Doc. AEWA/EGMIWG11.5
Date: 29 May 2026

AEWA EUROPEAN GOOSE MANAGEMENT PLATFORM

11th MEETING OF THE AEWA EUROPEAN GOOSE MANAGEMENT INTERNATIONAL WORKING GROUP
16-18 June 2026, Skövde, Sweden

DRAFT INDICATOR ASSESSMENT FOR THE ADAPTIVE FLYWAY MANAGEMENT PROGRAMME FOR THE NW EUROPE (BR) POPULATION OF THE GREYLAG GOOSE *ANSER ANSER*

Compiled by Iben Hove Sørensen & Kees Koffijberg, with input from Range States, the HPAI Contact Group and members of the Greylag Goose and Flight Safety Task Forces

Summary:

The Adaptive Flyway Management Programme (AFMP) for the NW Europe (br) population of Greylag Goose was adopted at the 6th Meeting of the European Goose Management International Working Group (EGM IWG6) in 2021. The AFMP has an initial lifespan of 6 years and is then subject to review, with two 6-year cycles being envisioned, encompassing evaluation and adaptation related to, among other things, the state of indicators. The EGM IWG10, in 2025, approved the proposed protocol for the assessment of AFMP indicators as set out in document AEWA/EGMIWG/10.20 and invited Range States to support the gathering and transmission of the necessary information to the EGMP Data Centre. In October 2025, a questionnaire containing the agreed set of questions was sent to the National Government Representatives and National Experts of EGMP Range States. Replies were provided by Range States and additional reporting was done through the EGMP Greylag Goose and Flight Safety Task Forces as well as the EGMP Highly Pathogenic Avian Influenza (HPAI) Contact Group. This document presents the results of the indicator assessment and recommendations to optimise the indicators for the next 6-year cycle.

Action requested from the EGM IWG:

The EGM IWG is requested to take note of the report and provide advice, as necessary.

Introduction

The AEWA International Single Species Management Plan for the NW Europe (br) Population of Greylag Goose (GG ISSMP) (Powolny et al. 2018) was adopted at the 7th Session of the Meeting of Parties to AEWA (MOP7) in 2018. Following the adoption of the ISSMP, a population-specific Adaptive Flyway Management Programme (AFMP) was developed for the Greylag Goose (Nagy et al. 2021). The AFMP was adopted at the 6th Meeting of the European Goose Management International Working Group (EGM IWG6) in 2021.

The AFMP has an initial lifespan of 6 years and is then subject to review, with two 6-year cycles being envisioned, encompassing evaluation and adaptation related to, among other things, Management Units (MUs), Favourable Reference Values (FRVs), population models, impact models, the state of indicators and evaluation towards achieving objectives. Upon its adoption, it had been envisioned that Tthe AFMP would be evaluated and adapted in 2026 by the EGM IWG.

This document provides a status of the progress towards achieving the fundamental objectives of the GG ISSMP, based on an assessment of the indicators described in the population-specific AFMP.

Data for the period 2020-2024, or data on the current situation combined with a trend for the period 2020-2025 has been reported to the EGMP Data Centre. This report has been prepared for EGM IWG11 in June 2026 to present the results of the indicator assessment and inform a discussion on optimization of the indicators for the next 6-year cycle of the AFMP.

Methods

The proposed protocol for evaluating progress towards achieving the fundamental objectives of the GG ISSMP (Doc. AEWA/EGMIWG/10.20) was adopted by the EGM IWG during EGM IWG10 in June 2025. Barring a few exceptions, the protocol described ways to assess each of the indicators listed in the AFMP (Nagy et al. 2021). For some indicators, such as those related to Fundamental objective II (Minimise agricultural damage and conflicts), proxies are used instead of directly measuring the indicator, as, for example, damage payments and derogation permits are used to assess the level of conflict.

In October 2025, a questionnaire containing the agreed set of questions was sent to the National Government Representatives and National Experts of the EGM IWG. Replies were provided directly to the EGMP Data Centre, yet for some indicators additional reporting was done through the EGMP Greylag Goose and Flight Safety Task Forces as well as the HPAI Contact Group. Indicators regarding abundance and offtake were derived from the data provided to the annual assessment and status report. Range States were requested to provide one agreed answer to the questionnaire, making use of all relevant expertise available in each Range State.

To ensure a timely assessment of the indicators, Range States were asked to report on the period 2020-2024 now, although the 6-year cycle of the AFMP also includes 2025 and 2026. Where possible, reporting was done by providing information for each year, and in the remaining cases, data on the current situation combined with a trend indication for the period 2020-2025 was reported. Replies were received from Belgium, Denmark, Finland, France, Netherlands, Norway, Spain and Sweden.

Results

Fundamental objective I: Maintain the population at a satisfactory level

Indicator I.1: Population size compared to the target population size

The development of the NW Europe (br) population of Greylag Goose in winter during the period 1980-2025 is shown in Fig. 1. Following a long period of continued growth, the population may now have stabilised at around 800,000 birds in winter, which is above both the FRP and the target population size. Summer counts provide similar patterns, see Sørensen et al. 2026.

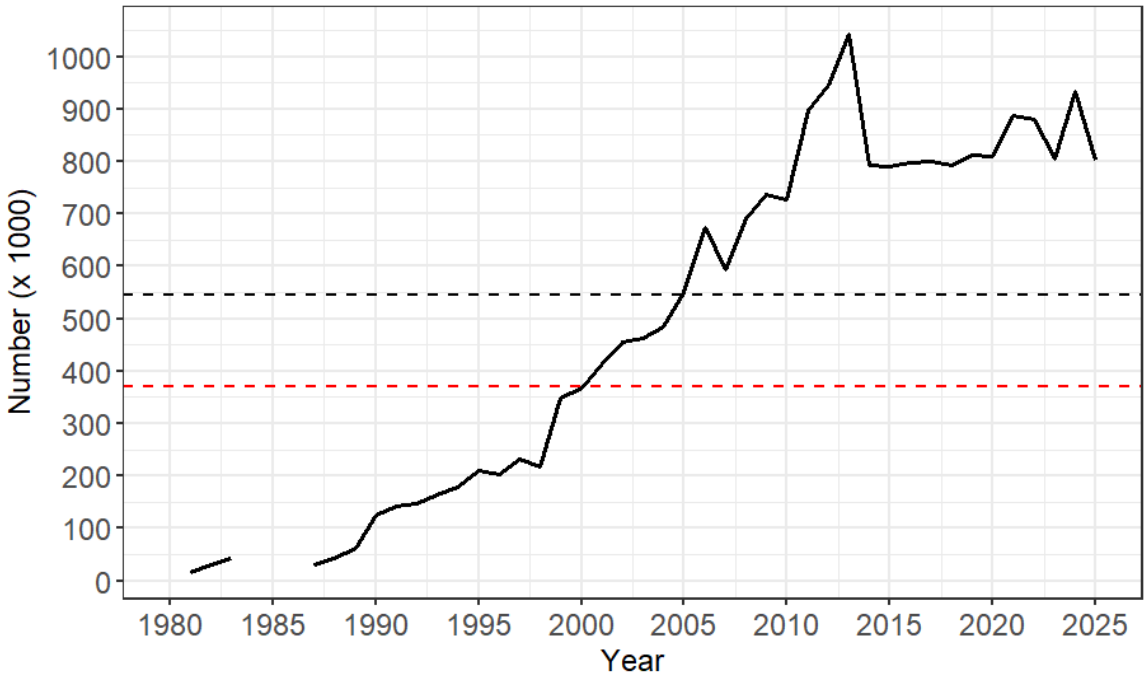

Figure 1. *Development of the size (number of individuals) of the NW Europe (br) mid-winter population of Greylag Goose based on International Waterbird Census (IWC) imputed values from 1980-2025. The dashed black line represents the target for the wintering population, and the red dashed line represents the wintering FRP. From Sørensen et al. 2026.*

Indicator I.2: Range extent compared to Favourable Reference Range (FRR)

According to the AFMP, assessment of this indicator should include both breeding and non-breeding (staging and wintering) range compared to the FRRs. However, while information on the current breeding range in proportion of the breeding FRR (bFRR) is relatively easily extracted from the Article 12 reporting (EU Member States) or the AEWA national population status, the current non-breeding range in proportion of the non-breeding FRR is not readily available. As the procedure for delineating the non-breeding range is rather complicated, it was decided to base this indicator assessment on breeding range only.

