



Ikke lett å være elg!

Barbara Zimmermann¹, Håkan Sand², Giorgia Ausilio¹, Camilla Wikenros², Ane Eriksen¹, Petter Wabakken¹

¹ Inland Norway University of Applied Sciences

² Swedish University of Agricultural Sciences

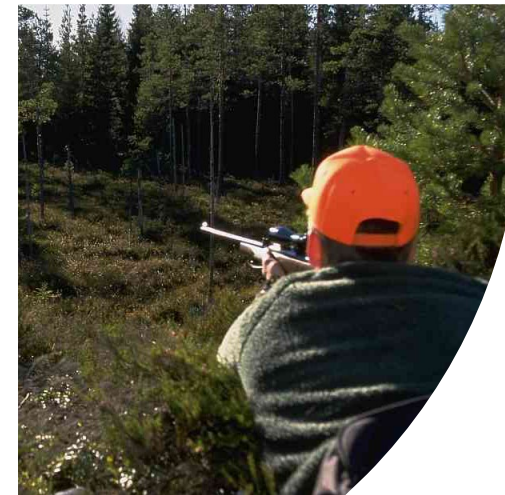
The Scandinavian Wolf Research Project

SKANDULV

Hvor mange elger dør?

Skandinavia:
ca 400'000 elg

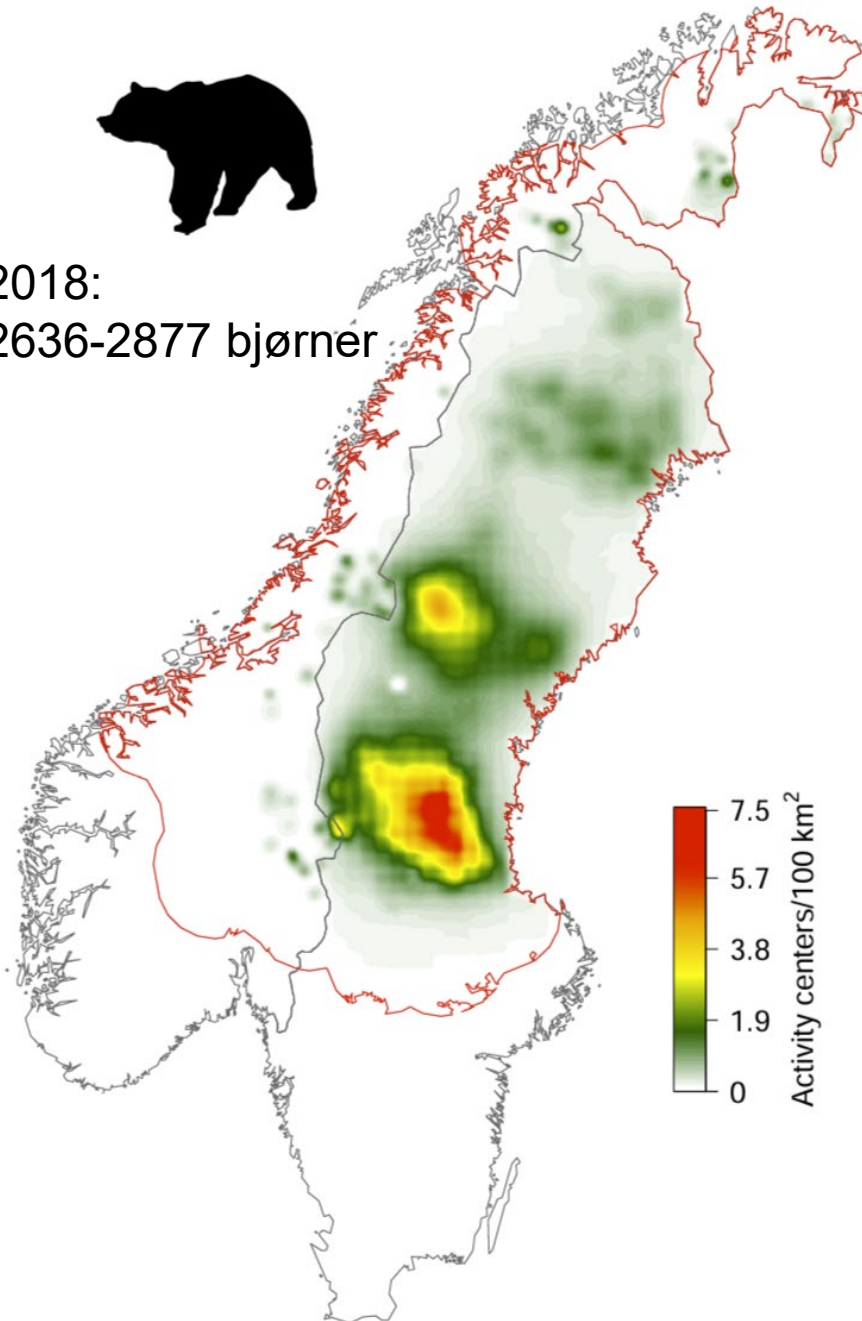
Årlig jaktuttak:
110'000 elg
260'000 jegere



Elgens største dødsårsak
er jakt: ca. 80%



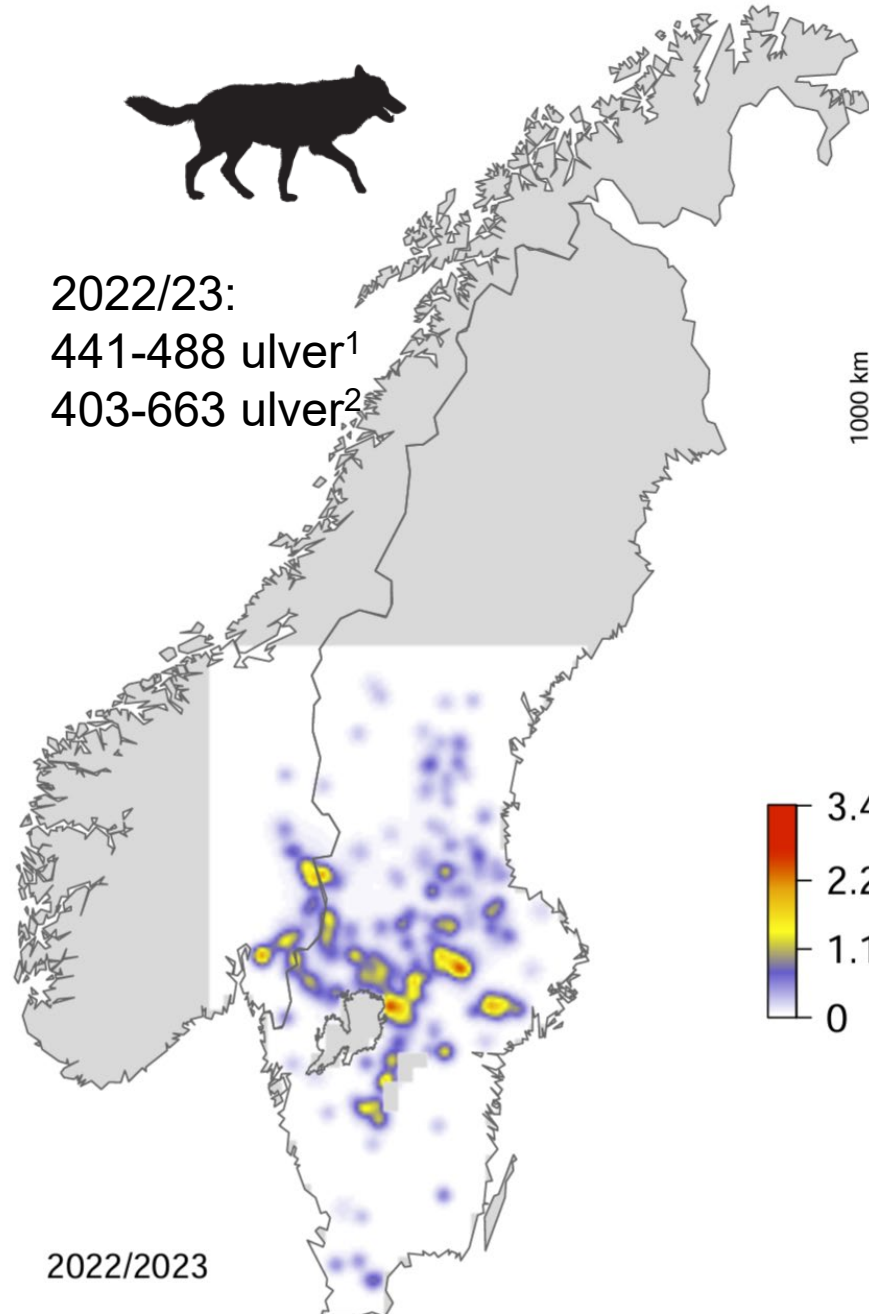
2018:
2636-2877 bjørner



7.5
5.7
3.8
1.9
0
Activity centers/100 km²



2022/23:
441-488 ulver¹
403-663 ulver²



3.4
2.2
1.1
0
Individuals/100 km²

1000 km

2022/2023

Bischof et al. 2019 Rovquant

¹Milleret et al. 2023 Rovquant, ²Svensson et al. 2023

Hvor mange elger dør i ulverevir?

20 ulverevir 2002 – 2022:

- Jaktuttak
- Ulvens uttak
- Bjørnens uttak
- Trafikkdøde elger
- Estimat på annen dødelighet

Revirstørrelse:
gj. 1028 km²
min – maks 420 – 1823 km²



Jaktuttak

Jaktstatistikk fra Sverige og Norge

Elg felt per ulverevir/år
gj. 276
min-maks 78 – 921

Elg felt per **km²**/ulverevir/år
gj. 0.27
min-maks 0.11 – 0.83



Giorgia Ausilio

Ulvens uttak av elg

Predasjonsstudier på GPS-merkede ulver



Ulvens uttak av elg (elg per ulverevir)

Sommer
juni-sept



Vinter
okt-mai



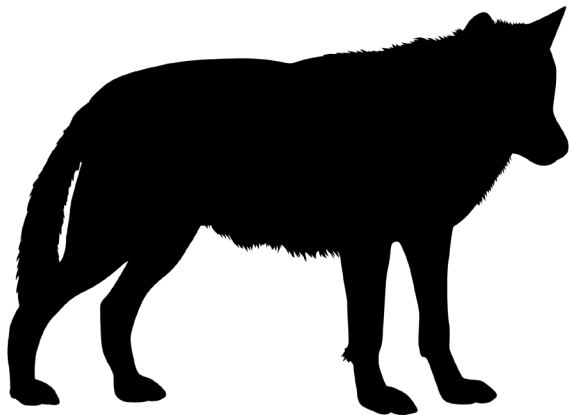
Hele året

Ulvetatt elg/revir
gj. 51
min-maks 39 - 76

Ulvetatt elg/revir
gj. 48
min-maks 21 - 92

Ulvetatt elg/revir
gj. 99
min-maks 65 - 143

Ulvetatt elg/km²/revir
gj. 0.12
min-maks 0.05 – 0.31



Bjørnens uttak av elg



Tre drapsrateberegninger (elg/voksen bjørn/år):

