



Rein og rovdyr

Torkild Tveraa

Reinen sliter mange plasser

Global declines of caribou and reindeer

LIV SOLVEIG VORS and MARK STEPHEN BOYCE

Department of Biological Sciences, University of Alberta, Edmonton, Alberta, T6G 2E9, Canada

Abstract

Caribou and reindeer herds are declining across their circumpolar range, coincident with increasing arctic temperatures and precipitation, and anthropogenic landscape change. Here, we examine the mechanisms by which climate warming and anthropogenic landscape change influence caribou and reindeer population dynamics, namely changes in phenology, spatiotemporal changes in species overlap, and increased frequency of extreme weather events, and demonstrate that many caribou and reindeer herds show demographic signals consistent with these changes. While many caribou and reindeer populations historically fluctuated, the current, synchronous population declines emphasize the species' vulnerability to global change. Loss of caribou and reindeer will have significant, negative socioeconomic consequences for northern indigenous cultures.

Keywords: climate change, landscape disturbance, population dynamics, *Rangifer tarandus*, zoology

Received 10 January 2009 and accepted 13 April 2009

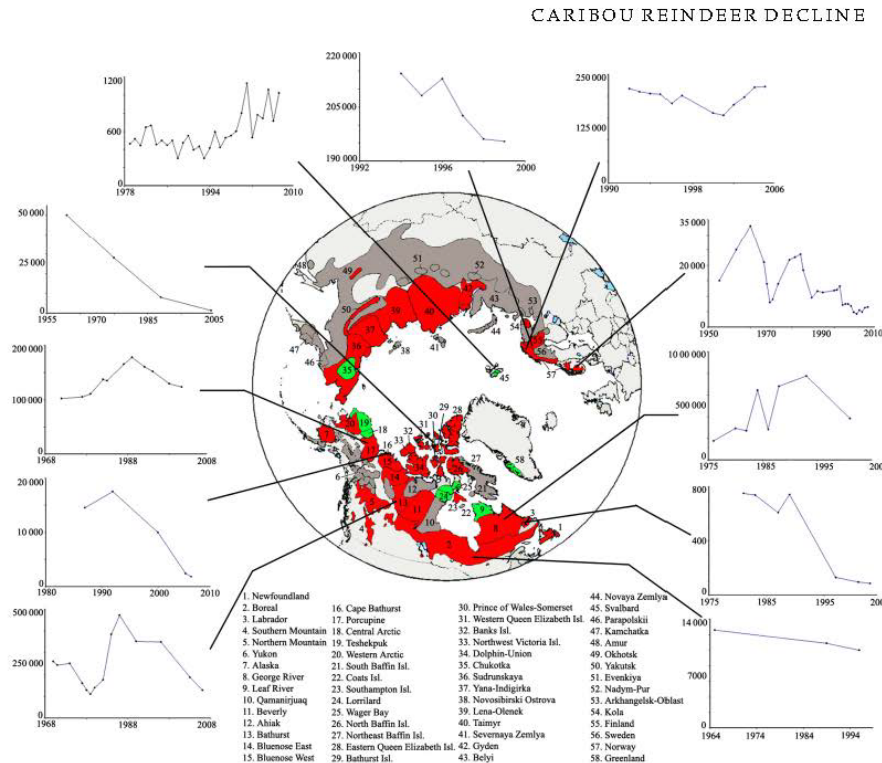


Fig. 2 Population trajectories of 58 major caribou and reindeer herds worldwide. Herd ranges depicted in red are in population decline and ranges depicted in green are experiencing population growth. Population data are unavailable for herd ranges illustrated in grey. Time series of population estimates for 11 caribou and reindeer populations are included to illustrate historical fluctuations in population size. The x-axis represents year of population estimate and the y-axis represents estimate of population size.

Reintap påvirkes av:

