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## Barnacle Goose Session

*Population status and assessment Russian Barnacle  
Goose/AEWA\_EGM\_IGW 9.8*

*Kees Koffijberg (Sovon) & Hans Baveco (WENR)*

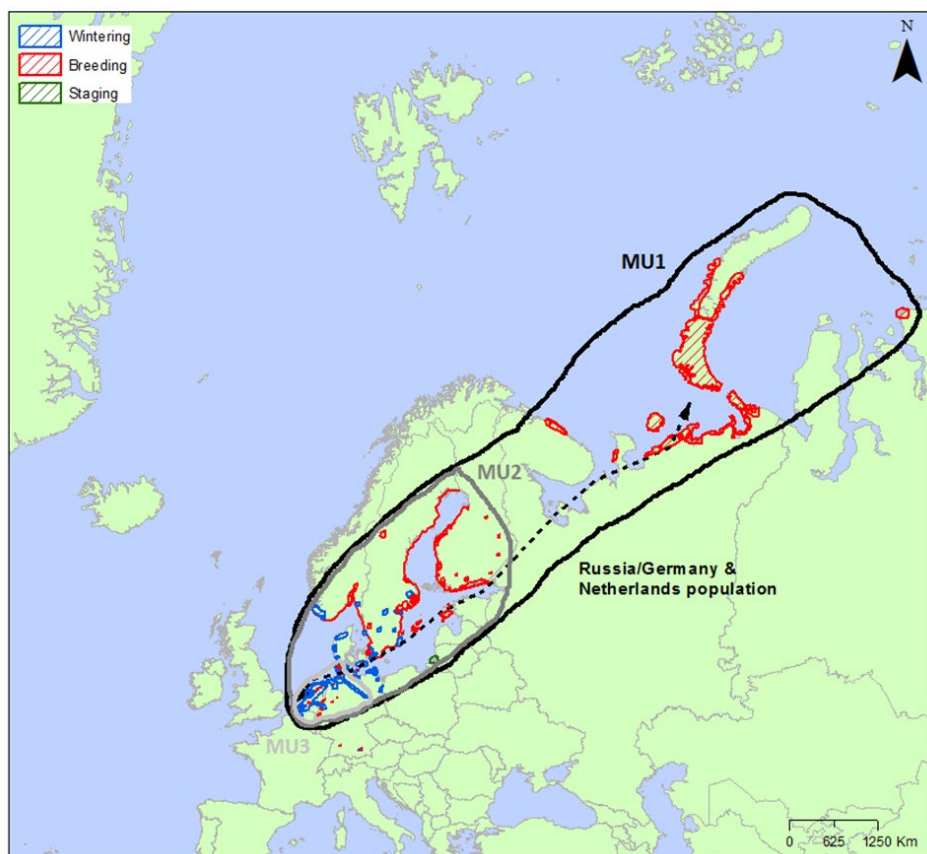
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## Russian/Germany & Netherlands Population and its MUs



Range states of this flyway:

Russia, Finland, Estonia, Sweden, Norway, Denmark, Germany, the Netherlands and Belgium

Management Units within this flyway:

MU1 – Russian breeders (RU), migratory

MU2 – Baltic breeders (FI, EE, SE, NO [Oslofjord], DK, migratory

MU3 – North Sea breeders (DE, NL, BE), mainly sedentary

All management units mix during winter in BE, NL, DE, DK and SE (wintering states)!

