23rd MEETING OF THE STANDING COMMITTEE
26-27June 2023, Virtual meeting format

AEWA TECHNICAL COMMITTEE RECOMMENDATIONS FOR THE DELINEATION OF SELECTED POPULATIONS LISTED ON TABLE 1 OF AEWA ANNEX 3

Introduction

As part of the AEWA Technical Committee work plan for the inter-sessional period 2023-2025, which was approved by the 8th Session of the Meeting of the Parties in September 2022 (Resolution 8.11), the Committee was tasked with considering evidence supporting the delineation of current population boundaries for the following species and to make any recommendations, as appropriate, to the 23rd meeting of the AEWA Standing Committee for interim approval so that any changes can be taken into account in the work to develop proposals for MOP9 (CSR9 and proposed changes to Table 1 of AEWA's Action Plan).

The list as included in the TC work plan covers the following species:

- Maccoa Duck (*Oxyura maccoa*);
- Tundra Swan (*Cygnus columbianus bewickii*);
- Greylag Goose (*Anser anser*);
- Glossy Ibis (*Plegadis falcinellus*);
- Eurasian Shag (*Gulosus aristotelis*);
- Bar-tailed Godwit (*Limosa lapponica*); and
- Caspian Tern (*Hydroprogne caspia*).

All proposed population delineations of these species as presented in documents AEWA/TC 18.8 Rev.1 to 18.14 were subsequently discussed and approved (other than for the Greylag Goose) by the Technical Committee for submission to the Standing Committee at its 18th Meeting in March 2023.

In addition, the UNEP/AEWA Secretariat issued an open call on behalf of the Technical Committee for the submission of additional proposals to change delineations of waterbird populations listed on Table 1 of Annex 3 to AEWA. By the deadline (13 January 2023) no proposal was submitted to the Secretariat.

This document provides a summary of all recommendations adopted by the Technical Committee for the seven species mentioned above as follows:

Species	Recommendation
Maccoa Duck (*Oxyura maccoa*)	Modify the delineation of the Eastern Africa population to only include areas in Kenya and Tanzania as outlined on Figure 3 of Annex 1 to this document (pages 3-8).
Tundra Swan (*Cygnus columbianus bewickii*)	1) Change the name of the *bewickii*, Western Siberia & NE Europe/North-west Europe population to *bewickii*, NE Europe/North-west Europe;

	2) Change the name of the *bewickii*, Northern Siberia/Caspian population to *bewickii*, Western Siberia/SW SE Europe & Central Asia; and 3) Modify the delineation of the two populations as outlined in Figure 6 of Annex 2 to this document (pages 9-16).
Greylag Goose (*Anser anser*)	Maintain the current treatment until sufficient evidence on the taxonomic status (including genetic structure of the population) and migration routes are gathered. Keep the population under review.
Glossy Ibis (*Plegadis falcinellus*)	1) Merge South-west Asia/Eastern Africa population with the Central Asian part of the S, SE Asian (non-bre) population (the latter not listed on AEWA); 2) Change the name of the newly formed population to Caspian & C Asia (bre); 3) Modify the delineation of the newly formed population as outlined on Figure 6 of Annex 4 to this document (pages 20-28).
Eurasian Shag (*Gulosus aristotelis*)	Revise population delineation as per Option D of Annex 5 to this document (pages 29-36): rename the East Mediterranean (Croatia, Adriatic Sea) (bre) population to East Mediterranean (bre) and expand its delineation to include all biogeographic units in the Eastern Mediterranean, including the Black Sea, as per Figure 2 of Annex 5 to this document.
Bar-tailed Godwit (*Limosa lapponica*)	1) Change the name of *taymyrensis*, Western Siberia/West & South-west Africa population to *taymyrensis*, Central Siberia, Taymyr Peninsula; 2) Change the name of *taymyrensis*, Central Siberia/South & SW Asia & Eastern Africa population to *yamalensis*, Western Siberia, Yamal Peninsula; 3) Modify the delineation of the *yamalensis*, Western Siberia, Yamal Peninsula population as outlined in Figure 1 of Annex 6 to this document (pages 37-41).
Caspian Tern (*Hydroprogne caspia*).	Modify the delineation of the Baltic (bre) population as outlined in Figure 1 of Annex 7 to this document (pages 42-45).

For the full proposals to change delineations of populations of seven species, which were submitted to the 18th meeting of the Technical Committee, please see the Annexes 1-7 to this document.

Action Requested from the Standing Committee

The Standing Committee is requested to review the delineations of selected AEWA populations in the table above, as recommended by the Technical Committee, and to approve them for further use.