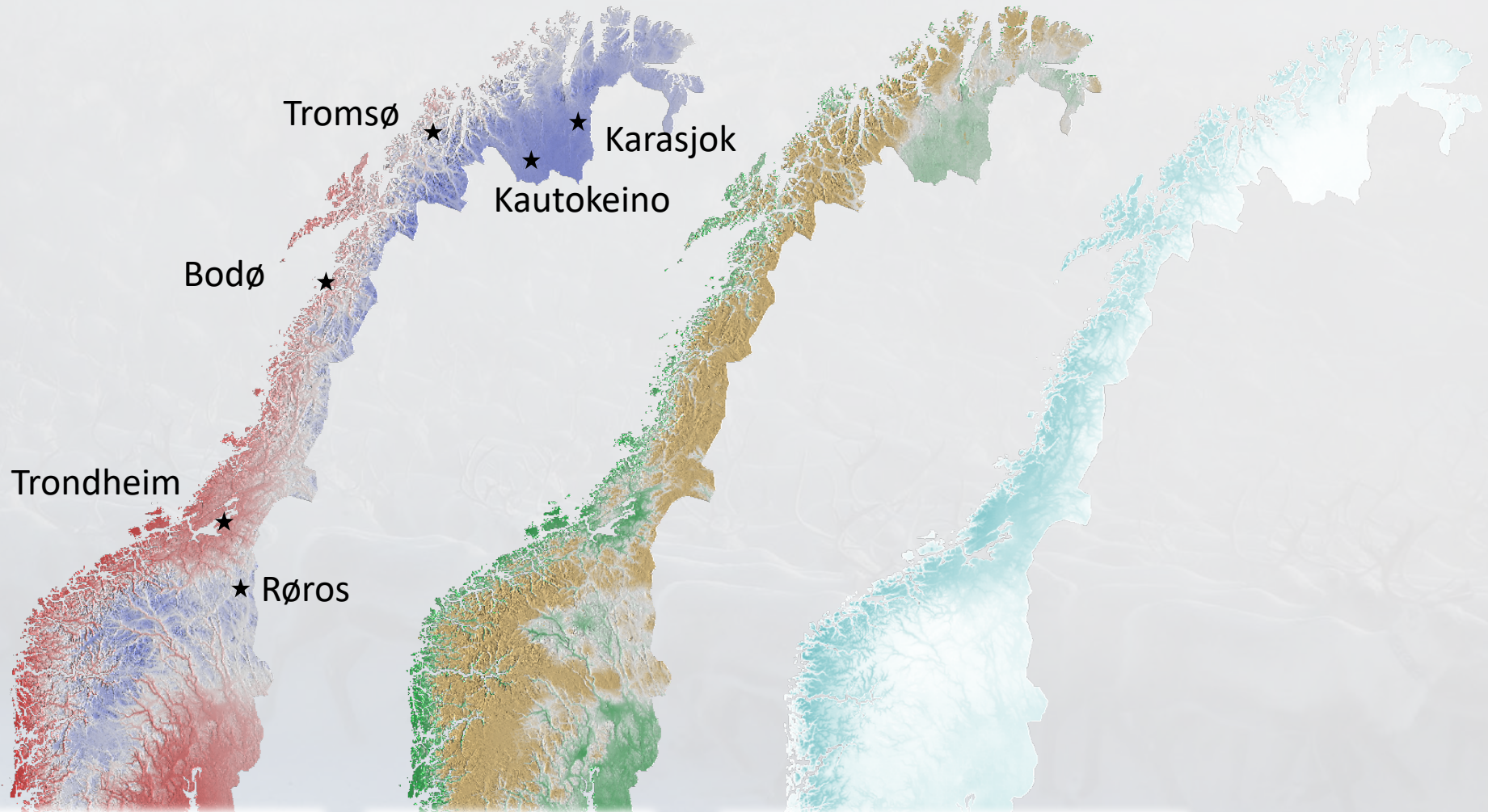
- Rovdyrtetthet
- Reintetthet (reinenes vekt)
- Klimatiske forhold
 - Studiedesign må kunne skille disse



Hva vet vi om rovdyrtap?

- Mesteparten av kalvetapet skjer rett etter fødsel.
- Etter dette, tapes 0-10 % av kalvene i løpet av det første året.
- De minste kalvene er mest utsatt.
- Tap av voksne til rovdyr er lavere. Ulykker er vanligere.
- Knyttet til reinens kondisjon og beiteforhold

