features important for subsistence or commercial purposes)
- **Social** (e.g. species and landscape features important for social ties or social activities today),
- **Cultural** (e.g. species and landscape features important for ceremonies, solitude or cultural continuity)

# Contact with nature is suggested as a measure of well being in the Arctic

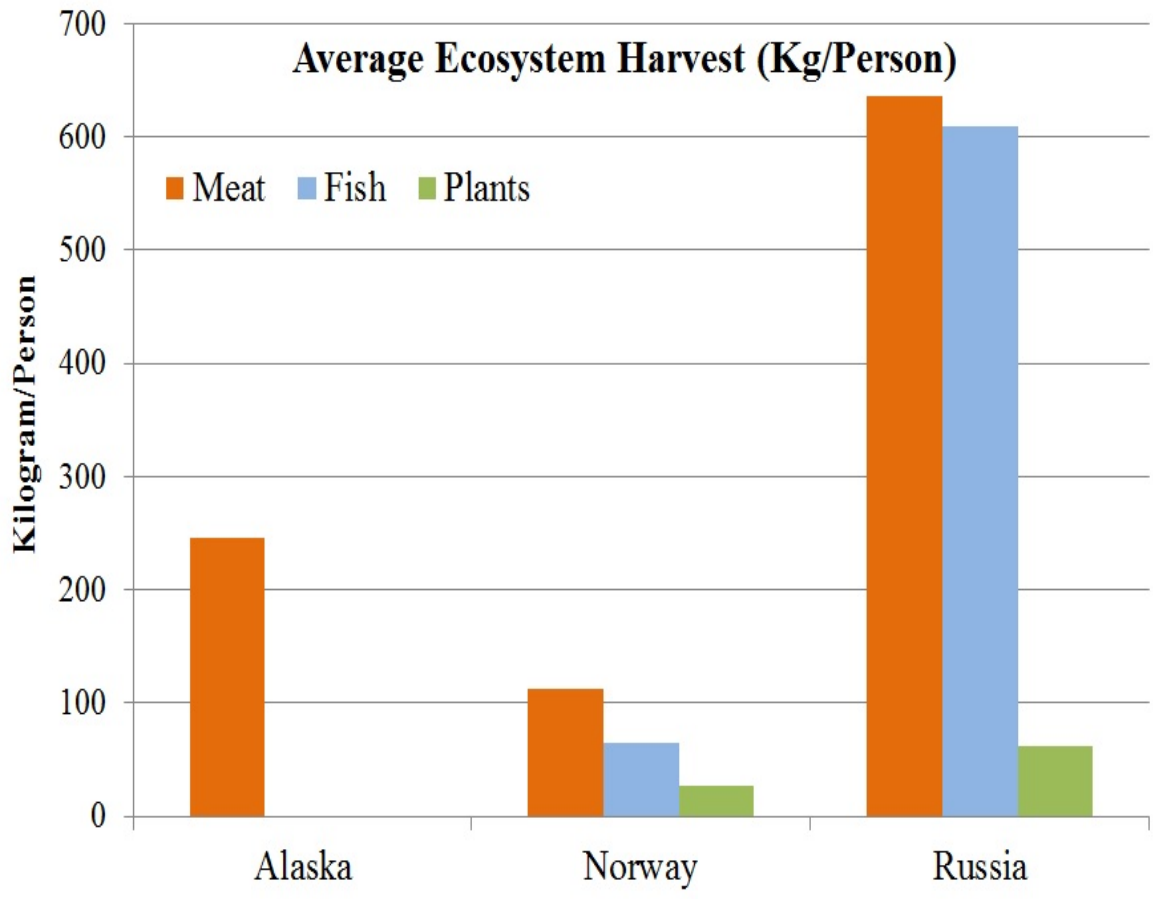
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1. Harvest of traditional food
2. Consumption of traditional food
3. %Population accessing traditional food

# Preliminary results: average harvest of top 3 resources

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***Methodology: Commercialization of traditional foods is prohibited in Alaska, but in Russia it is common –***