ANNEX 1 - doc AEWA/TC 18.8 Rev.1

DELINEATION OF BIOGEOGRAPHIC POPULATIONS OF THE MACCOA DUCK (*OXYURA MACCOA*)

PROPOSAL TO CHANGE POPULATION DELINEATIONS

Compiled by Szabolcs Nagy, Wetlands International

Name of population(s):
Maccoa Duck (*Oxyura maccoa*), Eastern Africa

Current status on AEWA Table 1:
Categories 1b, 1c of Column A

What is the issue?
Scott & Rose (1996) defines the range of the Eastern African population including Kenya and NE Tanzania as well as W Uganda, Rwanda, Burundi and the eastern part of the Democratic Republic of Congo (DRC). They have also recognised that there might be very little mixing between these two groups of birds (Figure 1). This treatment was maintained also on the Critical Site Network (CSN) Tool[1]. However, the population boundaries on the CSN Tool do not match the BirdLife Species range map[1].

The AEWA Single Species Action Plan for the Maccoa Duck (Berruti et al., 2007) states that species was probably only vagrant in Burundi and mentions no recent record from the DRC, only one record from Rwanda (from 1983) and two recent records from Uganda. They have also delineated the Uganda, Rwanda and the eastern part of the DRC range separate from the range in Kenya and Tanzania (Figure 2). However, they have still recognised three and not four populations of the species. This approach is inconsistent with the accepted practice of delineating biogeographic populations. Contrary to range mapping that may define multiple range fragments, the boundaries of biogeographic populations should always delineate a continuous area (see e.g. Scott & Rose, 1996).

In addition, the population delineation for the Tanzania & Kenya population presented in Berruti et al. (2007) and also replicated in the BirdLife species range map leaves out a number of important locations for the species mainly in Kenya such as around Limuru, Lake Naivasha and Lake Nakuru (see the interactive map[2]).

As shown above there are no records from the 2000s of Maccoa Duck in the Uganda, Rwanda and the eastern part of the DRC range, **the definition of the Eastern Africa population could be revised as outlined on and it should only include areas in Kenya and Tanzania as outlined on Figure 3.**

[1] http://criticalsites.wetlands.org/en/species/22679820 (to see the overlap between the BirdLife range map and the population boundaries, switch on the BirdLife International species range maps layer).
[2] https://szabolcsnagy.shinyapps.io/MaccoaDuckEAfrica/

What is the evidence supporting the proposal?

As mentioned above, no recent records of the Maccoa Duck are available from Burundi, Rwanda and Uganda. The current distribution of the species can be mapped based on data from the IWC, the Tanzanian Bird Atlas Project[3], the Kenya Bird Map[4], eBird[5], Observation.org[6] and summarized on an interactive map[2].

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

The proposed change will not affect the species listing in Table 1 of AEWA or its population size and trend estimates. It would affect only the list of range states for this population: the DRC, Burundi, Rwanda and Uganda will be no longer considered being a range state. The remaining range states will be Kenya and Tanzania.

[3] http://tanzaniabirdatlas.net/maphtm/0078_nmap.htm
[4] https://kenya.birdmap.africa/species/103
[5] https://ebird.org/map/macduc1?neg=false&env.minX=20.75766370020405&env.minY=-10.136808155571023&env.maxX=48.35531995020405&env.maxY=4.329691474081787&zh=true&gp=false&ev=Z&excludeEx=&mr=1-12&bmo=1&emo=12&yr=last10
[6] https://observation.org/species/70460/maps/?start_date=2013-01-01&interval=86400&end_date=2023-01-01&map_type=grid100k

