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Workshop for the Revision of Pink-footed Goose ISSMP

Population target-setting/AEWA/PfG/ISSMP/1.11

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8-9 October 2024 | Levanger, Norway



AEWA European Goose Management Platform

Population target-setting

Direct elicitation (see *Doc. AEWA_PfG_ISSMP_1.11*)

- Presentation on the relationships between goose abundances and relevant indicators
- Poll
 - one reply per **workshop participant**
- **Replies are indicative, but please vote as closely to the perceived or known position of your organization as possible**
- **Note that more (new) objectives may still be added to the ISSMP**

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Population target-setting

Outcome

- Test results will be presented tomorrow

Next Steps

- New (revised) poll with participating stakeholders (Range States and Permanent Observers to the EGMP)
- Decision on preferred population target

Adoption by Contracting Parties to AEWA (MOP9)

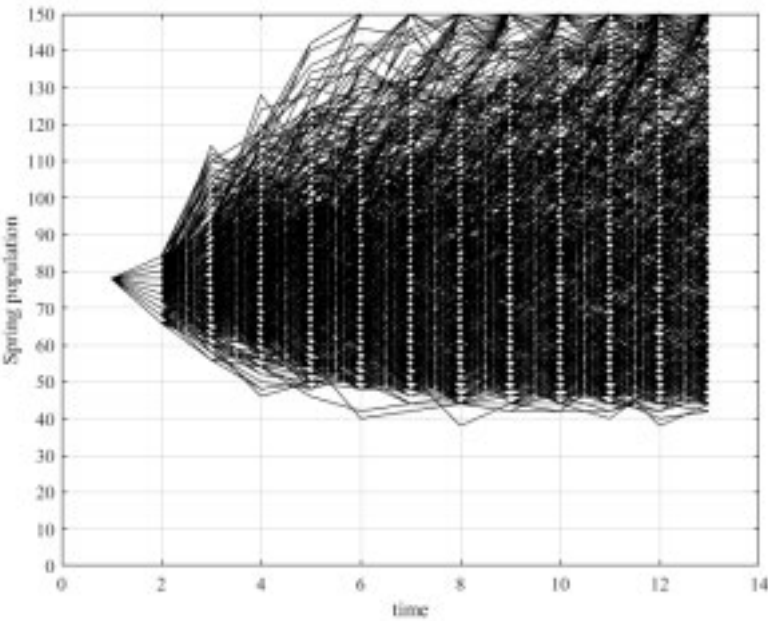
Harvest capacity and population size

Scenario (a) - target of 60,000 individuals

Table 1. Projection of pink-footed goose population size (N) and harvest (H) 12 years into the future, beginning with the 2024 system state ($N \approx 78k$, thaw days ≈ 10), assuming a target population in spring of 60,000. Mean N and H are the means over the 13-year timeframe (and 1,000 simulations). Last N and H are the ending (year 13) population size and harvest averaged over the 1,000 simulations.

Maximum attainable harvest	Source	Mean N (sd)	Mean H (sd)	Last N (sd)	Last H (sd)
50k	unconstrained	62.8k (5.5)	9.7k (7.8)	61.7k (3.4)	8.5k (6.4)
17k	maximum 1992-2023	61.2k (8.3)	9.9k (6.0)	57.4k (4.9)	7.7k (5.7)
15k	mean 2016-2020	62.4k (10.2)	10.0k (5.3)	57.6k (7.8)	8.1k (5.1)
10k	mean 2021-2023	80.1k (23.3)	9.5 (1.8)	84.9k (35.0)	8.8k (2.7)

Maximum harvest = 10k (mean 2021-2023)



Harvest capacity and population size

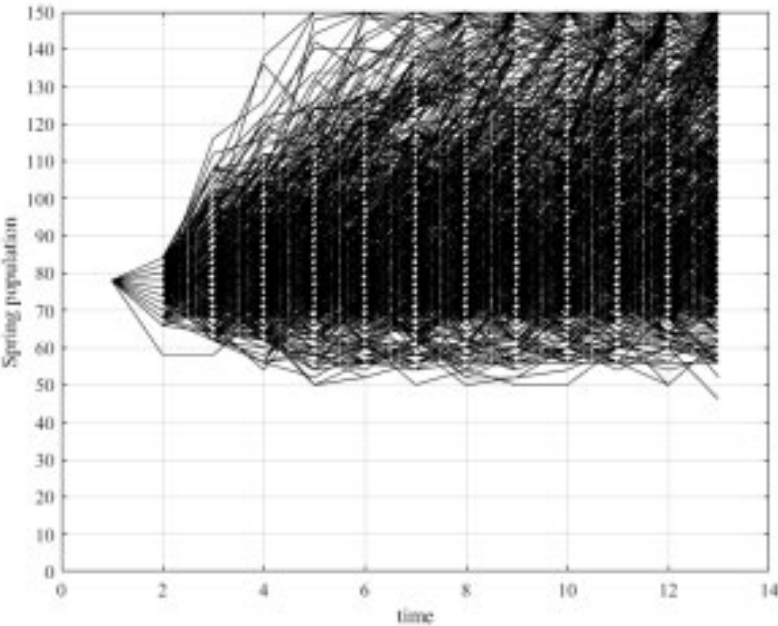
Scenario (b) – target of 80,000 individuals

