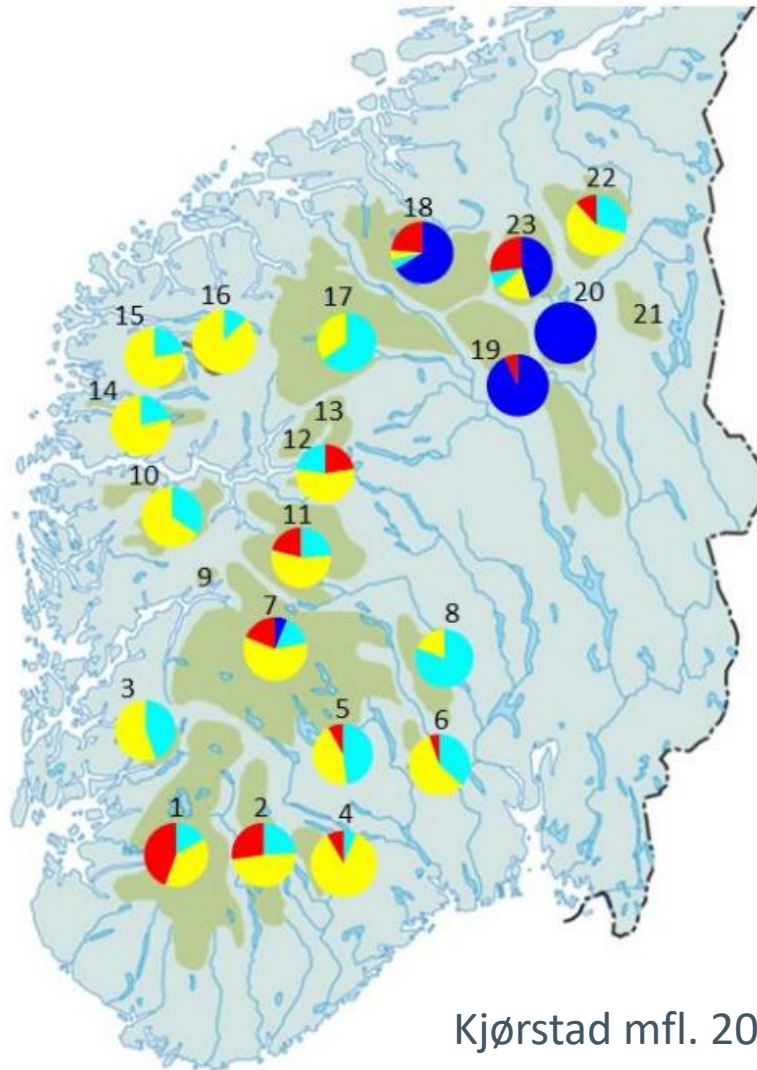


Endringer i bestandsforhold

Oppstartsmøte for FoU-prosjekt på villrein i Snøhetta og Knutshø
Hjerkin, 4. mars 2024

Brage Bremset Hansen, Olav Strand, Roy Andersen mfl.

Dovrereinen: et særskilt ansvar

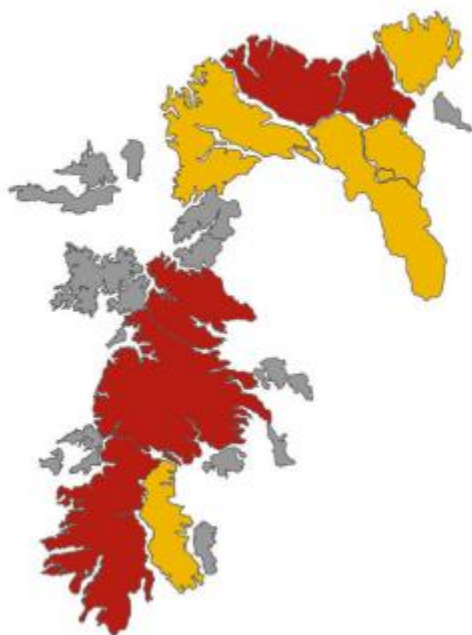


1. Setesdal Ryfylke
2. Setesdal Austhei
3. Skulen Etnefjell
4. Våmur - Roan
5. Brattefjell - Vindeggen
6. Blefjell
7. Hardangervidda
8. Norefjell - Reinsjøfjell
9. *Oksenhalvøya*
10. Fjellheimen
11. Nordfjella
12. Lærdal - Årdal
13. *Vest - Jotunheimen*
14. Sunnfjord
15. Førdefjella
16. Svartebotnen
17. Reinheimen - Breheimen
18. Snøhetta
19. Rondane
20. Sølnekletten
21. *Tolga Østfjell*
22. Forollhogna
23. Knutshø

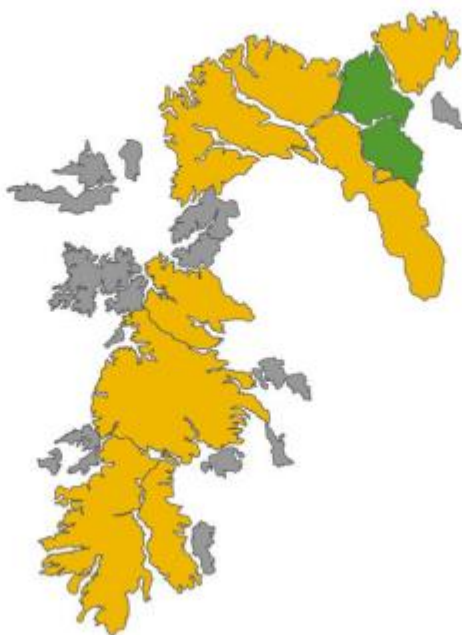
Utgangspunktet: røde trafikklys



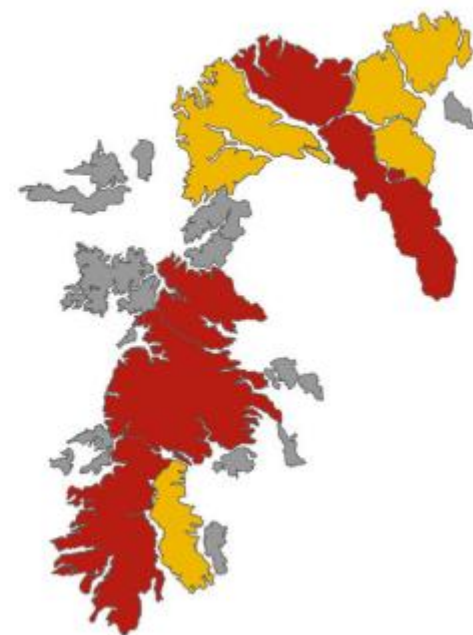
Bestandsforhold



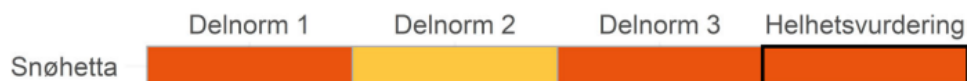
Lavbeiter



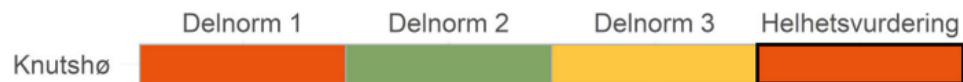
Leveområder



Utgangspunktet: røde trafikklys



Delnorm	Måleparameter	Dårlig	Middels	God
1	Kjønns- og alderskorrigert slaktevekt på kalv	X		
1	Antall kalver per 100 simle og ungdyr	X		
1	Andel eldre (≥ 3 år) bukk per voksen (≥ 1 år) simle		X	
1	Genetisk variasjon			X
1	Helsestatus – forekomst av alvorlig meldepliktig sykdom		Brukes ikke	X
2	Lavbeiter		X	
3	Funksjonell arealutnyttelse			X
3	Funksjonelle trekkpassasjer	X		



Delnorm	Måleparameter	Dårlig	Middels	God
1	Kjønns- og alderskorrigert slaktevekt på kalv	X		
1	Antall kalver per 100 simle og ungdyr		X	
1	Andel eldre (≥ 3 år) bukk per voksen (≥ 1 år) simle		X	
1	Genetisk variasjon			X
1	Helsestatus – forekomst av alvorlig meldepliktig sykdom		Brukes ikke	X
2	Lavbeiter			X
3	Funksjonell arealutnyttelse		X	
3	Funksjonelle trekkpassasjer		X	

Hva mener vi med «bestandsforhold»?

Beitegrunnlag



Bestandsstørrelse versus bæreevne
Bestandsstruktur
Kondisjon, overlevelse, reproduksjon
Helse
Genetisk variasjon og tilpasningsevne



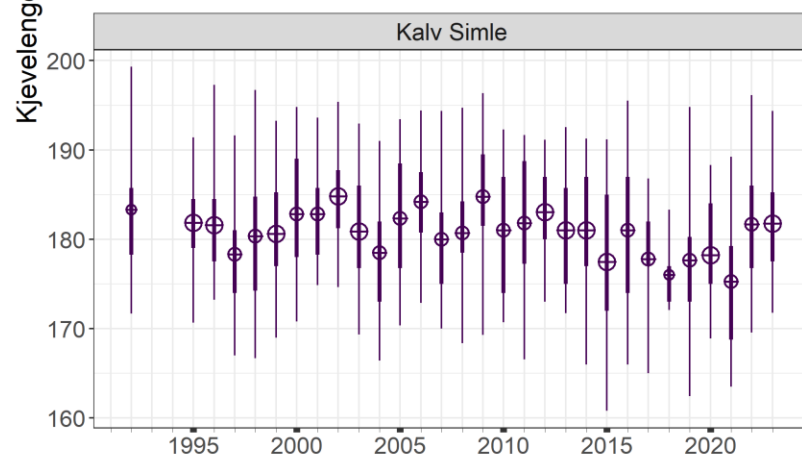
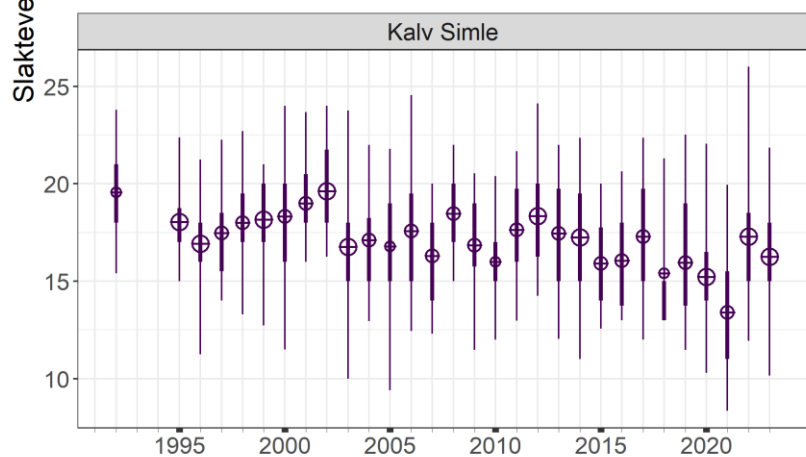
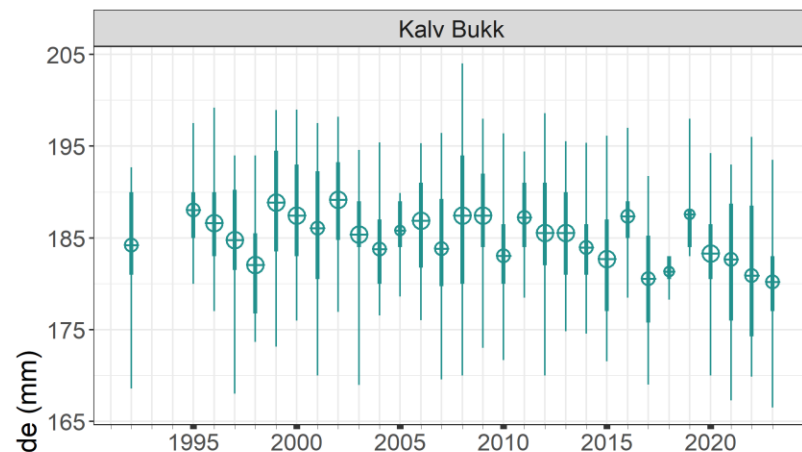
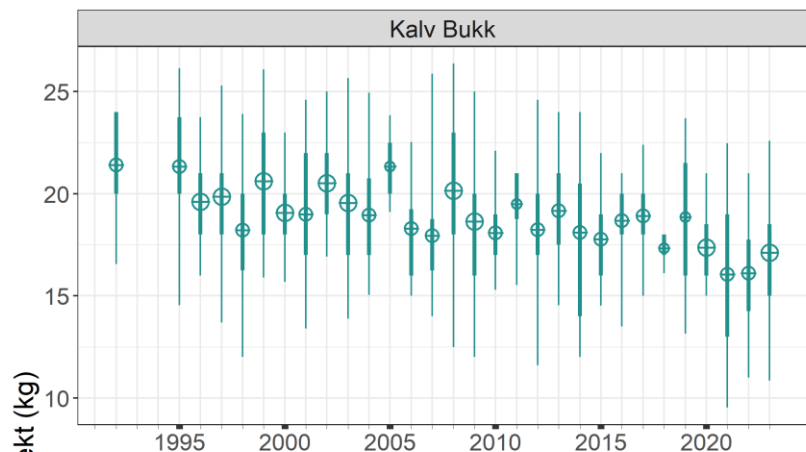
Bestandens levedyktighet

