

**AEWA EUROPEAN GOOSE MANAGEMENT PLATFORM**



**5<sup>th</sup> MEETING OF THE  
AEWA EUROPEAN GOOSE MANAGEMENT  
INTERNATIONAL WORKING GROUP**

*15-18 June 2020, Online conference format*



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**DEFINING FAVOURABLE REFERENCE VALUES FOR THE NW/SW EUROPEAN  
POPULATION OF THE GREYLAG GOOSE (*Anser anser*)**

*(This document is the final version circulated on 25 March 2020 to the EGM IWG)*

## Summary

This document presents the technical description of deriving Favourable Reference Values for the NW/SW European population of the Greylag Goose that is subject of a Single Species Management Plan adopted by the AEWA MOP7. The approaches described here apply only to this species and population in the context of AEWA and its Single Species Management Plan and should not be considered as a precedence in the context of the application of the requirements of the Birds Directive.

Favourable Reference Values (FRVs), i.e. Favourable Reference Population (FRP), Range (FRR) and Habitat (FRH), are to be defined for the NW/SW European population of the Greylag Goose in the framework of developing Adaptive Flyway Management Programmes (AFMPs) under the AEWA International Single Species Management Plan (ISSMP) for this population as the first of a two-step process agreed during the development of the ISSMP. In this process FRVs represent the minimum ecological requirements to maintain the population as a viable component of its ecosystems. Population targets for the management will be defined above the Favourable Reference Population in the second step of the process at a level that balances amongst various and sometimes conflicting fundamental objectives using the Multi-criteria Decision Analysis (MCDA) method that is more suitable to deal with value judgements than the process of setting FRVs. Therefore, the Favourable Reference Values defined in this process should not be taken as management targets. They should be regarded only as the starting point above which management targets are to be set.

Based on the discussions at the 4<sup>th</sup> Meeting of the AEWA European Goose Management International Working Group on 18-20 June 2019 in Perth, Scotland, UK and the feedback received afterwards, it is proposed that the approach for setting Favourable Reference Values to define the Favourable Conservation Status of the NW/SW European population of the Greylag Goose shall follow closely the practice under the process of reporting under Article 17 of the EU Habitats Directive. This approach is sensible because (1) the Favourable Conservation Status (FCS) definition in the Habitats Directive very closely resembles the CMS definition which is to be applied in the context of AEWA, (2) there is already an extensive set of guidance on definitions and reporting provided by the European Commission under the Article 17 reporting process and (3) most of the Greylag Goose Range States already have ample experience with applying the FCS concept in that context.

Based on the feedback on *Doc. AEWA/EGMIWG/4.16/Rev.1* received at the 4<sup>th</sup> Meeting of the AEWA European Goose Management International Working Group, it is proposed that **breeding Range States set all three Favourable Reference Values (i.e. FRP, FRR and FRH) for the reproductive (breeding) season as well as the Favourable Reference Range and Favourable Reference Habitat for the non-reproductive (passage and wintering) at national level following the guidance of the European Commission (DG Environment 2017a) and communicate these FRVs to the AEWA Secretariat by filling in the data form in Annex 1 to this document by 31 December 2019.** If a Range State reports no FRVs to the UNEP/AEWA Secretariat, the Current Values will be assumed as FRVs in the MCDA process for that country.

The Favourable Reference Population for the non-reproductive seasons will be derived from the national breeding Favourable Reference Populations by the EGMP Data Centre using conversion factors. This approach allows aggregating Favourable Reference Values from the national level to the management unit and to the flyway population levels.