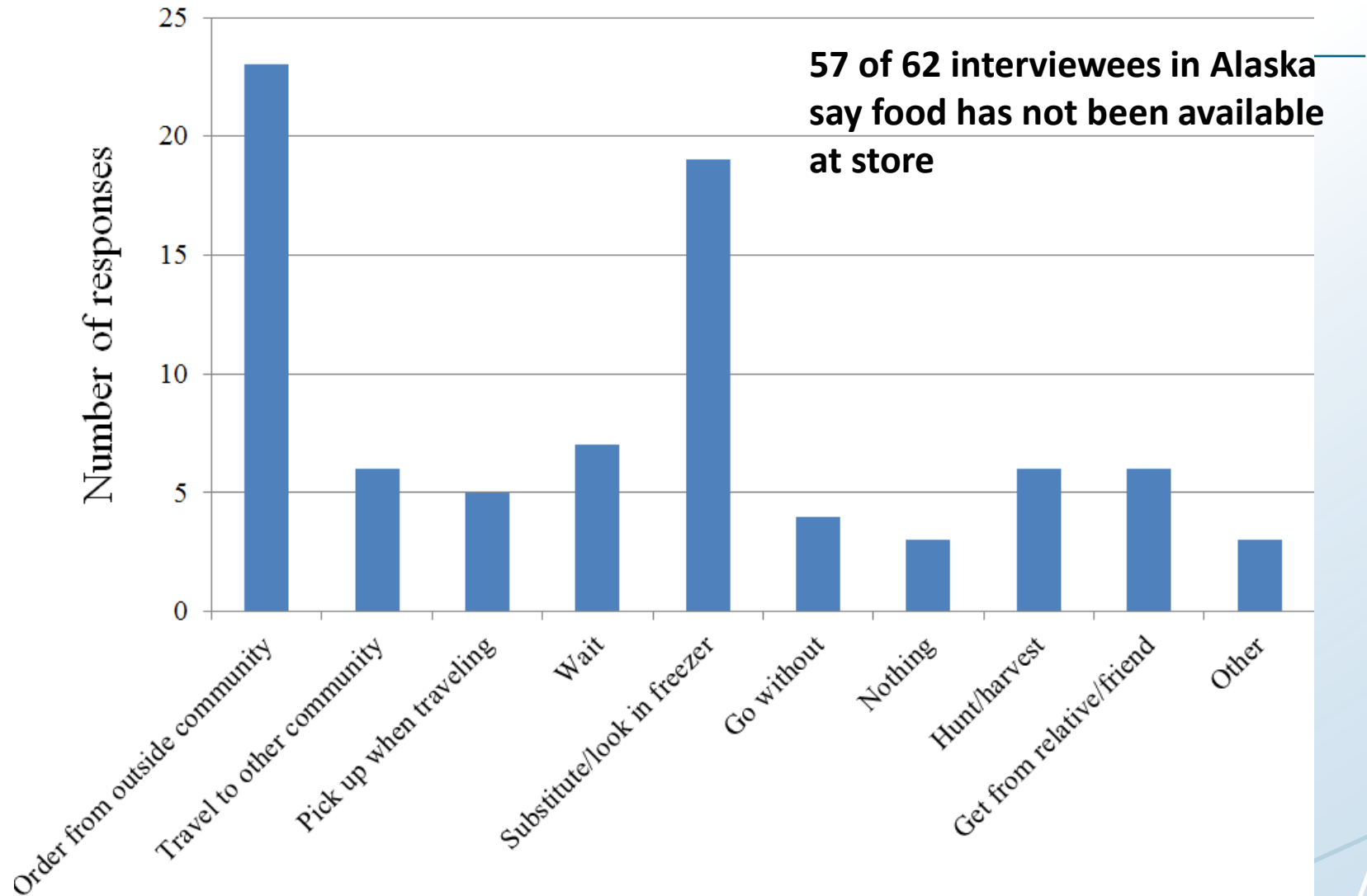
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***Need to include consumption and food security to compare provisional ES***



# Food Security is an issue in Alaska (not in Norway!): When food was not available at the store what did you do?



# If you were not able to hunt or use nature anymore, what would you do?

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## Norway – Cultural dependency:

“Being out in the nature is an irreplaceable good. Would have turned ill”

“Horribly sad. Would have consequences for the way of life. Would not move to a city, but comparable place, like Greenland.”