- Kort sikt
- Lang sikt



Leveområde
(arealbruk, trekk)

Knutshø – kondisjon kalv



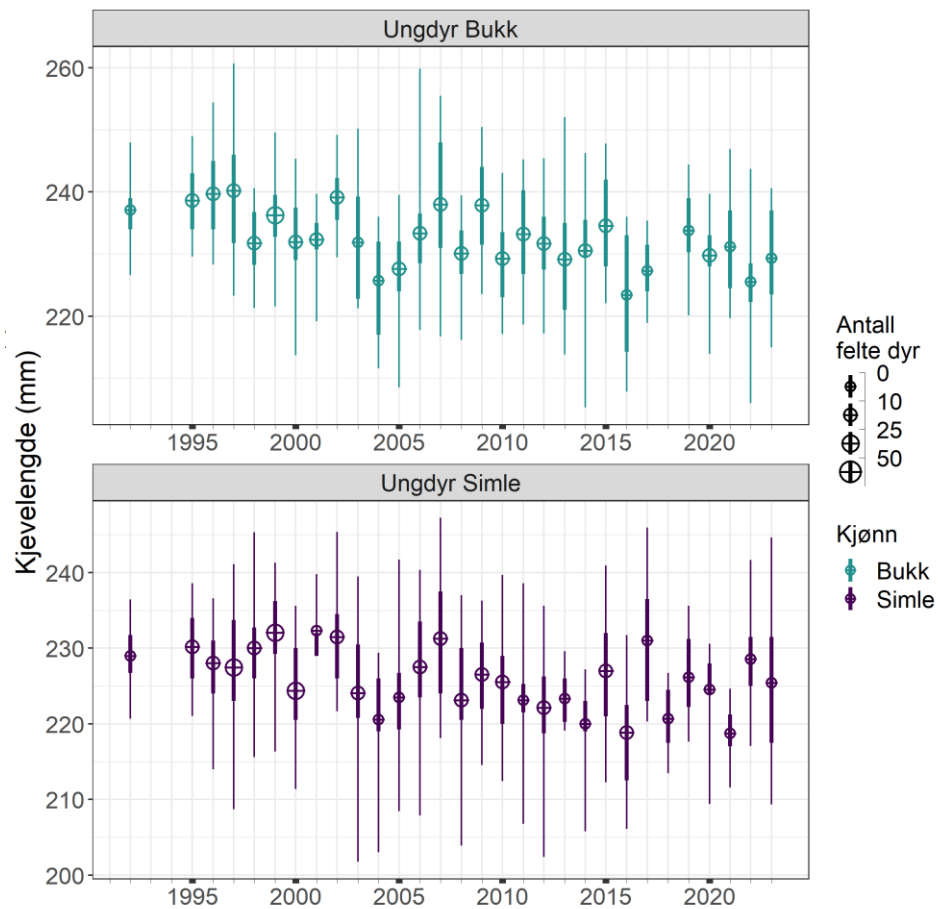
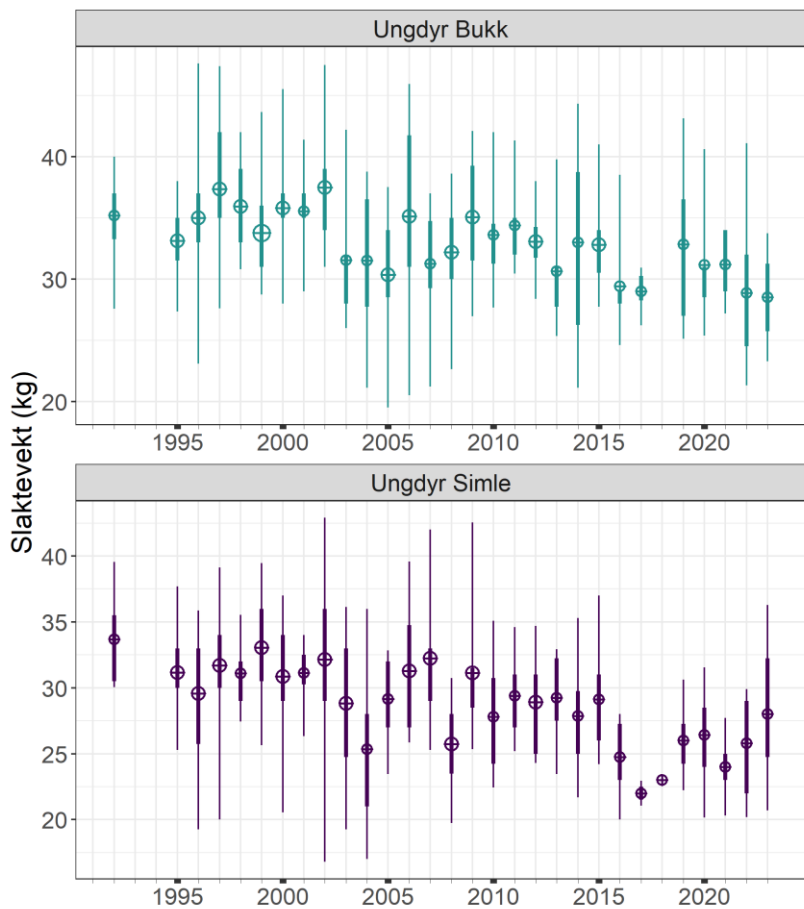
Antall felte dyr

- 0
- 10
- 25
- 50

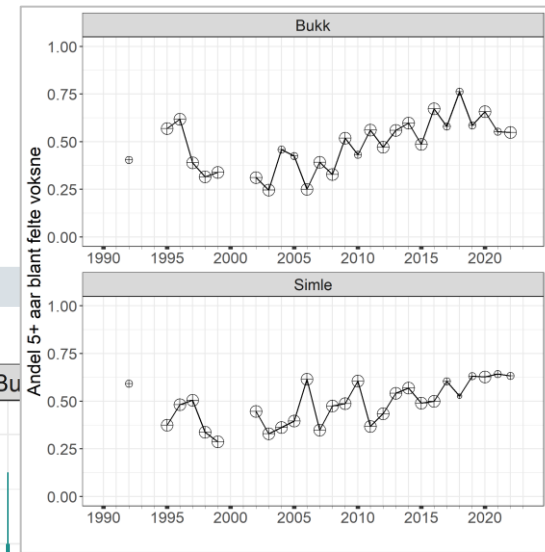
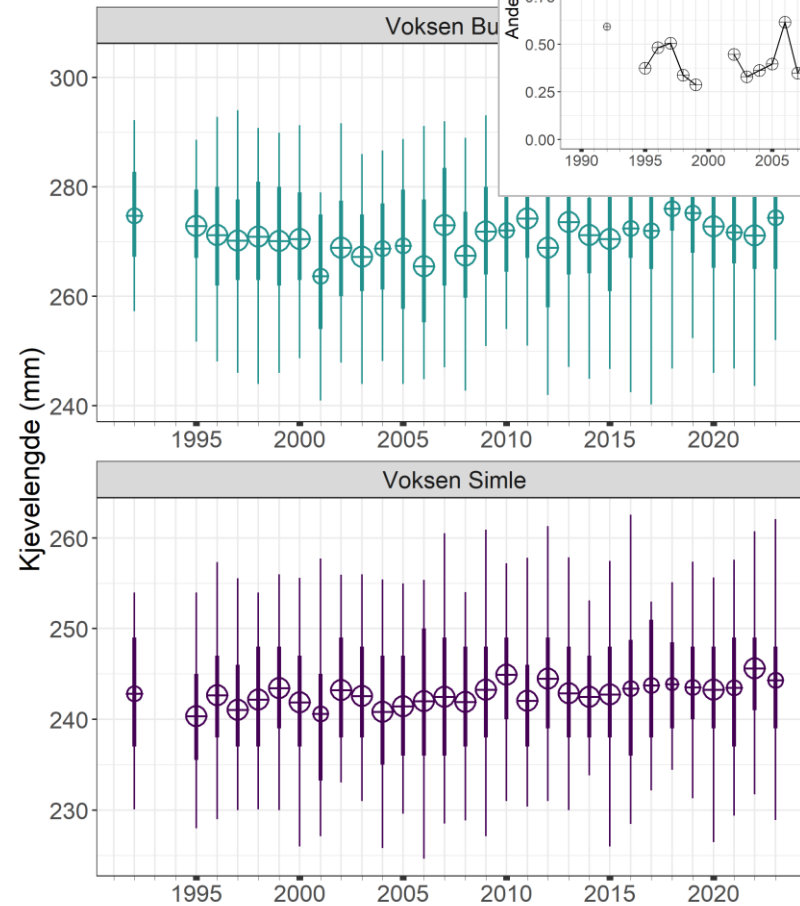
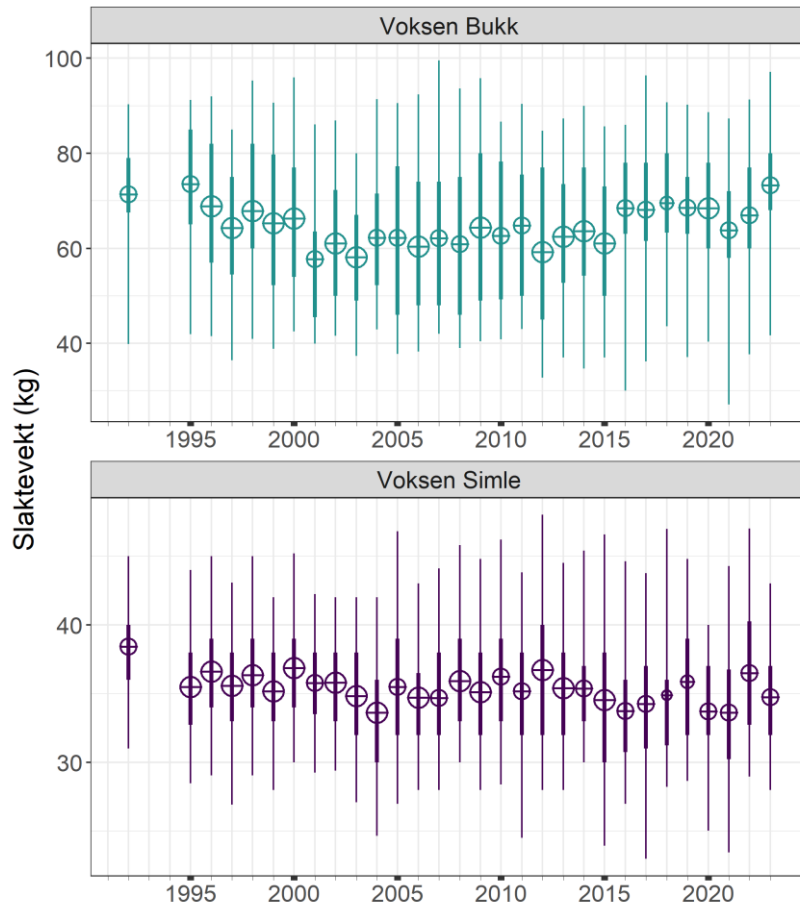
Kjønn