## List of Abbreviations

AV	= Agreement Value
CV	= Current Value (2013-2018 period <sup>1</sup> )
DV	= Directive Value (here Directive means the Birds Directive)
ISSMP	= International Single Species Management Plan
FCS	= Favourable Conservation Status
FRH	= Favourable Reference Habitat
FRP	= Favourable Reference Population
FRR	= Favourable Reference Range
FRV	= Favourable Reference Values
MVP	= Minimum Viable Population
PVA	= Population Viability Analysis

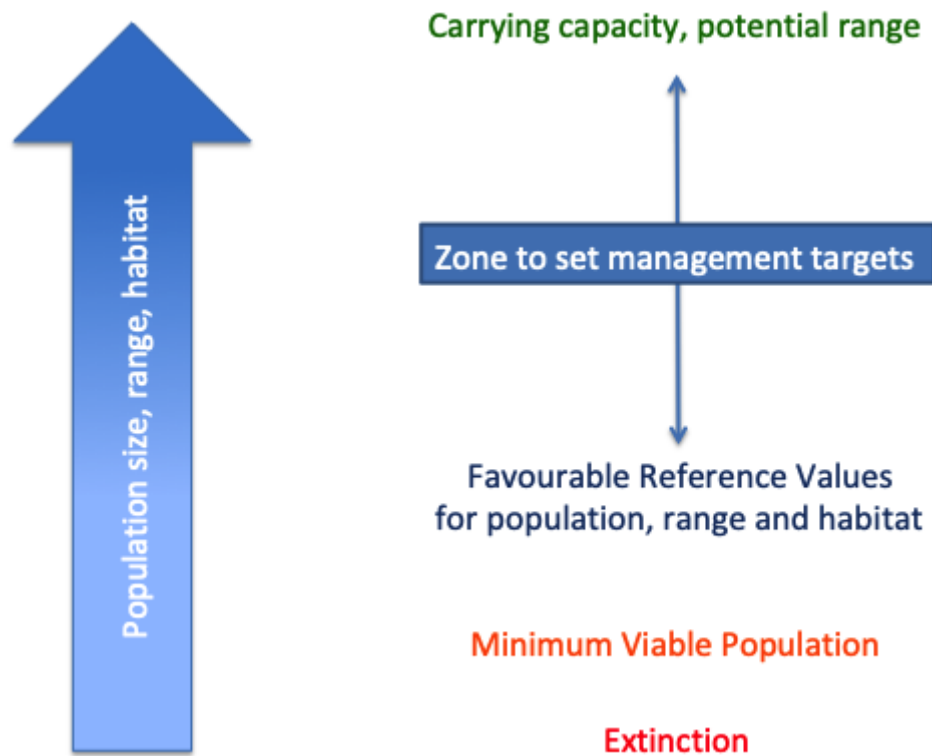
## Introduction

The AEWA International Single Species Management Plan (ISSMP) for the Northwest/Southwest Population of the Greylag Goose (*Anser anser*) (Powolny et al. 2018) aims to maintain the population in a Favourable Conservation Status (FCS) and states that Favourable Reference Values (FRVs) for population size, habitat and range are to be established in the Adaptive Flyway Management Programmes (AFMPs) by the AEWA European Goose Management International Working Group (EGM IWG).

In addition, Means Objective 4 of the ISSMP aims to maintain the population between agreed minimum and maximum targets above the Favourable Reference Population Value as the next step in the target setting process (Figure 1). This means that the Favourable Reference Population does not represent a population target in the context of the ISSMP, but it defines the population in a given region considered the minimum necessary to ensure the long-term viability of the species (DG Environment 2005) and any population management target should exceed this value. Considerations of socio-economic and recreational requirements and aspects of the conservation status that involve value judgements should not be part of setting the Favourable Reference Values. This approach effectively separates the issue of “*how much we need?*” to secure long-term viability of the population and to comply with legal requirements from “*how much we want?*” to satisfy various societal requirements (Trouwborst et al. 2015).

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<sup>1</sup> For the EU Member States this corresponds to the latest reporting period on Article 12 of the Birds Directive



**Figure 1.** The conceptual relationship between Favourable Reference Values and management targets. This graph shows that the Favourable Reference Population should be always larger than the Minimum Viable Population and the Favourable Reference Range and Habitat should be also larger than the range and habitat required by the MVP. However, the Favourable Reference Population can be smaller than the carrying capacity and the Favourable Reference Range and Habitat can be smaller than the potential range or all available suitable habitat if the requirements of the Favourable Conservation Status can be satisfied at lower levels. Nevertheless, management targets should always exceed the Favourable Reference Values.