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Figures

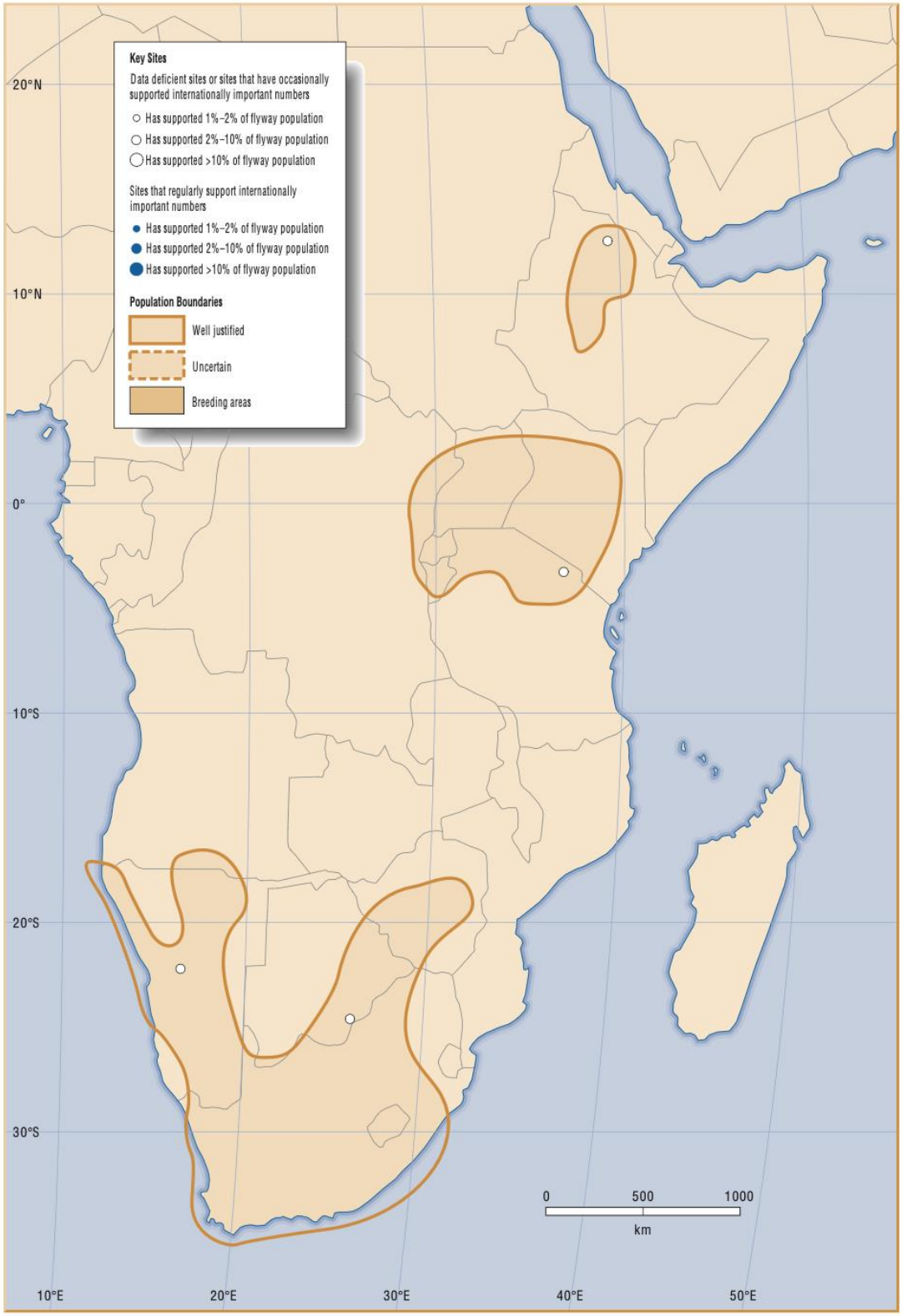

Figure 1. Delineation of the Maccoa Duck populations, including the Eastern Africa one, according to Scott & Rose (1996).