“Would move if he could not drive snowmobile”

## Russia – economic income:

“Catastrophical economic consequences, but also catastrophic in other respects”

“Catastrophy”

“There would not be anything to do anymore, neither in terms of work or in terms of recreation”

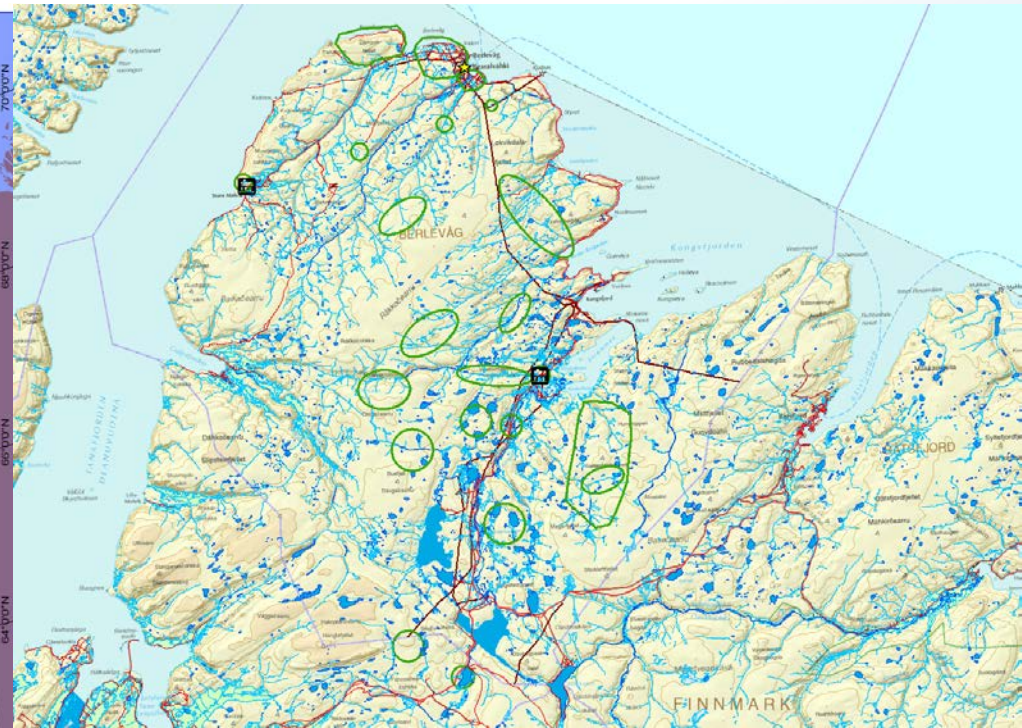
## Alaska – subsistence sharing network:

“Get from relatives, brothers and sisters, nieces.”

“The majority of food here is shared so I don't need to ask. All depends on the hunter - benevolent or not. Some hang on to all their catch.”

# PPGIS to uncover bundles of ecosystem services – i. e. multiple values of ES in one place

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To explore the diversity of ES we let participants categorise and rank the importance of resource and landscape features themselves (open questions)