The 2<sup>nd</sup> AEWI International Management Planning Workshop for the Barnacle Goose and the Greylag Goose (NW/SW European population) held in Leeuwarden, the Netherlands on 19 June 2018 has agreed that the process of setting the FRVs will follow the principles set out in the EU guidance documents (Bijlsma et al. 2019)<sup>2</sup>.

A proposal for Defining the Favourable Reference Values for the NW/SW European population of the Greylag Goose (*Anser anser*) (Doc. AEWI/EGMIWG/4.16/Rev.1) was presented at the 4<sup>th</sup> Meeting of the AEWI European Goose Management International Working Group meeting on 18-20 June 2019 following the guidelines of Bijlsma et al. (2019). However, it was not possible to reach a consensus concerning the approach proposed to define Favourable Reference Values. Nevertheless, the feedback received at the meeting clarified that:

1. Favourable Reference Values should be defined at national level by the Range States for the breeding season;
2. Favourable Reference Values should be possible to aggregate from national to management unit and to flyway population level;

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<sup>2</sup> The Netherlands made a disclaimer with regard to the use of this approach for other Birds Directive related subjects, in order to avoid setting a precedent in using this approach. However, it should be noted that the obligation to define Favourable Conservation Status in the context of the ISSMP stems from Article II.1 of the AEWI Agreement Text.

3. The Favourable Reference Population for the non-reproductive season should be derived from the national FRPs defined by the Range States for the breeding season;
4. The process and principles set out in the guidance document on Reporting under Article 17 of the Habitats Directive should be applied.

This document presents the technical description of deriving Favourable Reference Values for the NW/SW European population of the Greylag Goose that is subject of a Single Species Management Plan adopted by the AEWA MOP7. The approaches described here apply only to this species and population in the context of AEWA and its Single Species Management Plan and should not be considered as a precedence in the context of the application of the requirements of the Birds Directive.

### **Proposed process to define Favourable Reference Values for the breeding season**

Defining Favourable Reference Values at national level for the NW/SW European population of the Greylag Goose is consistent with the treatment proposed for partially migratory populations in Table 18 in DG Environment (2017a, pp. 115-116).

Rather than the UNEP/AEWA Secretariat making any recommendation on how to define the Favourable Reference Values at national level, it is recognised that all Range States except Norway are Member States to the European Union and their Competent National Authorities have extensive experience in defining Favourable Reference Values for hundreds of populations at national level since the mid-2000s under the reporting framework of Article 17 of the Habitats Directive even if they are not explicitly required to define Favourable Reference Values under the reporting framework of Article 12 of the Birds Directive since the term Favourable Conservation Status is not explicitly mentioned under the latter instrument. However, according to AEWA's Article II.1, Contracting Parties are required to maintain waterbird populations listed on AEWA in Favourable Conservation Status or restore them to such a status. The definition of FCS is provided in Article I.1.c of convention text of the Convention on Migratory Species. In fact, the CMS definition represents the basis of the Favourable Conservation Status definition of the Habitats Directive. The only major difference is that the following point “(4) *the distribution and abundance of the migratory species approach historic coverage and levels to the extent that potentially suitable ecosystems exist and to the extent consistent with wise wildlife management*” is not included in the definition of the Habitats Directive, but similar considerations are echoed in the European Commission's guidance documents both in relation to Favourable Reference Values (cf. distribution and abundance approach historic coverage and levels; existence of potentially suitable habitat (see DG Environment 2017a, p. 117 and pp. 136-141 respectively) and reflected in the provisions of Article 7 of the Birds Directive and in the wise use section of the EU Hunting Guide (European Commission 2008).