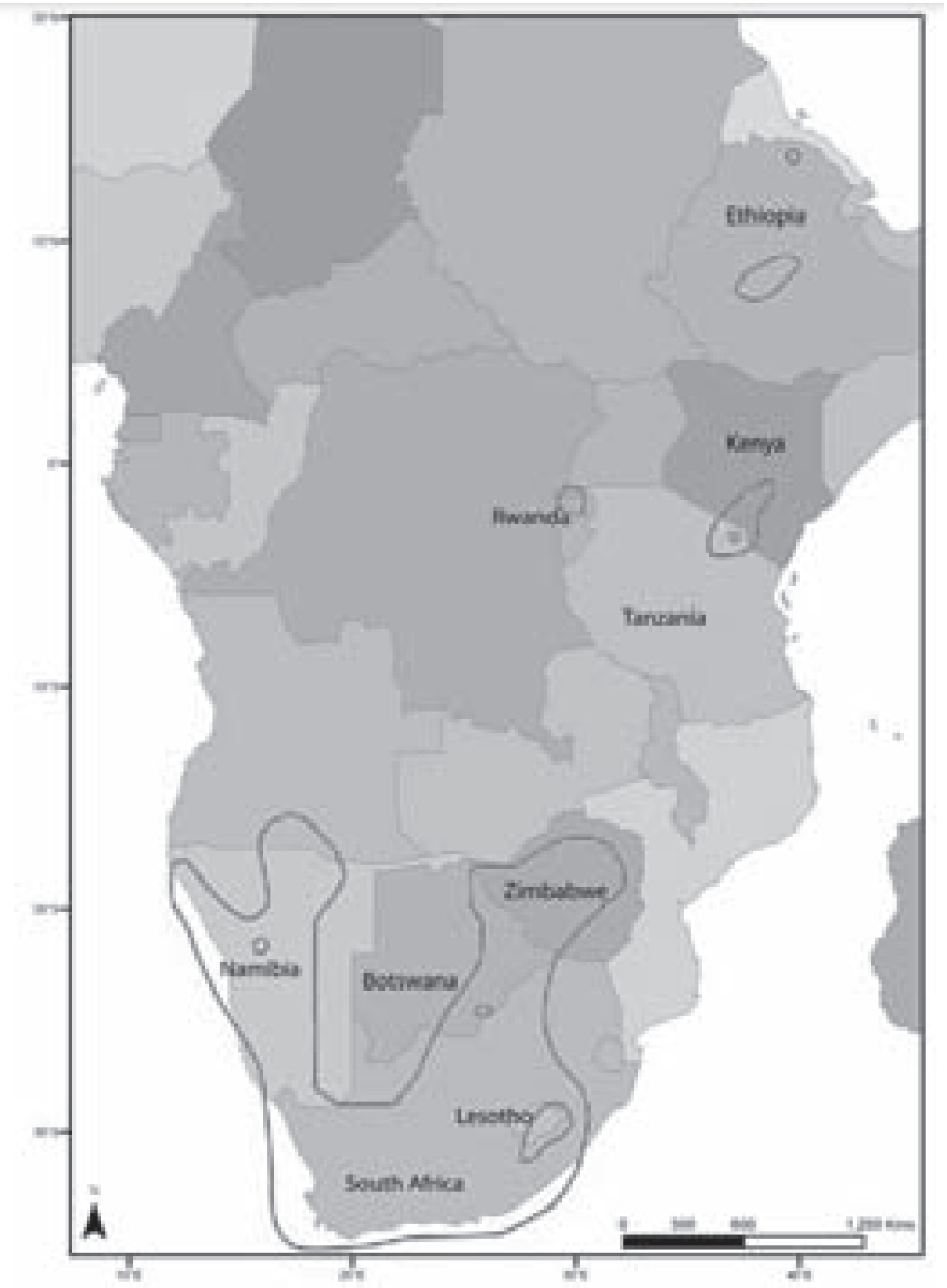

Figure 2. Delineation of Maccoa Duck populations as proposed by Berruti et al. (2007). Note that the Eastern African population has two disjunct polygons.

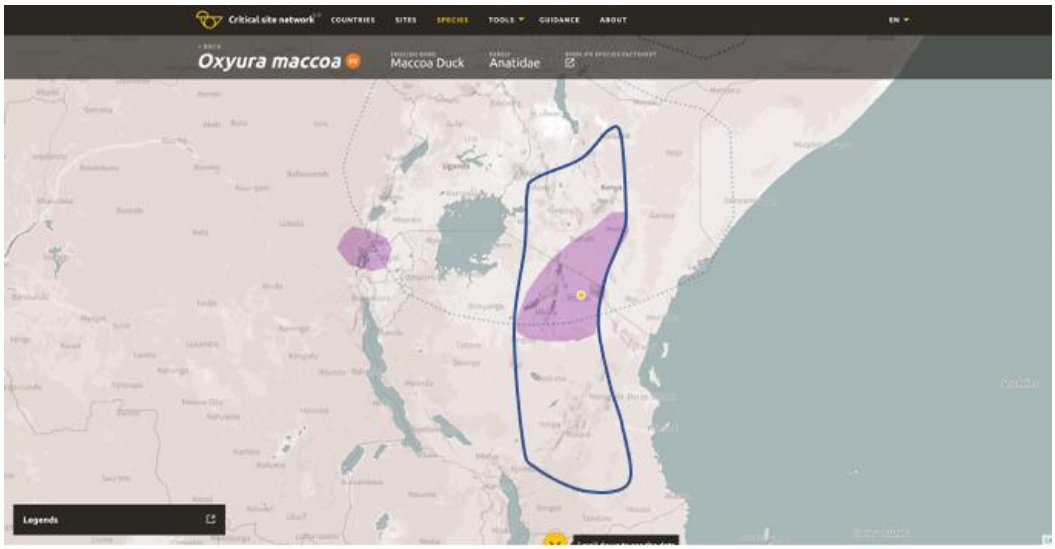

Figure 3. Proposed new delineation of the Maccoa Duck Eastern Africa population.

ANNEX 2 – doc AEWA/TC 18.9 Ins.1

DELINEATION OF BIOGEOGRAPHIC POPULATIONS OF THE BEWICK´S SWAN (*CYGNUS COLUMBIANUS BEWICKII*)

PROPOSAL TO CHANGE POPULATION DELINEATIONS

Compiled by Szabolcs Nagy, Wetlands International
With contributions from Eileen Rees, Bart Nolet and Didier Vangeluwe

Name of population(s):

Bewick's Swan *Cygnus columbianus*:

1. *bewickii,* Western Siberia & NE Europe/North-west Europe and
2. *bewickii*, Northern Siberia/Caspian populations

Current status on AEWA Table 1:

1. Category 2 of Column A
2. Category 1c of Column A

What is the issue?