- Swenson et al. 2007: gjennomsnitt 6.8, 90% kalver < 4 uker gammel
- Rauset et al. 2012: gjennomsnitt 7.6, min-maks 2 - 15
- Ordiz et al. 2020: gjennomsnitt 4.25 i område med ulv, min-maks 0-10



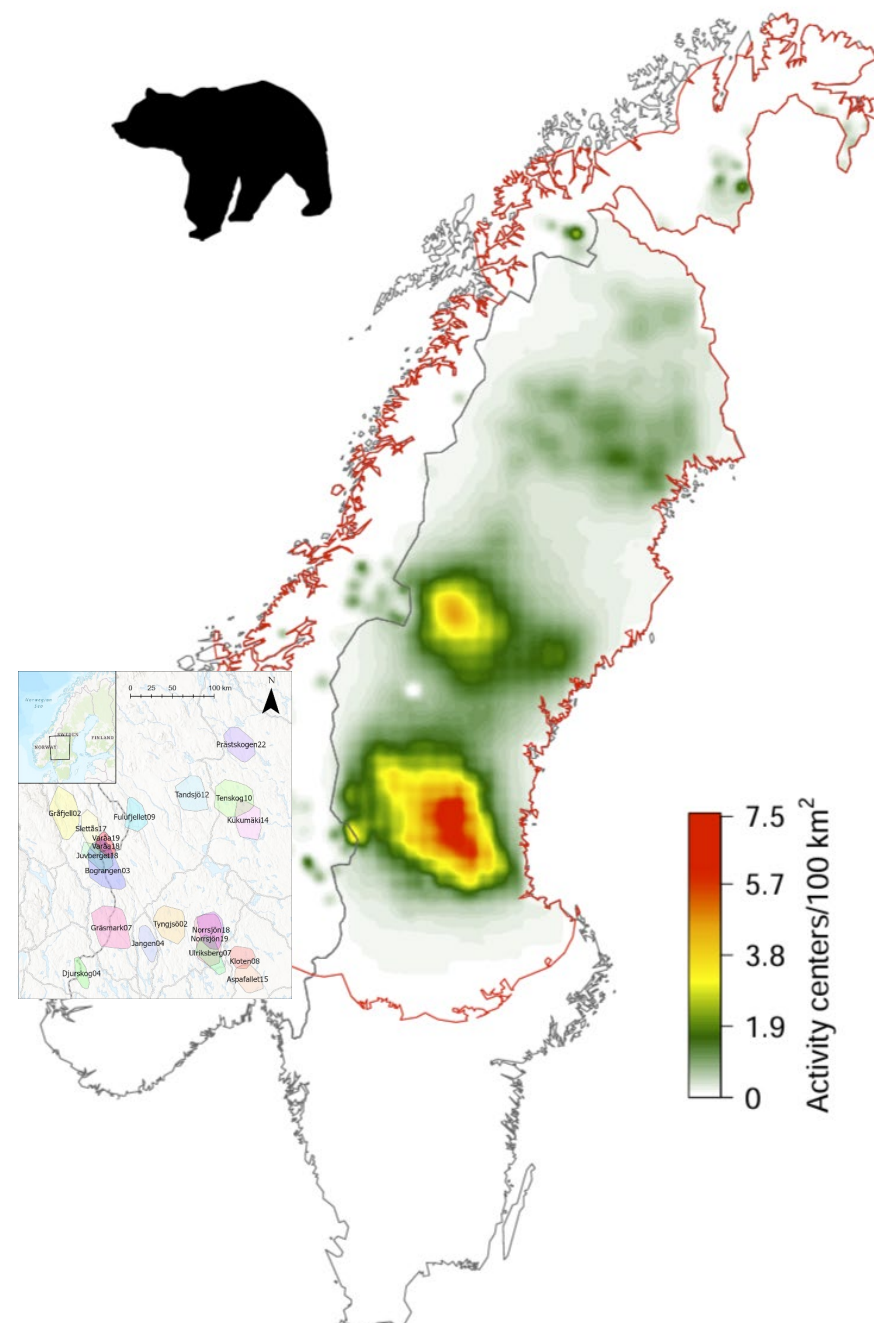
5 elg per voksen bjørn

Bjørnens uttak av elg per ulverevir

Tetthet av bjørn fra Rovquant-beregninger og jaktstatistikk -> antall bjørn per revir
Antakelse at 60% av bjørnene er voksne
5 elg per voksen bjørn

Bjørnetatt elg per ulverevir/år
gj. 34
min-maks 0 – 203

Bjørnetatt elg per km^2 /ulverevir/år
gj. 0.03
min-maks 0.00 – 0.14



Bischof et al. 2019 Rovquant

Trafikk, sykdommer, ulykker

Påkørselsstatistikk

Annen dødelighet omtrent tilsvarende høy som dødelighet fra trafikk – kompensatorisk dødelighet

Trafikkdrept elg per ulverevir/år
gj. 8.6
min-maks 1 – 22

Annen død. elg per ulverevir/år
gj. 7.9
min-maks 0.9 – 20.2

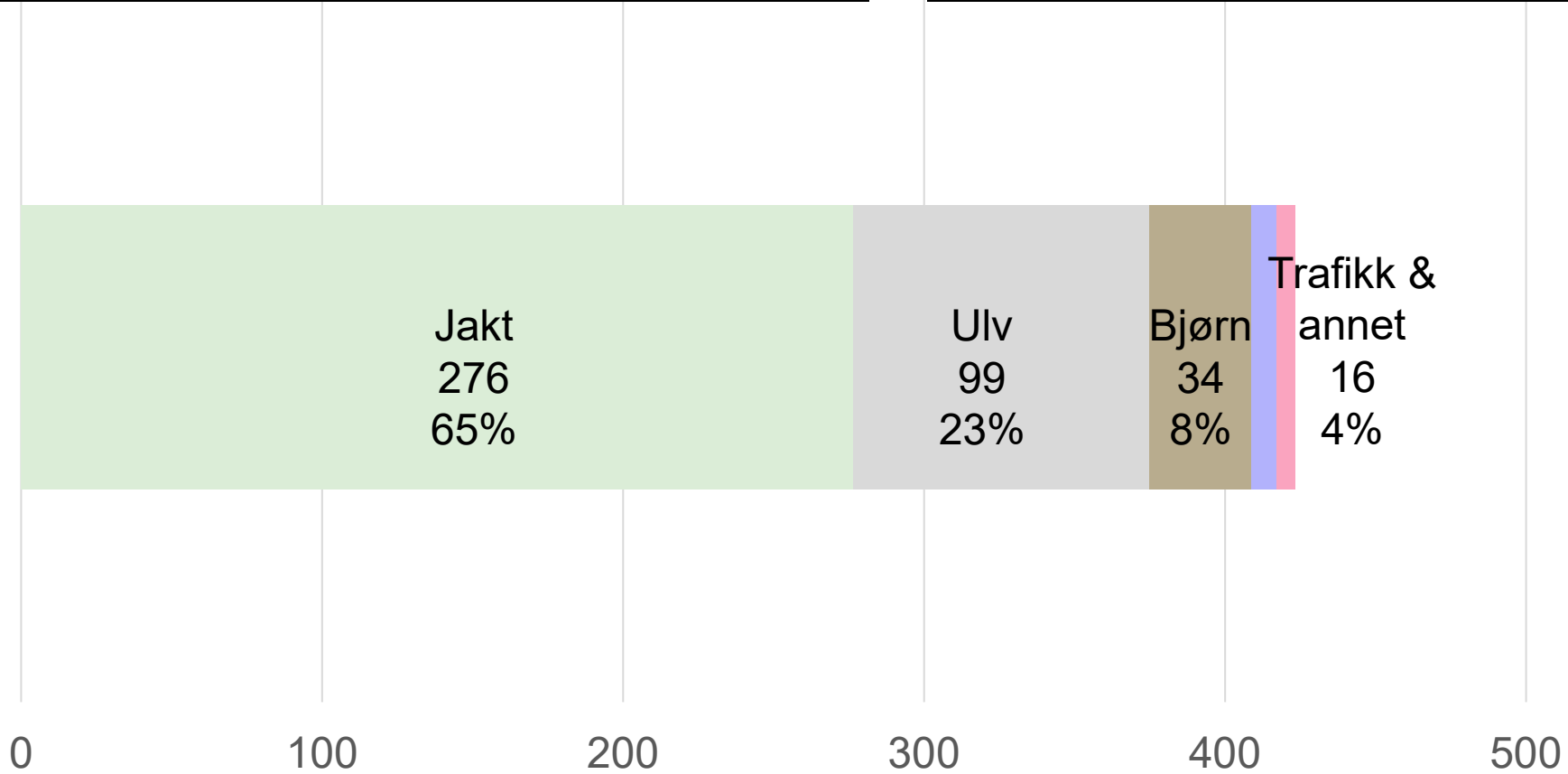
Trafikkdrept elg per **km²**/ulverevir/år
gj. 0.008
min-maks 0.002 – 0.022

Annen død. elg per **km²**/ulverevir/år
gj. 0.008
min-maks 0.001 – 0.020

Total dødelighet per ulverevir?

Dødelighet elg per ulverevir/år
gj. 425
min-maks 179 – 1090

Dødelighet elg per km²/ulverevir/år
gj. 0.43
min-maks 0.28 – 0.99



Hva betyr denne dødeligheten for elgbestanden?