- Bukk
- Simle

Knutshø – kondisjon ungdyr



Knutshø – kondisjon voksne



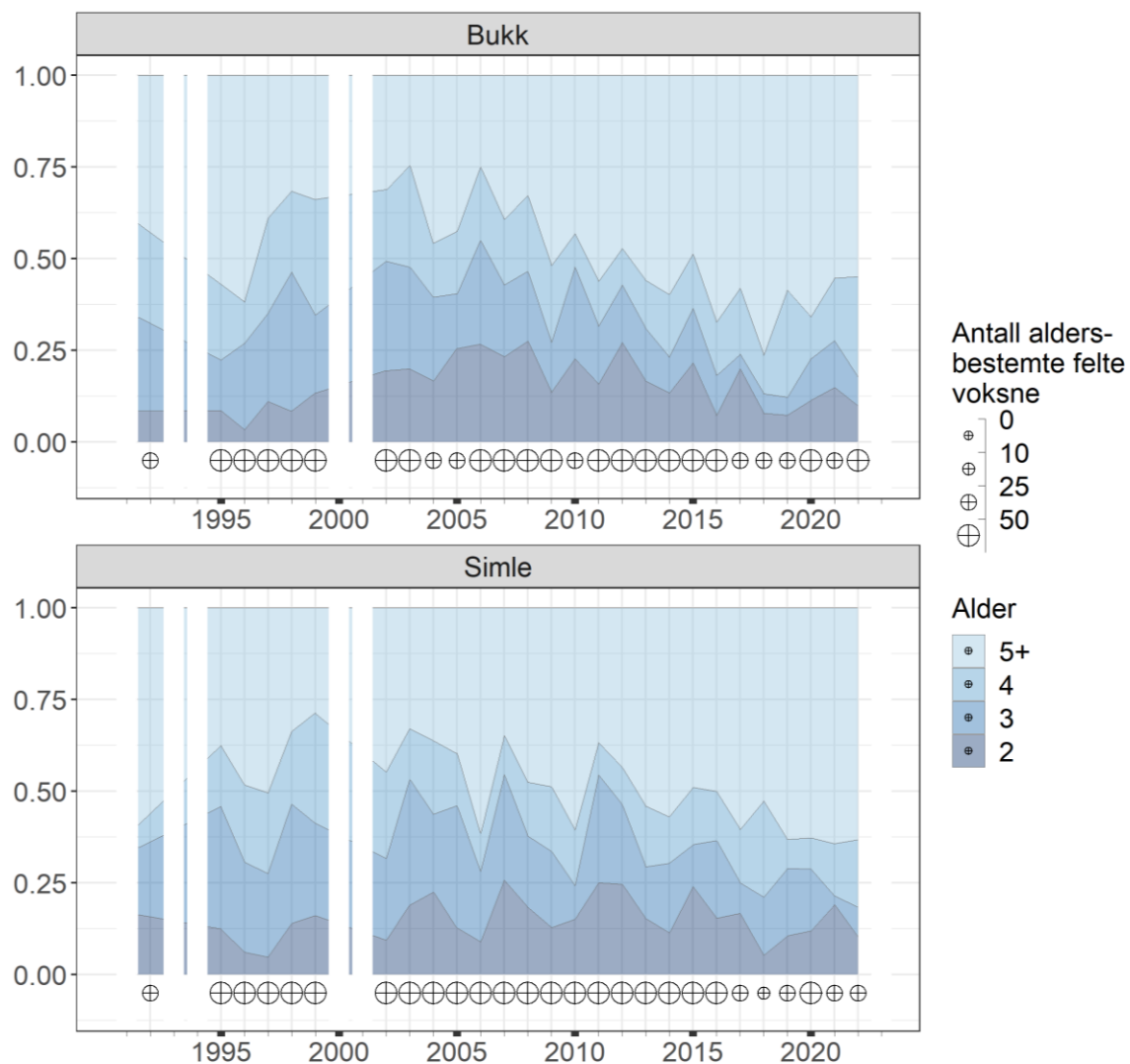
Kjønn

- Bukk
- Simle

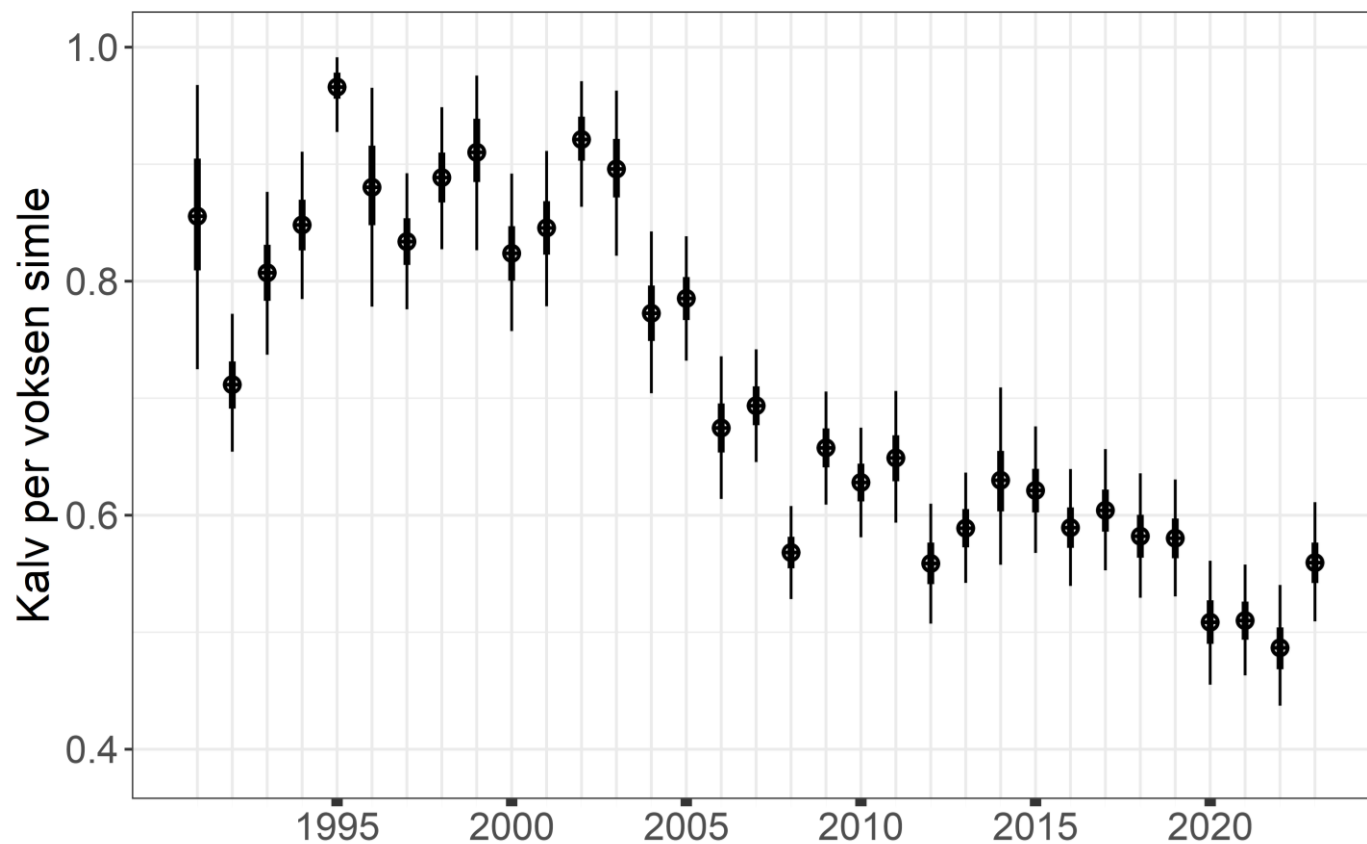
Antall felte dyr

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- 10
- 25
- 50

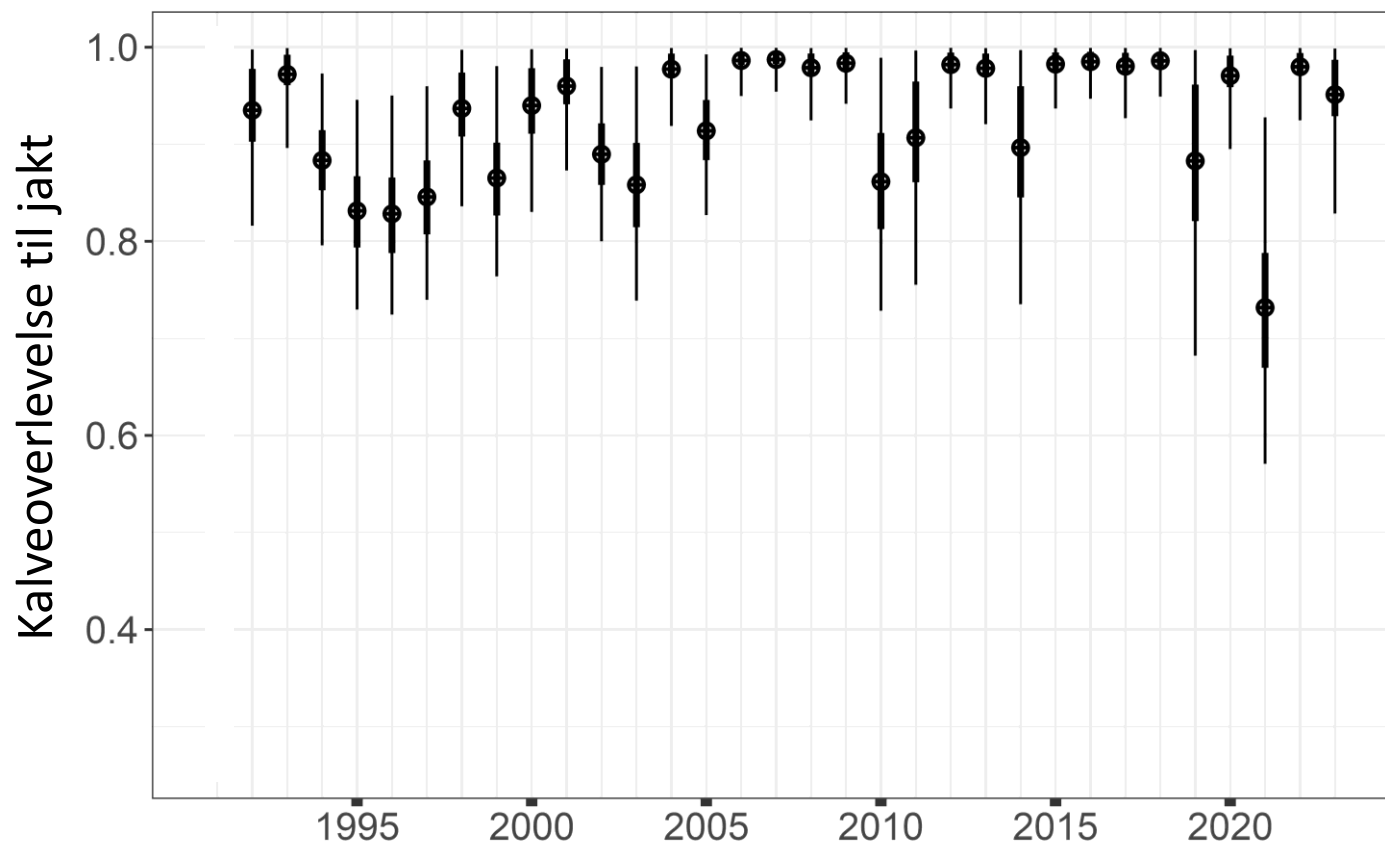