Scott & Rose (1996) and earlier editions of the Waterbird Population Estimates (Delany & Scott, 2002; Delany & Scott, 2006; Rose & Scott, 1997; Rose & Scott, 1994) recognised two populations in the Western Palearctic: one recognised as the *bewickii*, Western Siberia & NE Europe/North-west Europe population in AEWA Table 1 and another one called *bewickii*, Northern Siberia/Caspian. Scott & Rose (1996) stated that only small numbers were recorded around the Black Sea and in Central and Southern Europe. Therefore, they have assumed that these small numbers do not belong to any of the populations, but vagrants coming with larger flocks of Whooper Swan (*Cygnus cygnus*). Consequently, these areas were not included in their original population delineations (Figure 4).

Recognising the increasing number of observations and numbers in southeast Europe, the boundaries of this population were extended to include the Black Sea and Evros Delta on the Critical Site Network Tool in the mid-2000s (Figure 5).

Based on the findings of recent observations, ringing and telemetry studies, however, these populations may require revision.

Option (A): Maintaining the two existing AEWA populations but amending their boundaries to reflect the available scientific evidence concerning their breeding and non-breeding distributions.

Option (B): Merging the Western Siberia & NE Europe/North-west Europe and Northern Siberia/Caspian populations.

Option (C): Retaining the Western Siberia & NE Europe/North-west Europe and splitting the Northern Siberia/Caspian populations into a SE European and a C Asian wintering populations.

What is the evidence supporting the proposal?

Option A

Scott & Rose (1996) stated that birds breeding west of the Taymyr Peninsula winter in NW Europe. Rees (2010), however, defines the eastern border of the breeding range at the Ural mountains and this is largely supported by both ringing (Rees, 2013; Spina et al., 2022) and telemetry data (Beekman et al., 2002; Griffin et al., 2016; Nuijten & Nolet, 2020). There is no record of birds east to the Vaygach Island. Hence, **the eastern limit of the population should be moved to the west and the population name should be changed to NE Europe/North-west Europe.**

The breeding area of the Northern Siberia/Caspian population was unknown (Rees, 2010; Scott & Rose, 1996). Scott & Rose (1996) have speculated that birds wintering in the Caspian region breed in the easternmost extremity of the breeding range in the Taymyr Peninsula. However, telemetry studies showed that birds breeding on the Yamal Peninsula winter both in China, Centra Asia (Uzbekistan and Turkmenistan) and migrate along the Caspian and Black Seas to the Evros Delta (Vangeluwe, 2016; Vangeluwe et al., 2018) (Figure 6) and to Asia Minor as eBird (Figure 7) and IWC data (Figure 8) show. This indicates that **boundaries of this population should be moved to the west to include the Yamal Peninsula**. However, the sample size from the published telemetry studies is too limited and possibly unrepresentative, to firmly determine the eastern limits of the breeding range of this population, but Vangeluwe et al. (2018) defines it ranging from the **Yamal to the Taymyr Penninsula**. Capturing and tagging birds on the wintering or stopover sites may help to reveal the extent of the breeding range.

However, the telemetry data of Vangeluwe et al. (2018) indicates that birds winter further east in Uzbekistan and Turkmenistan than shown earlier. Therefore, **the eastern border of the Central Asian population should be extended to include the Ili River valley in W China, Kyrgyzstan and along the western border of Tadjikistan.** Based on eBird data, the species is accidental in India, Pakistan, Oman and Israel.

Option B

Vangeluwe et al. (2018) speculated that part of the Western Siberia & NE Europe/North-west Europe population has changed migratory route and relocated to the Black Sea and Eastern Mediterranean region. They have based this argument on the observation of birds neckbanded in NW Europe in the Evros Delta. However, this argument is contradicted by the fact that no birds tagged in NW Europe were recovered on the Yamal Peninsula. In addition, exchanges between different populations of waterfowl is fairly common, e.g. Greater White-fronted Geese equipped with satellite transmitters in NW Europe have occurred also in Hungary, the wintering range of the Pannonic population. Even Scott & Rose (1996) have reported that some exchange between the Caspian and the NW European populations of the Bewick's Swan may take place based on recovery of ringed birds in Perm, the western side of the Ural Mountains and in Astrakhan, in the North of the Caspian. Even if there is a certain degree of exchange between the birds wintering in NW Europe and in the Evros Delta, the two biogeographic population uses largely different breeding, staging and wintering sites. Therefore, **they are to be treated as separate biogeographic or flyway populations** according to the existing AEWA guidelines (AEWA/MOP 3.12, AEWA/MOP 3.16, UNEP/AEWA/StC/12.11).