As the European Commission has already established the process of routinely defining and reporting on the Favourable Conservation Status of species listed in the Annexes of the Habitat Directive at intervals of six years and it has already produced authoritative guidelines on this process (DG Environment 2017a), it is realised that there is no need to apply a different approach in case of setting the Favorable Reference Values for the NW/SW European population of the Greylag Goose in the breeding season at national level. All Range States but Norway are already familiar with this process and applying it routinely for species protected under the EU Habitats Directive.

Therefore, **it is suggested that each breeding Range State of the NW/SW European population of the Greylag Goose should complete the data form attached in Annex 1 to this document**, which is a simplified version of Sections 2, 5, 6 and 7 of Annex B of the report format under Article 17 of the Habitats Directive, including the definition of Favourable Reference Population, Favourable Reference Range and Favourable Reference Habitat following the relevant guidance provided in DG Environment (2017a). In the spirit of fostering synergies and reducing reporting burden, we have only included the sections of the Article 17 report format that contain information necessary to establish the Favourable Reference Values or assess the future

prospects and that have no equivalent fields already in the format for the Birds Directive Article 12 reports (which information will be also used for the national reporting on population size and trends to AEWa). **If a Range State reports no FRVs to the UNEP/AEWa Secretariat, the Current Values will be assumed as FRVs in the MCDA process for that country.**

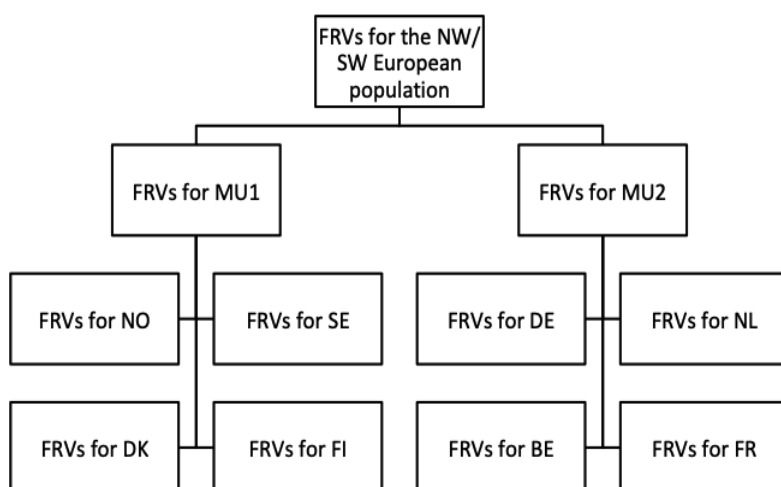
The ‘*Explanatory notes and guidelines for reporting under Article 17 of the Habitats Directive*’ (DG Environment 2017a) is considered being the only authoritative guidance by the European Commission and already applied routinely by EU Member States in case of hundreds of other species occurring in their territories. Therefore, it is not necessary to produce AEWa’s own guidance or interpretation other than setting some additional conditions in relation to the applicability of the Favourable Conservation Status in the context of AEWa: this concerns the followings:

1. The use of the Agreement Value (AV) of the Favourable Reference Population (i.e. the value at the time AEWa entered into force, i.e. 2000), which represents a similar concept as the Directive Value (i.e. the Favourable Reference Population should be at least at the level than it was at the time of entry of the Birds Directive into force). In order to maintain synergy with the DV, we propose applying as the legal minimum whichever of the Directive or the Agreement Value is the higher. The introduction of the Agreement Value would allow in the case of the NW/SW European population of the Greylag Goose to apply higher reference values compared to the option of using only the Directive Value.
2. The Favourable Reference Range should be set at the level of the Current Values (level of the 2013-2018 period) because the CMS definition of Favourable Conservation Status requires that the range is „currently not being reduced” and the values from the 2013-2018 period will be used as a benchmark in future assessments.

In Annex 1, we maintained the numbering of the EU Article 17 report format for easy reference to the Explanatory notes and guidelines provided by the European Commission (DG Environment 2017a). We also suggest paying particular attention to the following sections of Part 2 that clarify some key concepts:

- Favourable Reference Values: pages 109-121;
- Habitat for a species: pages 136-141.