Stor variasjon i vinterforhold



Temperatur

Snødybde

Isings-hendelser

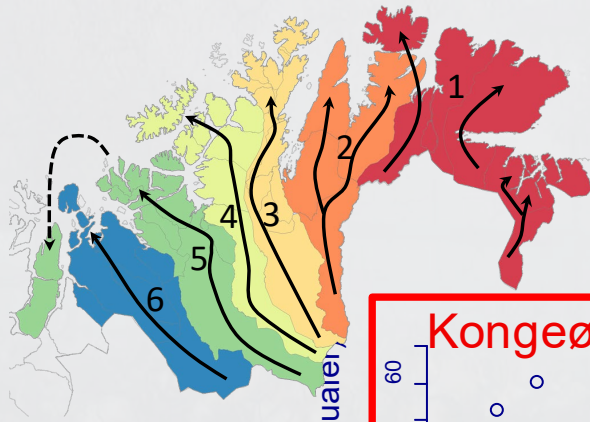
...og sommerforhold



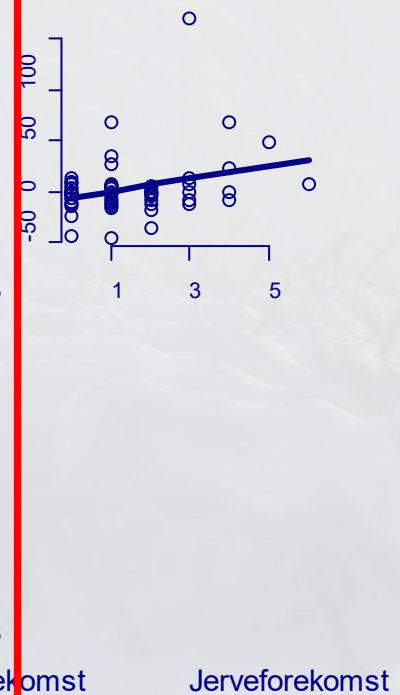
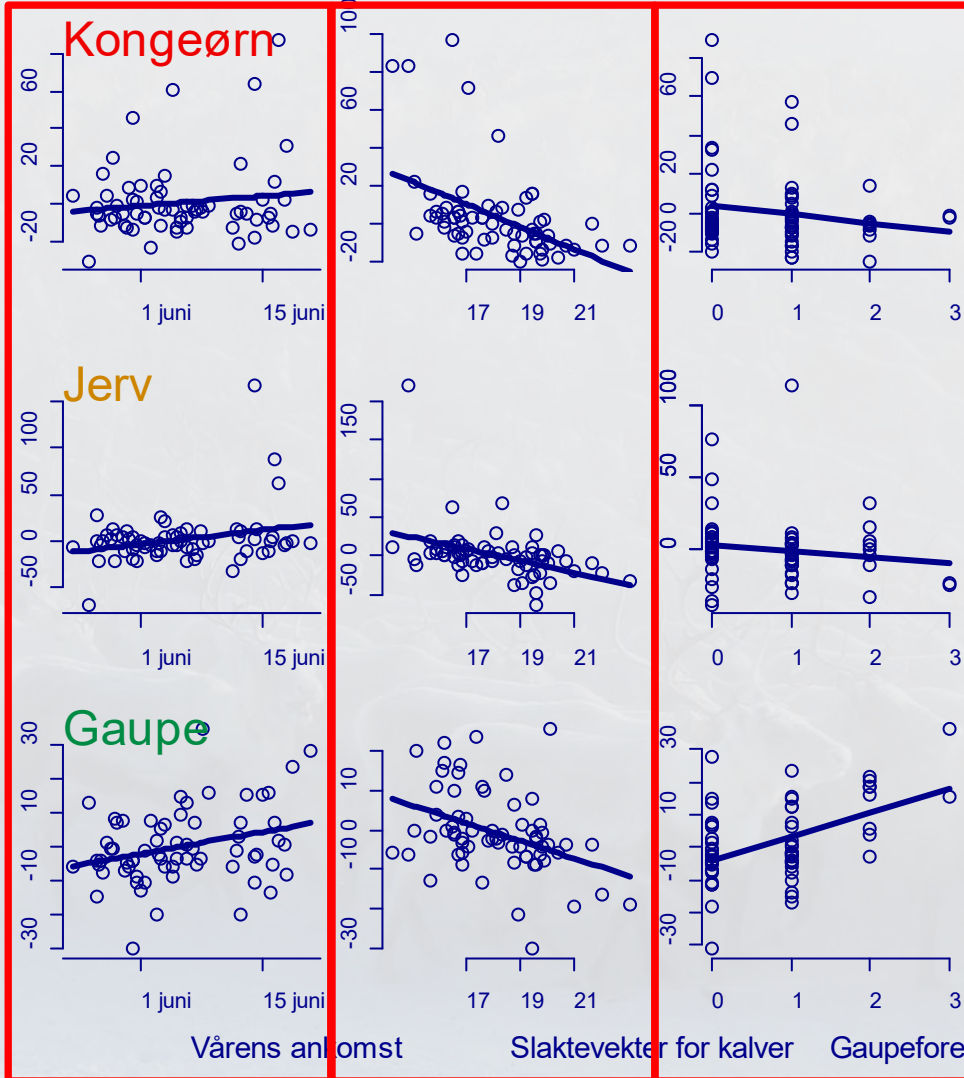
Vårtidspunkt

Planteproduksjon

Kadaverfunn i Finnmark



Antall kadaver (partielle residuier)