Option C

The migration tracks shown by Vangeluwe et al. (2018) also suggest the Bewick's Swans migrate along the Ob River to the Turgai Lowland on the border of Russia and Kazakhstan. Here, the migration route splits. One continues further south in Central Asia to the Aral Sea and the Amurdarya and spread out towards Samarkand and the Ili River Valley, in W China. Based on the tracks, these routes seem to be separate from the one leading along the N Caspian, Black Sea and Evros Delta corridor (Figure 6). Vangeluwe (*in litt.*) argues that this birds together with the ones wintering around the Caspian should be treated as a separate population. However, Figures Figure 7Figure 8 show that hundreds of Bewick's Swans

winter also at other sites in the southern Caspian (Turkmenistan, Iran and Azerbaijan) and Turkey that follow still unknown migration routes. Some of these wintering sites seem to be rather frequently used considering the frequency of counts in some of these countries. Consequently, **there is insufficient evidence to separate the N Caspian, Black Sea and Evros Delta corridor from the Central Asia one**. Furthermore, separating these populations would result in very small 1% thresholds and would put undue emphasis on sites in the region with relatively low importance (Atkinson-Willes et al., 1982).

In conclusion, it is proposed to adopt Option A and

1) **change the name of the *bewickii*, Western Siberia & NE Europe/North-west European population to *bewickii*, NE Europe/North-west Europe,**
2) **change the name of the *bewickii*, Northern Siberia/Caspian population to *bewickii*, Western Siberia/SE Europe & Central Asia and**
3) **modify the flyway boundaries as outlined in Figure 9.**

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

The proposed changes require no changes in the classification of these populations in Table 1 of AEWA as it does not affect the population size or trend estimates.

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Figures

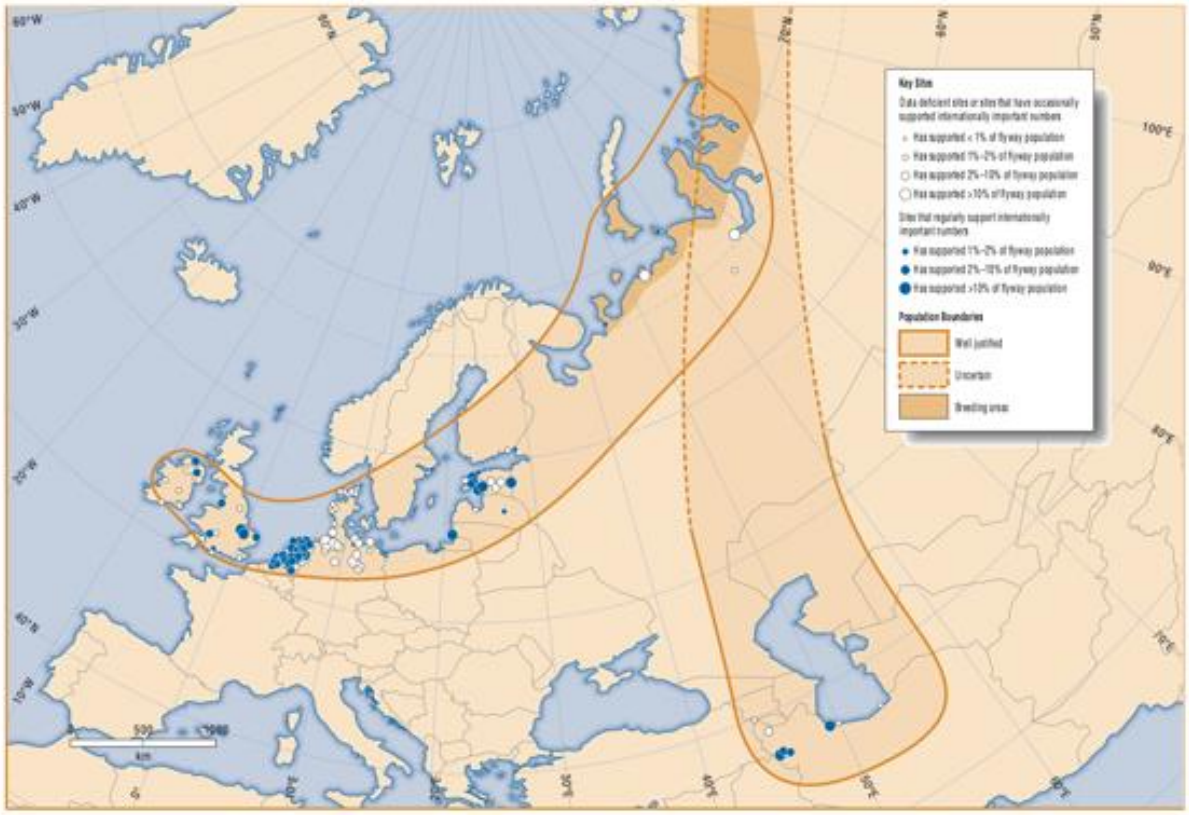

Figure 4. Population boundaries of Bewick's Swan in the Western Palearctic based on Scott & Rose (1996).

Figure 5. Population delineation according to the Critical Site Network Tool[1]. Dark blue: Western Siberia & NE Europe/North-west Europe population, pale blue: Northern Siberia/Caspian population.