All Range States except Norway reported the current national range of the Greylag Goose breeding population based on the most recent reporting on Article 12 of the EU Birds Directive. Norway reported that no change had taken place since the range was reported for the AFMP. The bFRR is provided along with the current range in Table 1 to allow for direct comparison.

In Finland, the difference between the bFRR and the current range is mainly due to improved knowledge (Piironen & Laaksonen 2023, Seimola & Linden 2026) and does not reflect an actual range contraction. The same is most likely the case in Denmark and Belgium.

Table 1. *The current breeding range of the NW Europe (br) population of Greylag Goose compared to the Favourable Reference breeding Range (bFRR) as indicated in the AFMP. All values are provided as km^2. Management Unit (MU)1 includes Norway, Sweden, Finland, and Denmark. MU2 includes Germany, Netherlands, Belgium, and France.*

Country	bFRR	Current range
Norway	269,300	269,300
Sweden	155,900	229,400
Finland	22,000	18,100
Denmark	45,400	39,400
Germany	203,338	-
Netherlands	37,869	43,000
Belgium	21,800	13,976
France	256,400	30,900
Spain	n.a.	n.a.
Total MU1	492,600	556,200
Total MU2	519,407	87,876
Total Population	**1,012,007**	**644,076**

Fundamental objective II: Minimise agricultural damage and conflicts

Indicator II.1: Relative change in damage payments

Compensation & subsidies

Only two Range States, Belgium and the Netherlands, pay compensation for agricultural damage. Usually, damage is assessed in the field, and methods in the two countries are rather similar. However, in the Netherlands, Greylag Goose damage is routinely assessed whereas in Belgium, it is treated as an exceptional case, as Greylag Goose is a huntable species. These exceptions usually reflect damage from breeding populations that breed in nature reserves and forage in agricultural fields in the vicinity, or they represent mixed damage in winter where also non-huntable goose species are involved, often in places where compensation is paid in order to avoid undermining the function of accommodation areas for wintering geese/waterbirds. Hence, the overall level of payments is low, with one exception in 2022 (Fig. 2). Payments in the Netherlands are known to be liable to changes in market prices and changes in management regulations and may reflect socio-economic and societal reasons as well (e.g. improved knowledge on how to apply for compensation, or changes in general tolerance levels towards geese). Either way, the payments do show a very pronounced increase, from 17.6 million in 2020 to 40.2 million in 2024. Indeed, by 2024, 47% of the overall compensation payments for agricultural damage, which includes other bird species and mammalian species like Wolf (BIJ12 2025), were assigned to Greylag Geese.

Subsidy payments are only applicable to goose accommodation areas in the Netherlands. These have not been specifically laid out for Greylag Geese, so payments are directed at Barnacle Geese, Greater White-fronted Geese and Dark-bellied Brent Geese as well. These payments have increased slightly since 2020 (Fig. 2) yet only reflect a fraction of the payments involved in direct compensation of damage.

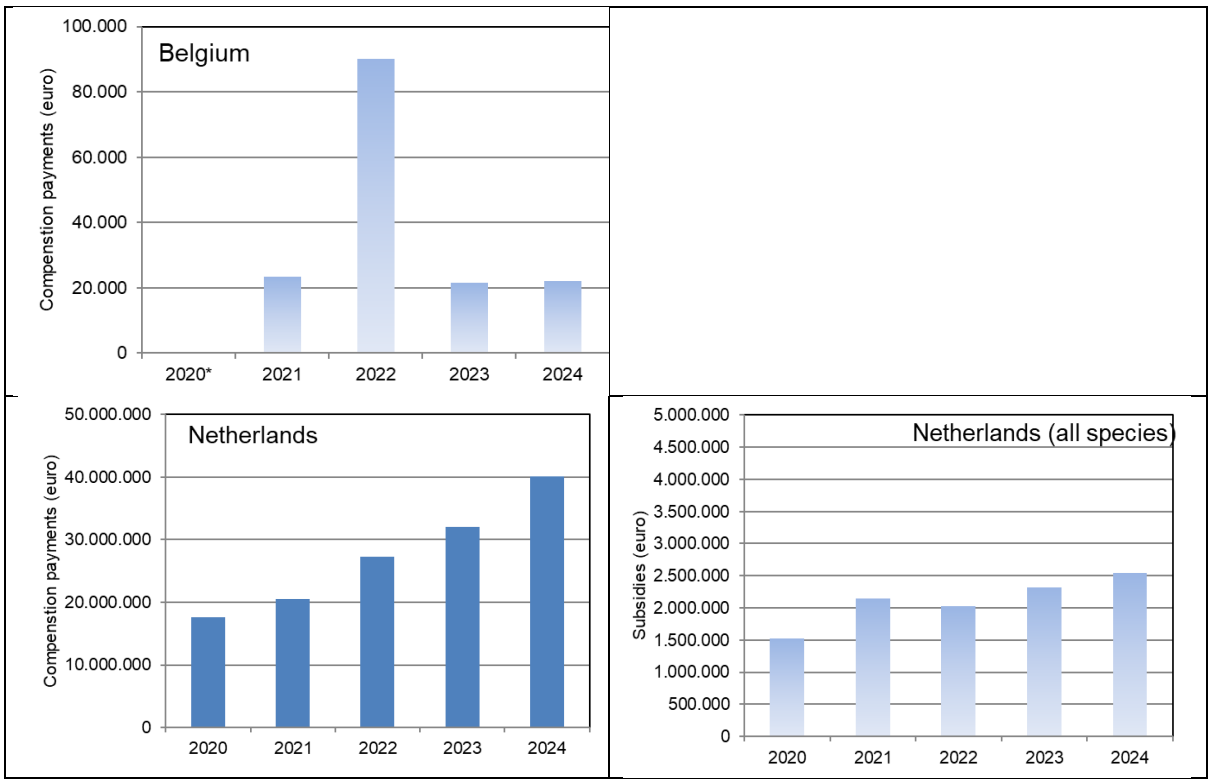

***Figure 2**. Overview of compensation payments (left) and subsidies paid e.g. to accommodate Greylag Geese (right) (in euro). Note that some data were not made available (year marked with *) while some payments could not be specifically assigned to Greylag Goose (indicated by pale blue columns). Labels on x-axes may reflect either calendar years or seasons (in this case 2020 is reflecting the season 2019/20). Note different scales on y-axes.*

An overall assessment of compensation and subsidies show a clear increase since 2020 (Fig. 3), but as described above this just represents the situation in the Netherlands. For other Range States, no assessment of damage is carried out, or no compensation is paid, thus an overall estimate of the agricultural conflict is not possible by numerical values alone. In Norway, damages appear to have increased based on complaints from farmers, but this cannot be quantified due to a lack of data. As an alternative data source, a system for including municipality reports based on lethal scaring applications is under development.

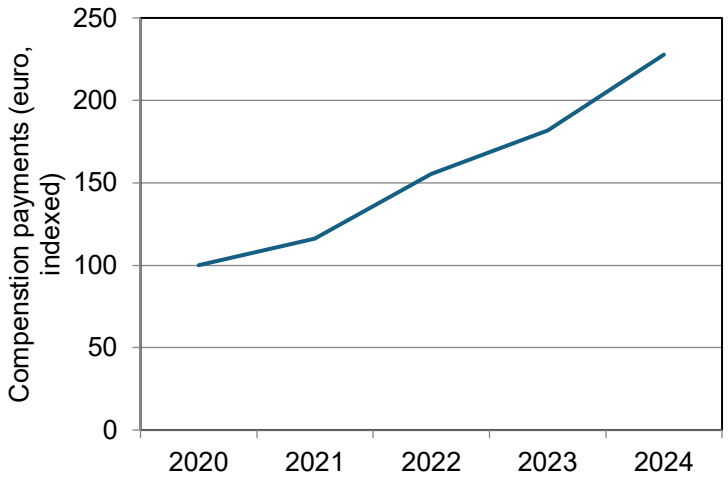

***Figure 3.** Overall compensation payments for damage by Greylag Geese in Belgium and the Netherlands, indexed to year 2020.*

Number of geese killed under derogation

In countries with an open season to hunt Greylag Geese, derogations usually refer to shooting outside the regular hunting period. Only in the Netherlands, where Greylag Goose is not a huntable species, is all offtake done under derogation. Hence, the overall offtake under derogation is heavily dominated by the situation in the Netherlands, with an average of 256,000 birds killed annually in the period 2020-2024 (Fig. 4). Although offtake has increased in the long term, the number of geese killed annually remained rather stable from 2020 to 2024. For the Netherlands, data likely involves some overreporting, which is currently under investigation, and ways to improve the bag statistics are elaborated. Derogations during the breeding season are generally not regarded the preferred tool to reach management objectives, but should mainly serve to alleviate local conflicts.