Knutshø – aldersstruktur felte voksne



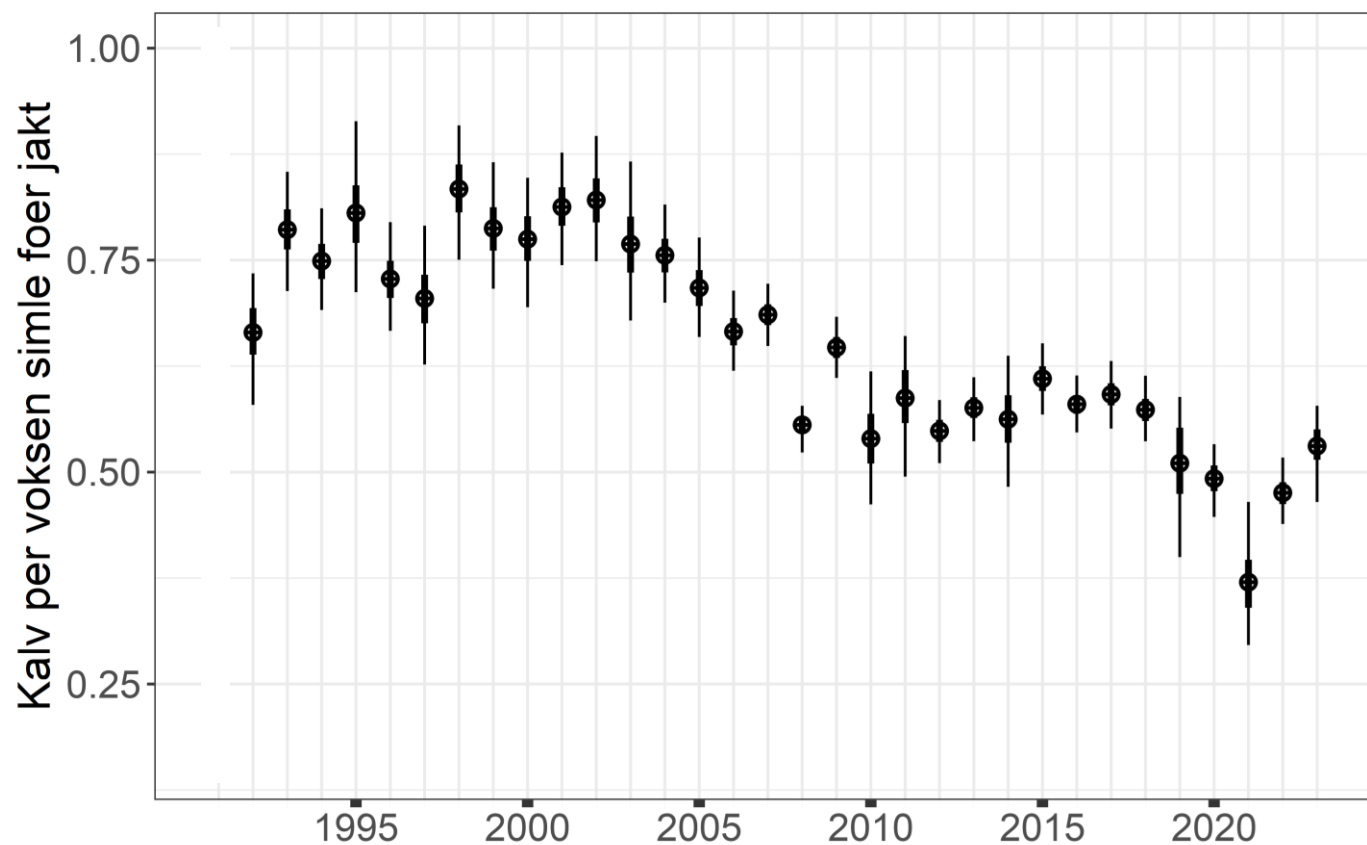
Knutshø – reproduksjon (bestandsmodell)



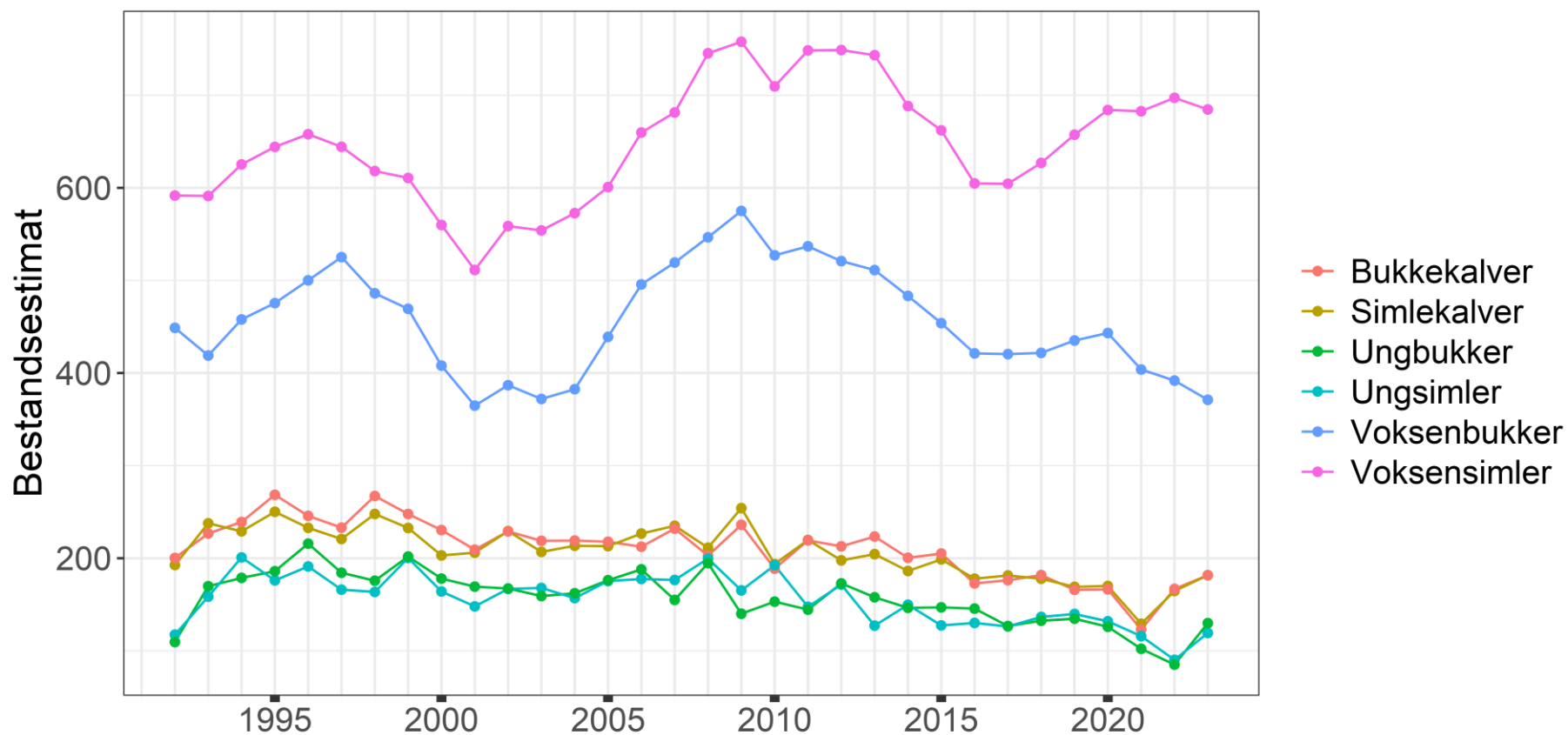
Knutshø – kalveoverlevelse sommer



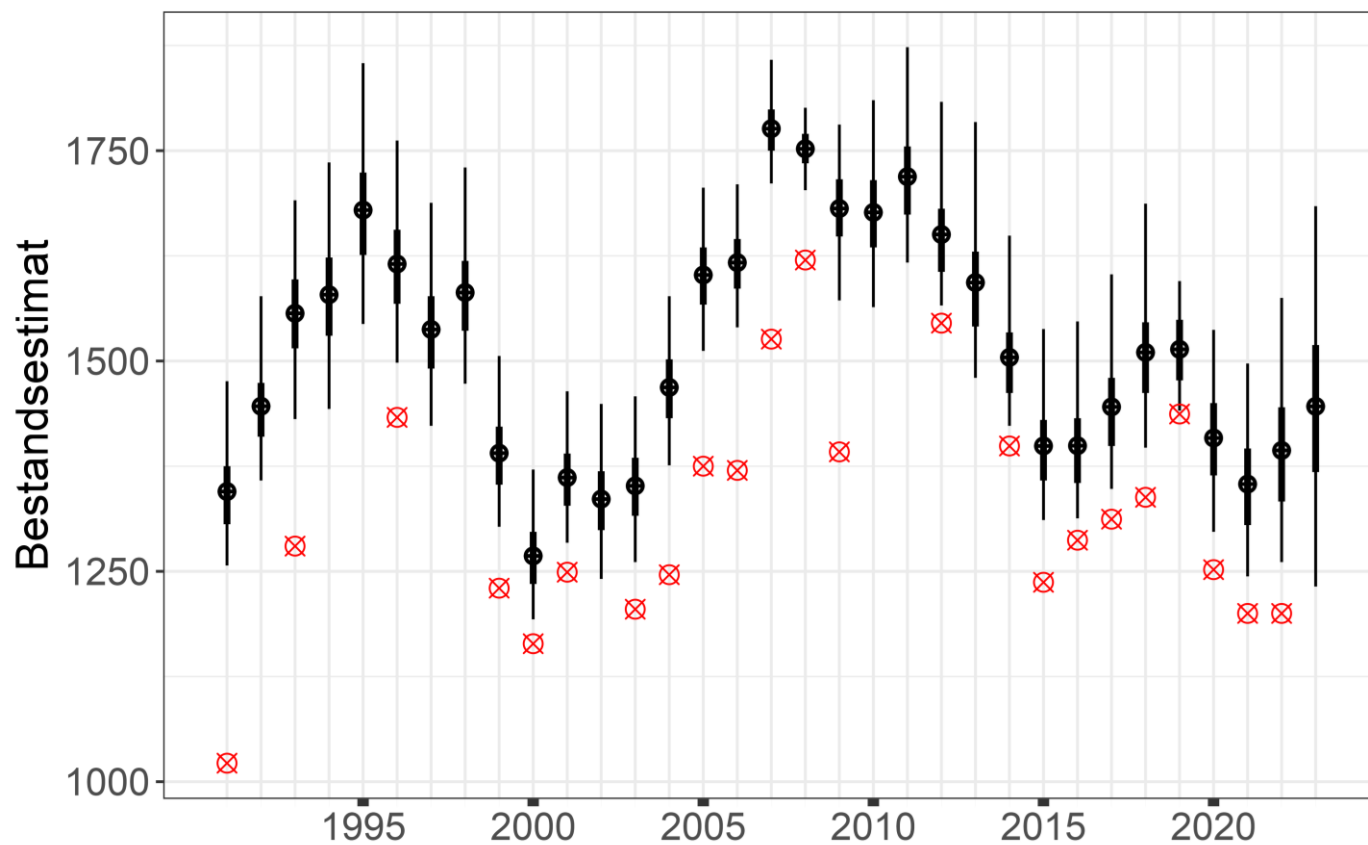
Knutshø – kalv per voksen simle før jakt