Jon Martin Arnemo

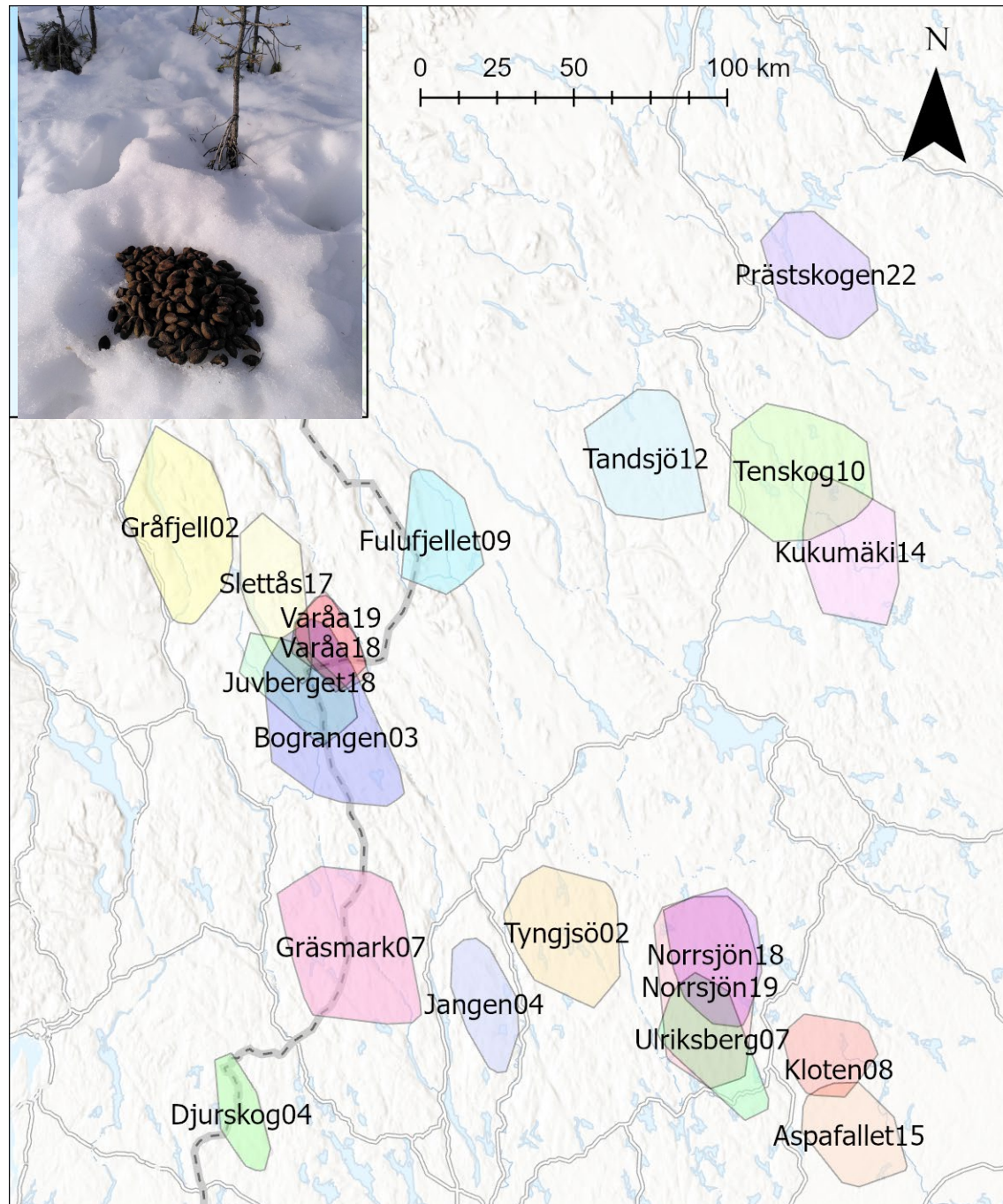
Hvor mye elg finnes i ulverevirene?

ElgmøkkteLLinger

Beregnet antall elg 1. juni (etter kalving)

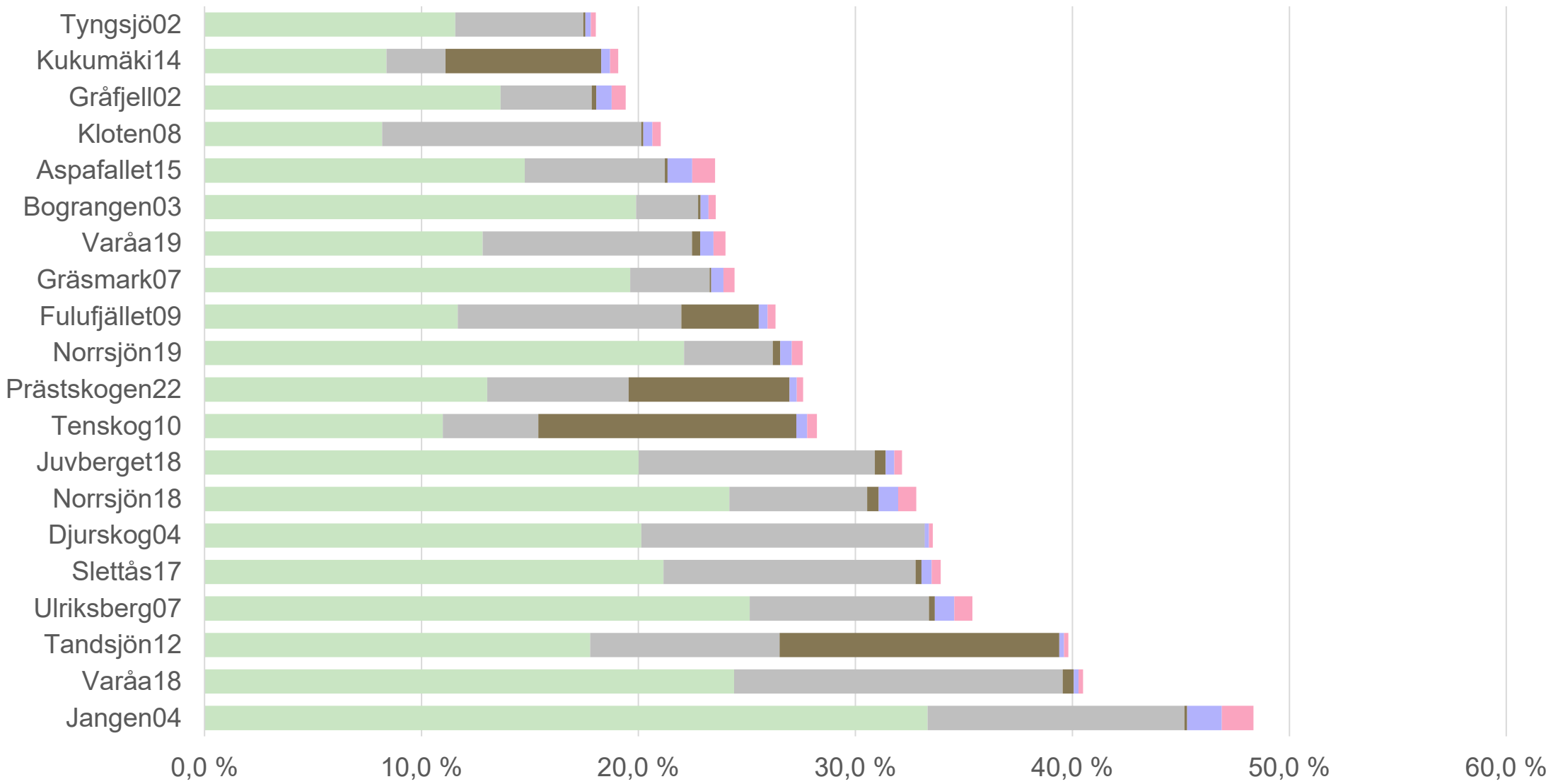
Antall elg per ulverevir
gj. 1616
min-maks 442 – 4627

Elg per km²/ulverevir
gj. 1.57
min-maks 0.74 – 4.20



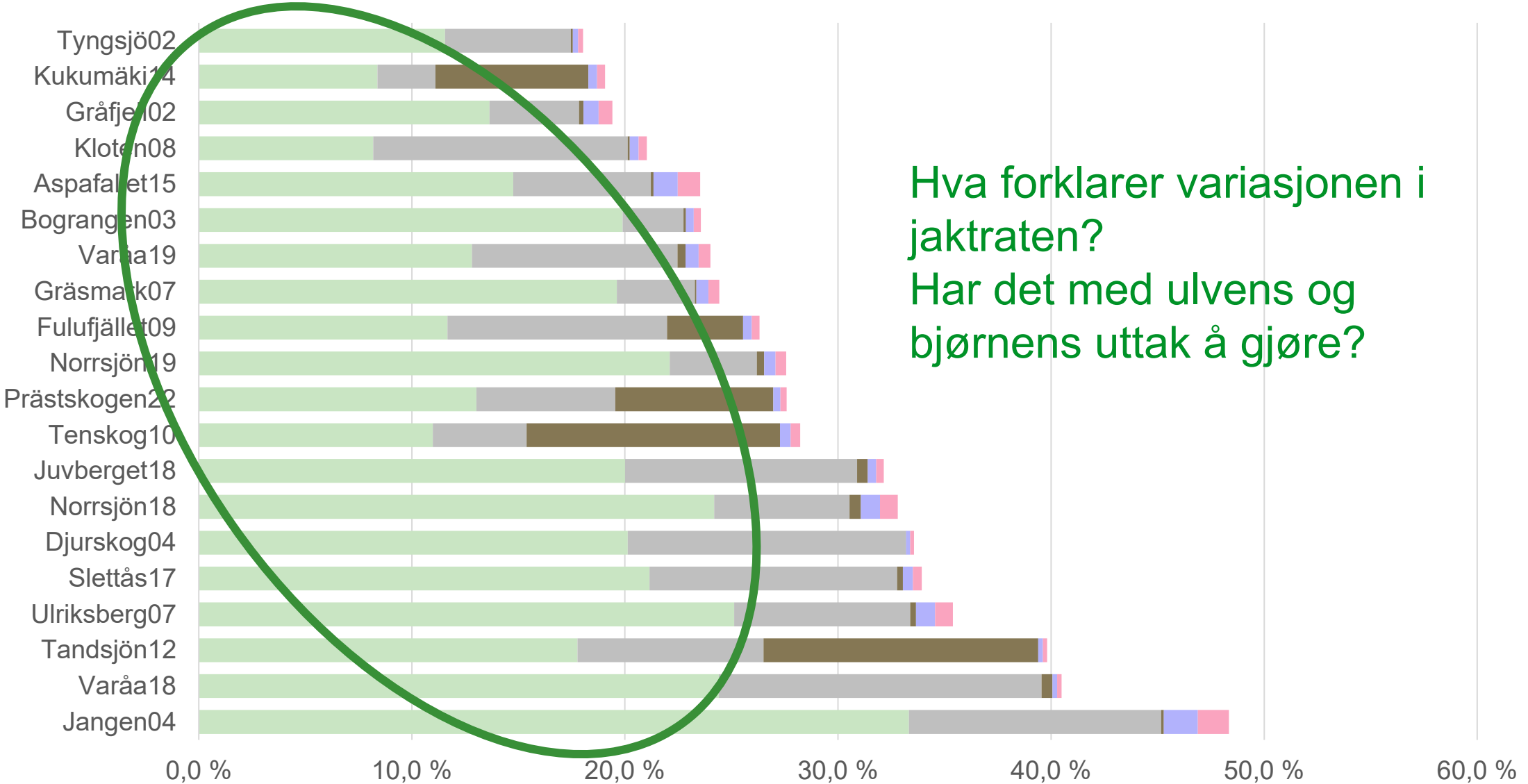
Jakt + **Ulvens uttak** + **Bjørnens uttak** + **trafikk** + **sykdom** = årlig dødelighet