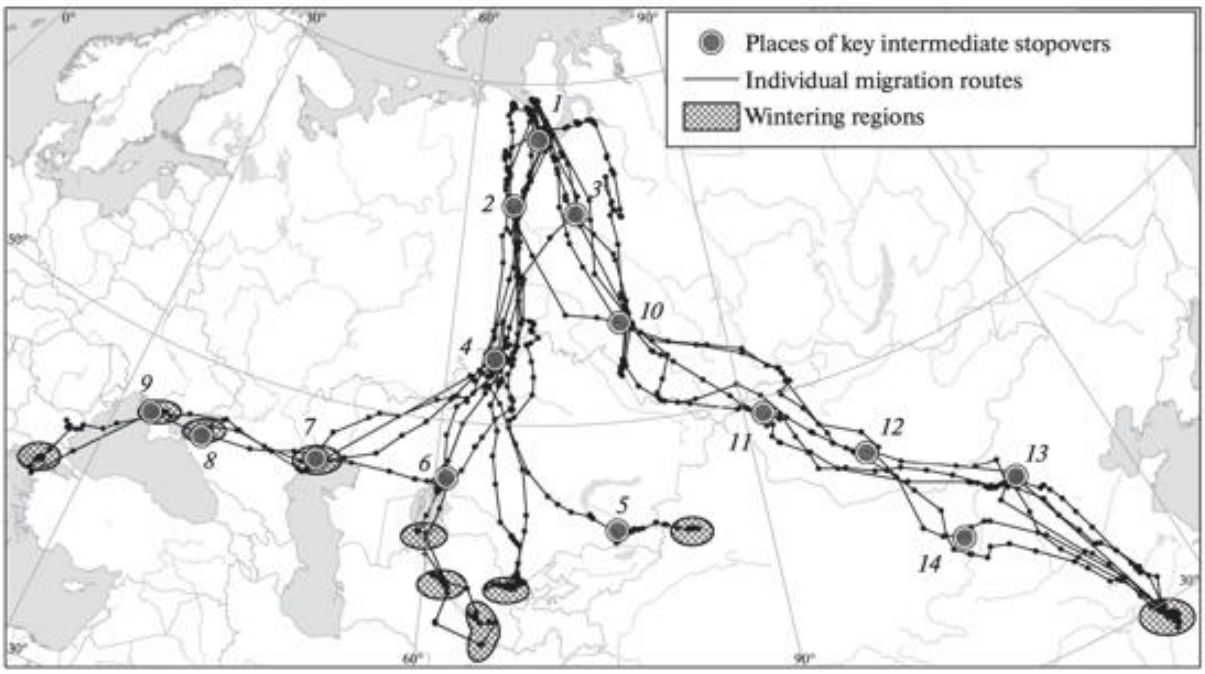

Figure 6. Individual migration routes of birds captured on the western part of the Yamal Peninsula (Vangeluwe et al., 2018)