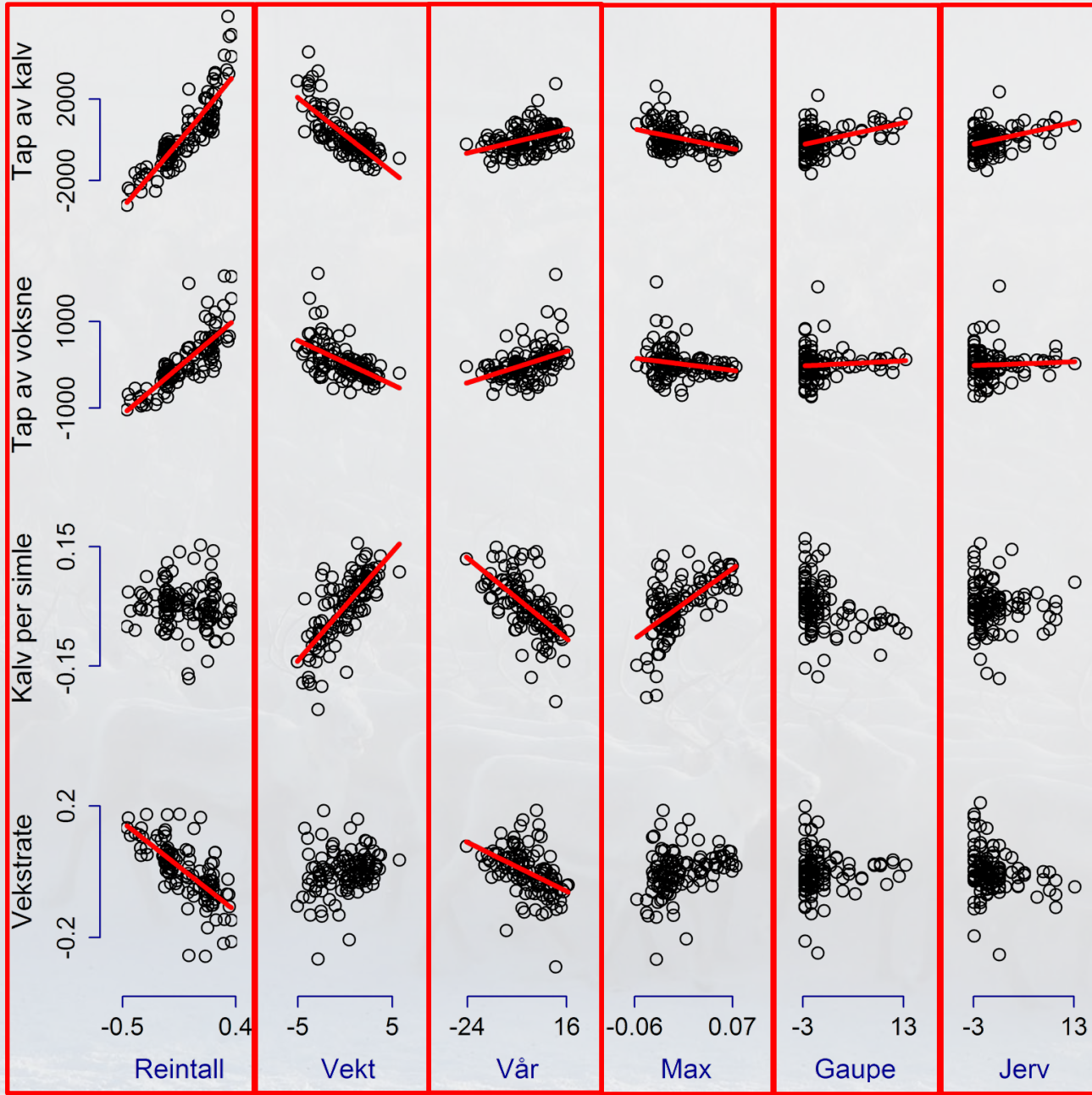
Vårens antall komst

Slaktevekt for kalver

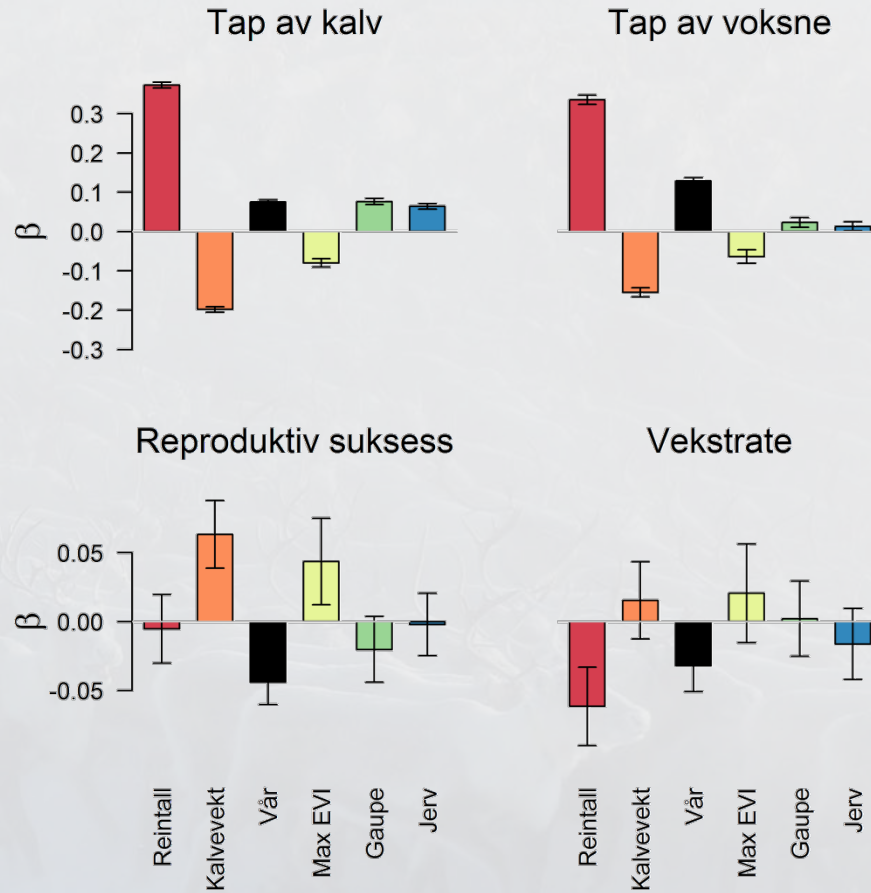
Gaupeforekomst

Jervforekomst

Ressursbegrensning vs predasjon:

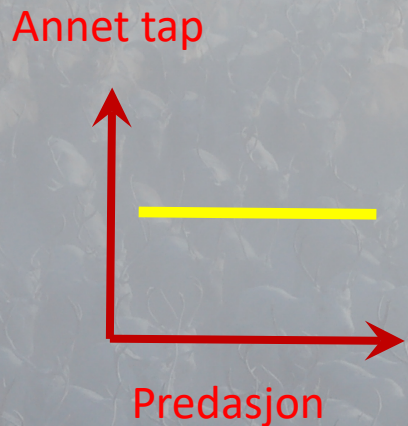


Hva er viktigst?