Table 2. Projection of Pink-footed Goose population size (N) and harvest (H) 12 years into the future, beginning with the 2024 system state ($N \approx 78k$, thaw days ≈ 10), assuming a target population in spring of 80,000. Mean N and H are the means over the 13-year timeframe (and 1,000 simulations). Last N and H are the ending (year 13) population size and harvest averaged over the 1,000 simulations.

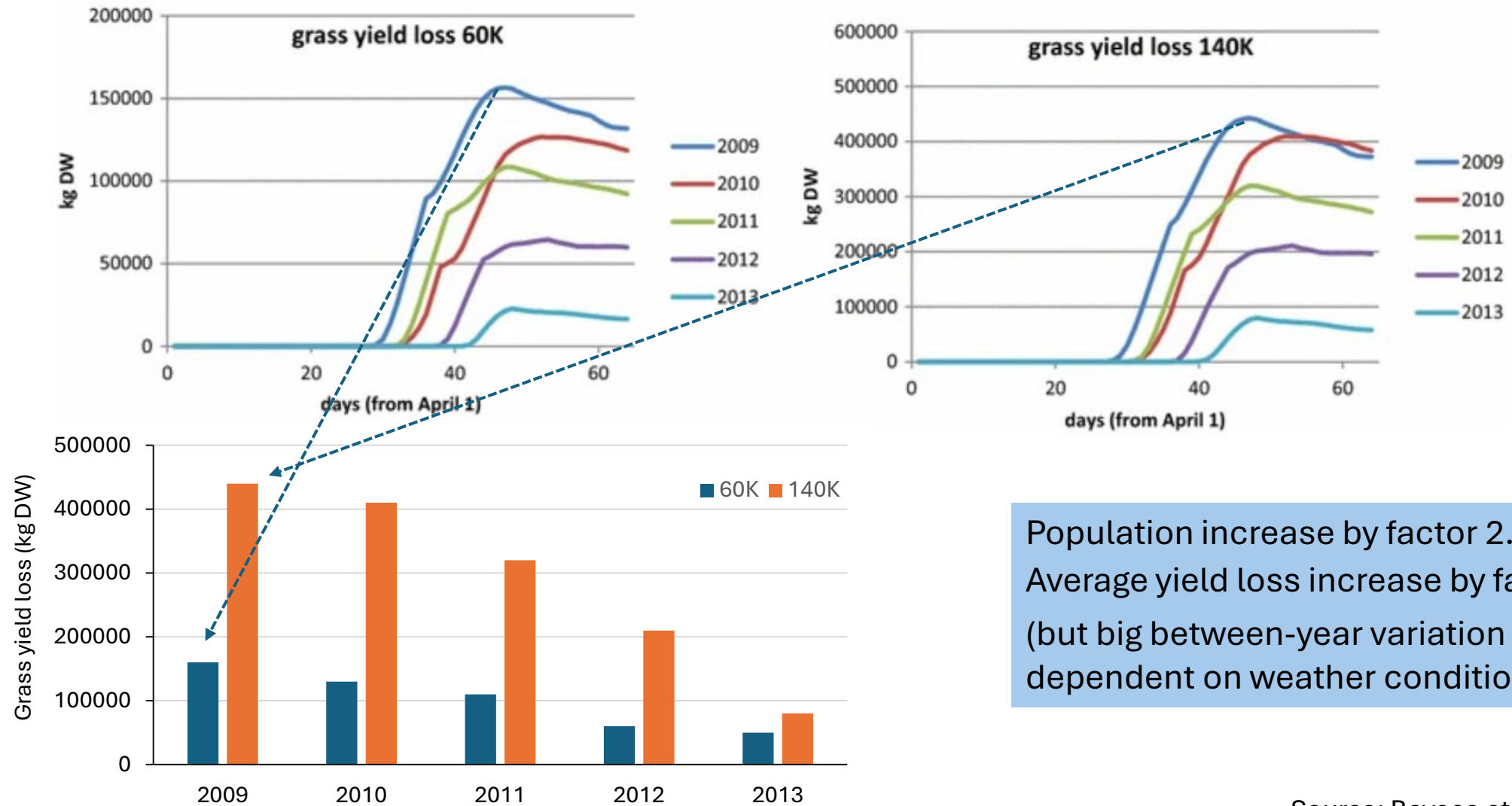
Maximum attainable harvest	Source	Mean N (sd)	Mean H (sd)	Last N (sd)	Last H (sd)
50k	unconstrained	81.8k (4.5)	10.5k (8.5)	82.0k (4.6)	11.1k (8.9)
17k	maximum 1992-2023	76.0k (6.8)	10.1k (5.8)	76.6k (8.6)	10.2k (6.1)
15k	mean 2016-2020	76.4k (9.4)	10.2k (5.2)	78.0k (12.8)	10.1k (5.3)
10k	mean 2021-2023	87.2k (21.0)	9.1k (2.3)	100.0k (28.7)	9.2k (2.1)