# ..BUT also need to have some comparative measures...

## What harvest or recreational activities did you do last year?

### 1. Extensiveness

- Area km<sup>2</sup> used for harvest or recreation
- Length km travelled

### 2. Intensity

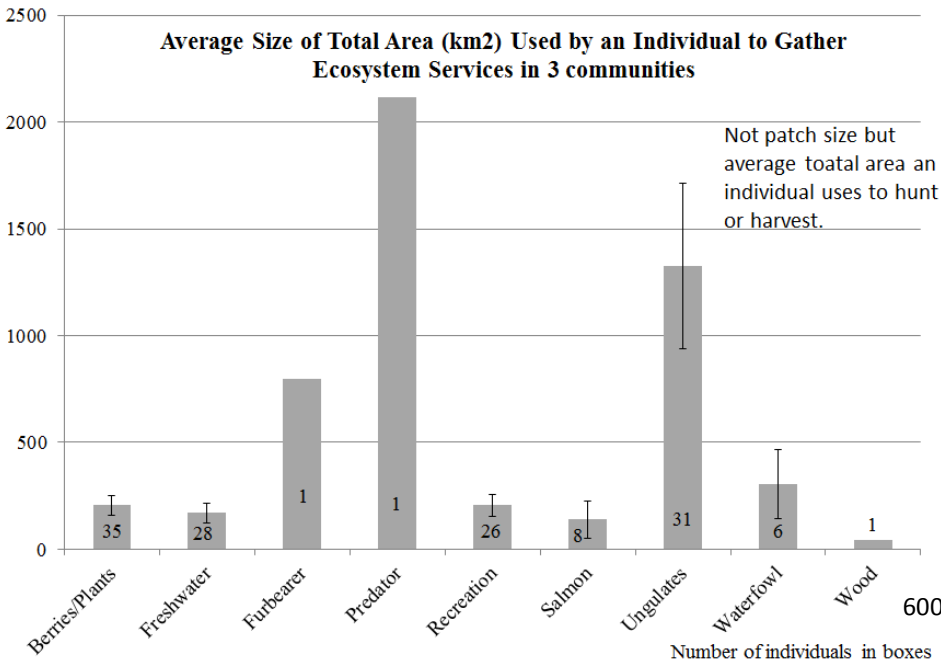
1. How often?
  2. How long?
- Daytrip
  - 2-6 days
  - 1 week
  - >week

### 3. Purpose of visit

- Harvest
- Recreation



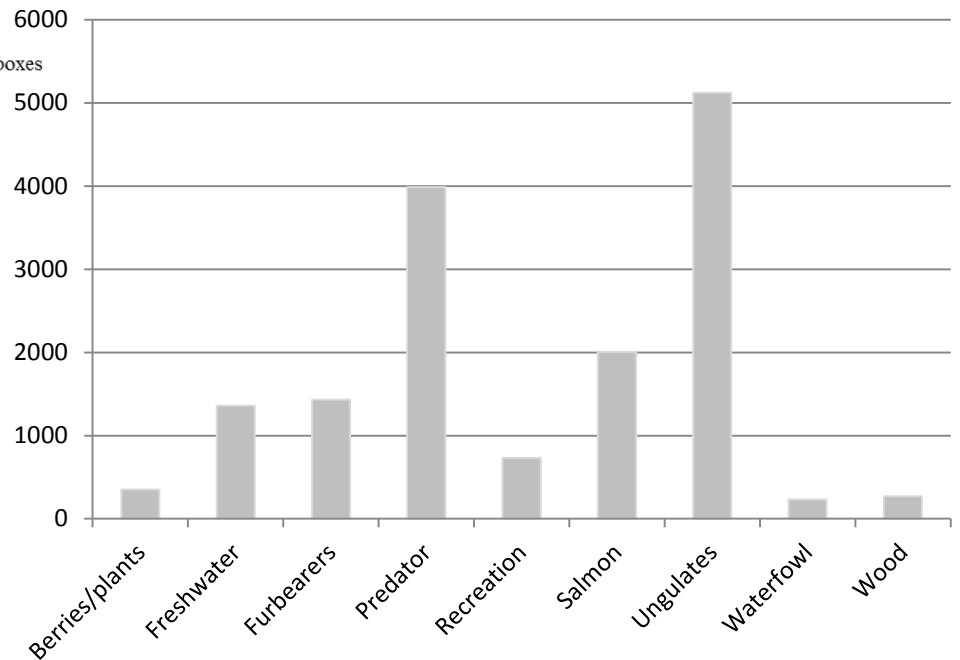




## ALASKA

**We could compare the total area used by an individual during a year**

## NORWAY



# What other areas are important for you? Why?

Specifically asked about:

- Long term attachment to places (incl cabins, turf huts)
- Memories
- Length of stay and childhood
- Peace and quiet
- Areas for social gathering







**Social values:** Visiting friends and family on the tundra, often for several weeks, while participating in harvest activities is important