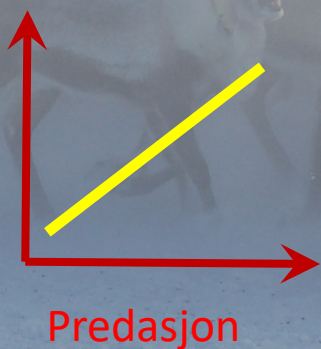


Additivt og kompensatorisk tap

Additivt tap



Totalt tap

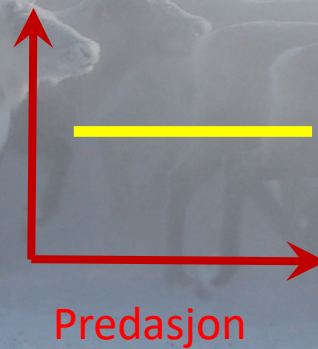


Annet tap

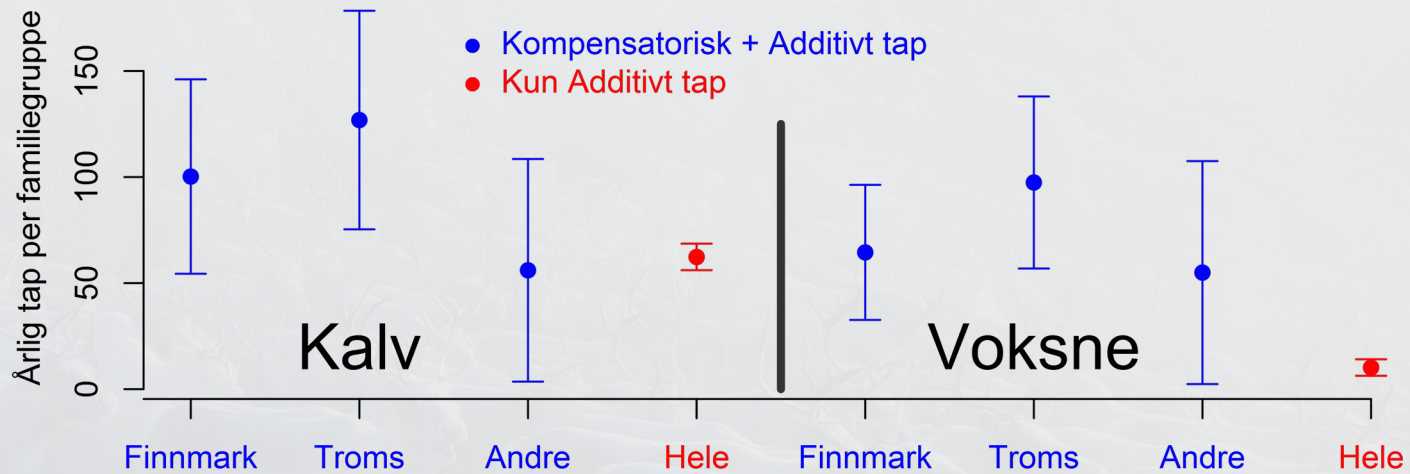
Kompensatorisk tap