Figs. 5 – 8. One thousand simulated time paths of Pink-footed Goose population size and harvests (in thousands) under optimal harvest strategies with the specified limit on maximum attainable harvest, and assuming a spring population target of 80,000.

Maximum harvest = 10k (mean 2021-2023)

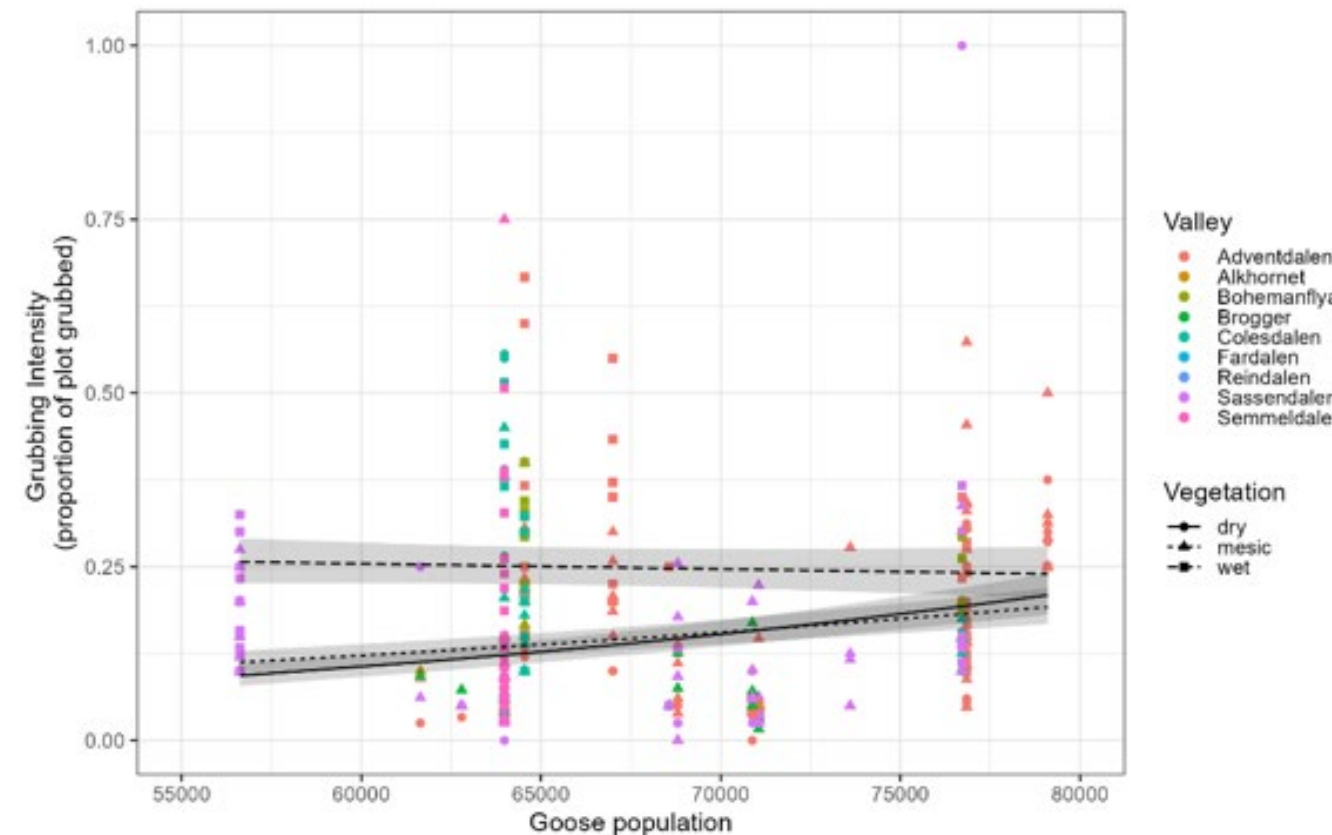
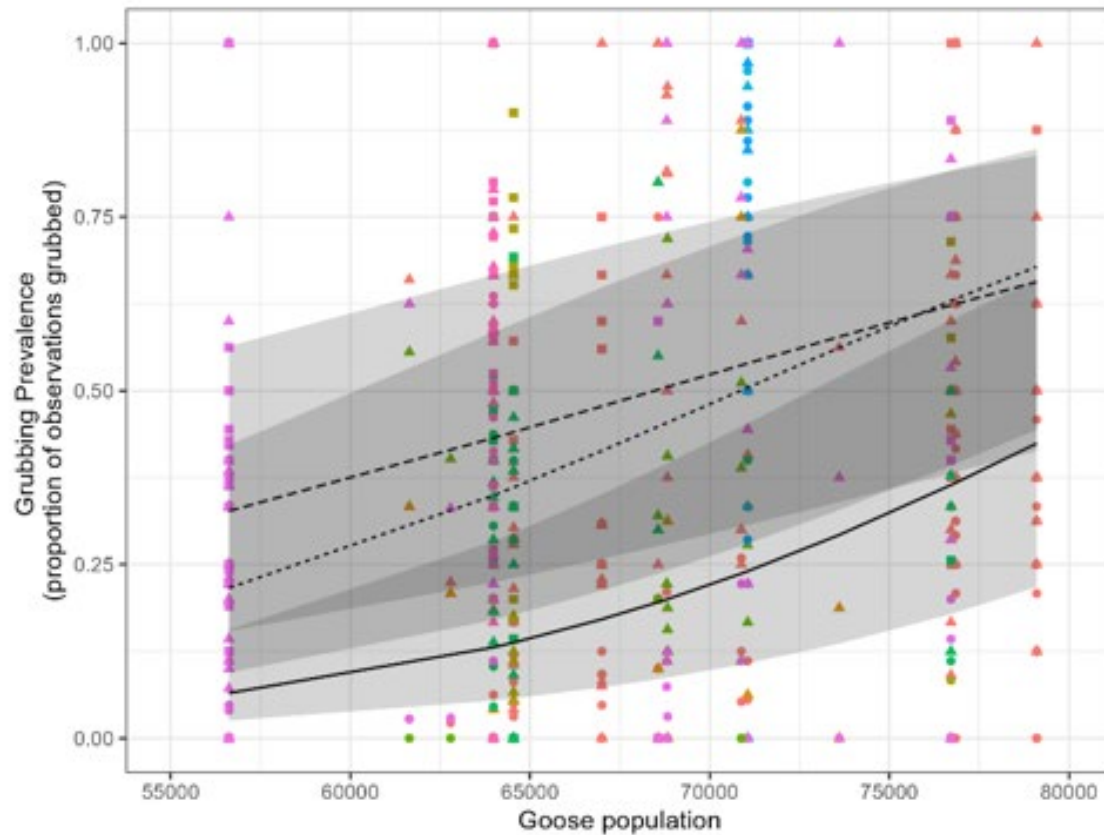