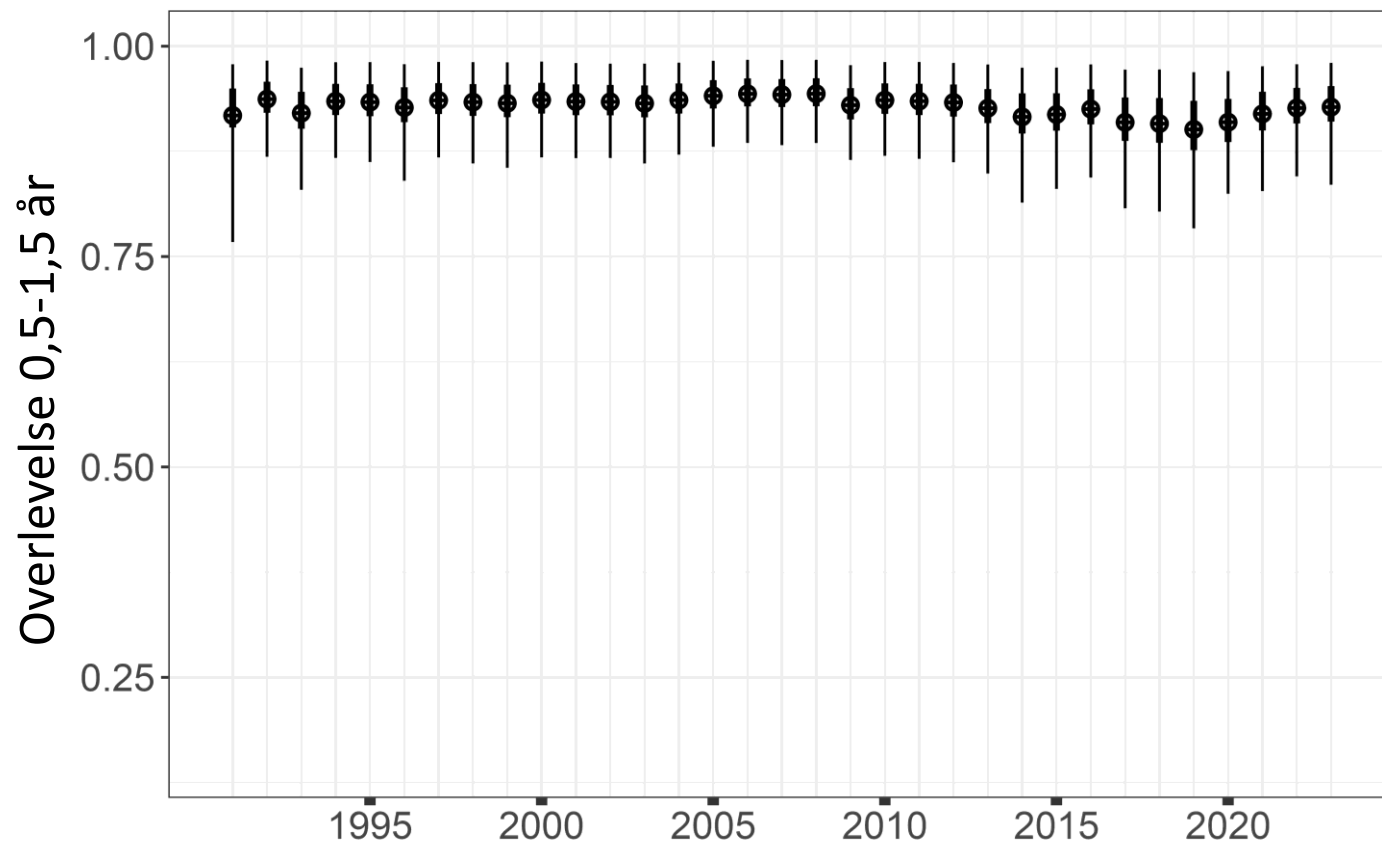
Knutshø – bestandsstruktur før jakt



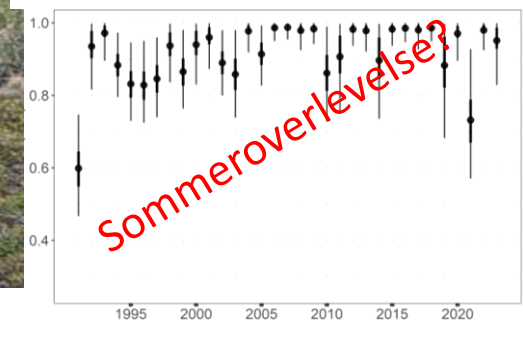
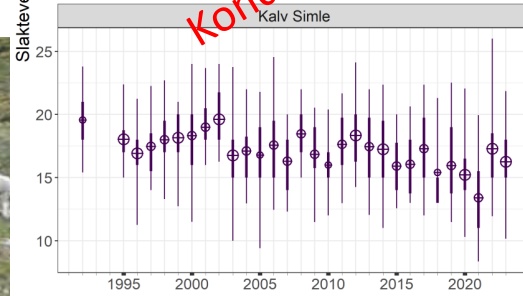
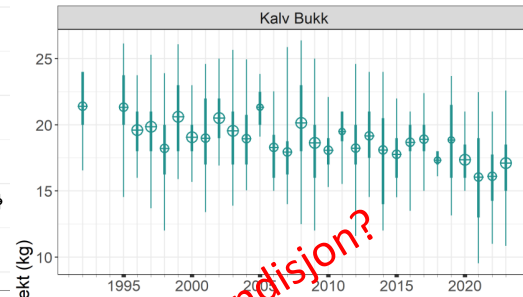
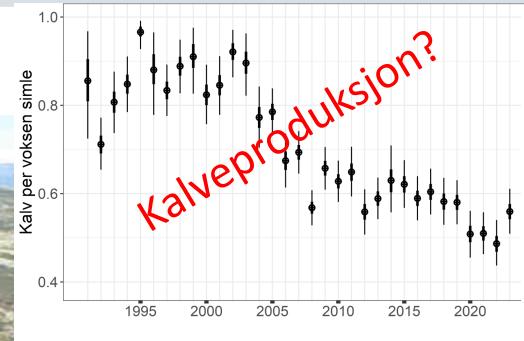
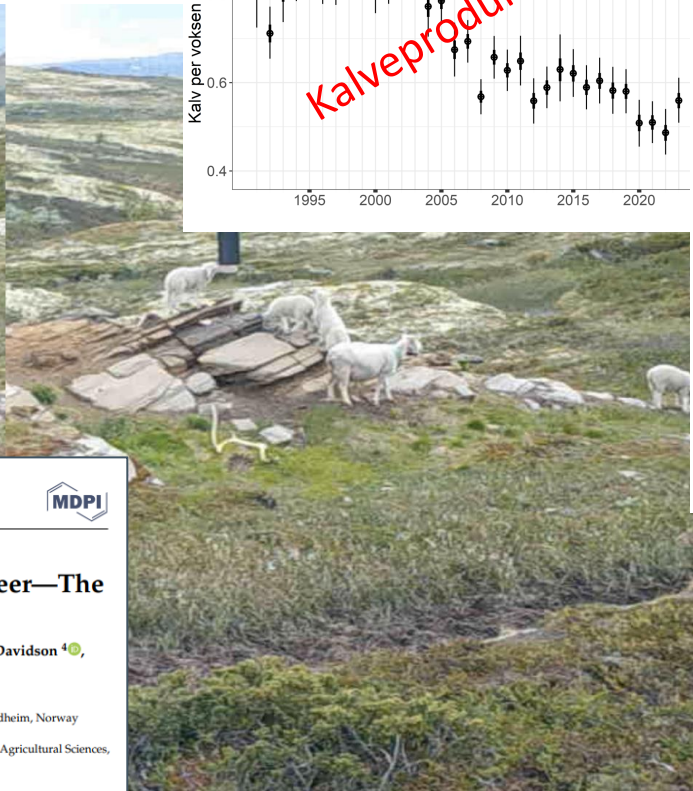
Knutshø – bestandsstørrelse etter jakt



Knutshø – overlevelse til neste jakt



Knutshø – CWD, helse, parasitter



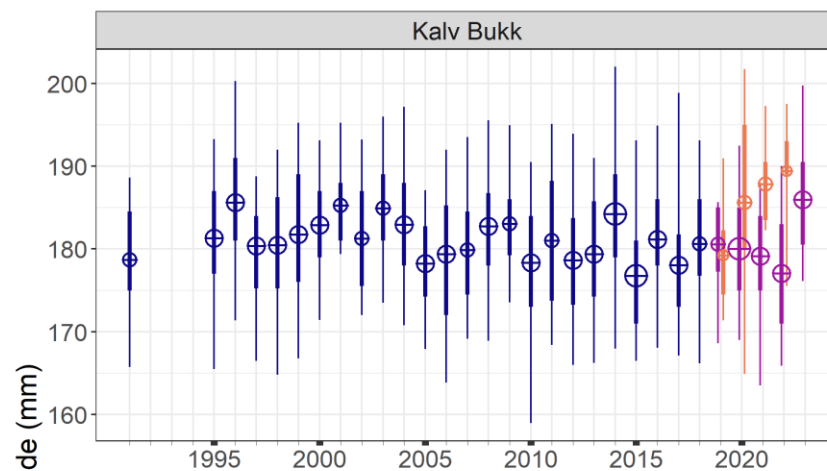
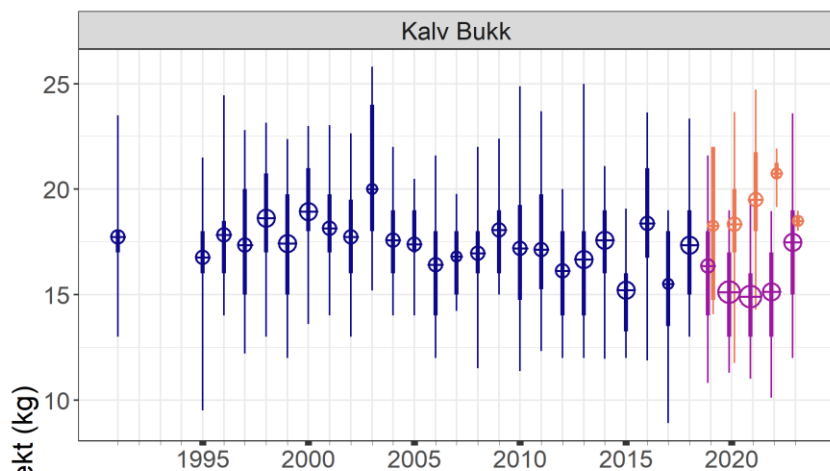
Article Parasite Spillover from Domestic Sheep to Wild Reindeer—The Role of Salt Licks

Kjersti Selstad Utaaker ^{1,2,*}, Bjørnar Ytrehus ^{1,3}, Marie L. Davey ¹, Frode Fosøy ¹, Rebecca K. Davidson ⁴, Andrea L. Miller ^{1,5}, Per-Anders Robertsen ⁵, Olav Strand ¹ and Geir Rune Rauset ¹

- ¹ Norwegian Institute for Nature Research (NINA), Torgarden, P.O. Box 5685, 7485 Trondheim, Norway
 - ² Faculty of Bioscience and Aquaculture, Nord University, 8049 Bodo, Norway
 - ³ Department of Biomedical Science and Veterinary Public Health, Swedish University of Agricultural Sciences, P.O. Box 7028, 750 07 Uppsala, Sweden
 - ⁴ Norwegian Veterinary Institute, Holtvegen 66, 9016 Tromsø, Norway
 - ⁵ Department of Forestry and Wildlife Management, Faculty of Applied Ecology and Agricultural Sciences, Inland Norway University of Applied Sciences, 2480 Koppang, Norway
- * Correspondence: kjersti.s.utaaker@nord.no

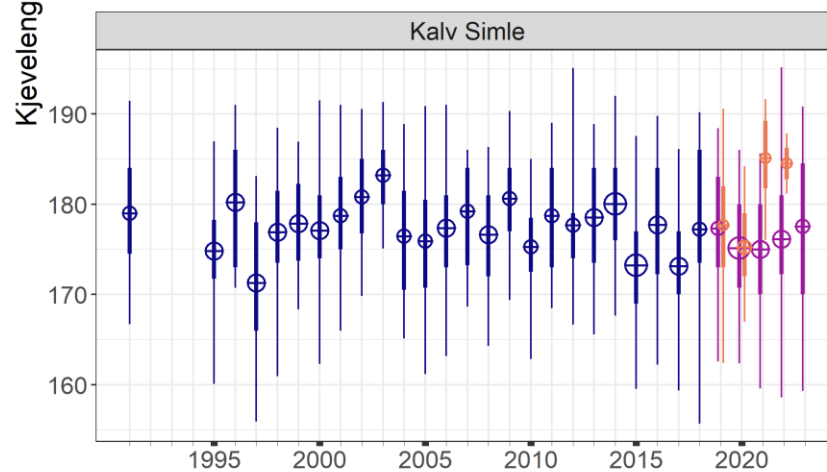
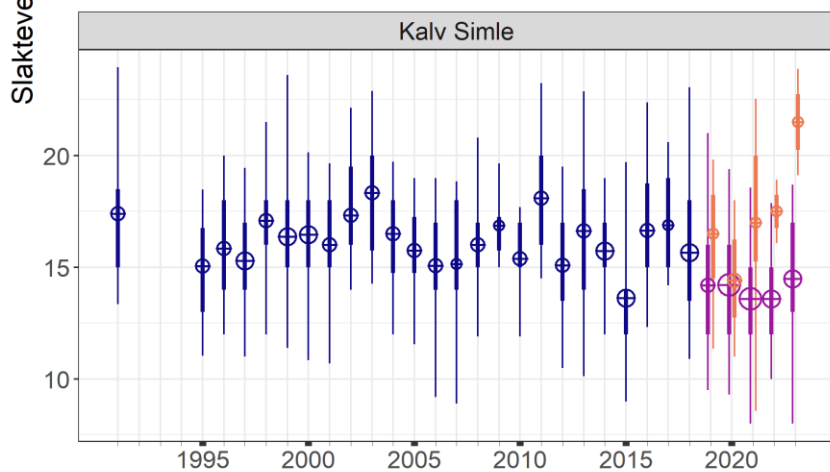
Abstract: Attraction sites are important for environmental pathogen transmission and spillover. Yet, their role in wildlife disease dynamics is often poorly substantiated. Herein, we study the role of salt licks as potential attraction sites for the spillover of gastrointestinal parasites from domestic sheep to wild reindeer. Eggs from the introduced sheep nematode *Nematodirus battus* were found in faecal samples of both species, suggestive of spillover. DNA metabarcoding of soil, collected at salt licks, revealed that *N. battus*, in addition to *Teladorsagia circumcincta*, were the most frequently occurring parasitic nematodes, with a significantly higher prevalence of nematodal DNA in salt lick