17.6% ± 2.9% 7.9% ± 1.7% 2.3% ± 1.8% 1.1% ± 0.2% 29.0% ± 3.6%

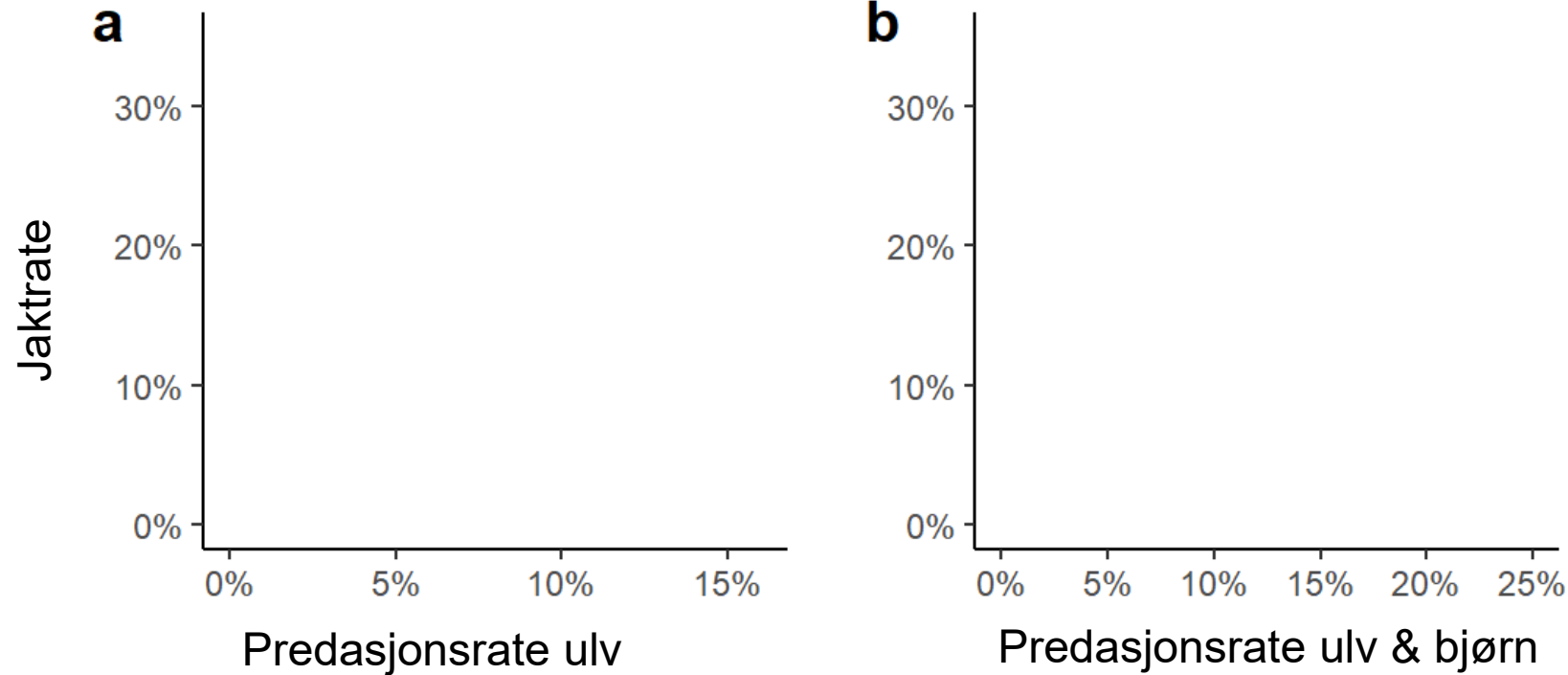


Jakt + **Ulvens uttak** + **Bjørnens uttak** + **trafikk** + **sykdom** = årlig dødelighet

17.6% ± 2.9% 7.9% ± 1.7% 2.3% ± 1.8% 1.1% ± 0.2% 29.0% ± 3.6%



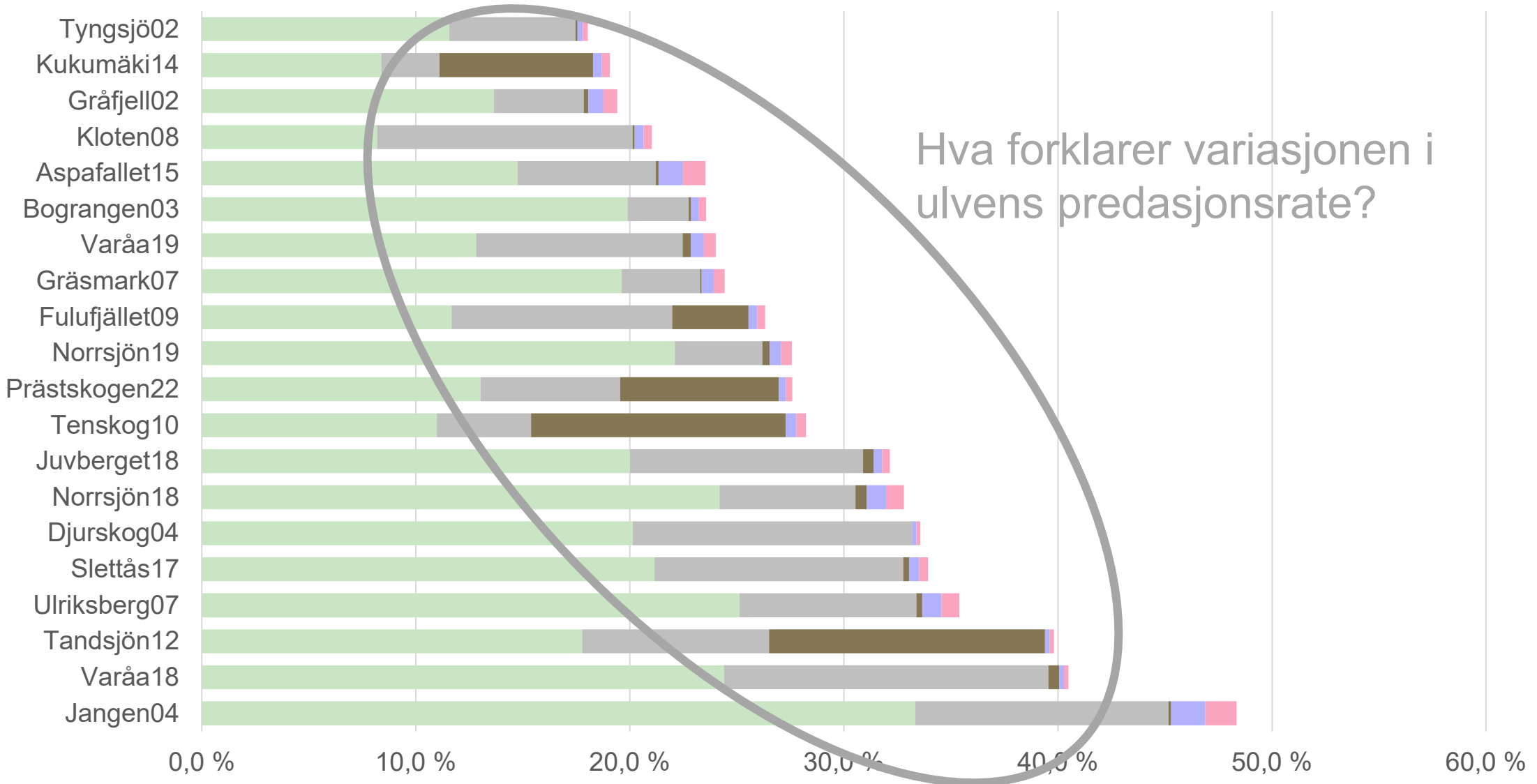
Hva forklarer variasjonen i jaktraten?



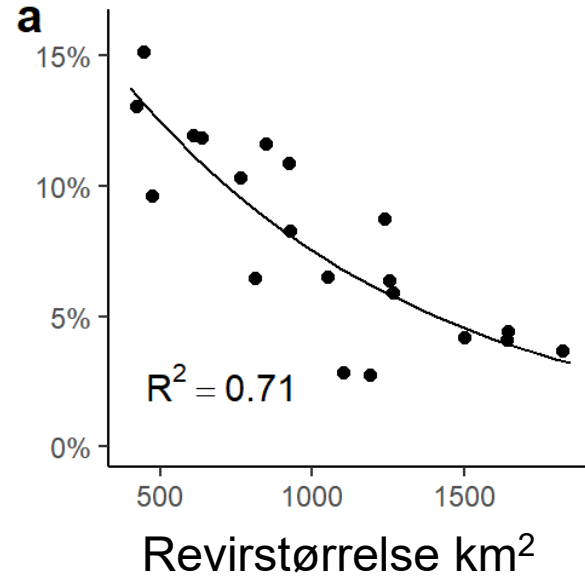
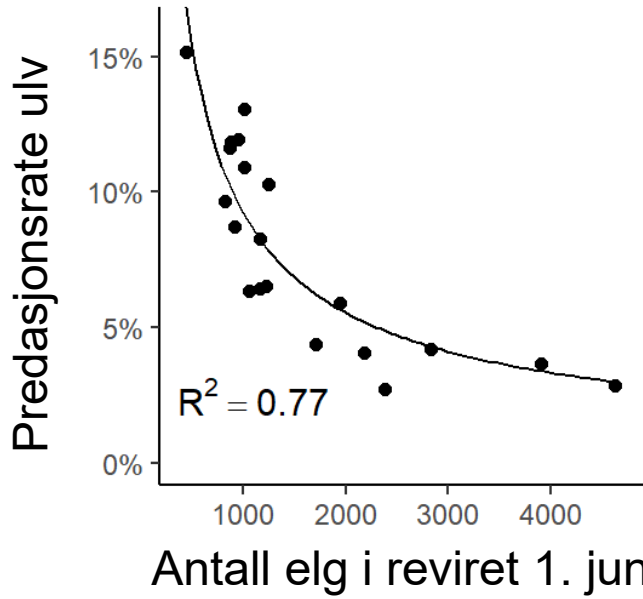
Ingen sammenheng mellom jaktrate og predasjonsrate!
Regulering av elgbestanden, hensyn til skogbruk

Jakt + **Ulvens uttak** + **Bjørnens uttak** + **trafikk** + **sykdom** = årlig dødelighet

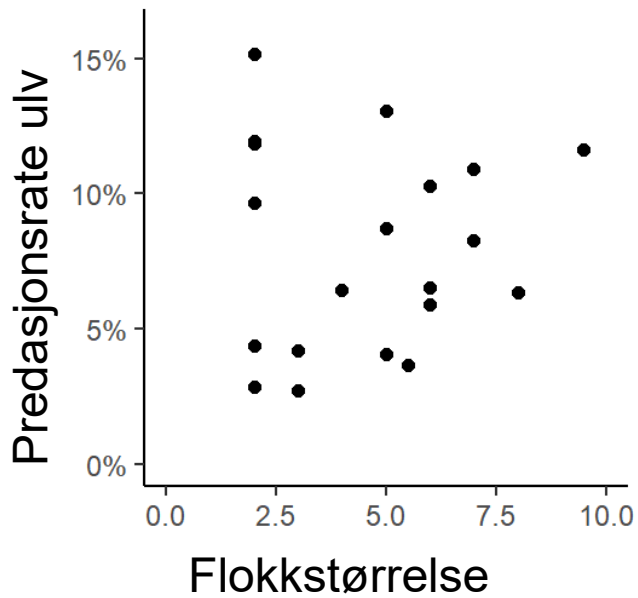
17.6% ± 2.9% 7.9% ± 1.7% 2.3% ± 1.8% 1.1% ± 0.2% 29.0% ± 3.6%



Hva forklarer variasjonen i ulvens predasjonsrate?