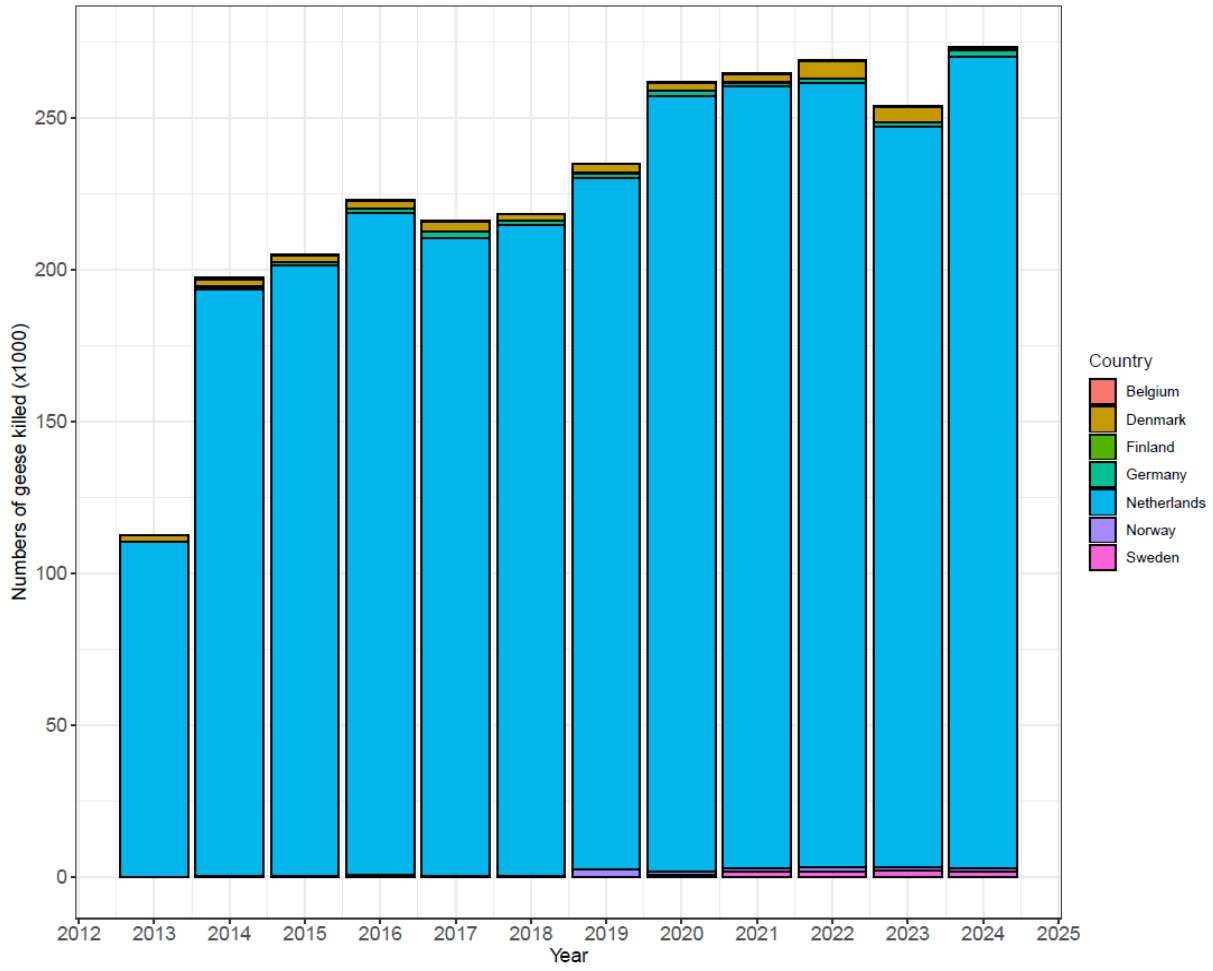

Figure 4. *Total number of Greylag Geese killed under derogation per calendar year 2013-2024. Data from the Netherlands are incomplete (one of the 12 provinces missing) for 2023 and 2024. Derogation numbers from Norway are estimates, based on information from county governors and municipalities.*

Fundamental objective III: Minimise the risk to public health and air safety

Indicator III.1: Risk of zoonotic influenza transmission to the general public

This indicator measures the progress towards the public health component of fundamental objective III. As cases of human infection are extremely rare, we have further assessed this indicator by asking Range States to report on the number of infected geese recorded annually (2020-2024) at national level, ideally combined with

an explanation of how national monitoring takes place. Furthermore, Range States were asked to report the number of cases registered in captive birds (mainly poultry farms) at national level to assess the risk.

No human cases of avian influenza were registered in the Range States of the NW Europe (br) Population of Greylag Goose during the period 2020-2024. However, cases discovered elsewhere (see for example Doc. AEWA/EGMIWG/11.7) have mainly been asymptomatic, which often prevents detection. In Denmark, an EU-co-funded project is currently expanding the active surveillance for zoonotic influenza infections in humans.

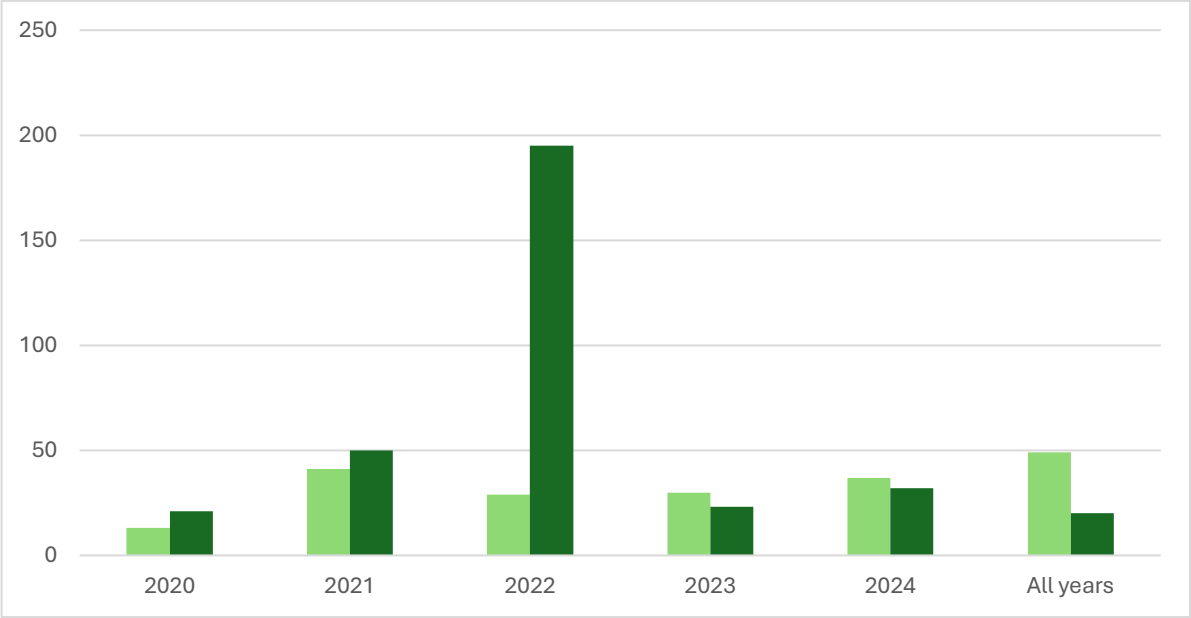

Figure 5. *Number of Greylag Geese tested for avian influenza (dark green: positive, light green: negative) during the years 2020-2024 in Belgium, Denmark, France, the Netherlands and Spain. For Finland, Norway, and Sweden, the number of tests were reported along with the test results as total figures per country for the entire period. Results from these three Range States are combined in the columns labelled "All years".*

All Range States rely on passive surveillance, testing only dead or sick wild birds. From the data provided for this analysis, it is evident that an outbreak among Greylag Geese occurred in 2022 (see Fig. 5). Almost 93% of the positive cases that year were found in Belgium (39) or Spain (62), however, confirmed cases of HPAI in France were reported as belonging to "geese, swans and ducks" and are thus not included here. Finland, Norway and Sweden reported the number of tested birds for all years combined, and in those three Range States - opposite the situation in the remaining Range States - the number of negative results outnumbered the positive ones.