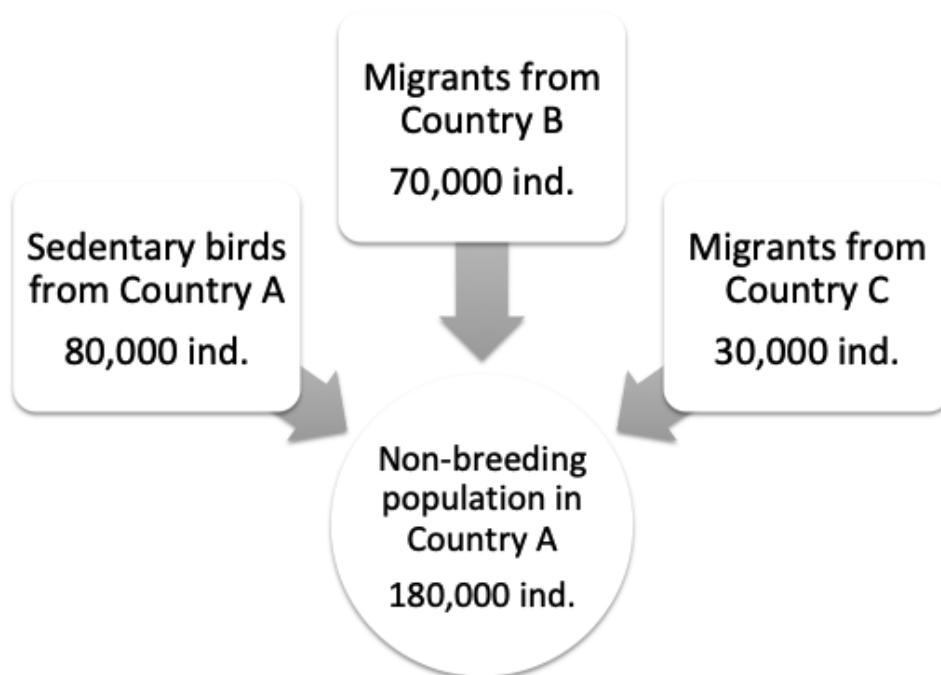
Once national breeding season FRVs are available from the Range States, the Secretariat will aggregate them to FRVs at management unit and flyway population levels as illustrated in Figure 2.



**Figure 2.** Aggregating hierarchically FRVs for the breeding season from national to management unit and flyway population level for the breeding season.

### Proposed process of defining Favourable Reference Values for the non-breeding season

It has been requested by the 4<sup>th</sup> Meeting of the European Goose Management International Working Group that the Favourable Reference Populations for the breeding and for the non-breeding season should be consistent with one another. This can be guaranteed at the management unit and population level by converting breeding numbers into autumn migration and mid-winter numbers and allocate these numbers to the countries where birds migrate to (Figure 3) based on data on migratory connectivity. This allocation will be performed by the EGMP Data Centre in consultation with the Range States. As the FRP for the non-breeding season will be determined by converting the national breeding FRPs into non-breeding numbers, this process will automatically take into account the requirement that the FRP shall exceed the Agreement Value.