Elgtetthet 1. juni elg/km²



Kamera ved ulvedrept elg:
Bjørn stjal fra litt over halvparten av
kadavrene!



Kamera ved bjørnedrept elg: 0 ulv!

Fra: Ordiz et al. 2020 Diversity

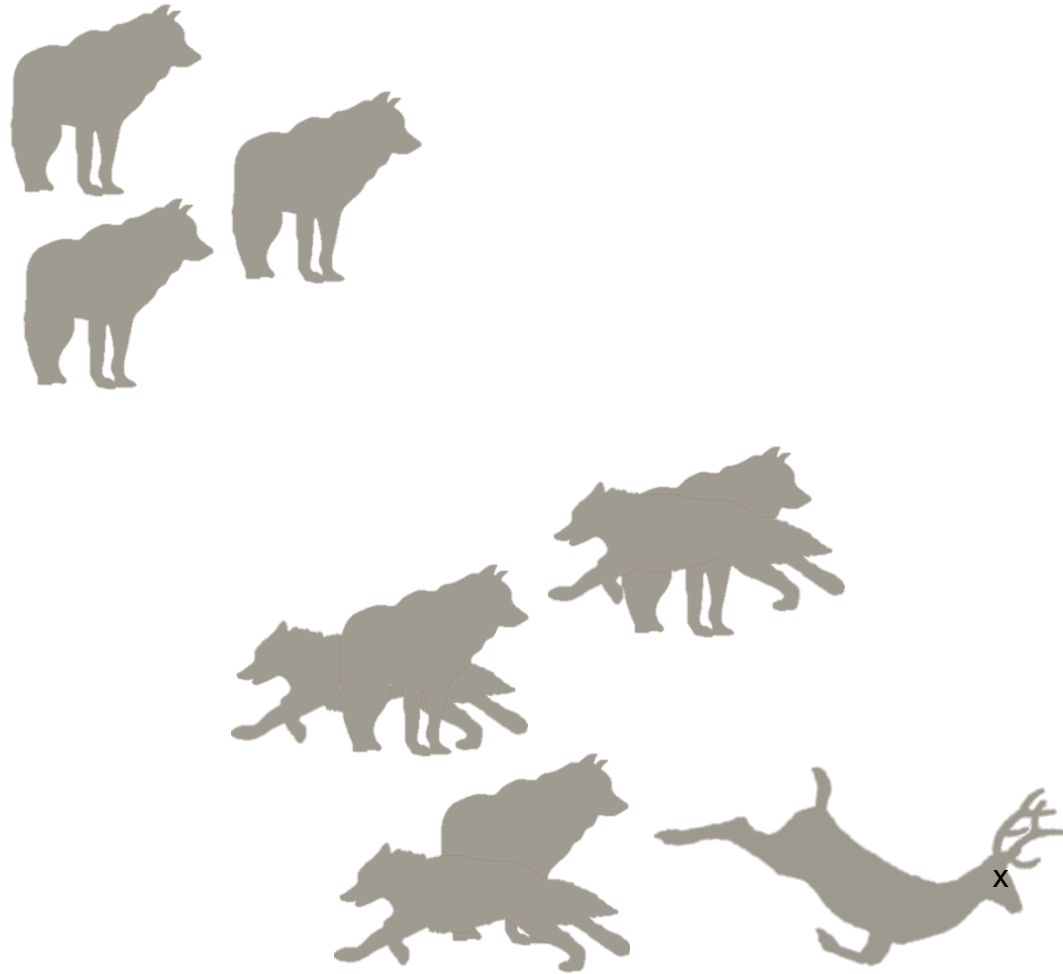
Må ulven øke drapstakten i områder med mye bjørn?



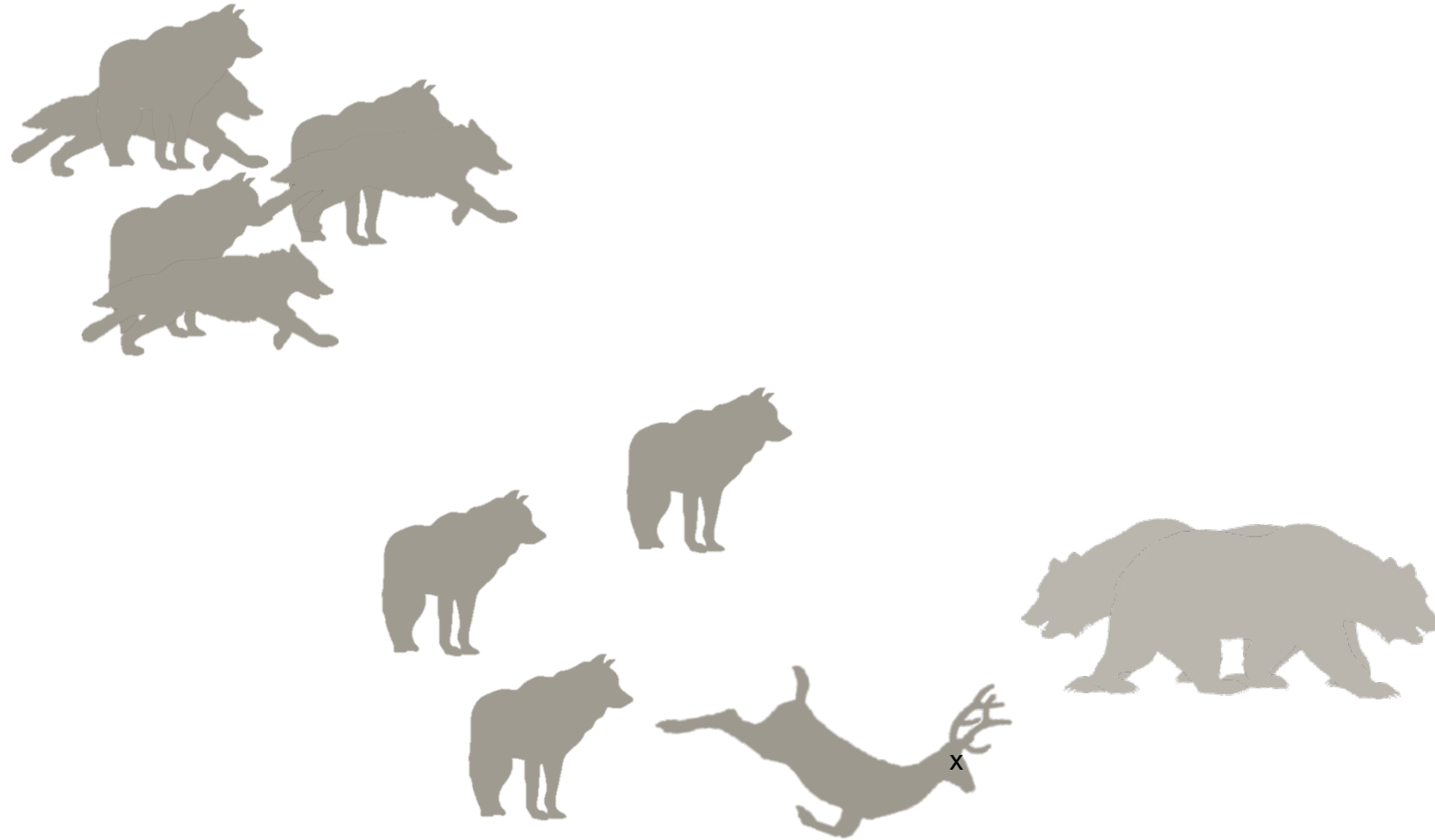
Ulven dreper mindre elg i områder med mye bjørn!

Fra:
Tallian et al. 2017 ProcRSB
Tallian et al. 2022 Ecol Monographs

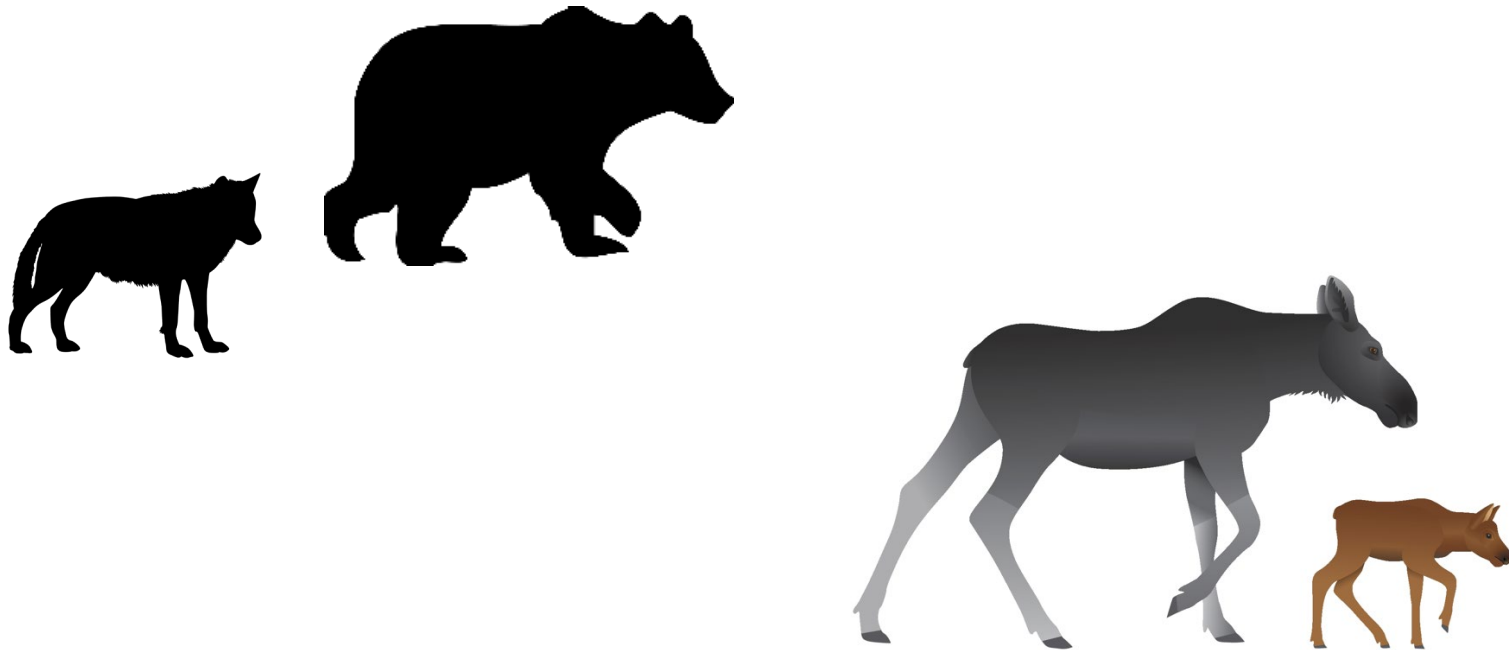
Vår: interferenskonkurranse



Vår: interferenskonkurransen



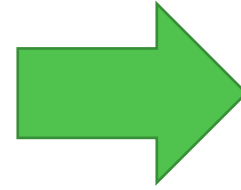
Kalvingstida: ressurskonkurransen



Konklusjon:

Av elgens sommerbestand i områder med ulv og bjørn dør årlig i snitt

- 18% på grunn av jakt
- 10% på grunn av rovdyr
- 1% på grunn av trafikk og sykdom/ulykker



29% dør

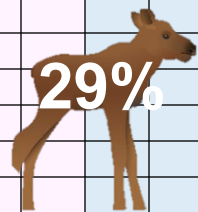
Men:

Jegere og rovdyr jakter ulikt!