In captive birds, the number of outbreaks peaked in 2021/2022, and the pattern was mainly driven by outbreaks in France, where more than 1,000 cases were confirmed during those years (from August 2021 to July 2022) (Fig. 6).

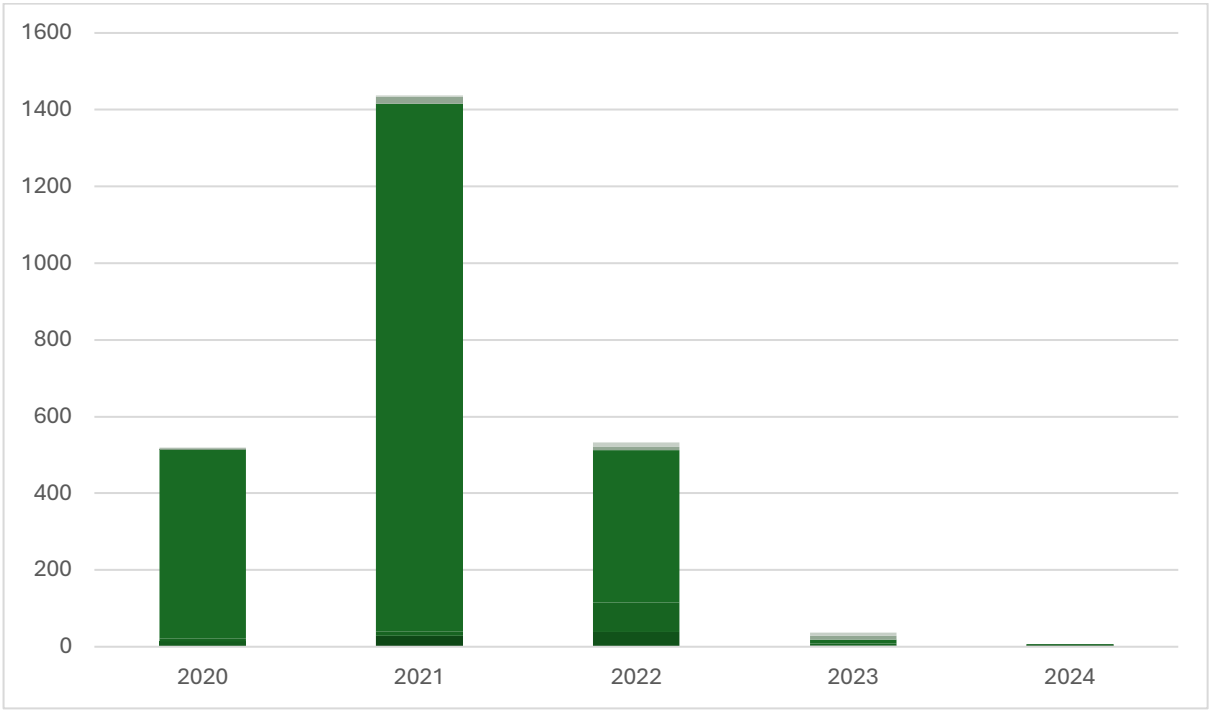

Figure 6. *Number of HPAI outbreaks among captive birds (poultry) in Greylag Goose Range States during 2020-2024.*

Indicator III.2: Number of bird strikes with aircraft caused by Greylag Goose

The eight range states of the NW Europe (br) population of Greylag Goose reported a total of eleven bird strikes caused by Greylag Geese during the period 2020-2024. As seen in Fig. 7, up to four goosestrikes per year were recorded. Although an indication of an increasing trend is seen during the first years of the assessment period, no goose strikes with Greylag Geese were recorded in 2024, thus no overall trend is seen.

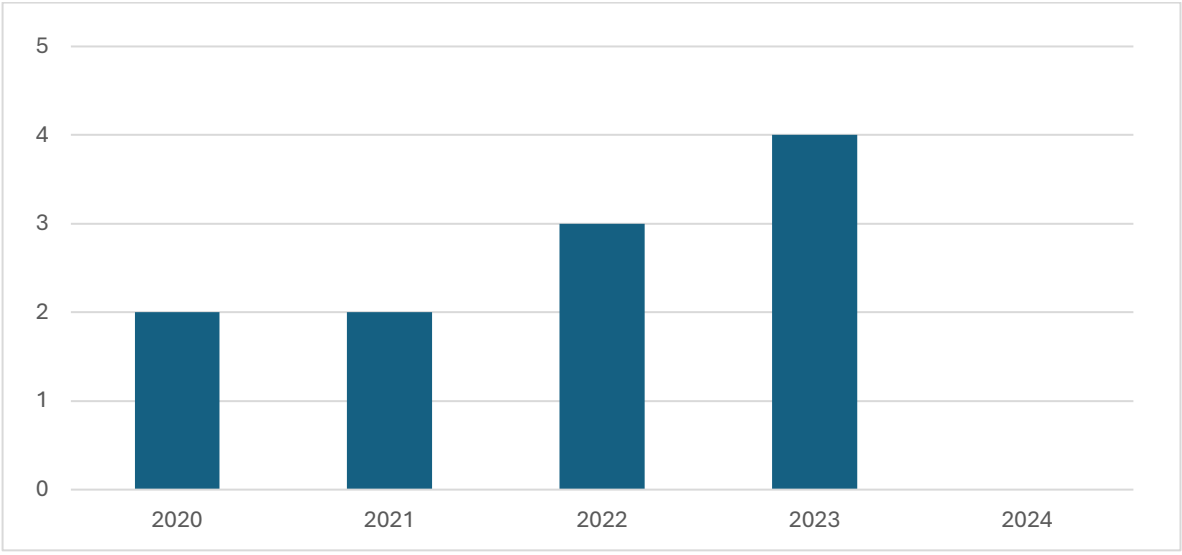

Figure 7. *Number of bird strikes with aircraft caused by Greylag Geese during the period 2020-2024, as reported by the Range States of the NW Europe (br) population of Greylag Goose.*

Indicator III.3: Number of Greylag Geese passing over commercial airports

The Range States of the NW Europe (br) population of Greylag Goose do not systematically monitor the number of geese passing over commercial airports and did not provide data to assess this indicator. Belgium indicated that the potential problem is likely to be small, as no Belgian airports have reported regular passage or movements of Greylag Geese. Copenhagen Airport has collected data on passing geese since 2018, yet data is not yet available.

Fundamental objective IV: Minimise the risk to other flora and fauna

Indicator IV.1: Area of natural habitat or habitat of threatened species negatively affected by Greylag Geese

This indicator measures the progress towards minimising the risk to other flora and fauna and considers only natural habitats of conservation interest, focusing on describing the current situation (as of 2024/2025) along with a qualitative statement as to whether risks to other flora and fauna posed by Greylag Geese have increased recently. Range States were specifically asked whether Greylag Geese interact with (1) specific habitat of threatened species (e.g. birds or plant communities), (2) habitat quality in general (e.g. impact on nutrient-poor lakes) and (3) conservation objectives or management goals at site-level, which may be under pressure due to grazing by Greylag Geese.

Spain, France and Finland replied that impacts of Greylag Goose on other flora and fauna are unknown to them. Similar findings were reported from Norway, although reports suggest that protected wetland areas for (other) birds have turned into "goose protection areas" (at least in the Oslofjord region). Only in Belgium, the Netherlands, and Sweden have specific impacts been recorded or presumed. Denmark did not provide information on this indicator, and Germany does not implement the GG ISSMP.

In Belgium, conflicts have been observed with establishment of new reed beds and reed bank development (e.g. to facilitate breeding of Eurasian Bittern and Little Bittern), which is hindered by grazing activities of Greylag Geese. Once the reed beds had been established, further negative impact was usually limited. Fencing out emerging reed vegetation was used to prevent grazing by the geese. Another conflict situation was recorded at sites which were fenced to protect rare ground-breeding species like Avocet, Redshank, Common Tern, Black-headed Gull and Eurasian Spoonbill from predation risk by e.g. Red Fox. Greylag Geese also learned to use such sites for nesting and chick-rearing but had a negative impact on the other breeding birds (in this case derogations were used as instrument to reduce goose numbers). So far, negative impact on conservation or management objectives can be prevented but does require extra and active targeted measures from the site managers.