Predicted grass **yield loss** caused by Pink-footed Geese in Trøndelag, Norway (5 springs and 2 population scenarios)



Population increase by factor 2.3
Average yield loss increase by factor 2.8
(but big between-year variation in loss
dependent on weather conditions)

Emperical relationship between goose abundance and **ecosystem effects** (grubbing) on Arctic tundra, Svalbard



Significant increase in extent of grubbing with increasing population size
Significant increase in grubbing intensity with increase in population size in dry and mesic habitats

Observed development of **range** outside breeding area
(during 2013-2022 when the population was rather stable)

Country	Autumn	Winter	Spring
Norway	Stable	NA	Increase
Denmark	Increase	Increase	Increase
The Netherlands	Increase (28%)	Increase (28%)	NA
Belgium	Increase	Increase (300 km ² => 500 km ²)	NA
Overall	Increase	Increase	Increase

Observed increases in range were primarily coupled to expansions into new habitats such as maize stubble fields rather than changes in population abundance

No quantitative predictions for effect of increased population size on range

Observations of habitat depletion in spring pasture habitats in Norway suggest that increase in abundance will require additional habitat, most likely leading to range expansion

Recreational values

Hunting opportunities
Opportunities for bird watching

Population target-setting

Note that

- Replies are only indicative
- A (revised) poll will be repeated after the workshop with all Range States and Permanent Observer Organisations participating
- Outcome will be discussed with all stakeholders (possibly leading to an MCDA)
- Final decision on target will be taken by the Contracting Parties to AEWA (at MOP9)
- Please vote as closely as possible to the perceived or known position of your organisation and please indicate your affiliation
- Access to google poll: <https://forms.gle/MK5XYF47otYiywLCA>





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Results

8-9 October 2024 | Levanger, Norway