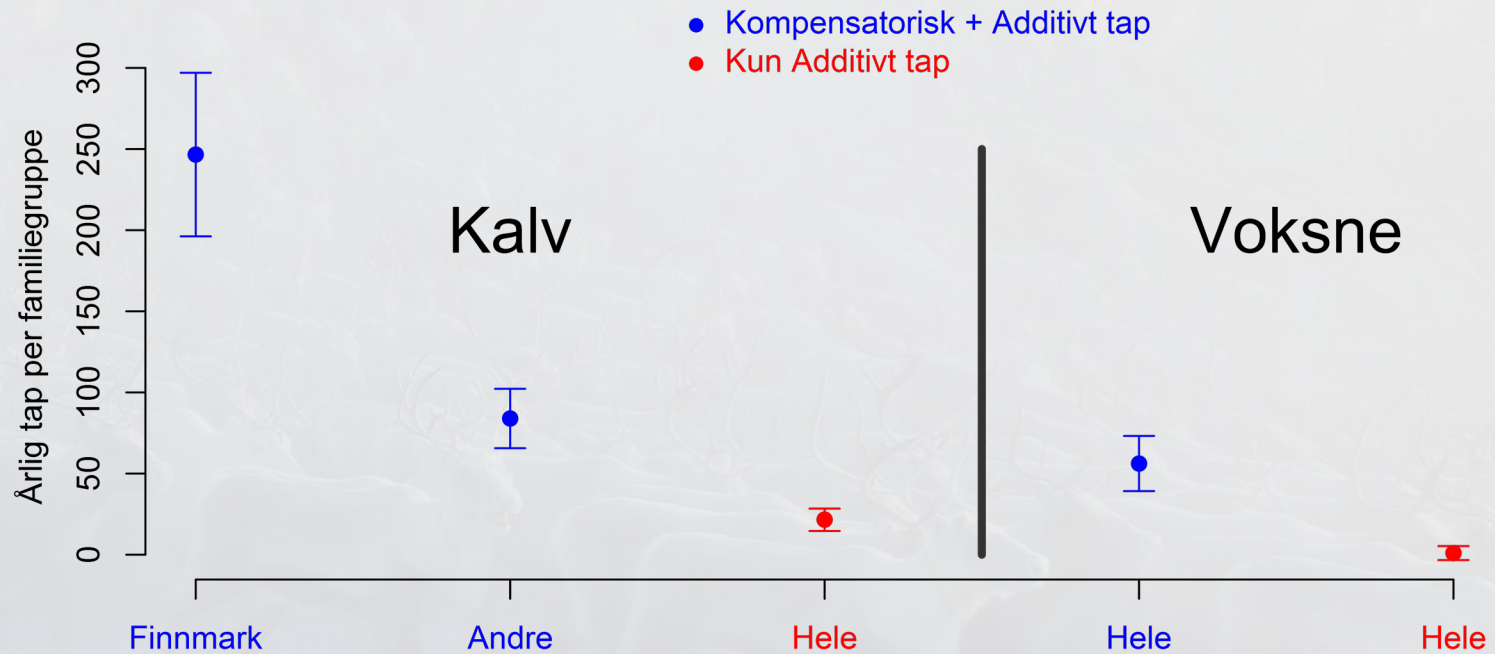
Totalt tap



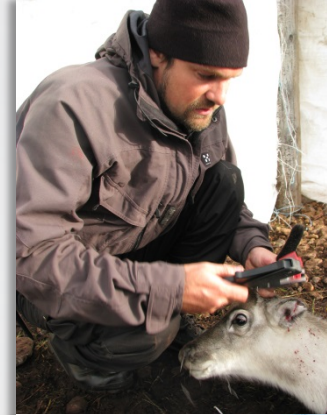
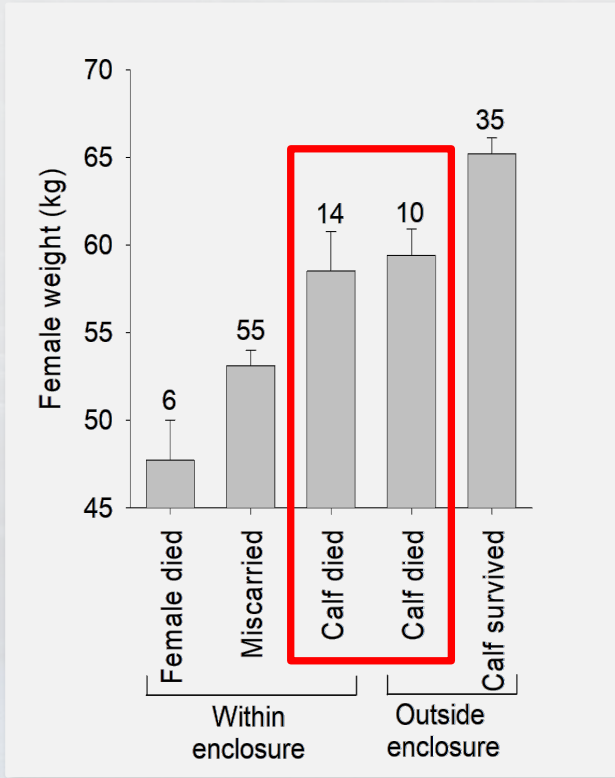
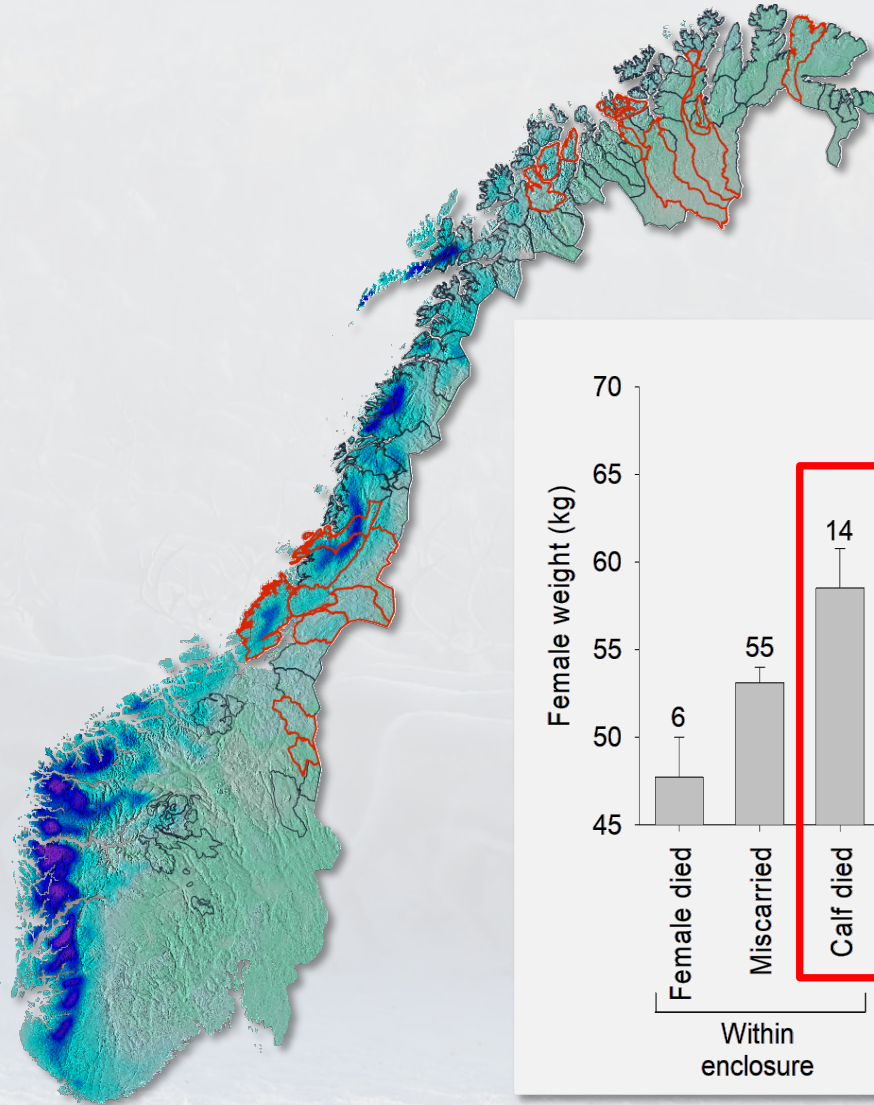
Gaupetap per familiegruppe