Hva betyr det for elgbestanden?

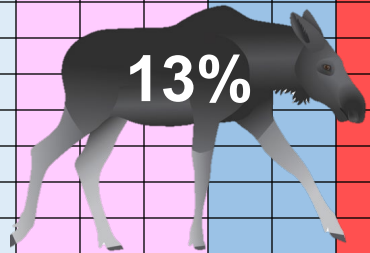
Vi begynner 1. juni:

233



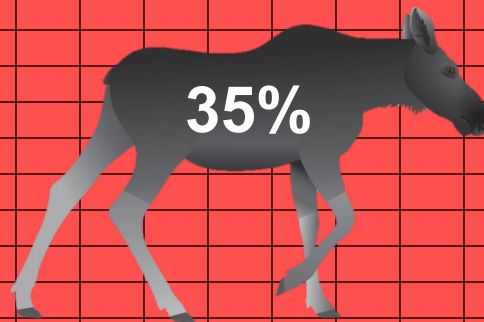
29%

233



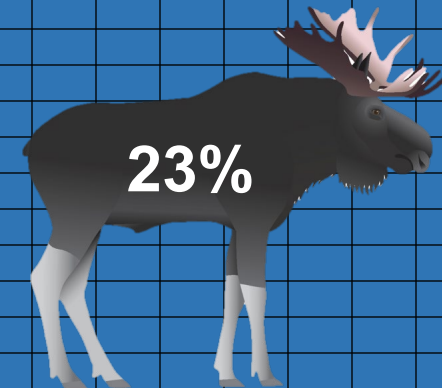
13%

107 107



35%

560



23%

360

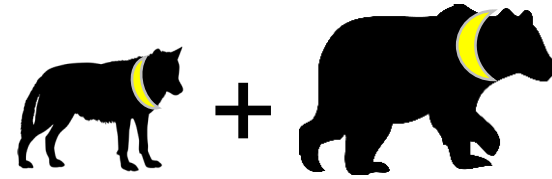
**Antall elg i et gjennomsnittlig
ulverevir per 1. juni**

1600



Giorgia Ausilio

Sommer (juni – september)



Predasjonsrate 6%

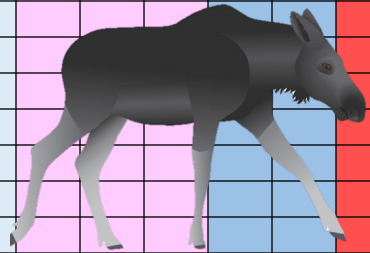
90% av drept elg er nyfødte elgkalver



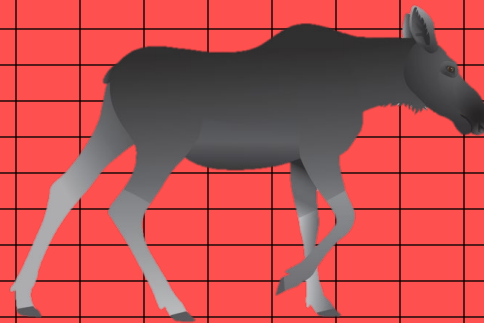
233



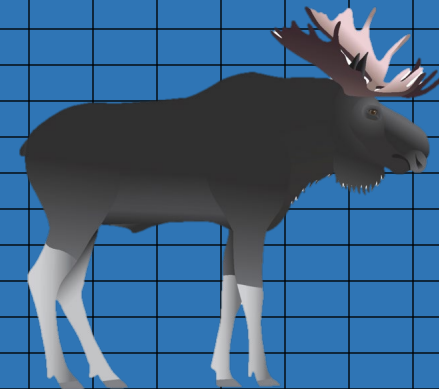
233



107 107

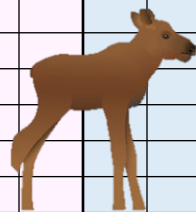


560



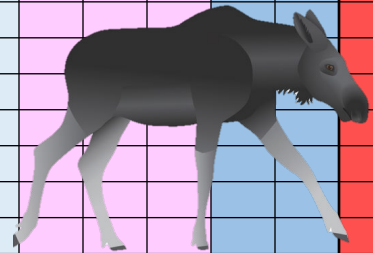
360

1600

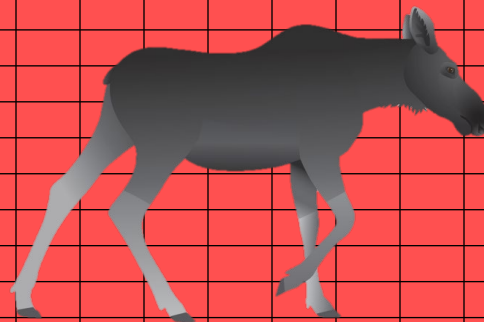


187

187



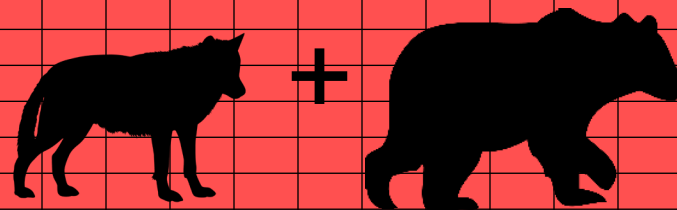
103 103



558



360



juni - september

1498

94%

Hvor mange
kalver overlever
til slutten av
september?



Ca 80%



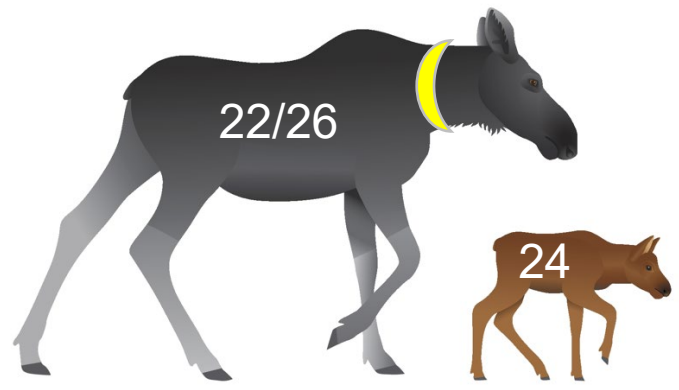
2021-06-07 11:29:32
4121221975-66131351



Juni

September

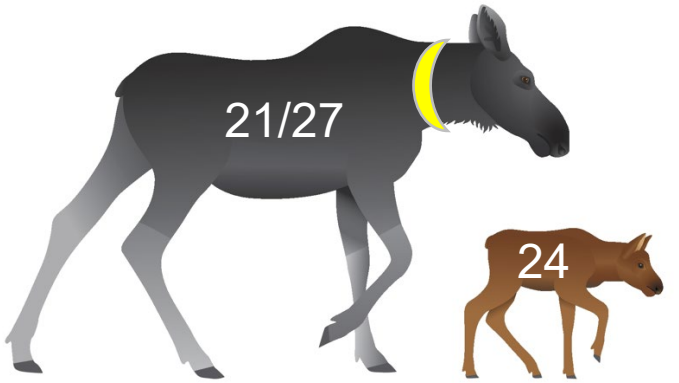
2019



92%
→



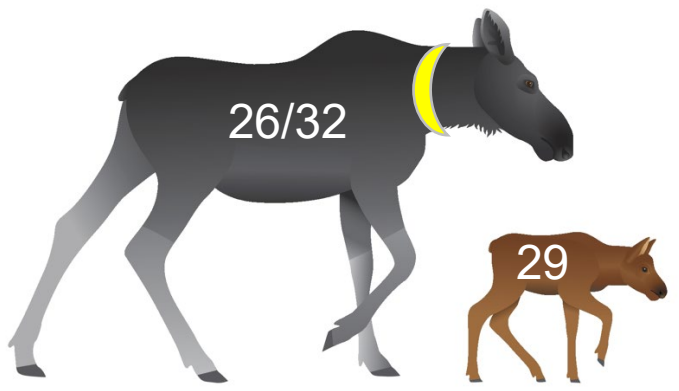
2020



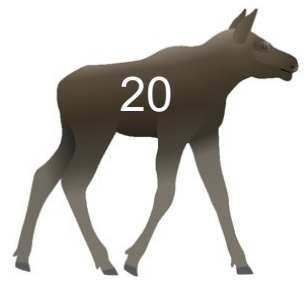
58%
→



2021



69%
→



Hvor var det lavest
overlevelse?