Grazing of reed beds is also considered a major issue in the Netherlands, where grazing has an impact on the vitality of reed beds and transition stages between water and land, affecting specific habitats or development of specific habitats (e.g. Vulink et al. 2010, Bakker et al. 2018). This may be caused by breeding Greylag Geese, but many reports also specifically refer to Greylag Geese retreating into extensive reed beds during the flightless moult period that lasts several weeks (e.g. Loonen et al. 1991). Some reports hint at a link between Greylag Goose abundance and the lack of recovery (or declines) of reed-breeding bird species, whereas other studies mention positive impacts, for example on breeding of Spotted Crake and Bearded Tit (examples given by e.g. de Fouw & van der Hut 2017, Buij et al. 2017) and habitat structure in reed beds in general (Vulink et al. 2010). The interaction between grazing geese and reed beds also depends on water levels and water table management (Vulink et al. 2010). Hence, impact may vary according to very site-specific conditions. In some areas, reed beds also have been fenced out to prevent over-grazing by geese (van der Winden et al. 2022). Locally negative impacts of Greylag Geese on breeding Black Terns was observed as well, as the geese use the rafts which have been put out as breeding and roosting platforms for terns (van der Winden 2010). Other aspects like eutrophication of natural nutrient-poor lakes have been reported as well but mainly seem a local issue. Furthermore, as for Barnacle Goose, impacts on meadow birds are often put forward as an issue but is often difficult to isolate from other environmental impacts and has not been specifically proven for Greylag Geese by well-designed studies.

In Sweden, habitat deterioration resulting from grazing Greylag Geese is also mentioned, e.g. regarding habitat for breeding waders and over-grazing of reed in limnic areas, but there is no data available to assess the impact in more detail.

More in general, Greylag Geese have been reported to play an important role in the spread of propagules of plants (see Buij et al. 2017 for overview) and have played a key-role in preventing some large wetlands to become completely overgrown (e.g. Vulink et al. 2010 for Oostvaardersplassen in the Netherlands).

Fundamental objective V: Maximise ecosystem services

Indicator V.1: Number of people enjoying watching geese

Six range states reported the annual number of people reporting Greylag Goose observations to national online bird portals. No data was available from France and Spain. Spain provided guidance on how alternative information on the number of people enjoying goose watching could be explored (for example the number of visitors to key sites for Greylag Goose), yet no such information was compiled (nor requested) for this assessment. Considering the purpose of this report, and since each Range State has submitted data for all years, allowing us to make direct comparisons across years, we have included all data as reported in Fig. 8. As shown here, the number of people watching and reporting Greylag Geese has apparently increased since 2020. Although the number of goose observers per year varied greatly between national reports, probably also indicating varying levels of coverage, we consider the data representative and indicating a real trend.

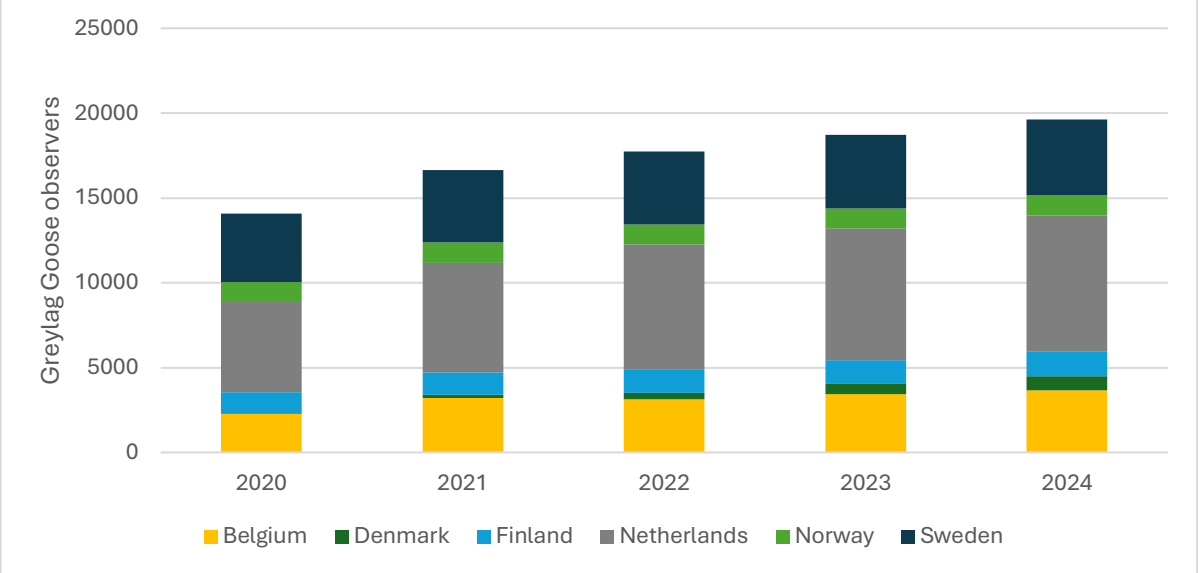

Figure 8. *The number of observers reporting Greylag Geese to national online bird portals during the period 2020-2024.*

Indicator V.2: Number of recreational Greylag Goose hunters

As species-specific hunting licenses are generally not issued for Greylag Goose, Range States were asked to provide information on the number of hunters that reported at least one harvested Greylag Goose for each of the years 2020-2024. This means that values for each year (hunting season) and country expresses only the number of successful Greylag Goose hunters and does not include recreational hunters that in a given year did not harvest any Greylag Geese. Furthermore, it is not possible to combine numbers from individual years to produce a total number of Greylag Goose hunters during the assessment period. Belgium reported the number of hunting groups reporting Greylag Goose offtake, as hunters don't report their hunting bag individually. Hunting groups unite on average 71 hunters, each shooting less than one goose in an average year.

As seen in Fig. 9, the number of hunting groups in Belgium and the number of hunters in Finland and Sweden have been fairly stable, although slightly declining during the period 2020-2024. In comparison, a rather drastic decline is seen in the number of Danish hunters reporting Greylag Geese offtake, with a particularly large drop between 2020 and 2021.

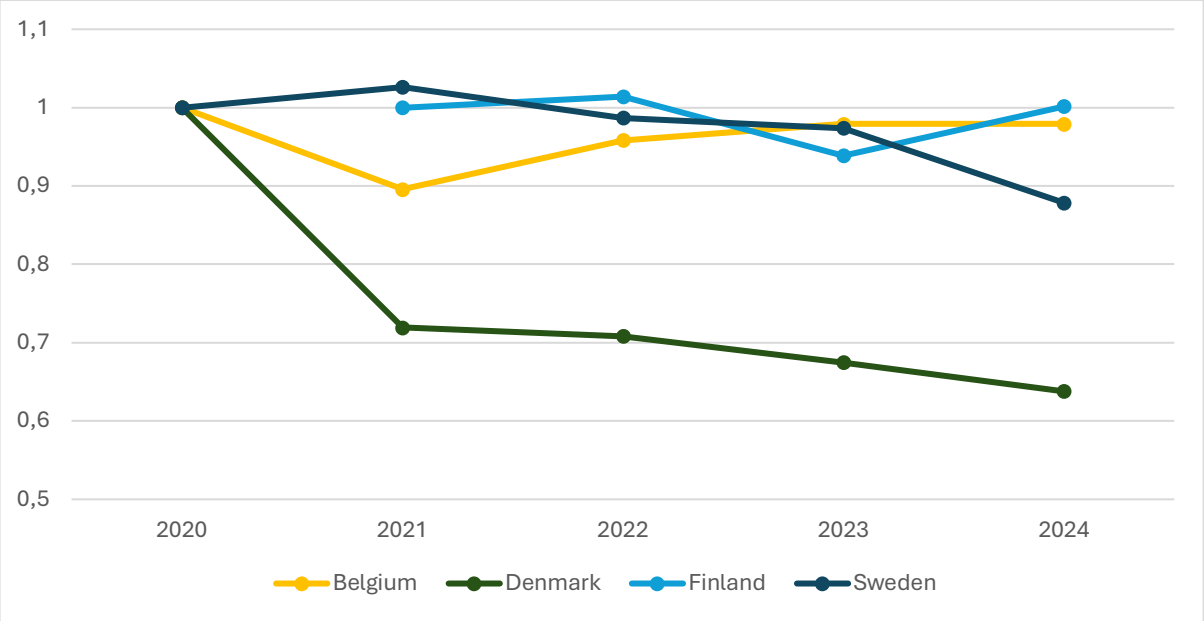

Figure 9. *National trends in the number of recreational hunters (Denmark, Finland, and Sweden) or hunting groups (Belgium) that reported harvested Greylag Geese during the period 2020-2024. As actual numbers range from 86 (Belgium, 2021) to 54900 (Sweden, 2021), all national indices are set to 1 in year 2020 to allow for comparison of trends .*