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## Management strategy outlined in the AFMP



Adaptive Flyway Management Programme for the Russia/Germany & Netherlands Population of the Barnacle Goose (*Branta leucopsis*)

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AEWA EGMP Programme No. 3



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**Prevent flyway population or population in any MU from declining below FRP**

**Coordination among countries MU required when < 200% from FRP**

→ Being Annex 1 species of the EU Bird Directive, any management within EU is obliged to be in line with Art 9 of the Bird Directive (derogations)

→ No targets like in other EGMP species: but FRP's represent the lower limits of the legally acceptable populations: 380,000 individuals for the flyway population; 112,927 breeding pairs for MU1, 12,000 bp for MU2, 12,000 bp for MU3

→ Assessment whether cumulative impact of derogations (and hunting, outside EU) affects FRP's, done in a 3-yr frequency (first 2022, next 2025)

→ During IWG7 it was decided to have an intermediate assessment every year; today we present the intermediate assessment 2024

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## Working routine – assessment protocol – monitoring setup

### Integrated Population Model (IPM):

Makes use of all available monitoring data and combine these into one single analysis to derive estimates for e.g. abundance, population demography and offtake rates:

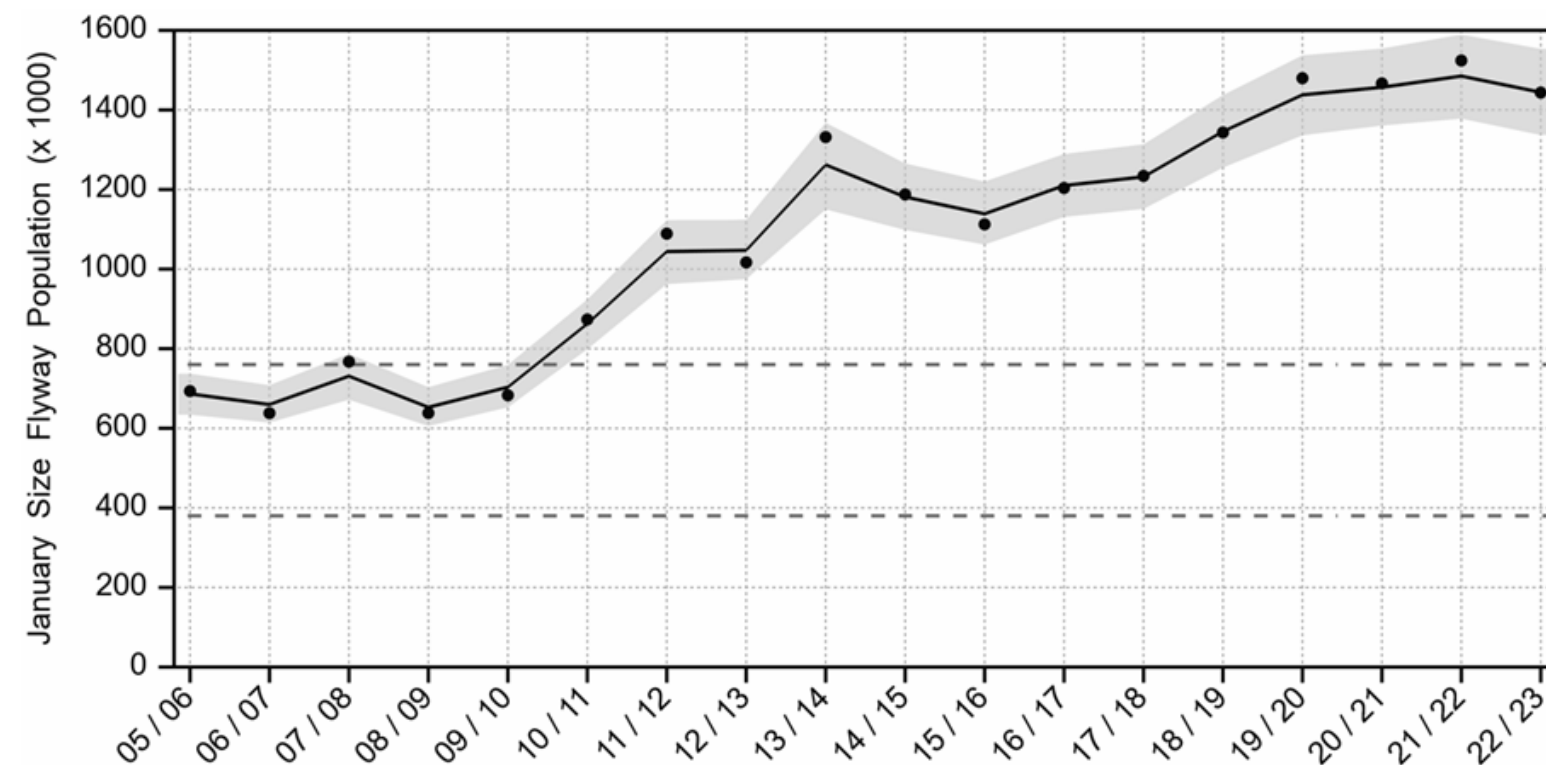
1. Population census → Flyway in January + MUs in July-August (“summer counts”)  
Winter: January 2006 – 2023  
Summer: July-August 2005-2022 (**new**: September count in Sweden as proxy for summer abundance)
2. Reproduction → Flyway in autumn + MUs in July-August  
Autumn 2005 – autumn 2022 (NL, mainly MU1) and July/August 2005 – 2022, mainly NL/DE (MU3) and FI (MU2)
3. Offtake, i.e. derogation data (harvest in RUS unknown), year-round (2005 – 2022)