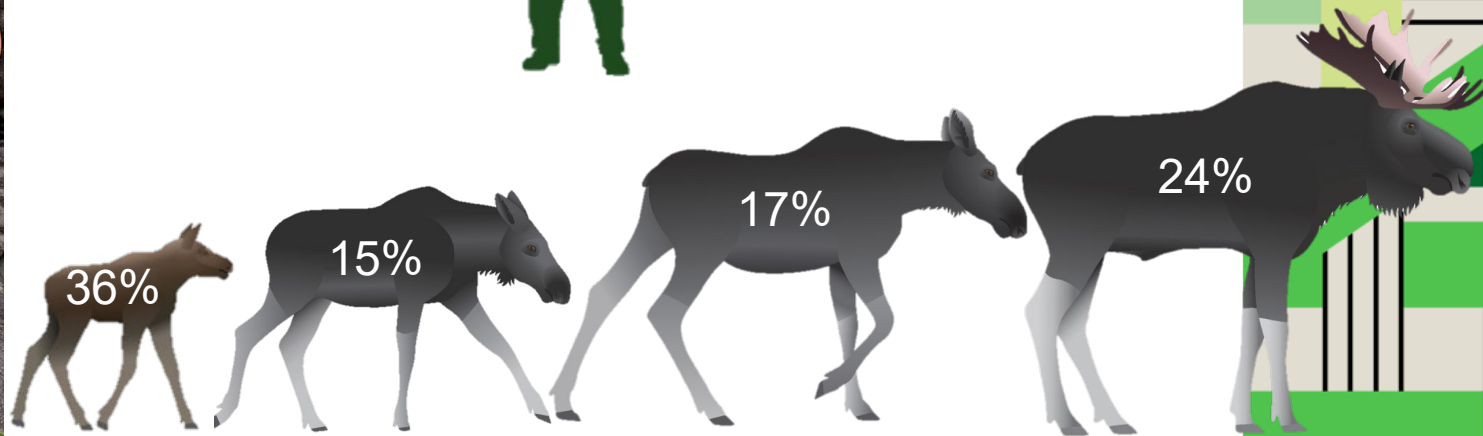
Fra Ausilio et al. 2023

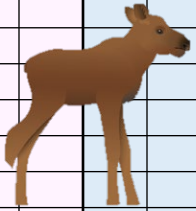




Giorgia Ausilio

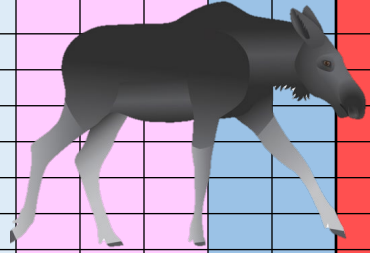
Brunsttid = elgjakt!



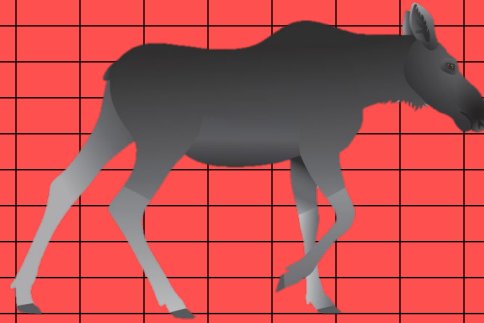


187

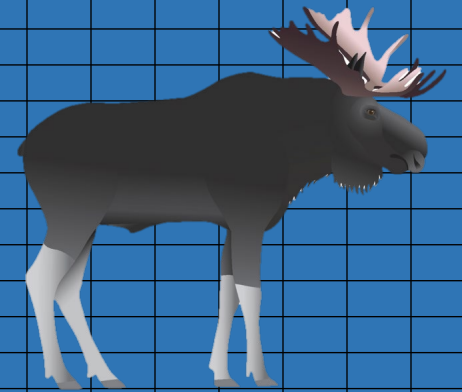
187



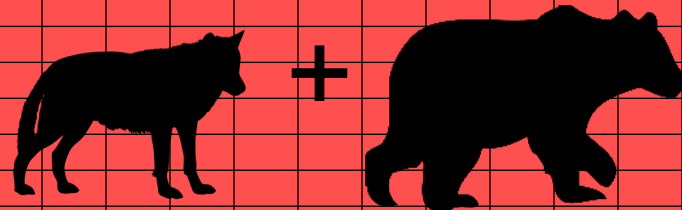
103 103



558



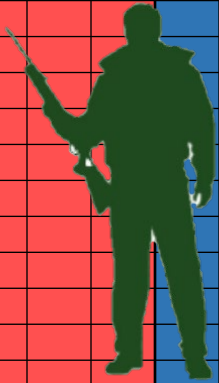
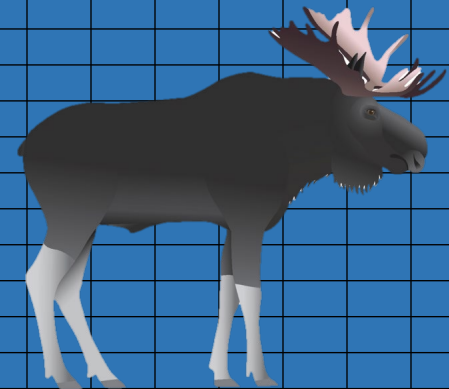
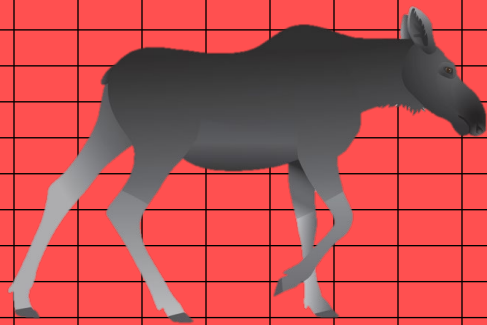
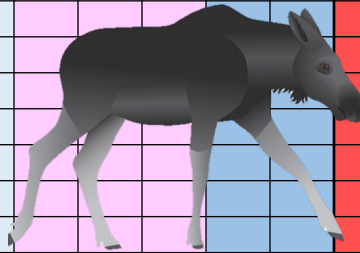
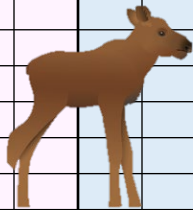
360