No sharp border between nature use and social activities



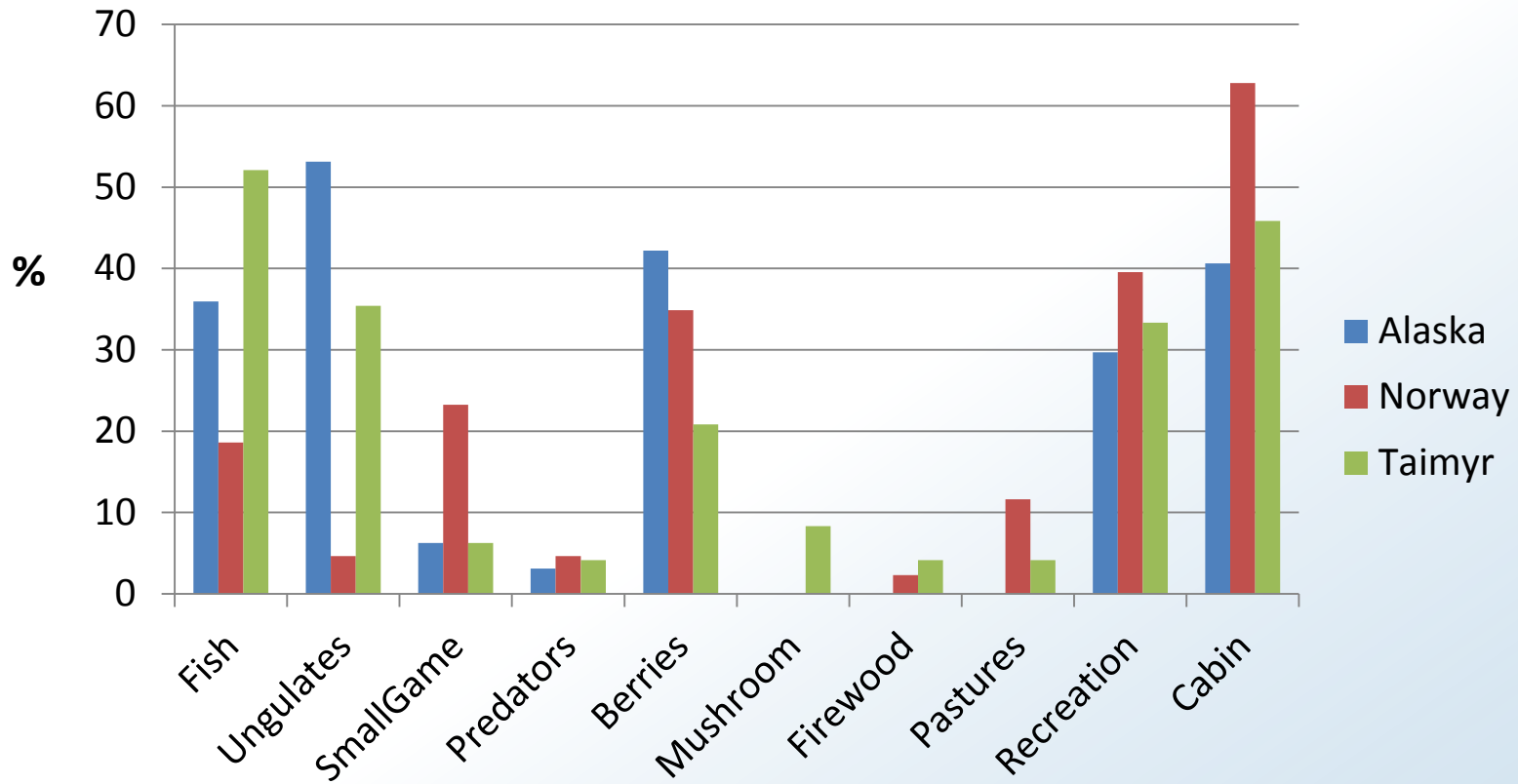


**Norway:  
63% have a cabin**

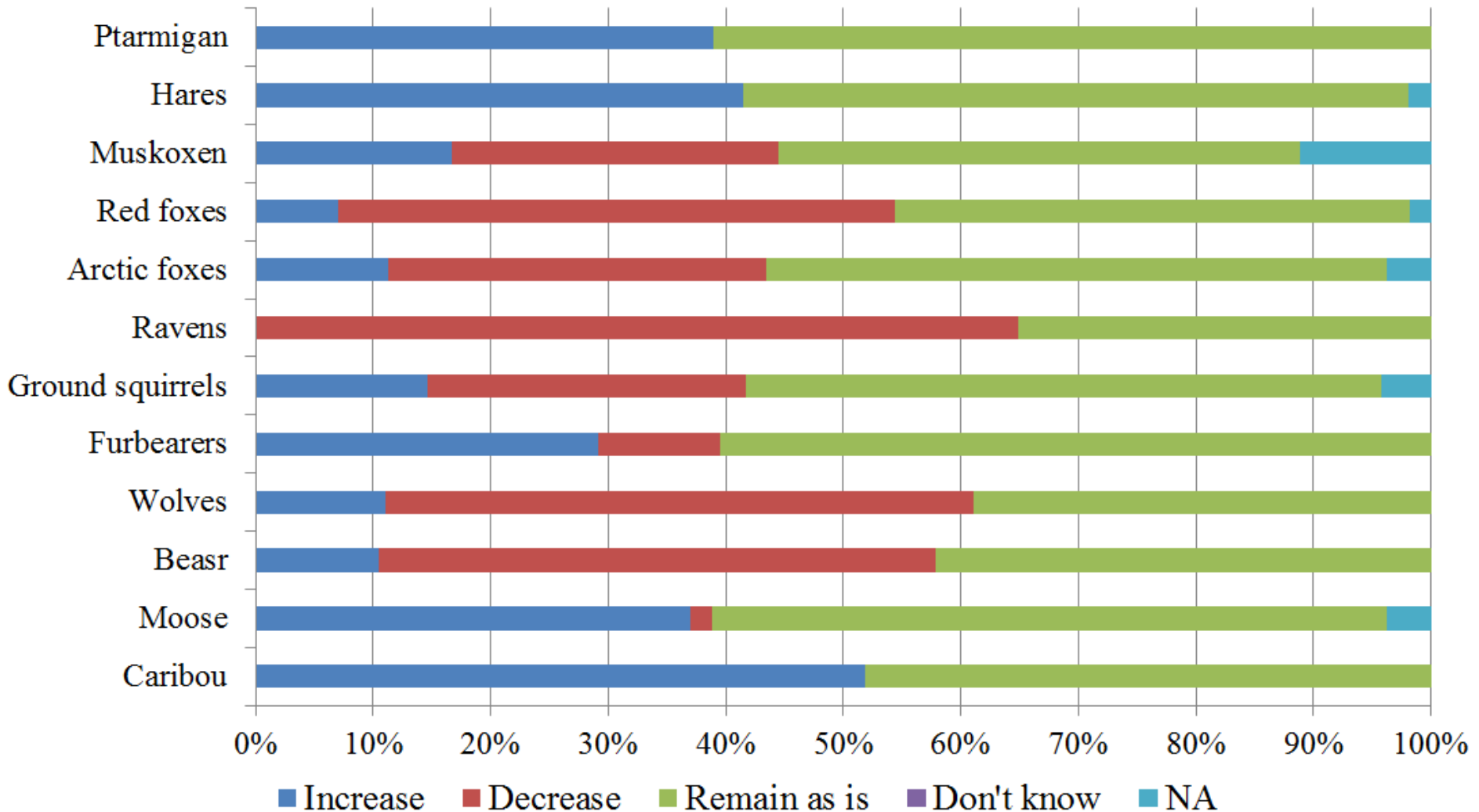




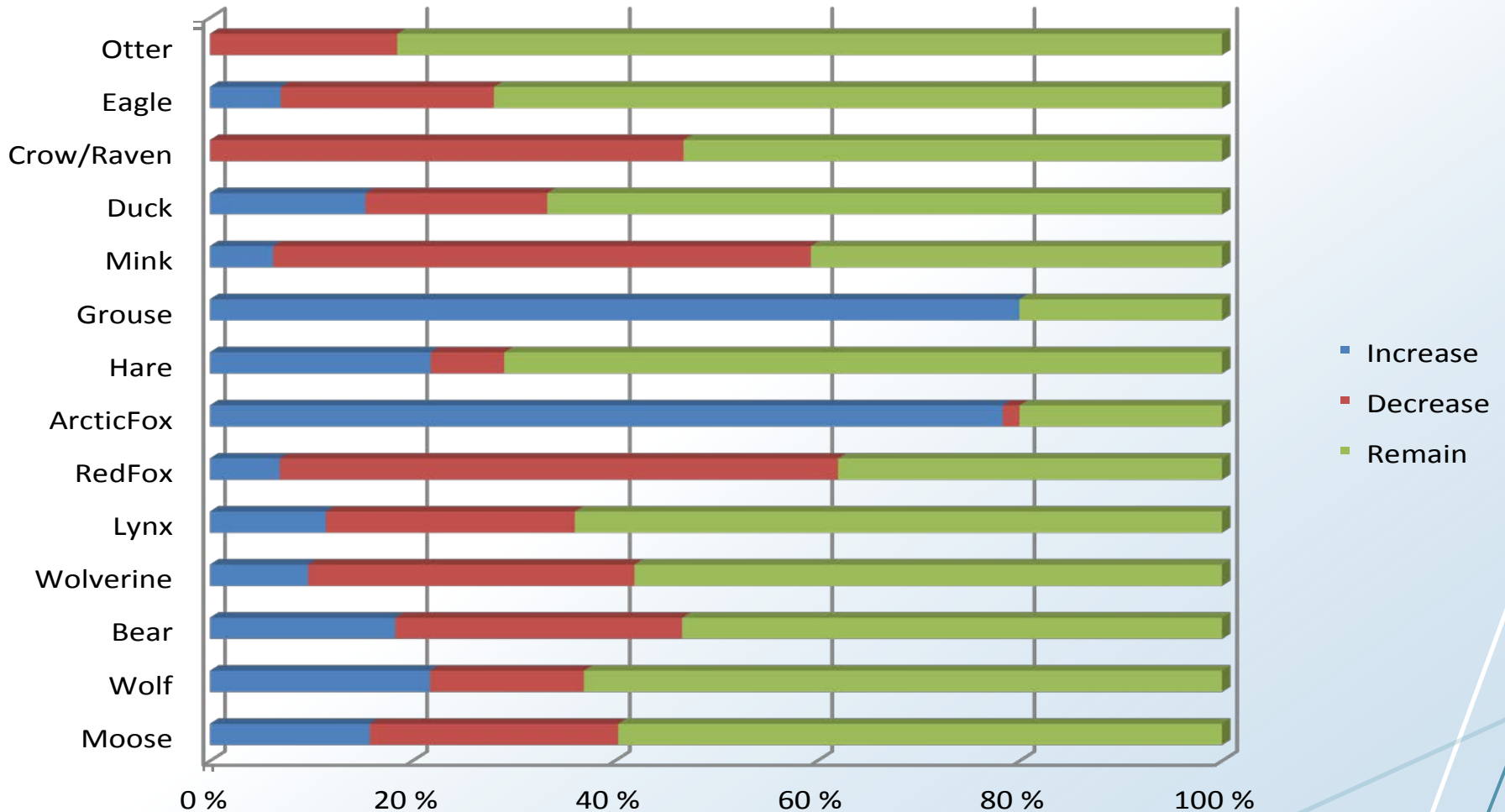
# Harvest and recreation in the top 3 priority sites



# Alaska: Do you think the following animals should be increased, decreased, or left alone?



# Norway: Do you think the following animals should be increased, decreased, or left alone?



# Challenges for further analyses of dependency on ecosystem services

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- **Material** –Can't sell traditional foods in Alaska, but in Russia and Norway (reindeer) it is common to sell.
  - The premises for calculating the dependency differs
  - The importance of traditional food for food security differs
- **Social** - Social activities are linked to cabins/camps, especially in Russia and Norway
  - Not clear when ES is included as a part of the social activity
- **Cultural** – the cultural importance of ES in open questions need to be analysed



# THANK YOU!

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## **TUNDRA TEAM - DESIGN**

- Else Grethe Broderstad (Centre for Sami Studies, UiT)
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## **ALL FIELD WORKERS**