Remind: collection of data only possible by a large network of volunteer counters, staff of various agencies, governmental administrations & EU data repository!

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## Abundance January: IPM estimates (compared with census data)



**January 2023:** 1,4 million ind., 3.8 x FRP (Flyway), well above 200% threshold

→ Good match between results from the IPM (line + shaded area for credible intervals) and census data (dots)

→ Flyway population size has stabilised since 2019/20, after a long-term increase

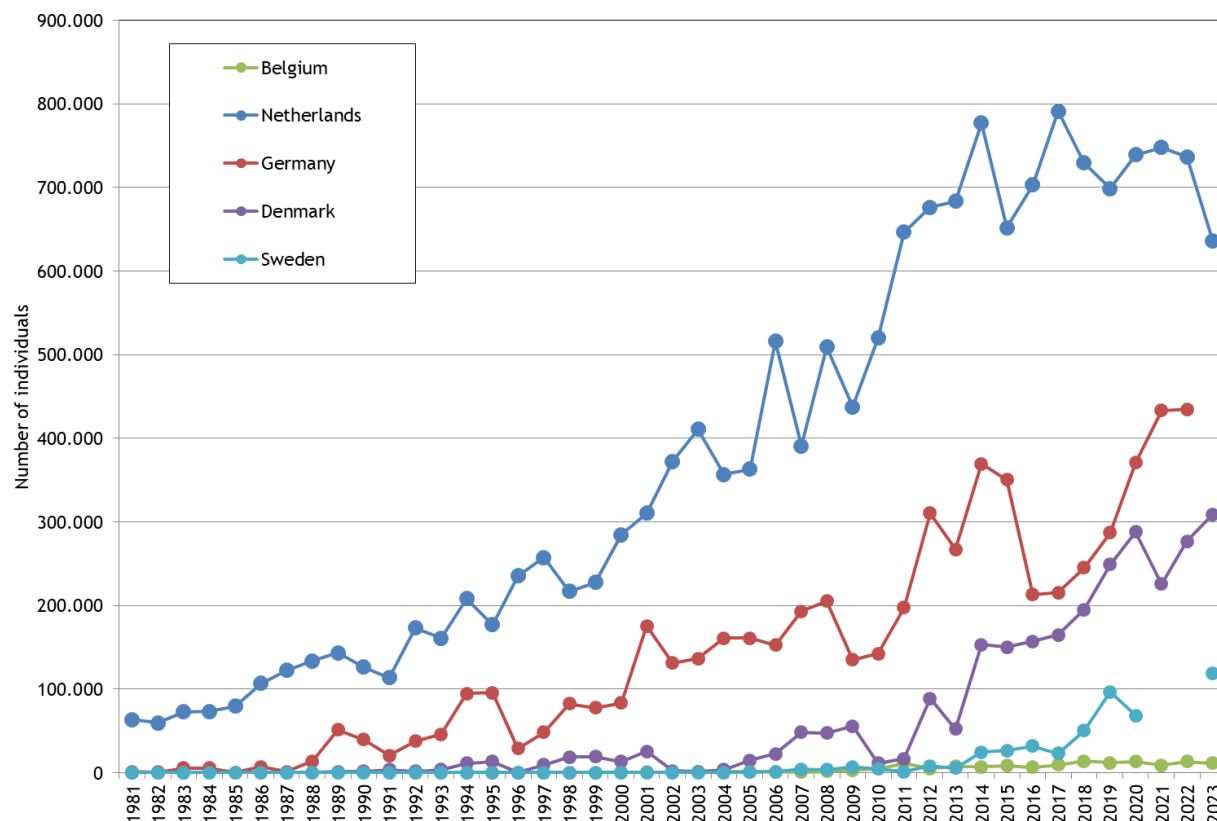
→ Approx. 90% of the flyway is represented by Russian MU1 breeders