Snøhetta – kondisjon kalv



Område

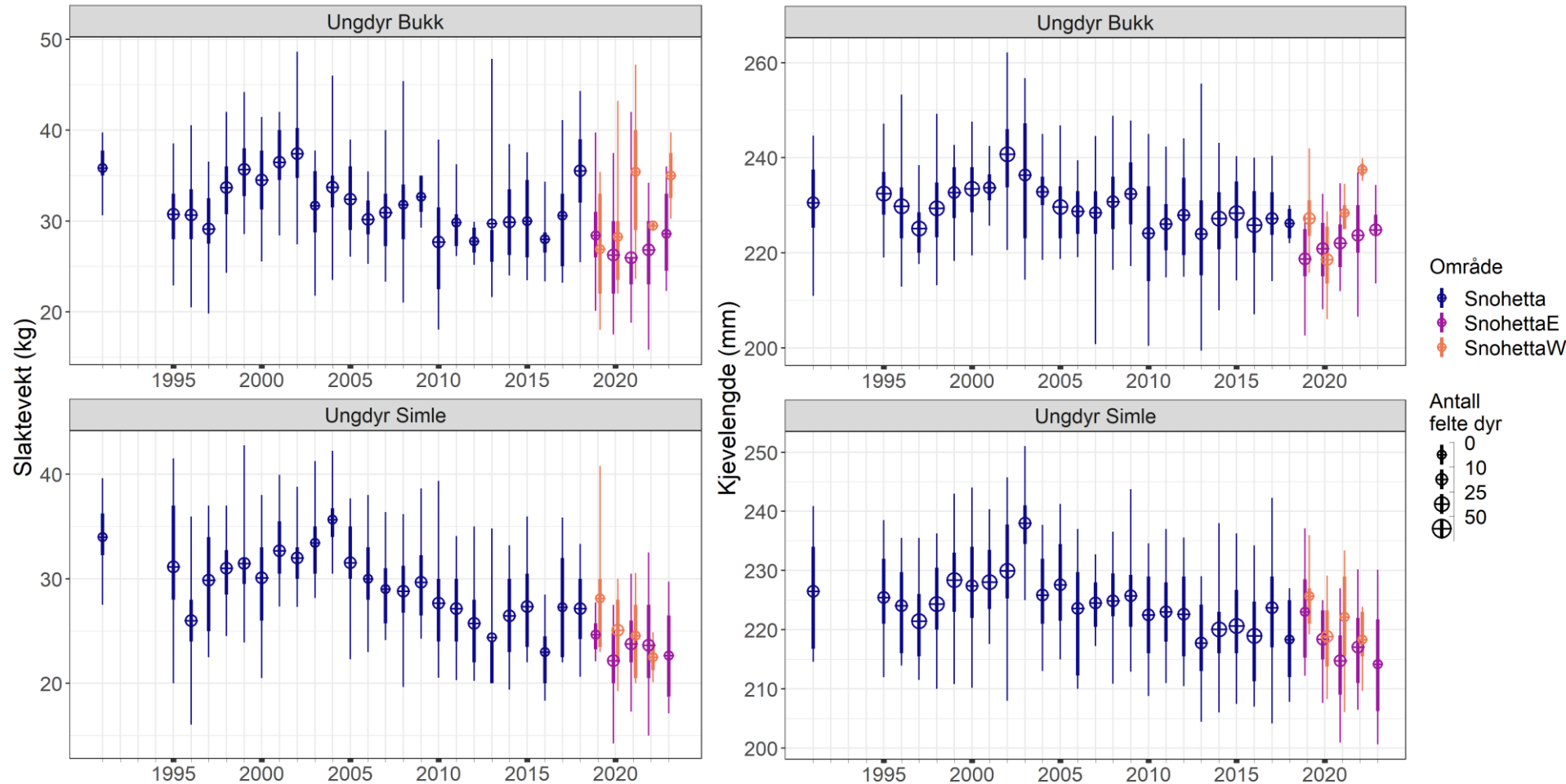
- ◆ Snohetta
- ◆ SnohettaE
- ◆ SnohettaW



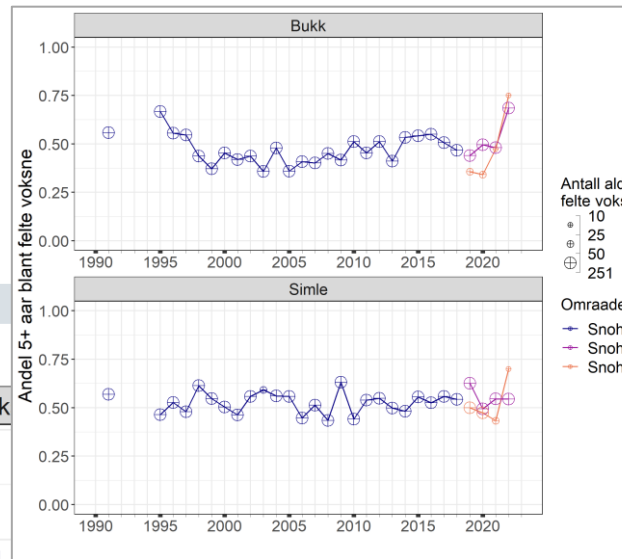
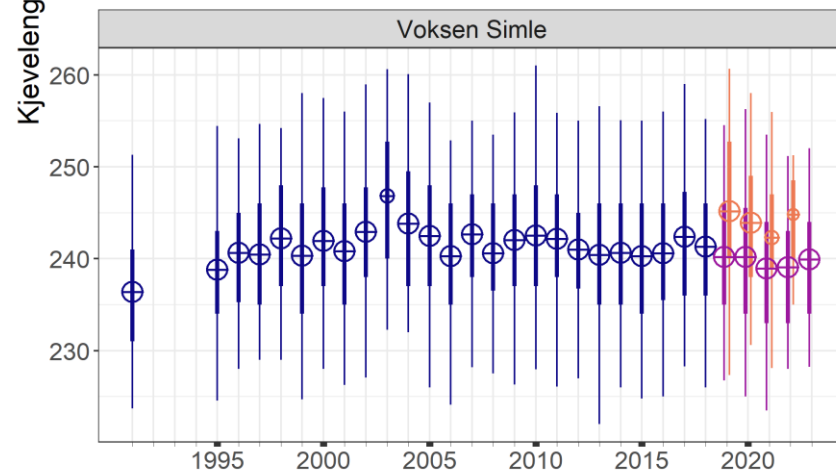
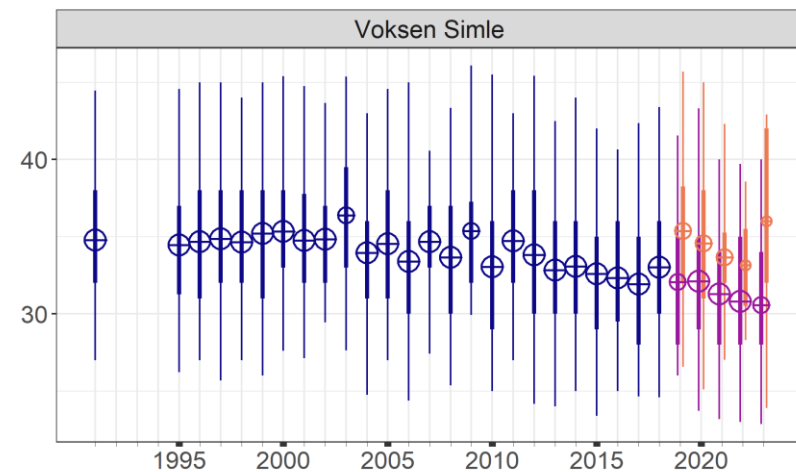
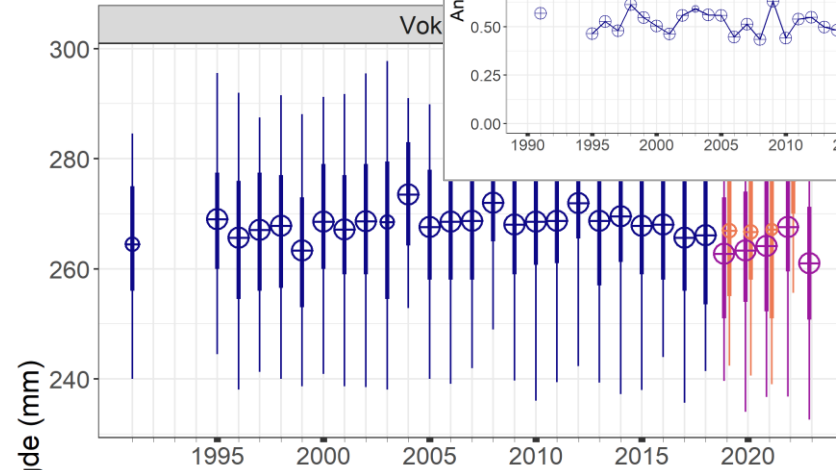
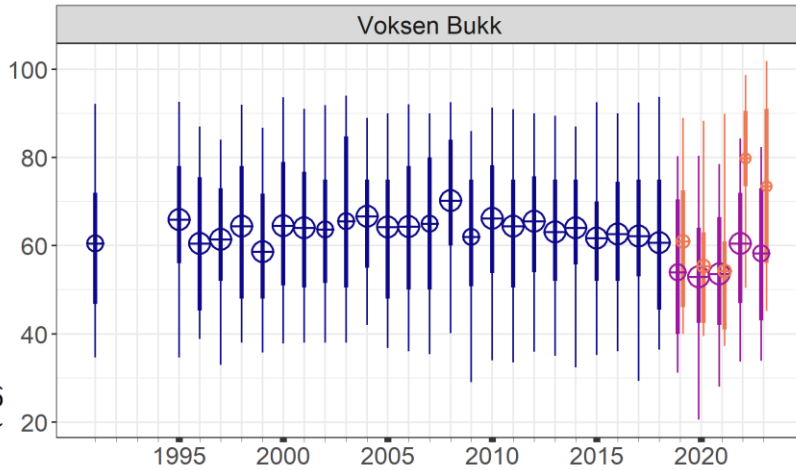
Antall felte dyr