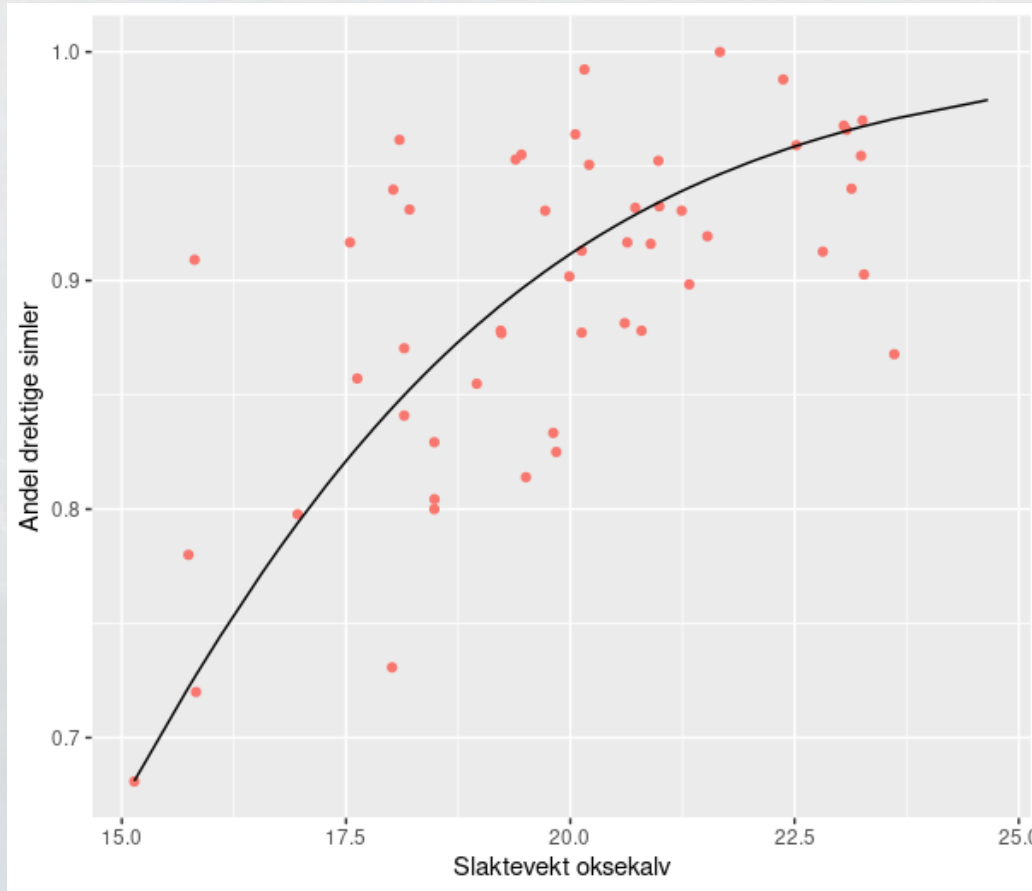
Jervetap per familiegruppe



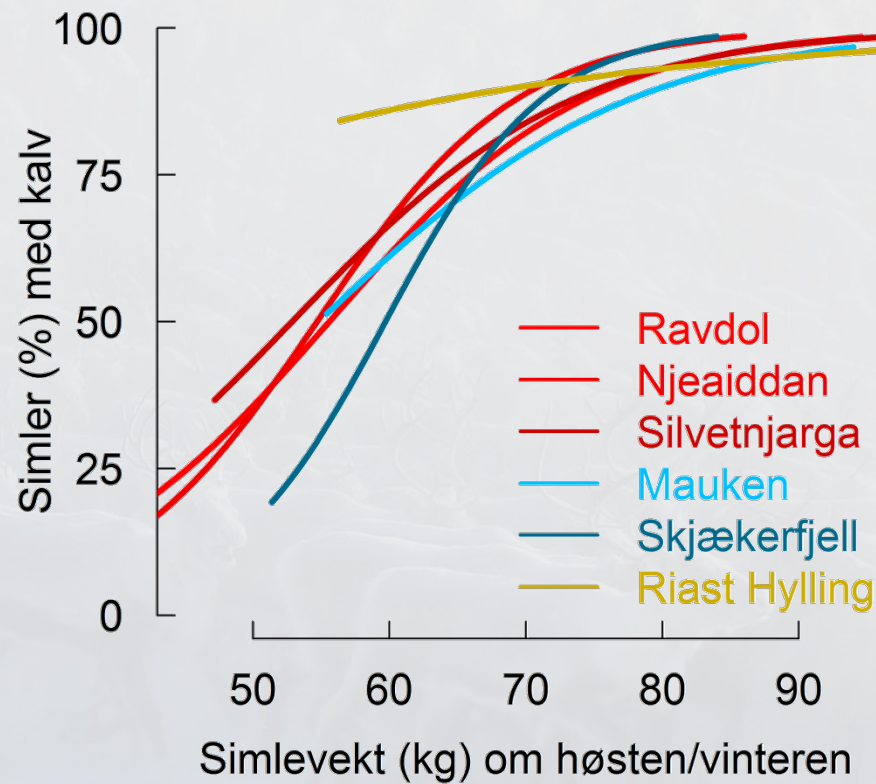
Reinstudier