→ Census data: c. 51% in January in NL, 28% in DE

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## But: stabilisation mainly taken place in the Netherlands (and Belgium)



### 2022/23 NL

→ From Sep to May numbers in NL on average 20% lower compared to previous seasons

→ January 2023 census lowest in the past decade

→ Sneak preview 2023/24 suggest that the decline in 2022/23 has not continued but numbers got back to level of previous seasons

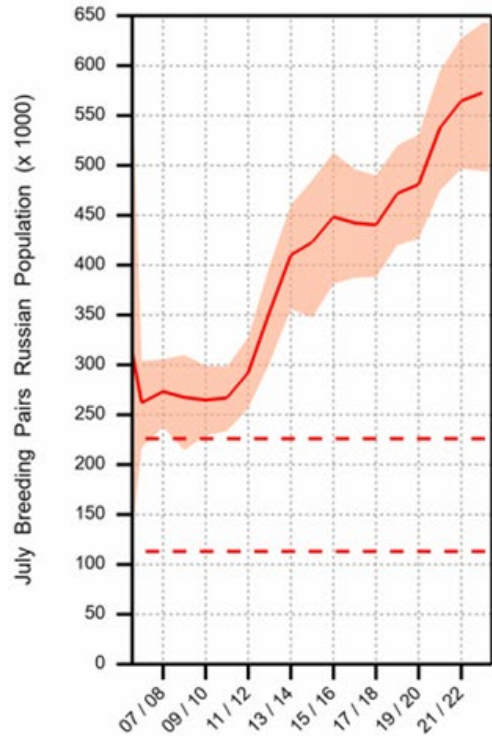
→ Data from analyses of impact of HPAI point out that in 2020/21 and 2021/22 an estimated 4.8% and 7.4% of numbers of BG in the Netherlands died (Caliendo et al. 2024)

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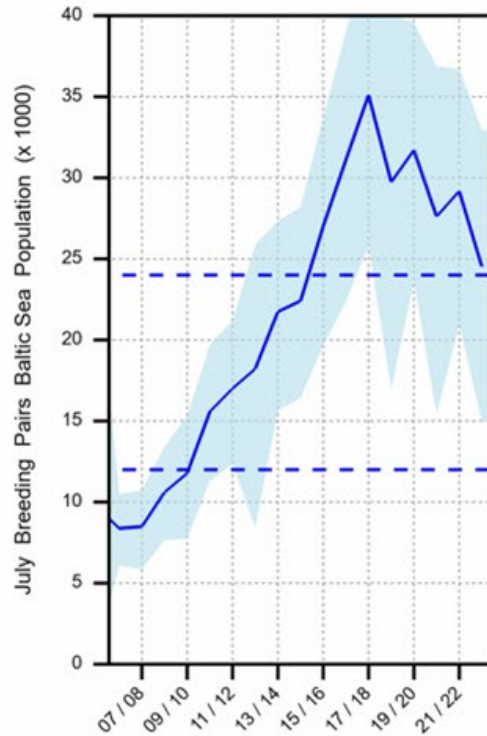
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## Abundance summer: IPM Estimates (breeding pairs)