juni - september

1498

94%



136

136

78

64

510

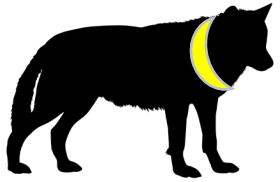
292

oktober - desember

1216

76%

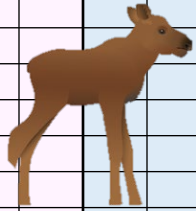




Oktober – mai:
80% kalv
3% ungdyr ku
7% ungdyr okse
7% voksen ku
3% voksen okse

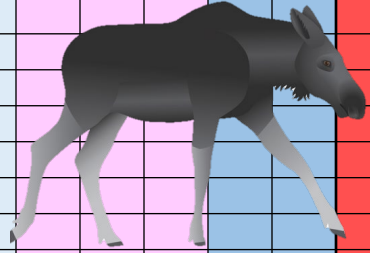
Vinterpredasjon
Ca 4% av elgbestanden





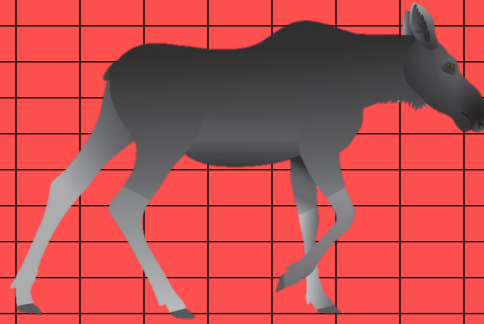
136

136

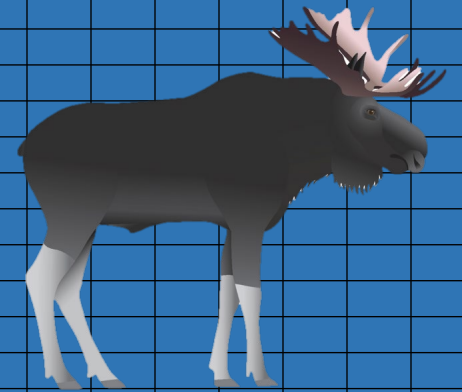


78

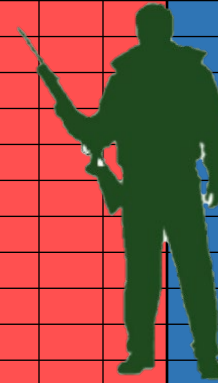
64



510



292



oktober - desember

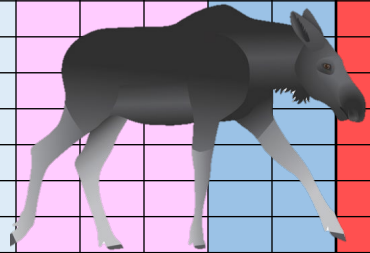
1216

76%

111

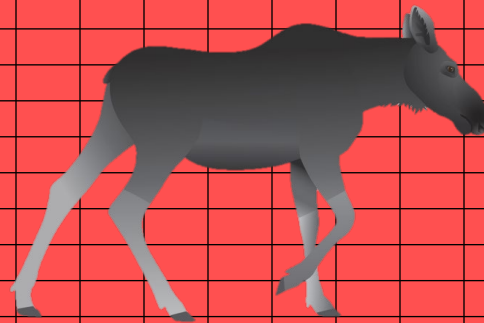


111



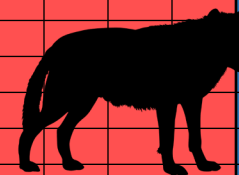
74

58

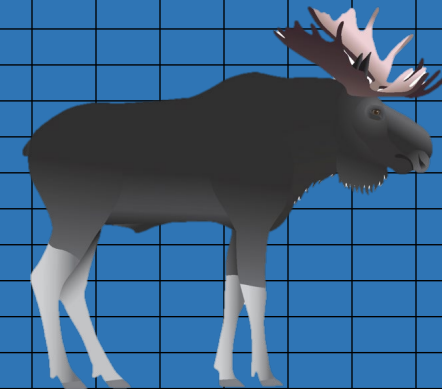


508

oktober - mai



291



1154

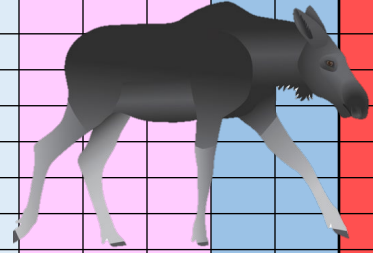
72%

46%



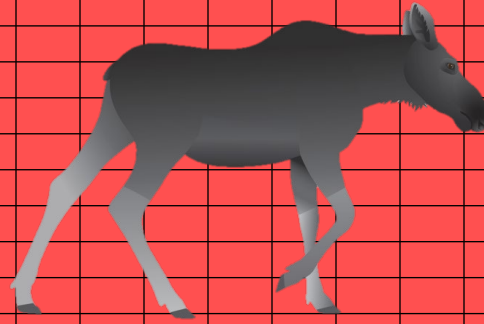
107

107



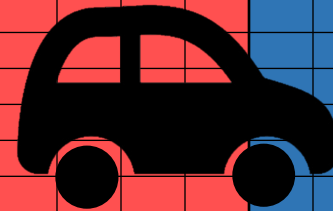
71

57

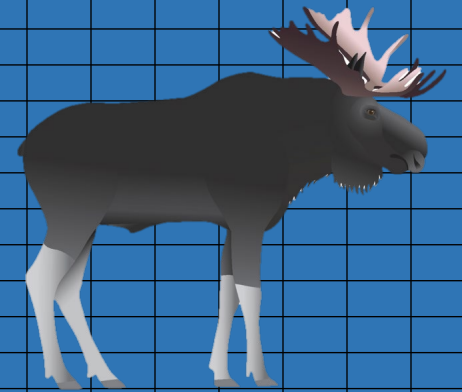


504

juni - mai

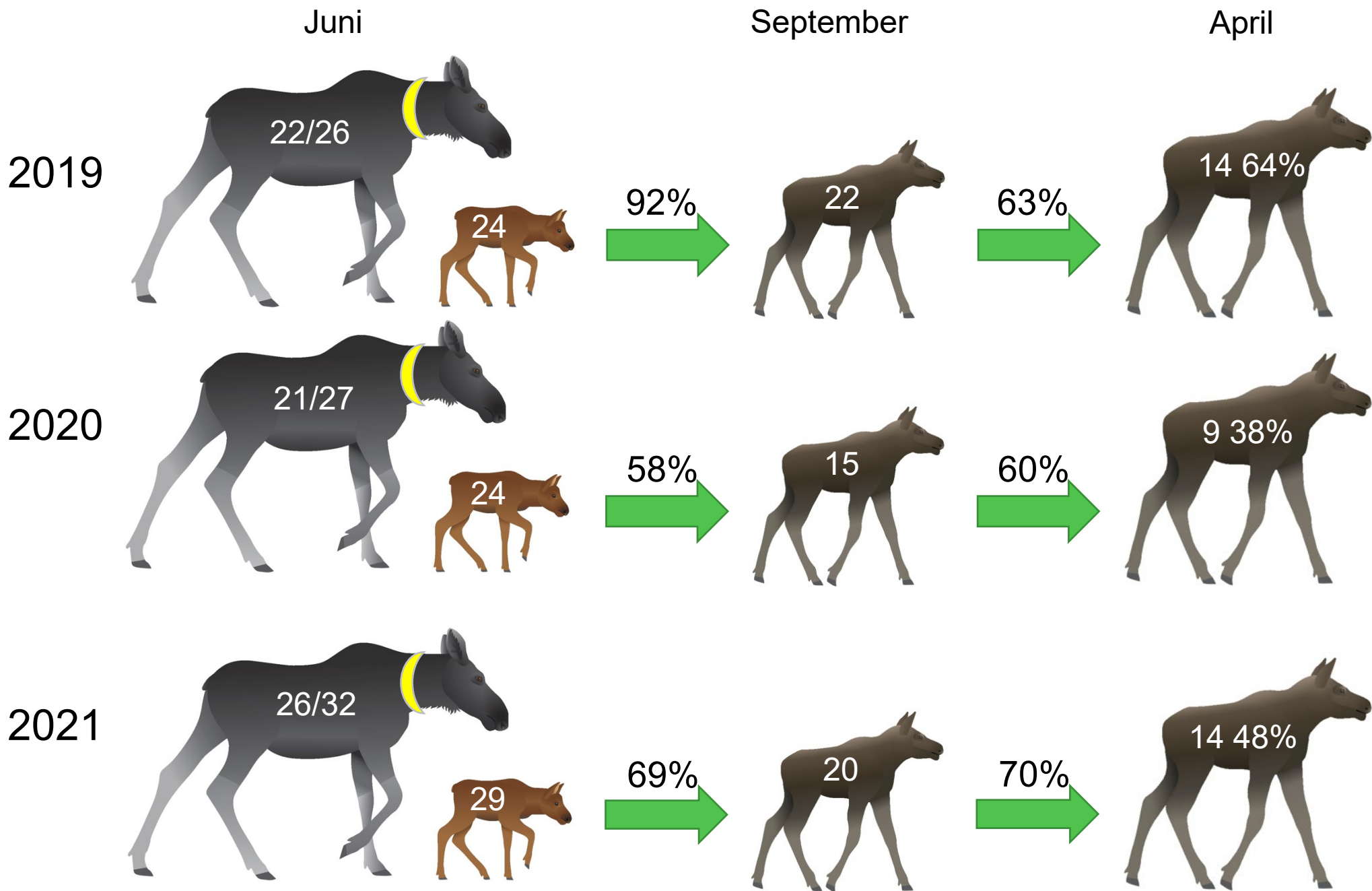


290



1137

71%

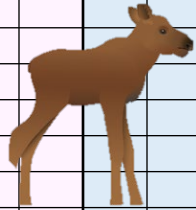


Lavest overlevelse september-april:



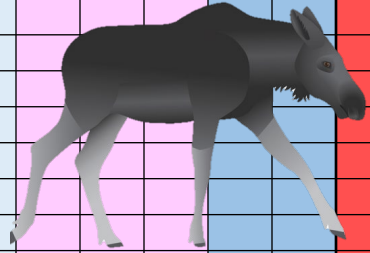

Trekkelg

46%



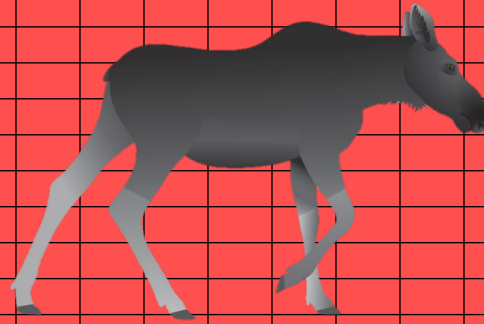
107

107

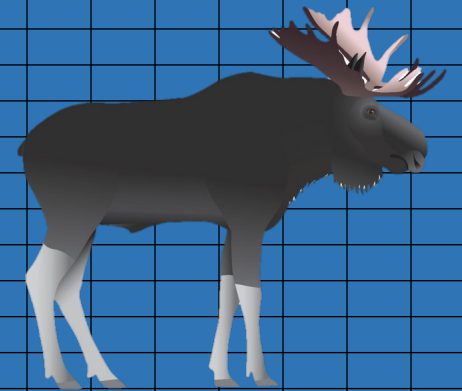


71

57



504



290

juni - mai

1137

71%



Takk for støtte:

- Interreg Sverige-Norge
- Miljødirektoratet
- Naturvårdsverket
- Innlandet Fylkeskommune
- Norges Forskningsråd
- Åsnes, Våler, Elverum og Åmot kommune

Interreg
Sverige-Norge
Europeiska regionala utvecklingsfonden



EUROPEISKA UNIONEN

Takk for all hjelp i felt:

- Studenter
- Sporhunder
- Grunneiere

iNN
Høgskolen
i Innlandet



SKANDULV



© Johan Månsson



How wild is wildlife?

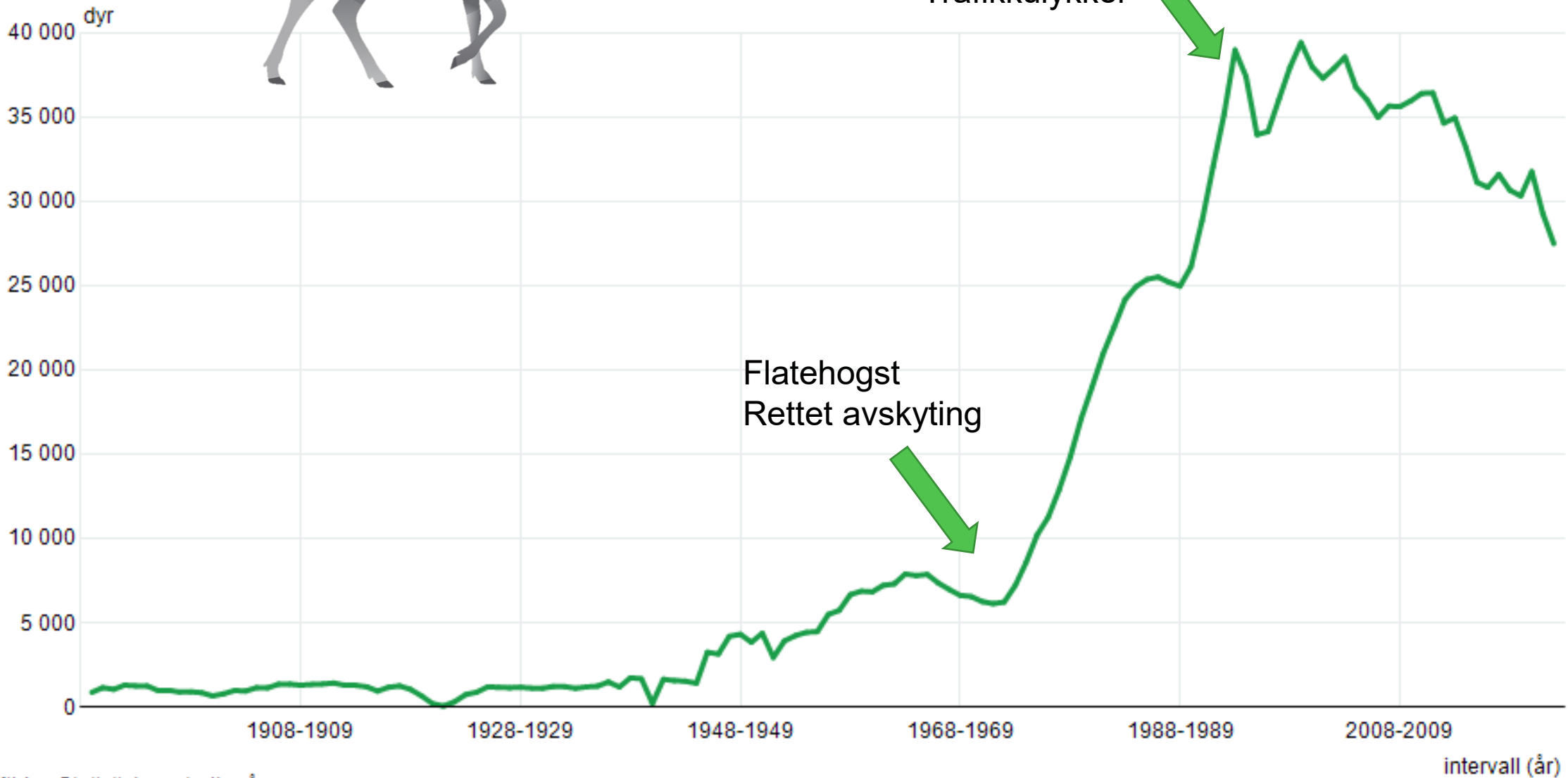
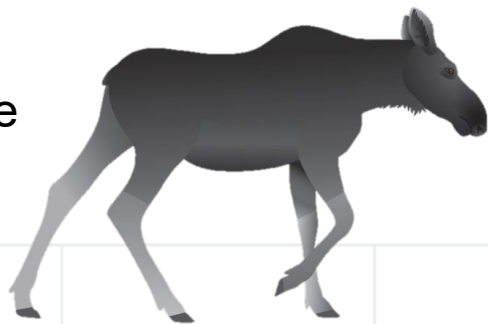
1. – 4. september 2025

<https://www.inn.no/english/events/iwc2025/>



Scan for oppdateringer!

Felt elg Norge



Kilde: Statistisk sentralbyrå



Felt elg Norge