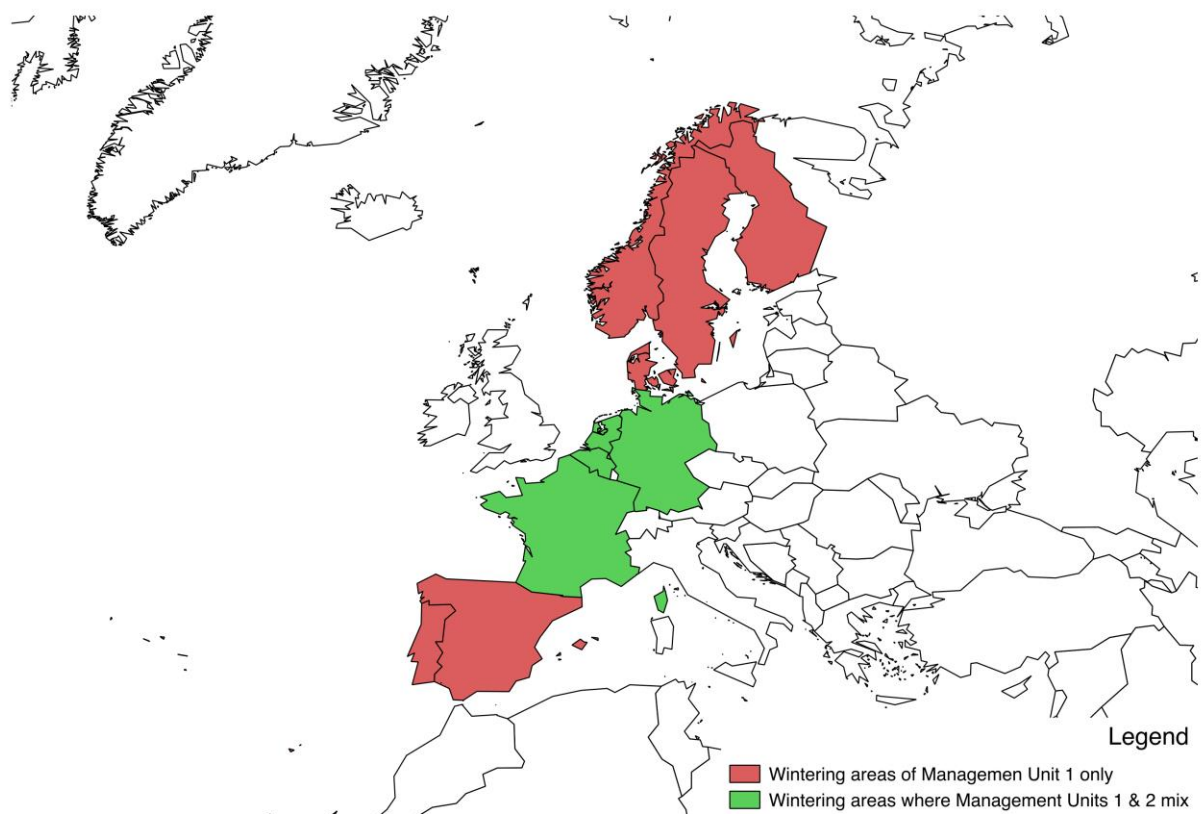


**Figure 3.** A conceptual representation of the relationship between the total numbers observed in Country A during the non-breeding season and the national breeding populations of the 'source' countries. The relationship between these figures is different in different countries along the flyway and during the season and it is likely to continue changing with climate change. In many countries, it will be not possible to relate the data from monitoring during the non-breeding season to the Favourable Reference Values without structured monitoring activities as outlined in Doc.AEWA/EGMIWG/4.14.

According to DG Environment (2017a) it would be necessary to identify and monitor the Favourable Reference Range and Favourable Reference Habitats also for the non-breeding season. This requires collecting similar information and assessing them similarly as for the breeding season. However, under Article 12 of the Birds Directive Member States are only required to report the breeding distribution of a species but not its distribution during the non-breeding season (DG Environment 2017b). Therefore, **Range States should provide the same set of range and distribution information to the AEWA Secretariat by filling in the relevant sections of Annex 1 for the non-breeding season** as they have already provided for the breeding season under the Birds Directive Article 12 reporting process to the European Commission.

The requirement that the Favourable Reference Range should be set at the Current Value (2013-2018 period) should be also observed when setting the FRVs for the non-breeding seasons, and the non-breeding range in the 2013-2018 period will be used as a benchmark in future assessments.