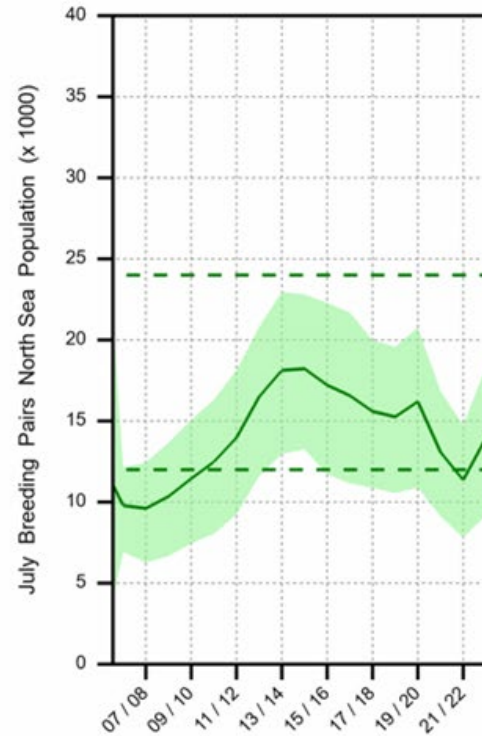
### MU1 - RUS



### MU2 - BAL



### MU3 - NS



July 2022:

MU1 – 573,000 bp

MU2 – 24,500 bp

MU3 – 14,000 bp

→ MU1 well above “all limits”  
(and increasing)

→ MU2 now very close to 200%  
threshold (after recent declines)

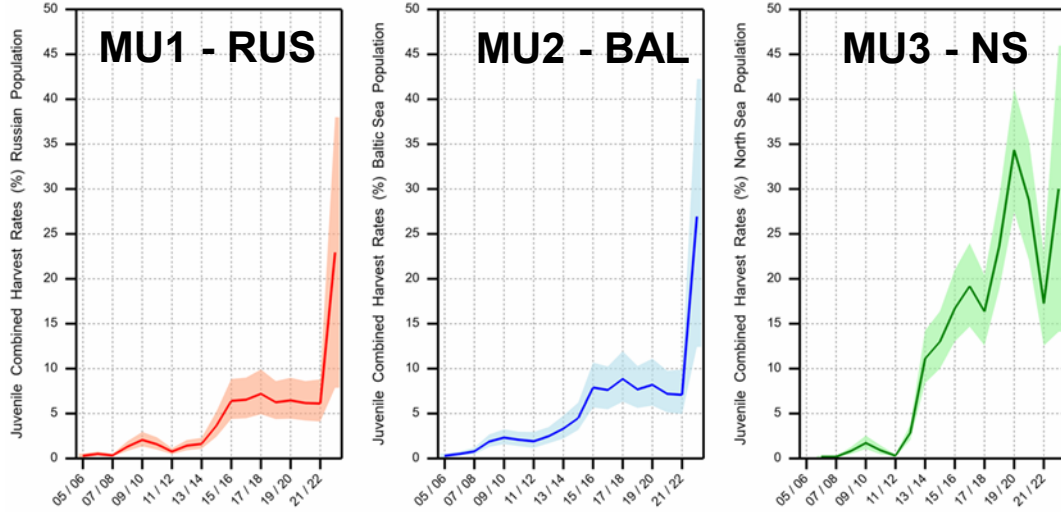
→ MU3 well-below 200%  
threshold and very close to FRP