- 0
- 10
- 25
- 50

Snøhetta – kondisjon ungdyr



Snøhetta – kondisjon voksne



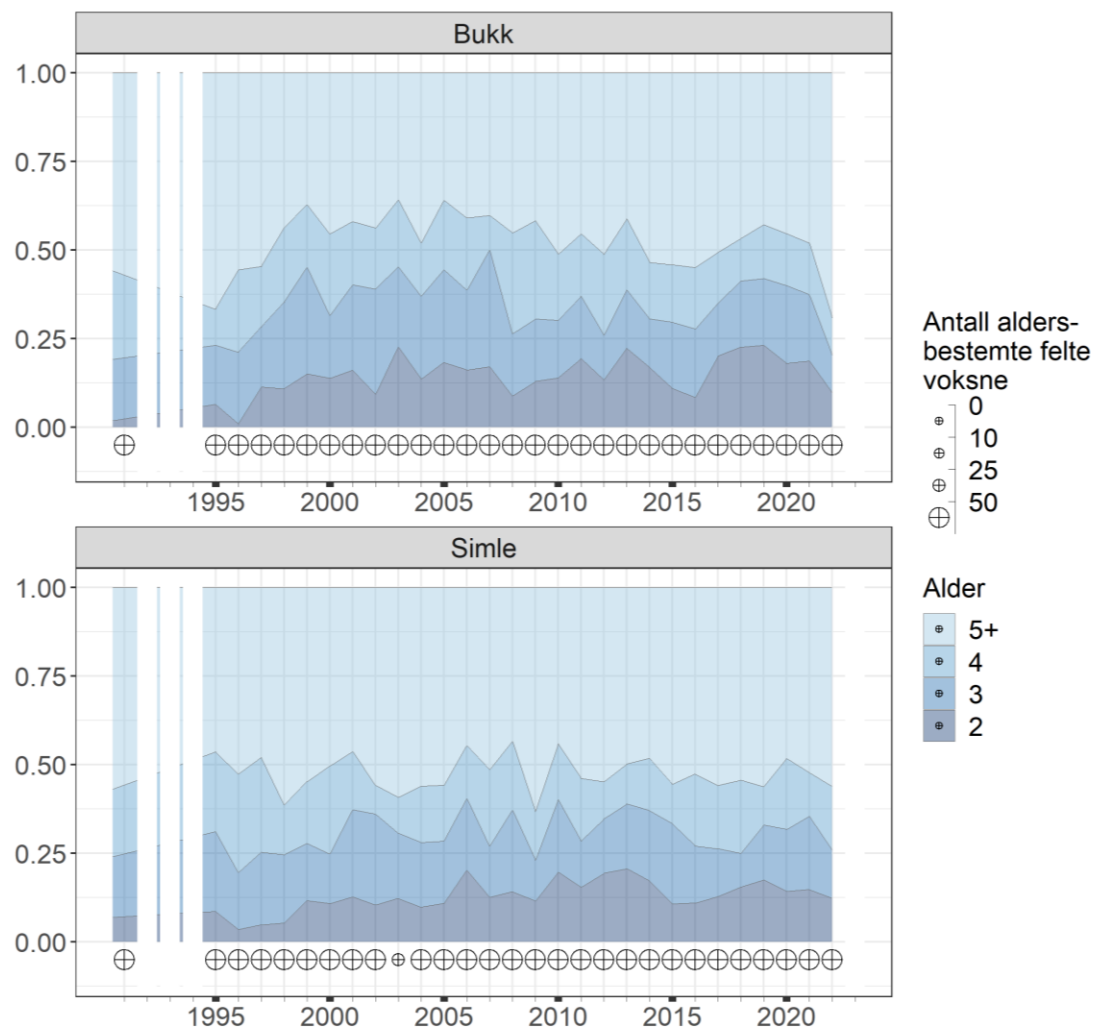
Antall ald fette voks
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 ⊕ 251

Område
 ◆ Snohetta
 ◆ SnohettaE
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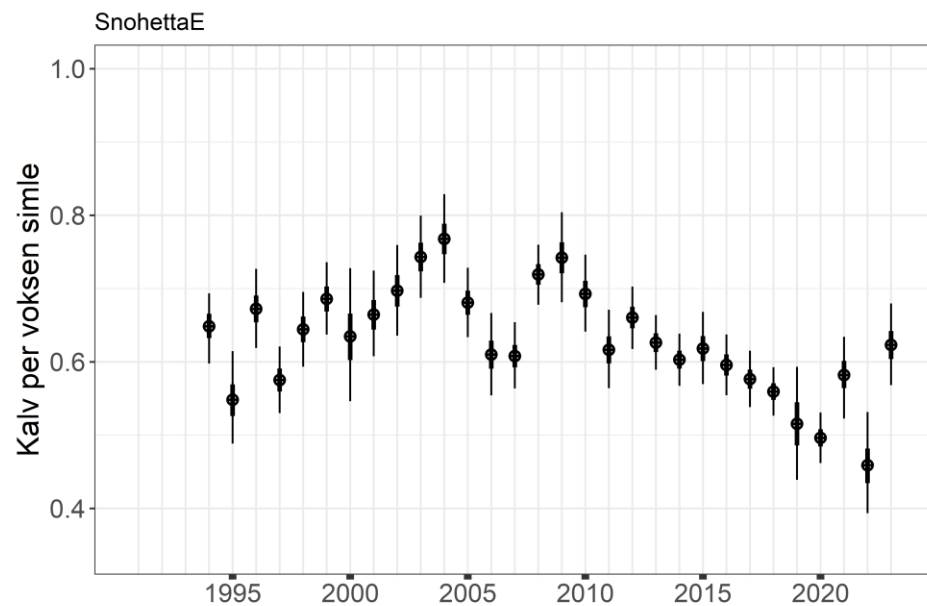
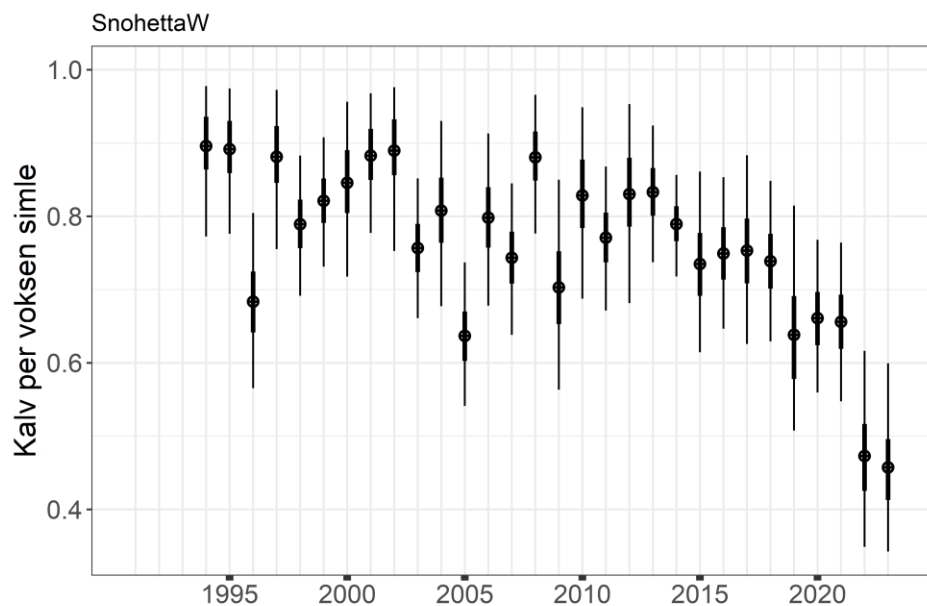
Område
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 ◆ SnohettaE
 ◆ SnohettaW

Antall fette dyr
 ● 0
 ○ 10
 ⊕ 25
 ⊕ 50

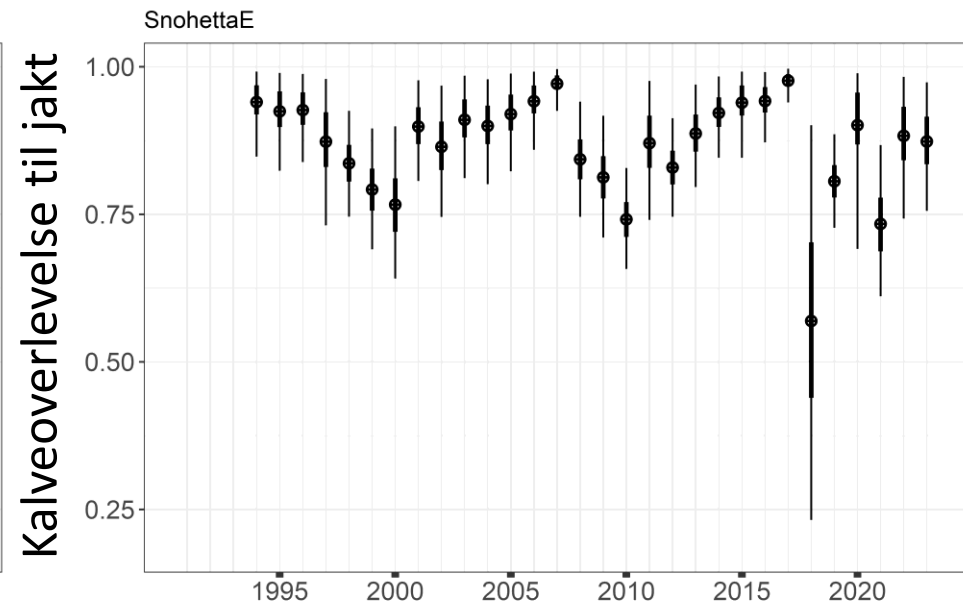
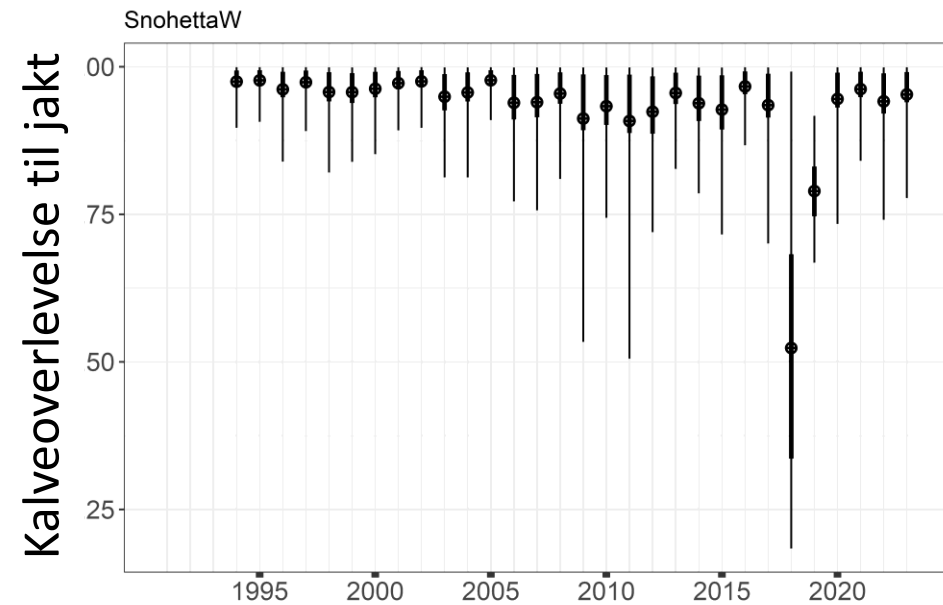
Snøhetta – aldersstruktur felte voksne