It will be relatively straightforward to assess the Favourable Reference Range and Habitat at the level of the whole flyway population or at the level of all birds staging or wintering in a certain country. However, it will be practically not possible to allocate only parts of the national range or habitat to the various management units where the non-breeding ranges of different management units overlap. Consequently, the national non-breeding ranges and habitats should be considered for both management units in countries where they mix when national FRRs and FRHs are aggregated at management unit level as outlined in Figure 4, i.e. the FRR and FRH of Management Unit 1 in this season will be the sum of all national FRRs and FRHs. The FRR and FRH for Management Unit 2 will be the sum of only of FRRs and FRHs of Germany, the Netherlands, Belgium and France.



**Figure 4.** Range States by the origin of the wintering population. (Norway and Finland are shown for completeness, but wintering numbers are still low in Norway and practically no wintering occurs yet in Finland).

## References

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**DG Environment (2005)** Note to the Habitats Committee: Assessment, monitoring and reporting of conservation status - preparing the 2001-2007 report under Article 17 of the Habitats Directive (DocHab-04-03/03 rev.3). Brussels, 15 march 2005. URL:



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**Powolny, T., Jensen, G.H., Nagy, S., Czajkowski, A., Fox, A.D., Lewis, M., Madsen, J. (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. URL:

<https://www.unep-aewa.org/en/publication/international-single-species-management-plan-greylag-geese-northwestsouthwest-european>

**Trouwborst, A., Krofel, M., & Linnell, J. D. (2015).** Legal implications of range expansions in a terrestrial carnivore: the case of the golden jackal (*Canis aureus*) in Europe. *Biodiversity and Conservation*, 24(10), 2593-2610.

## **Annex 1: Data form for assessing the conservation status of the national breeding and non-breeding populations of the Greylag Goose<sup>3</sup>**

### **0. Range State:**

**0.1 Report completed by:** *name, email and phone number*

### **2 Distribution map for the non-breeding season\***

\*in case of Norway mapping also for the breeding season will be needed

*Mapping the non-breeding distribution of the population requires obtaining standardised distribution maps for this period. Unfortunately, this information is not collected in as part of the reporting under Article 12 of the Birds Directive (DG Environment 2017b) and therefore we have to ask for this here. Please refer to Section 4 of the [Birds Directive Article 12 reporting guidelines](#) (page 31) or for more detailed guidelines to pages 24-26 in DG Environment 2017b). The non-breeding range should be defined applying the range concept the same way as described in DG Environment (2017, pp: 124-128). Based on Box 3.2 in Bijlsma (2019, p. 40) the recommended gap distance for Greylag Goose is 190 km (after rounding) using a body mass value of 3.14 kg.*

*Complementary note to the European Commission's guidance:*

- 1. Greylag Goose typically gather at roosts and feed at areas that might be at a certain distance from the roost but since these areas collectively form the habitat of the species, we suggest mapping the occurrences of all moulting, roosting and feeding birds but not to include observations of birds only passing over an area.*
- 2. The non-breeding season includes moulting, staging and wintering areas. Some locations support the species only in one of these annual cycle stages, while others in multiple ones. However, all these areas should be included in mapping the non-breeding distribution.*
- 3. National monitoring schemes (including the national schemes of the International Waterbird Census) and on-line reporting portals can provide information to determine the non-breeding distribution of the species.*

**2.2 Year or period:** *Please, indicate the period data presented in the map is valid for. The map should represent the situation as close to the current one as possible and not a period older than 10 years.*

**2.3 Non-breeding distribution map:** *Submit a map together with relevant metadata following the technical specifications in the Explanatory Notes and Guidelines. The standard for species distribution is 10x10km ETRS grid cells, projection ETRS LAEA 5210.*

**2.4 Distribution map, method used:** *Select one of the following methods:*

- a) Complete survey or a statistically robust estimate*
- b) Based mainly on extrapolation from a limited amount of data*
- c) Based mainly on expert opinion with very limited data*
- d) Insufficient or no data available*

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<sup>3</sup> For the sake of consistency, this data form is based on the Report format for reporting under Article 17 of the Habitats Directive for the period of 2013-2018 developed by DG Environment (2017a), but has been shortened to avoid gathering information that has been already gathered through the reporting under Article 12 of the Birds Directive and adapted to ensure consistency of assessment periods with the Birds Directive (i.e. the long-term covers the period of 1980-2018 and not 1994-2018). The numbering follows the Article 17 report format to make it easier to follow the guidance provided by DG Environment (2017a).