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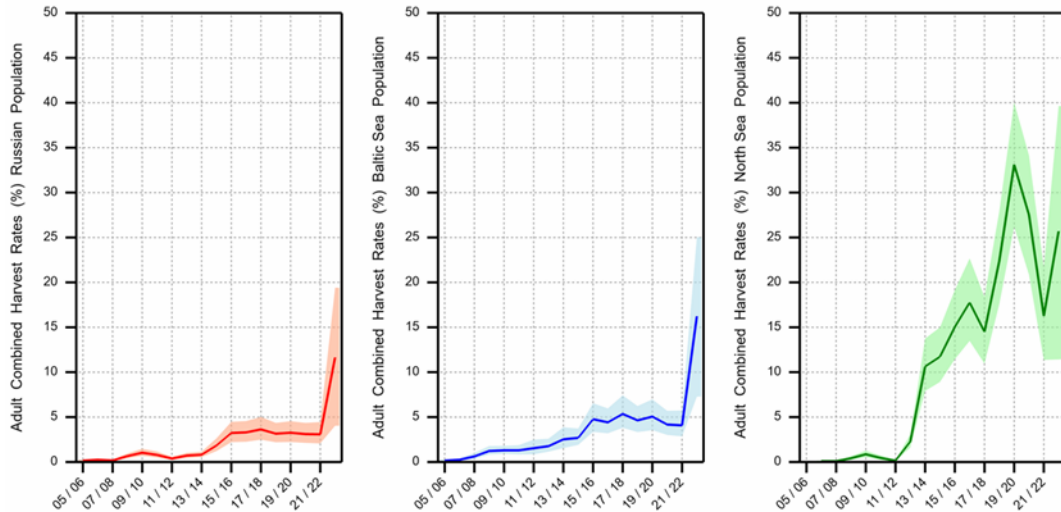
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## Offtake rates (IPM Estimates, derogation only)

Juveniles



Adults



Slightly higher for juveniles but basically same pattern (forget about the last year which comes with very large c.i.)

→ Increasing after 2013, most obvious in MU3 (up to >30%); while MU1 and MU2 most around 5%

→ Following outcomes of earlier AEWA-EGMP assessment, derogation effort went down in NL recently (notably also reduction of culling during wing-moult)

Σ Derogations EU in 2022:

Total >= 50.928 (Estonia missing, usually ~3%)

NL: 20,874 (2021: 36,342)

DK: 21,454 (2021: 24,038)

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## Shortcomings and wishes for the current assessment protocol

### Winter counts (Flyway, Jan):

- Annual data from all countries (some year-specific gaps)
- Faster publication of German counts desirable (one year delay compared to other countries), perhaps chance to update German data once Art 12 report has been finalised (2025)

### Summer counts (July, August):

- Annual data from main parts of MU3 (but Schleswig-Holstein in Germany still missing)
- Annual data in MU2 in FI while periodical data in DK and Oslofjord in NO; in Sweden use of September count as a proxy (but check needed for coverage and interplay with Finnish counts, e.g. by tagging data)
- No productivity data MU2, apart from Helsinki region which perhaps not representative. Data from SE and DK desirable.

### Offtake (derogation)

- Some issues with resolution in time, assumptions made to assign offtake to MU (but there are larger problems as this one). Well possible for NL-data and to some extent also for DK in recent years (would be good to fine-tune assumptions).

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## Decision points / Take note of:

### Management:

1. Current level of derogations (and unknown harvest in Russia) does not affect populations in MU1 Russia
2. For MU2 Baltic numbers recently have move towards 200% threshold
  - Coordination may be applicable if large changes in derogation practice is foreseen during the summer period, directly affecting MU2-numbers
1. For MU 3 North Sea population, level of offtake in the past years has brought the population close to FRP-level and well within 200% threshold
  - Coordination among MU3 Range states (NL, DE-Schleswig-Holstein, Niedersachsen) should be (and is actually) in place. In NL between the provinces as well

### Monitoring:

1. Main issues: check needed for suitability of September count in Sweden, patchy productivity data in MU2, delay in German data.

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