Indicator V.3: Number of Greylag Geese killed and used

Range States were asked to provide information on the use of meat from Greylag Geese killed under derogation. All except two Range States reported that meat from geese killed under derogation is not treated differently to meat from geese harvested through hunting. Thus, in most of the range, at least where opportunities for obtaining derogation permits exist, the majority of shot geese are used for human consumption. In Belgium, an estimated average of 50% are shot and used for human consumption, whereas 50% are caught during moult in which cases the meat is often destroyed. However, in the Netherlands where more than 96% of the annual derogation permits are typically issued (see Fig. 4), the use of meat from geese killed under derogation is not quantifiable. De facto, this prevents a proper assessment of the use of meat from Greylag Geese killed under derogation.

Fundamental objective VI: Minimise costs of goose management

Indicator VI.1 Relative change in cost of goose management

This indicator measures the progress towards minimizing the costs of goose management and is defined by the number of administrative man-years spent on goose management in the Range States. The results provide detailed insight on how goose management (not only for Greylag Goose, but in a broader context as well) is organised in the different Range States within the flyway (Tab. 2). Furthermore, responses also give insight into the workflows related to goose management. For instance, in Norway, derogations are issued by the municipalities, while in the Netherlands they are issued by the 12 provinces, and in countries like Denmark and Finland issued by the respective government agencies.

Few countries provided an indication of the volume of labour involved in (Greylag) goose management. In countries with strong decentralised administrations like the Netherlands and Sweden, more people are

apparently involved than in countries with a more centralised management. In addition, the Netherlands maintain a comprehensive system of compensation payments and subsidy schemes to accommodate geese, including Greylag Goose. Since estimates of labour and associated costs is limited, it is not possible to indicate whether efforts involved in goose management have increased since 2020.

Table 2. *Overview of local, regional and national organisation of goose management along with an estimate of labour involved. n/a: not available, i.e. not reported. Note that this table does not indicate specific efforts to manage Greylag Geese but includes information on goose management in general. Germany does not implement the ISSMP for Greylag Goose and is therefore not listed here.*

Country	No. of agencies	Labour	Agencies involved / Explanation
Spain			
Local	n/a	n/a	
Regional	n/a	n/a	
National	n/a	n/a	
			Management is mainly organized via Site Management Plans by Autonomous Communities (CCAA).
France			
Local	n/a	-	-
Regional	n/a	-	-
National	4	ca. 10 days/yr	National hunters' association (FNC), LPO, Ministry (DEB), French Office for Biodiversity (OFB) In total 4-5 persons involved
Belgium			
Local	-	-	
Regional	1	"very limited"	Agency of Nature and Forest, Flem. Government
National	1	"very limited"	Agency of Nature and Forest, Flem. Government
Netherlands			
Local	-	-	
Regional	25	35.3 man-years	12 provinces, 12 regional wildlife councils, BIJ12 agency
National	1	0.3 man-years	Ministry of Agriculture, Fisheries, Food Security and Nature
Denmark			
Local	-	-	
Regional	1	1.0 man-year	Nature Agency Wildlife Management Units
National	3	0.25 man-year	Nature Agency, Agency of Green Transition and Aquatic Environment, Danish Veterinary, Food, Agriculture and Fisheries Agency In total about 15-18 persons involved
Sweden			
Local	-		
Regional	21	n/a	County administration boards
National	8	n/a	Environmental Protection Agency, Sw. Board of Agriculture, Sw. Veterinary Agency, Sw. University of Agricultural Sciences, Sw. Association of Hunting & Wildlife Management, BirdLife Sweden, Federation of Swedish Farmers, Hunters Association In total about 40-45 persons involved in goose management (not specifically Greylag Goose) but with varying time effort.
Norway			
Local	n/a	n/a	Municipalities (application for derogations)
Regional	n/a	n/a	County Governors
National	n/a	n/a	Norwegian Environmental Agency, Norwegian Agricultural Directorate

Country	No. of agencies	Labour	Agencies involved / Explanation
Finland			
Local	n/a	"very limited"	
Regional	n/a	"very limited"	Regional administrative agencies
National	n/a	1.0 man-year	Finnish Wildlife Agency, Natural Resources Institute

Fundamental objective VII : Provide hunting opportunities that are consistent with maintaining the population at a satisfactory level

Indicator VII.1: Available sustainable hunting quota

In recent years, the available data on population size and offtake for Greylag Goose have apparently been severely biased. This has prevented the EGM IWG from establishing a dynamic, model-based management at Management Unit (MU) level, which again has prevented the provision of country- or MU-specific hunting quotas. However, the population is assessed annually, and its continued increase well above the FRP and target for both MUs indicates that the current hunting pressure is consistent with maintaining the population in favourable conservation status, although perhaps its (large) size is no longer satisfactory to all stakeholders.

Discussion

Fundamental objective I: Maintain the population at a satisfactory level

Indicator I.1: Population size compared to the target population size

This indicator measures the progress towards maintaining the population at a satisfactory level, i.e. at a population size above the FRP and approaching the target. As seen in Fig. 1, the NW Europe (br) Population of Greylag Goose has grown markedly in recent decades and is currently of a size more than twice the FRP and well above the target population size. This is true for the wintering population, as shown in this report, but also for the summering population in both Management Units (see Sørensen et al. 2026).

There is no indication of the population size approaching the target. Until dynamic and model-based management can be implemented at MU level, it will likely be difficult to achieve the agreed target population size.

This indicator is of central importance to the ISSMP and does not incur any additional burden on the respective Range States, thus we recommend maintaining it.

Indicator I.2: Range extent compared to Favourable Reference Range (FRR)

This indicator measures the progress towards maintaining the population range at a satisfactory level. According to the AFMP, assessment of this indicator should include both breeding and non-breeding (staging and wintering) range compared to the FRRs. However, while information on the current breeding range in proportion of the breeding FRR is easily extracted from the Article 12 reporting (EU Member States) or the AEWA national population status, the current non-breeding range in proportion of the non-breeding FRR is not readily available.

As shown in Table 1, the current breeding range of the NW Europe (br) population of the Greylag Goose is smaller than the bFRR. Further inspection of Table 1 reveals that the breeding range of MU1 has increased slightly, whereas the range of MU2 has apparently decreased significantly. However, the discrepancies regarding MU2 is mainly due to a lack of data for this part of the assessment. Most importantly, Germany is not participating in the implementation of the Greylag Goose ISSMP and has therefore not submitted information for the indicator assessment. Furthermore, the bFRR set by France in the AFMP seems to be unrealistically large and should be revised to align with the values provided by other Range States. When

considering only Belgium and the Netherlands, the current range is only slightly below the bFRR – and since the current range in France represents a dramatic increase in recent decades (2413% since 1985!), it is expected that the actual breeding range is currently larger than the bFRR for both Management Units, and thus also for the population as a whole.

This indicator is of central importance to the ISSMP and does not incur any additional burden on the respective Range States, thus we recommend maintaining it. As the procedure for delineating the non-breeding range is rather complicated, it was decided to rely only on information on the breeding range for this assessment. However, as concerns have been raised regarding the possible contraction of the non-breeding range of the Greylag Goose (particularly in the southernmost part of the range), we recommend maintaining the indicator as it is and urge the IWG to consider ways to fully assess this indicator in the future, including information on both breeding and non-breeding range.