**2.5 Additional maps:** *Optional. Range States can submit additional maps (e.g. for different annual cycle stages such as moulting, staging and wintering, deviating from standard submission map under 2.3).*

## **5 Range**

*For the sake of consistency with the reporting under Article 12 of the Birds Directive, we suggest reporting simply the number of occupied 10x10km ETRS89 grid squares multiplied by 100 for both the breeding<sup>4</sup> and the non-breeding seasons<sup>5</sup>.*

### **5.a Range within the country (breeding season)<sup>6</sup>**

**5.a.10 Favourable Reference Range:** *in km<sup>2</sup>, please describe the method used to set the reference value. The range concept described in DG Environment (2017, pp: 124-128) should be applied. Based on Box 3.2 in Bijlsma (2019, p. 40) the recommended gap distance for Greylag Goose is 190 km (after rounding) using a body mass value of 3.14 kg.*

*This process should be informed by the results of mapping of the breeding range already carried out for the Birds Directive Article 12 for the periods of 2003-2012 and 2013-2018.*

**5.a.12 Additional information:** *Optional. Other relevant information not provided under 5.a.10*

### **5.b Range within the country (non-breeding season)**

**5.b.10 Favourable Reference Range:** *in km<sup>2</sup>. Please describe the method used to set the reference value. This process should be informed by the results of mapping of the non-breeding range under Point 2 above.*

**5.b.12 Additional information:** *Optional. Other relevant information not provided under 5.b.10*

## **6 Population**

Please provide information only on the breeding population in your country.

**6.15 Favourable Reference Population:** *in breeding pairs. Please describe the method used to set the reference value. This process should be informed by the results of mapping of the breeding range already carried out for the Birds Directive Article 12 for the periods of 2003-2012 and 2013-2018.*

**6.17 Additional information:** *Optional. Other relevant information not provided under 6.15*

### **7.a Habitat for the species in the breeding season<sup>7</sup>**

#### **7.a.1 Sufficiency of area and quality of occupied habitat**

*Please answer the questions below:*

a) Are area and quality of occupied habitat sufficient (for long-term survival)?

YES/NO/Unknown

b) If NO, is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

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<sup>4</sup> This is what is already requested under the Article 12 reporting.

<sup>5</sup> This can be obtained from the non-breeding distribution maps requested above.

<sup>6</sup> Refer to the guidance in DG Environment (2017a) as 5.10, or 5.12.

<sup>7</sup> Refer to the guidance in DG Environment (2017a) as 7.1, etc.

YES/NO/Unknown

**7.a.2 Sufficiency of area and quality of occupied habitat: Method used**

*Select one of the following methods:*

- a) Complete survey or a statistically robust estimate
- b) Based mainly on extrapolation from a limited amount of data
- c) Based mainly on expert opinion with very limited data
- d) Insufficient or no data available

**7.a.9 Additional information.** *Optional. Other relevant information. Free text*

**7.b Habitat for the species in the non-breeding season**

**7.b.1 Sufficiency of area and quality of occupied habitat**

*Please answer the questions below:*

- a) Are area and quality of occupied habitat sufficient (for long-term survival)?

YES/NO/Unknown

- b) If NO, is there a sufficiently large area of unoccupied habitat of suitable quality (for long-term survival)?

YES/NO/Unknown

**7.b.2 Sufficiency of area and quality of occupied habitat: Method used**

*Select one of the following methods:*

- a) Complete survey or a statistically robust estimate
- b) Based mainly on extrapolation from a limited amount of data
- c) Based mainly on expert opinion with very limited data
- d) Insufficient or no data available

**7.b.9 Additional information.** *Optional. Other relevant information. Free text*