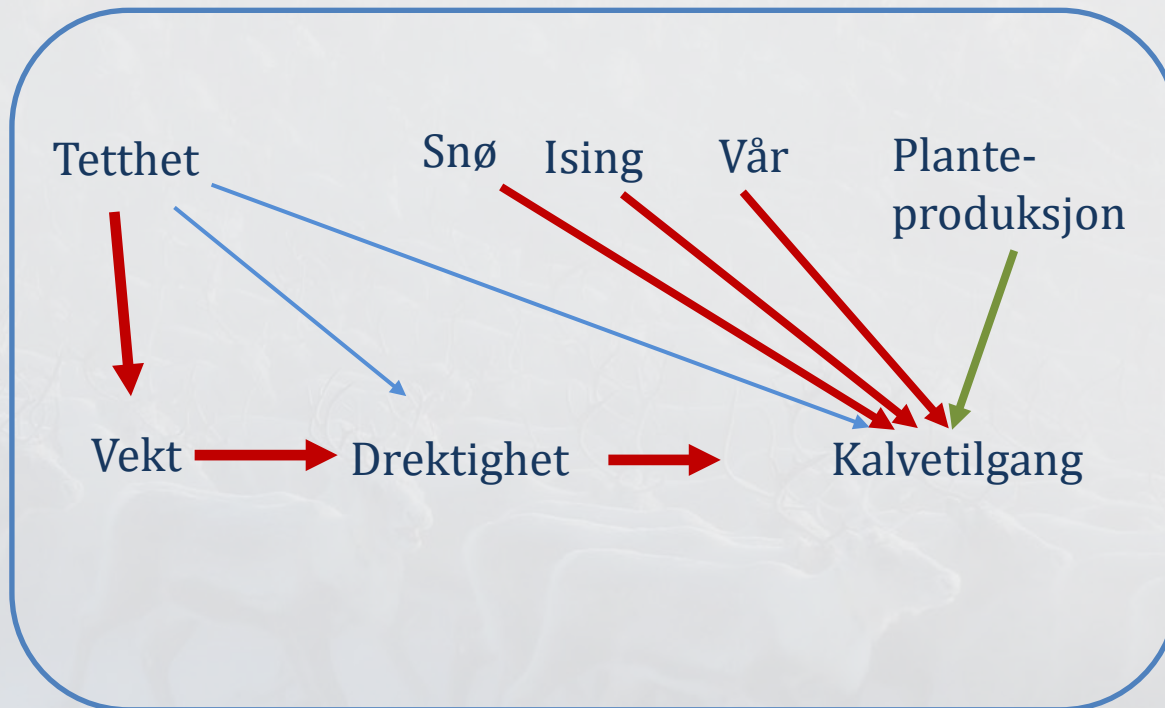
Drektighet og slaktevekt (kalv)



Simlevekt og kalveproduksjon



Forhold som avgjør suksess





reinbase.no