Fundamental objective II: Minimise agricultural damage and conflicts

Indicator II.1: Relative change in damage payments

Since Greylag Goose is a huntable species in most countries, only two Range States have established payment systems to compensate for agricultural damages caused by this population. In Belgium, such payments are primarily regarded as an exception, and the volume of payments is low, whereas in the Netherlands increasing amounts of compensation have been paid to compensate for damages caused by Greylag Geese. Even though this increase does not only reflect an increase in goose numbers, it is remarkable that the volume of payments reached a level of just over 40 million euro in 2024, i.e. nearly half of the overall national compensation payments spent on damage to agriculture. In addition, the Netherlands maintain a subsidy system for farmers to accommodate geese, where costs have also increased since 2020.

Due to the situation in the Netherlands, there has been a clear increase in payments assigned to Greylag Geese since 2020. Since compensation is only paid in two countries, we cannot use damage payments to assess how the agricultural conflict has evolved across the range. In Norway, an increasing number of complaints from farmers suggest that agricultural damage has increased, but this cannot be quantified due to lack of data. On the other hand, the number of Greylag Geese killed under derogation (again dominated by the situation in the Netherlands, where Greylag Goose is not a huntable species) has remained rather stable in recent years, after undergoing a long-term increase.

Even though this indicator does not cover all aspects of agricultural damage and conflict, it is proposed to maintain the indicator as it is, as data (for countries where appropriate) is routinely collected and relatively easy to retrieve. Besides, results from the impact assessment modelling (see Doc. AEWA/EGMIWG/Inf_8.15) may assist further in finding ways to link damage and conflict levels to goose abundance.

Fundamental objective III: Minimise the risk to public health and air safety

Indicator III.1: Risk of zoonotic influenza transmission to the general public

This indicator measures the progress towards the public health component of fundamental objective III. As cases of human infection are extremely rare, we have further assessed this indicator by asking Range States to report on the number of infected geese recorded annually (2020-2025) at national level, ideally combined with an explanation of how national monitoring takes place. Furthermore, Range States were asked to report the number of cases registered in captive birds (mainly poultry farms) at national level to assess the risk.

All Range States rely mainly on passive surveillance to monitor the occurrence and spread of avian influenza in wild birds, thus testing mostly dead (and in some cases sick) birds. The lack of active surveillance, for example during capture and ringing of wild geese, prevents us from gaining a deeper understanding of the disease dynamics of the wild population and predicting new outbreaks. Certainly, when members of the public

are encouraged to report findings of dead wild birds, and only very limited testing of seemingly healthy wild birds is carried out, focus will be on the birds that are badly infected and/or die. This may lead to discoveries of new viral strains and detect new outbreaks, yet passive surveillance is not always timely in terms of understanding the risks posed to poultry, other captive and wild birds, and humans, although monitoring may help prevent disease transmission to those groups.

Even though our focus is on the risk to humans posed by the wild goose populations, we recommend maintaining all three subindicators and monitor the situation carefully, including the results of ongoing studies such as the one in Denmark. Outbreaks of avian influenza among captive birds is routinely monitored and serves as an additional measure of the prevalence of the virus along the flyway of the NW Europe (br) Population of Greylag Goose. Monitoring the cause of death in wild migratory geese warns, in turn, of potential spread of the virus once spring or autumn migration sets in. Altogether, these potential sources of infection determine the risk posed to humans.

One suggestion for making the first subindicator more meaningful in terms of Greylag Goose management would be to include only those human cases where the source of infection is thought to be through contact with wild Greylag Geese. As no human cases of avian influenza were registered in the Range States of the NW Europe (br) Population of Greylag Goose during the period 2020-2024, risk of transmission is considered small.

Indicator III.2: Number of bird strikes with aircraft caused by Greylag Goose

This indicator measures the progress towards the air safety component of fundamental objective III. The increase in number of bird strikes involving Greylag Geese during 2020-2023 did not continue in 2024, where no such incidents were recorded, and was most likely related to the increase in air traffic seen during the post-pandemic period as normal travel patterns were slowly resumed.

As the potential damage caused by a collision between aircraft and geese is considerable, efforts to increase flight safety should continue, and we recommend continued monitoring of this indicator to ensure timely actions from the EGMP in case the risk of bird strikes should increase. Monitoring this risk should remain a key activity of the EGMP Flight Safety Task Force.

Indicator III.3: Number of Greylag Geese passing over commercial airports

This indicator also measures the progress towards the air safety component of fundamental objective III, focusing more on the risk than on the number of incidents. Although attempts were made to gather data on the number of geese passing over commercial airports, neither the Range States nor the Flight Safety Task Force have been able to procure such data. Although data exist from Copenhagen Airport in Denmark, this indicator seems extremely difficult to monitor, and therefore we do not find it very useful in terms of measuring progress in the implementation of the Greylag Goose ISSMP. Our recommendation is to revise this indicator and seek other ways to assess the risk of bird strikes in the future.

Fundamental objective IV: Minimise the risk to other flora and fauna

Indicator IV.1: Area of natural habitat or habitat of threatened species negatively affected by Greylag Geese

This indicator measures the progress towards minimizing the risk to other flora and fauna and considers only the natural habitats of conservation interest.

The main impact of Greylag Goose seems to be on marsh vegetation in wetlands, specifically reed beds. Apart from impacts on the vegetation as such (which has been studied by exclosure experiments, e.g. Bakker et al. 2018), impacts on other flora and fauna are less straightforward and may be both positive and negative, depending on local conditions such as water level. For the period 2020-2024 no indication of a trend was given, but multiple studies report that conflict issues have increased with the Greylag Goose population growth in the past two decades. Besides, it is not always clear whether breeding or moulting Greylag Geese (or both) are causing most severe impacts and conflict. Until the 1990's, only a limited number of (larger) moulting sites

were known in NW Europe (Nilsson et al. 1999) but with the strong increases after 2000 multiple (smaller) moulting sites seems to have emerged in nearly all countries along the flyway. Thus, the scale of impact on reed vegetation and other fauna is likely to be larger than in the past. However, for the period 2020-2024 no trend was indicated by the Range States.

Assessment of this indicator retrieved valuable information about the potential impacts on flora and fauna, yet it remains difficult to pinpoint parameters that may be used to monitor future trends. Therefore, we recommend using the responses given for this assessment as a background for conducting a comprehensive review of existing literature in order to assess the risk and formulate possible ways to proceed with assessing this aspect of damage to other flora and fauna. In addition, well-designed studies would help to gather evidence of how breeding and/or moulting Greylag Geese utilise wetlands and what impacts they may have on reed beds and other vegetation (including the resulting responses of other species). Once a literature review has been carried out, we will advice on how to proceed with this indicator. For now, we suggest maintaining it as it is.

Fundamental objective V: Maximise ecosystem services

Indicator V.1: Number of people enjoying watching geese

This indicator measures the progress towards the cultural/recreational component of Fundamental Objective V. Reports from Range States show an increasing number of observers reporting Greylag Goose observations to their national databases. This may be caused by a general increase in the use of online bird portals, yet we still consider the increase as an indication that the number of people watching geese has in fact increased. We are aware that not all goose records are submitted to the chosen portals, but this bias is likely to be similar for all years. Through the monitoring reports submitted to the EGMP Data Centre on an annual basis, we are aware that many observers take part in goose population counts and other surveys; these observers are likely reporting through other channels and thus may not be included in the figures presented here.

As the data for assessing this indicator is readily available and useful for evaluating the interest in watching and reporting geese, we recommend maintaining this indicator. However, as the AFMPs instruct Range States to base the assessment on the change in the annual number of people submitting sightings of Greylag Geese to EuroBirdPortal, we recommend revising the definition of this indicator to include information on the number of observers submitting sightings of Greylag Goose to the national databases instead (as done for this assessment). The data is likely to be similar, if not identical, as EuroBirdPortal is fed by the national databases, but the national databases are more accessible.

To focus more on other types of ecosystem services, additional indicators could be considered.