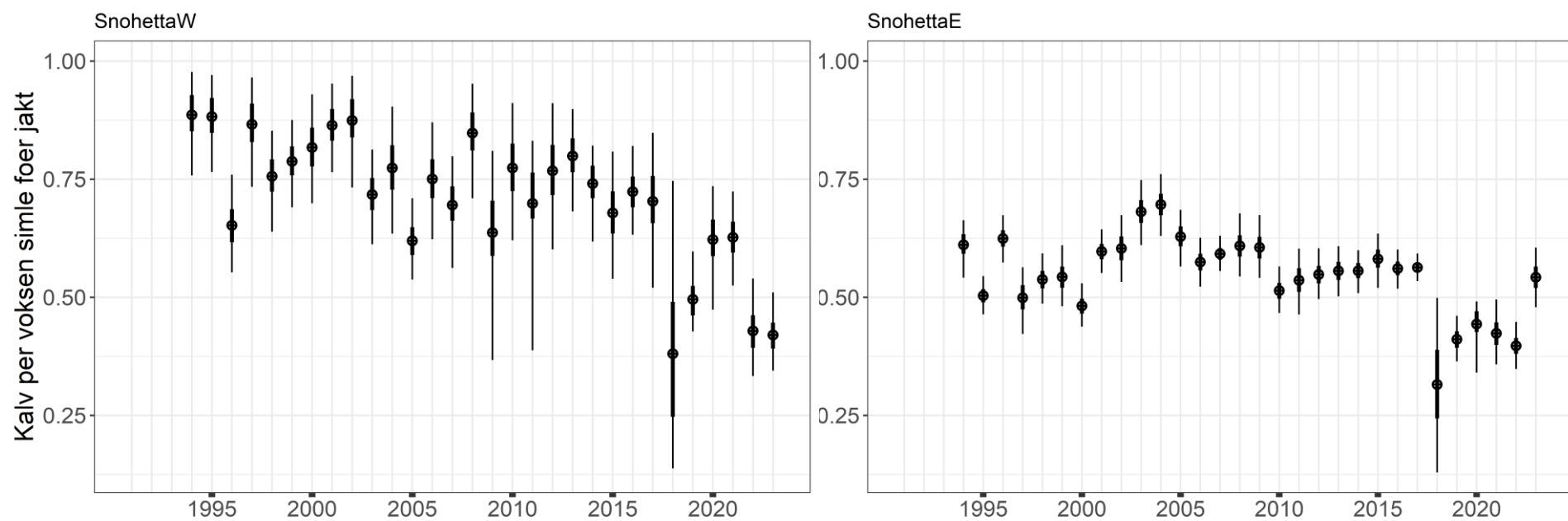
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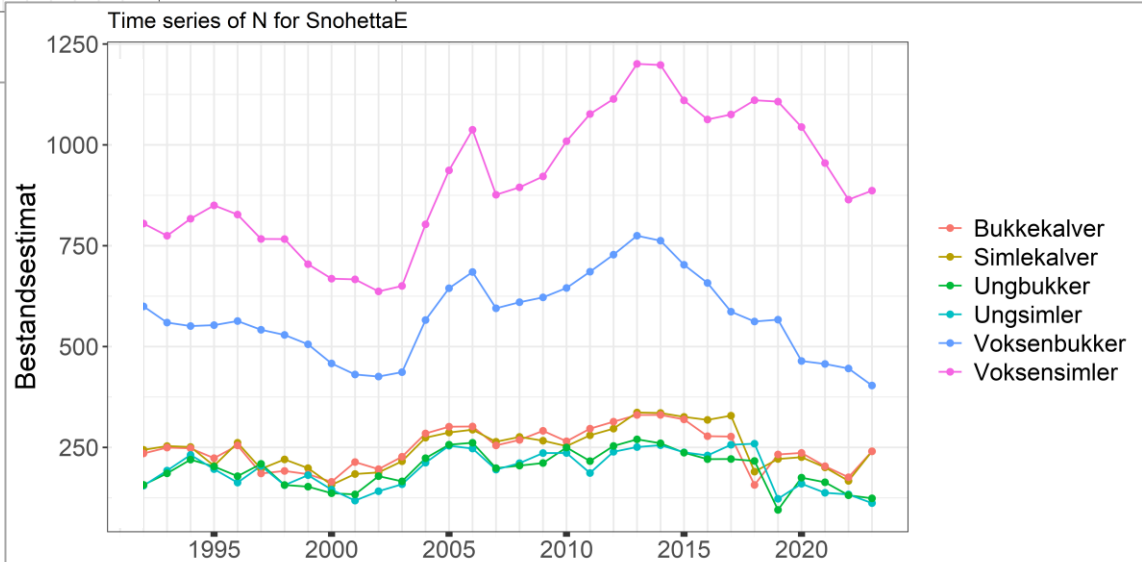
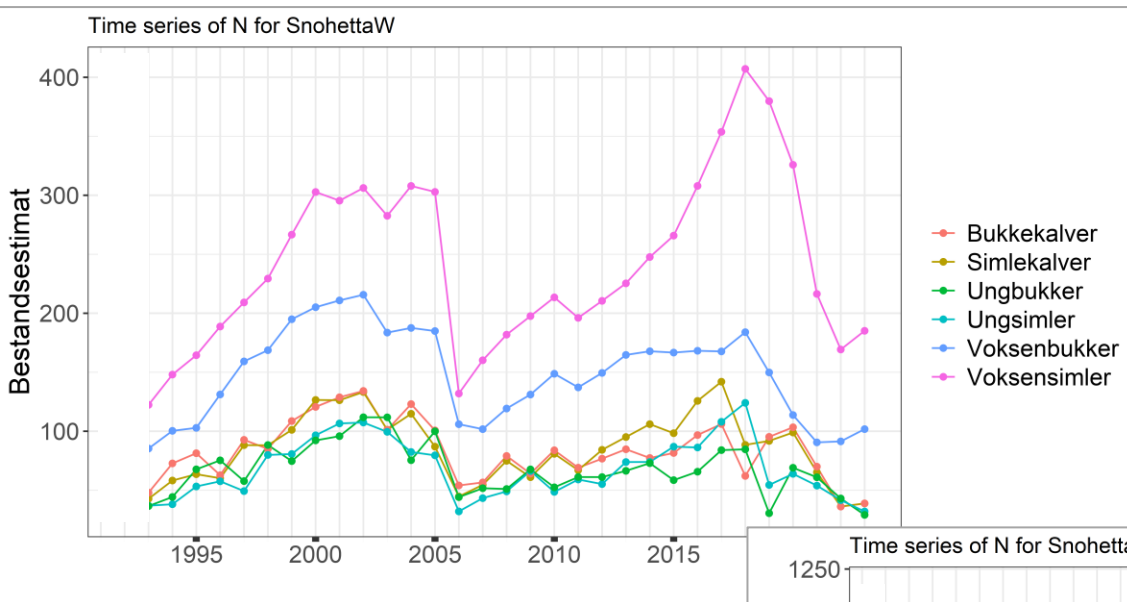
Snøhetta – kalveoverlevelse sommer



Snøhetta – kalv per voksen simle før jakt

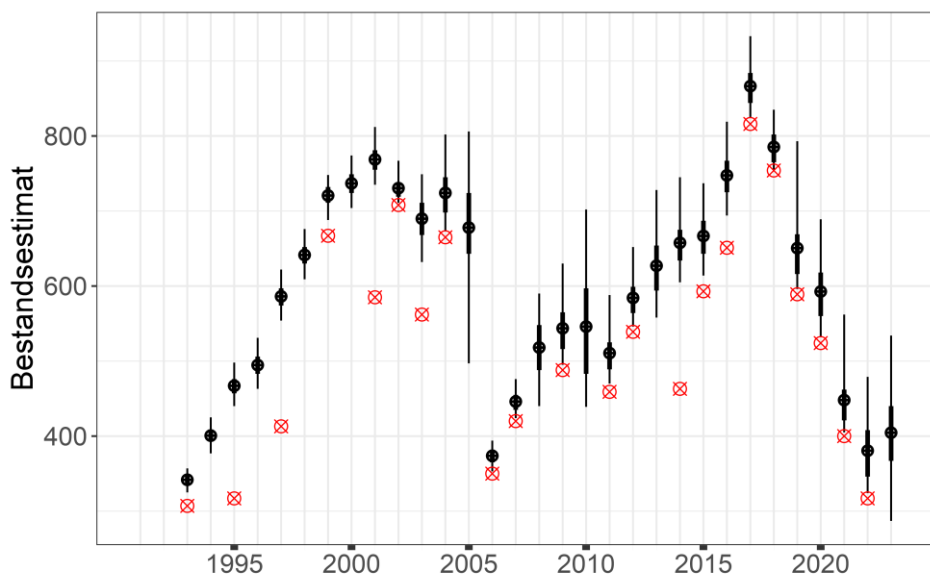


Snøhetta – bestandsstruktur før jakt

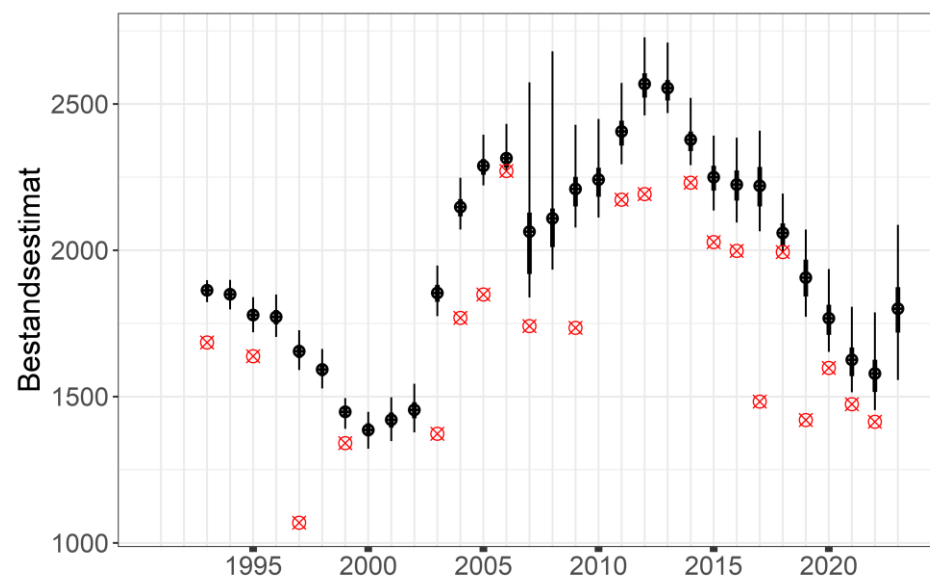


Snøhetta – bestandsstørrelse etter jakt

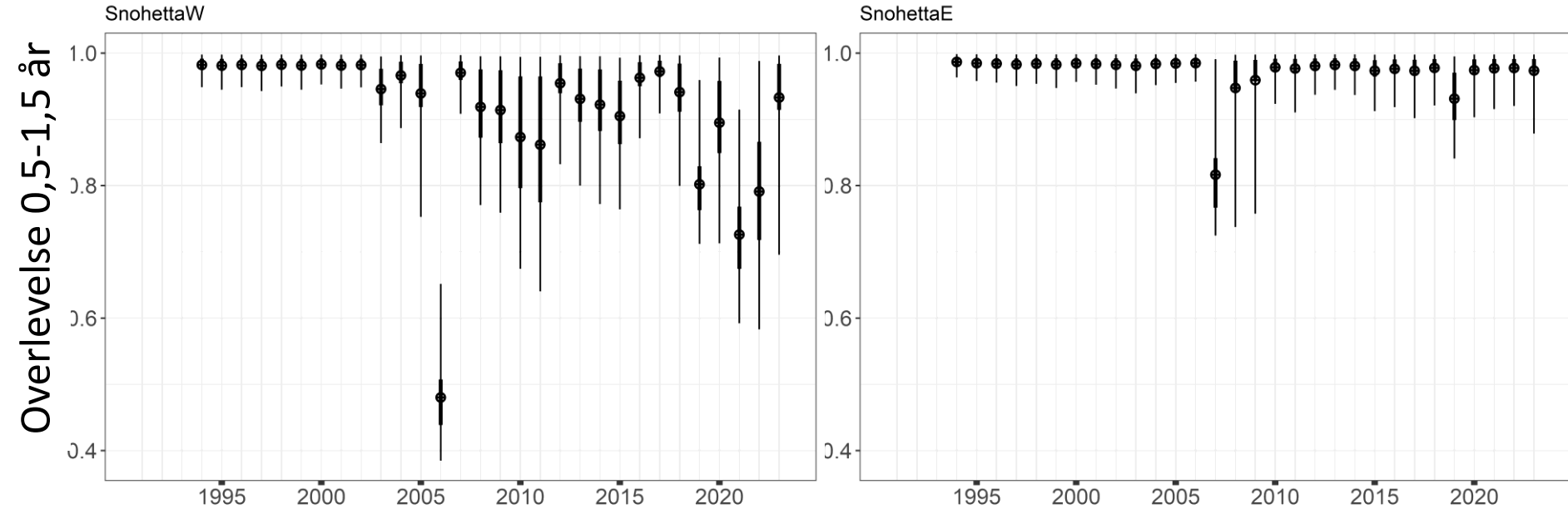
SnohettaW



SnohettaE



Snøhetta – overlevelse til neste jakt



Samarbeid og kunnskap for framtidens miljøløsninger