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**DELINEATION OF BIOGEOGRAPHIC POPULATIONS OF THE GREYLAG GOOSE
(*ANSER ANSER*)**

PROPOSAL TO CHANGE POPULATION DELINEATIONS

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Name of population(s):

Greylag Goose (*Anser anser anser*) Central Europe/North Africa

Current status on AEWA Table 1:

Category 1 of Column B

What is the issue?

According to AEWA Table 1, Central European Greylag Geese belong to the nominate race. This treatment is consistent with the treatments in Madsen (1991) and in the Waterbird Population Estimates (Delany & Scott, 2002; Delany & Scott, 2006; Rose & Scott, 1997; Rose & Scott, 1994).

However, Dick et al. (1999) stated that Central European Greylag Geese of the Pannonian Basin belong to the *rubrirostris* subspecies, while birds breeding in Finland and the Baltic States are considered to belong to the nominate race (MJ van den Bergh, 2002). If this view is correct, the current population definition includes two subspecies. This treatment would be inconsistent with AEWA's guidelines on delineating biogeographic populations (AEWA/MOP 3.12) that states that *a biogeographic population is a unit within a subspecies and one biogeographic population cannot include multiple subspecies*.

What is the evidence supporting the proposal?

The subspecies *rubrirostris* is moderately distinctive from the nominal race, with overall paler plumage and all-pink versus orange bill and eye ring (Carboneras & Kirwan, 2020). However, there can be considerable variation in bill colour among populations traditionally assigned to nominate *anser*, most probably as a result of introductions from of *rubrirostris* (Kampe-Persson, 2003). Therefore, there is a lot of controversy in the literature concerning the distribution of the two subspecies.

Del Hoyo et al. (1992) describes the distribution of *A. a. anser* as Iceland, N and C Europe and of the *A. a. rubrirostris* as Turkey and the USSR to NE China.

Scott & Rose (1996) describes the breeding distribution of the nominate race as west of the Urals and of the *rubrirostris* from the Urals, southeast Europe, the Pannonic region and Turkey east across Asia.

Carboneras & Kirwan (2020) describes the distribution of the nominate race as Iceland, and N and C Europe; winters from Scotland S to N Africa and E to Iran and of the *rubrirostris* as from Romania, Turkey and Russia

E to NE China; winters mainly from Asia Minor to E China. They also note that races intergrade in E Europe/W Russia.

Van den Bergh (2002) describes the breeding range of the nominate race as Iceland, UK, Ireland, Fennoscandia, the Baltic States and a big part of Central Europe, while he states that the *rubrirostris* does not breed in substantial number west from the Pannonian Basin and he finds the existence of a mixed population highly questionable. According to his own observations, the majority of Greylags breeding in the Transdanubian region of Hungary belonged to the nominate form. Only 13% of the birds observed at the Kopacki Rit in Croatia on autumn migration in 2001 belonged to the *rubrirostris* subspecies. In late October/early November of 1999 and 2000 in Hungary and Croatia, the proportion of the *rubrirostris* subspecies was 0.6% and 11% respectively (van den Bergh in litt. cited by Kampe-Persson, 2002). Therefore, van den Bergh (2002) concluded that it is unlikely that the number of *rubrirostris* birds in the Central European population exceeded 10,000 individuals around the turn of the century. In comparison, Fox et al. (2010) has estimated the size of this population at 56,000 individuals.

The subspecies treatment of Greylag Goose is also inconsistent in Hungary. Hadarics & Zalai (2008) mentions the *rubrirostris* subspecies as a fairly common breeder in Hungary and the nominal race only as a sporadic migrant. Pellingner (2009) considers the Central European population representing an intergradation between the nominal form and *rubrirostris*.

Winter visitors in Italy are also considered to belong to the eastern race and can be distinguished from introduced local birds that have orange bills (N. Baccetti in litt. cited by Kampe-Persson, 2002).

Although there is a disagreement in the taxonomic treatment of the individuals in the Central European population, there seems to be an agreement that there is a mixing of subspecies in the wintering population. This alone would justify splitting the *anser*, Central Europe/North Africa population along the subspecies lines based on their breeding distribution and migratory orientation separating them also from the *anser*, NW Europe/South-west Europe and from the *rubrirostris*, Black Sea & Turkey populations. However, **the available evidence on taxonomic status and migration patterns is yet insufficient to carry out such split at this stage. Therefore, it is proposed to maintain the current treatment until sufficient evidence on the taxonomic status (including genetic structure of the population) and migration routes are gathered.**

What are the implications of the proposal including any changes in status on AEWA Table 1?

A potential split of the *anser*, Central Europe/North Africa population could result in population sizes below 100,000 individuals. This could lead to classifying the new populations in Category 1 of Column B¹.

Splitting the populations would also lead to lower 1% thresholds that would probably qualify new sites for the AEWA Flyway Site Network, the Ramsar Convention on Wetlands and the EU Birds Directive. However, the correct application of the site selection criteria would require establishing the subspecies composition at the level of sites.

In addition, the split would make both harvest management and monitoring more complicated. The harvest management should deal with a mixed population and the monitoring should focus on the breeding season (when the populations are somewhat separated) instead of the non-breeding one.

¹ Currently, the population size is estimated at 130,000 individuals and it is erroneously classified in Category 1 of Column B. The correct classification should be Category 1 of Column C.

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