Indicator V.2: Number of recreational Greylag Goose hunters

This indicator measures the progress towards maximizing ecosystem services through the cultural service provided by the geese to recreational hunters, and landowners earning an income from renting out hunting rights. Although only half of the Range States were able to provide information on the number of Greylag Goose hunters, the results were still remarkable. In Sweden and Finland, the number of Greylag Goose hunters was stable or showing a slight decrease, which is similar to the development in offtake reported for the annual status report (Sørensen et al. 2026). In Belgium, the number of hunting groups reporting offtake of Greylag Goose has been stable during the period, whereas the number of harvested Greylag Geese has increased (see the EGMP Database for information on offtake). Harvest has increased also in France and Germany, where information on the number of hunters was not provided. In this assessment (see Fig. 9), the results from Denmark stand out, as a marked decrease in the number of Greylag Goose hunters has been seen since 2020. The number of harvested Greylag Geese has shown the same trajectory with a particularly steep decline from 2020 to 2021.

Since Greylag Goose is the most common and widespread huntable goose species, the development shown here is likely to reflect the general trend in the number of hunters engaged in goose hunting. For management purposes, for example related to reaching a set target below the current population size, this is an important indicator to monitor, and we recommend maintaining it as it is even though further analysis is needed before firm explanations for the shown pattern can be provided. We recommend looking further into the correlation between the number of hunters and the reported offtake at national and MU level.

Indicator V.3: Number of Greylag Geese killed and used

This indicator measures the progress towards Fundamental Objective V through the provisional services of geese. While the number of Greylag Geese killed under derogation is reported to the EGMP Data Centre on an annual basis and thus readily available for this report (see Fig. 4), insight into the use of meat from geese killed under derogation was harder to obtain. In most range states, although not reported in detail by the hunters, goose meat from shot geese is assumed to be mainly used for human consumption and treated exactly like meat from geese harvested during hunting. However, as such information is not available from the Netherlands, where the largest number of Greylag Geese are killed under derogation, we are presently unable to assess this indicator. We recommend maintaining the indicator as it is, if the information is still considered valuable, in which case ways of obtaining quantitative information on the use of goose meat (particularly in the Netherlands) should be sought.

Fundamental objective VI: Minimise costs of goose management

Indicator VI.1 Relative change in cost of goose management

This indicator measures the progress towards minimizing the costs of goose management and is defined by the number of administrative man-years spent on goose management in the Range States.

Responses to this indicator gave a very mixed picture, with missing replies from several countries. However, it has delivered a rather detailed overview of how goose management is organised in the respective countries, illustrating the different levels of responsibilities and how management is implemented. Countries with decentralised goose management routines, like the Netherlands and Sweden have multiple administrative levels involved and thus automatically also include several different people and extensive workloads (though the latter was not quantified well by all Range States). All Range States manage some sort of compensation payments and subsidy systems for e.g. the accommodation of geese in farmland, which explains part of the large management efforts and high costs. No indication of a trend since 2020 was given.

Despite difficulties in obtaining replies from all Range States, we suggest maintaining this indicator, especially given the fact that balancing the costs of goose management is an important objective of the ISSMP.

Fundamental objective VII : Provide hunting opportunities that are consistent with maintaining the population at a satisfactory level

Indicator VII.1: Available sustainable hunting quota

This indicator measures the progress towards providing hunting opportunities that are consistent with maintaining the population at a satisfactory level. As the bias in the data provided to the EGMP Data Centre is currently preventing the provision of a sustainable hunting quota, several recommendations and initiatives have been presented to the IWG in recent years (Sørensen et al. 2024, 2025). Current initiatives include the recently established ad-hoc group working to shed light on new developments in migration and distribution patterns of Greylag Goose in the NW Europe (br) and its neighbouring populations (Doc. AEWA/EGMIWG/11.24), and efforts to improve offtake estimates from the Netherlands where reports appear biased in at least some provinces. Once both those tasks are concluded, the aim is to adjust the Greylag Goose

population model and move to a dynamic model-based management at Management Unit (MU) level. Only then will it be possible to provide sustainable hunting quotas.

We recommend maintaining this indicator as it is and encourage all Range States to cooperate to address the current biases.

Conclusion

Based on this assessment, we recommend that indicators I.1, I.2, II.1, III.1, III.2, IV.1, V.2, VI.1, and VII.1 are maintained as they are.

Indicator III.3 should be revised to ensure an appropriate assessment of the risk of bird strikes involving Greylag Geese, as no data is currently available to support such an assessment.

A slightly revised version of Indicator V.1 is recommended (see above) and, unless a more formal data collection scheme can be set up, Indicator V.3 should either be revised or omitted.

References

Bakker, E. S., C.G.F. Veen, G.J.N. ter Heerdt, N. Huig & J.M. Sarneel 2018. High grazing pressure of geese threatens conservation and restoration of reed belts. *Frontiers in Plant Science*, 9, 1649.

BIJ 12 2025. Monitor Faunaschade. https://www.bij12.nl/wp-content/uploads/2025/06/BIJ12-cijfers-faunaschade-schadejaar-2024.pdf (accessed 29.04.2026).

Buij, R, T.C.P. Melman, M.J.E.E. Loonen & A.D. Fox. 2017. Balancing ecosystem function, services and disservices resulting from expanding goose populations. *Ambio* 46 Supplement 2: S301-S318.

de Fouw, J. & R.G.M van der Hut 2017. Effecten van ganzen in Friese natuurgebieden. Rapport, *Altenburg & Wymenga ecologisch onderzoek*.

Loonen, M.J.J.E., M. Zijlstra & M.R. van Eerden 1991. Timing of wing-moult in Greylag Geese Anser anser in relation to the availability of their food plants. *Ardea* 79: 253-260.

Nagy S., H. Heldbjerg, G.H. Jensen, F.A. Johnson, J. Madsen, O. Therkildsen, E. Meyers, and S. Dereliev (Compilers). 2021. Adaptive Flyway Management Programme for the NW/SW European Population of the Greylag Goose (*Anser anser*). AEWA EGMP Programme No. 1. Bonn, Germany.

Nilsson, L., A. Follestad, K. Koffijberg, E. Kuijken, J. Madsen, J. Mooij, J.B. Mouronval, H. Persson, V. Schicke & B. Voslamber 1999. Greylag Goose Anser anser: Northwest Europe. Pp. 182-201. In: J. Madsen, G. Cracknell & A.D. Fox (eds), Goose populations of the Western Palearctic. A review of status and distribution. Wetlands International Publ. No. 48. Wetlands International, Wageningen and National Environmental Protection Institute, Rönde.

Piironen, A. & T. Laaksonen 2023. A gradual migratory divide determines not only the direction of migration but also migration strategy of a social migrant bird. *Proc. Biol. Sci.* 290 (2005): 20231528. https://doi.org/10.1098/rspb.2023.1528

Powolny, T., G.H. Jensen, S. Nagy, A. Czajkowski, A.D. Fox, M. Lewis, and J. Madsen (Compilers). 2018. 'AEWA International Single Species Management Plan for the Greylag Goose (*Anser anser*) - Northwest/Southwest European population'. AEWA Technical Series No. 71. Bonn, Germany.

Seimola, T. & A. Linden 2026. Unpublished calculation. *Finnish Bird Atlas* https://tulokset.lintuatlas.fi/species/MX.26291.

Sørensen, I.H., F.A. Johnson, R.R. Germain & J. Madsen 2024. Estimating Greylag Goose breeding population size and productivity. Status and recommendations for post-breeding population counts and age ratio surveys in breeding range states of Management Unit 1 of the NW/SW European population of Greylag Goose: Denmark, Norway, Sweden, and Finland. EGMP Technical Report No. 23, Bonn, Germany.

Sørensen, I.H., R.R. Germain, F.A. Johnson, H. Baveco, K. Koffijberg, and J. Madsen 2025. Population Status and Assessment Report 2025. EGMP Technical Report No. 26. Bonn, Germany.

Sørensen, I.H., R.R. Germain, K. Koffijberg, J. van Irsel and Madsen, J. (2026). Population Status and Assessment Report 2026. EGMP Technical Report No. 29. Bonn, Germany

Vulink, T., M. Tosserams, J. Daling, H. van Manen & M. Zijlstra 2010. Begrazing door Grauwe ganzen is een bepalende factor voor ontwikkeling van oevervegetatie in Nederlandse wetlands. *De Levende Natuur*, 111(1), 52–56.

van der Winden, J. 2010. De effecten van Grauwe ganzen op broedkolonies van de Zwarte stern. *De Levende Natuur*, 111(3), 131–133.

van der Winden, J., N. Korporaal, P. van Horssen, B. Klaassen & H. Coops 2022. Rasters helpen herstel van stromingsriet in randmeren. *De Levende Natuur*, 123(4), 126–131.