[1] http://criticalsites.wetlands.org/en/species/22679862

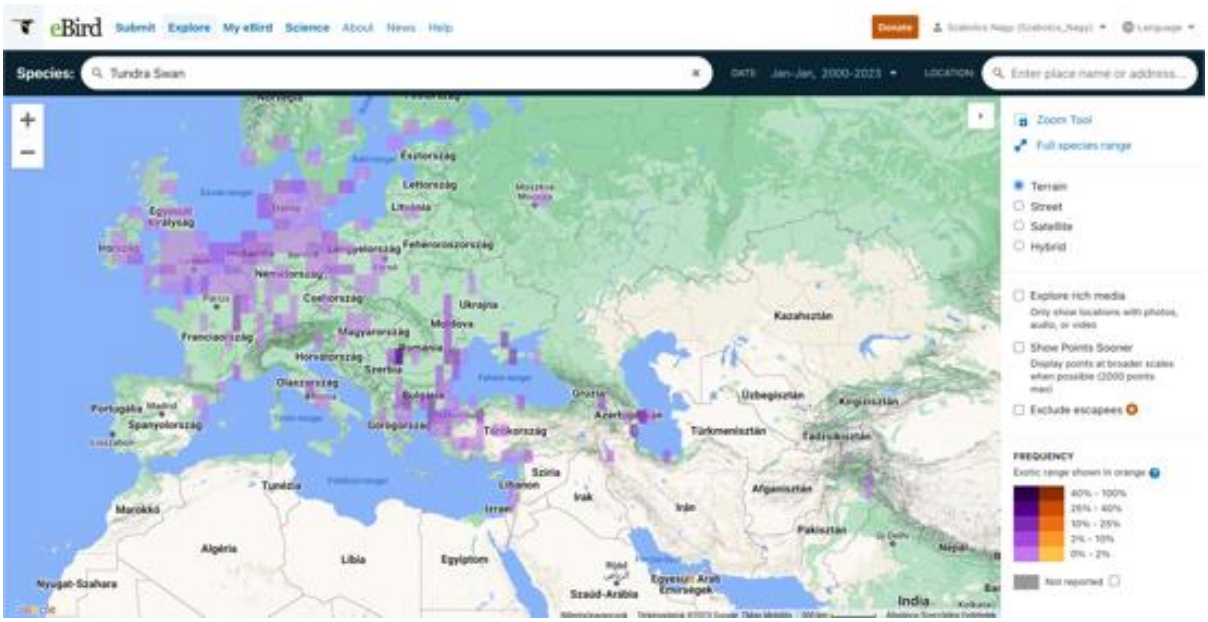

Figure 7. January Bewick's Swan observations between 2000 and 20023 on eBird.

Figure 8. Bewick's Swan counts in the International Waterbird Census since 2000. Meaning of Numbers legends: 1: 1-9, 2: 10-99, 3: 100-999, 4: ≥1,000 individuals. Times represent the number of January counts the species has been reported between 2000 and 2022.

Figure 9. Proposed changes to the delineation of the Western Siberia & NE Europe/North-west Europe (dark blue lines) and the Northern Siberia/Caspian (pale blue lines) populations of Bewick's Swan. Solid lines indicate the proposed changes to the flyway boundaries. The delineation of the breeding areas and their overlaps is based on satellite tracks kindly made available by B. Nolet (in litt.) and the description provided by D. Vangeluwe (in litt.).

ANNEX 3 - doc AEWA/TC 18.10

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

PROPOSAL TO CHANGE POPULATION DELINEATIONS

Compiled by Szabolcs Nagy, Wetlands International

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. Pellinger (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 B[1].

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.

[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.

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.

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ANNEX 4 - doc AEWA/TC 18.11

DELINEATION OF BIOGEOGRAPHIC POPULATIONS OF THE GLOSSY IBIS (*PLEGADIS FALCINELLUS*)

PROPOSAL TO CHANGE POPULATION DELINEATIONS

Compiled by Szabolcs Nagy & Taej Mundkur, Wetlands International

Name of population(s):
Glossy Ibis (*Plegadis falcinellus*), South-west Asia/Eastern Africa

Current status on AEWA Table 1:
Category 1 of Column B

What is the issue?
Apparently, there is a mismatch between the population definition presented on the CSN Tool (Figure 1) and the treatment of the population in the earlier editions of the Waterbird Population Estimates (WPE) and the first seven editions of the Conservation Status Reports (CSR). The change has possibly taken place during the preparation of flyway boundaries for the first version of the CSN Tool as these boundaries appear already on Figure 3 in Kirby et al. (2008).

Earlier WPEs and CSRs treated the South-west Asia/Eastern Africa and the S, SE Asian (non-bre) populations of Glossy Ibis separately. The definition of the South-west Asia/Eastern Africa population is based on the breeding distribution of birds, while the S, SE Asian population is based on non-breeding distribution. WPE3 and WPE4 (Delany & Scott, 2002; Delany & Scott, 2006) describe their breeding ranges as SW Asia & Caspian and C, S, SE Asia. According to Perennou et al. (1994) "*Populations breeding from the North Caspian eastward winter in S and SE Asia where they mix with the resident populations. Populations breeding elsewhere in SW Asia, including the S Caspian region, appear to winter in NE Africa south to the Equator*". In CSR2, Scott (2002) states that "*Birds breeding in Southwest Asia (east to the Caspian region) appear to winter mainly in the Middle East and Northeast Africa south to the equator. Populations breeding east of the Caspian appear to winter in Southern Asia, and are therefore extralimital*". However, he has included also the breeding numbers from Kazakhstan, Turkmenistan and Uzbekistan into the population estimates, which is inconsistent with the description he has provided in the same document.

Although, the change of the population boundaries was so far not well documented and has not yet presented to the AEWA Technical Committee for approval, merging the South-west Asia/Eastern Africa with the Central Asian part of the S, SE Asian (non-bre) makes practical sense as it is shown in the evidence section below. Therefore, we propose to change the name of the new population to **Caspian & C Asia (bre)**. We also propose some minor adjustment to the boundaries as outlined on Figure 15.

What is the evidence supporting the proposal?
Analysis of ring recovery data (Santoro et al., 2019) shows that the separation between the NW and W Caspian birds (i.e. Volga Delta, Dagestan and Azerbaijan) is not as clearcut as the descriptions above suggest (Figure 12). There seems to be a considerable movement between these sites and a considerable

number of birds migrate also from the N Caspian also to SW Asia. In addition, no ringing data is available from Central Asia. Hence, there is no evidence supporting the assumption that all these birds migrate to S Asia. Ringing data from other regions in the same paper shows that there is far greater variability in the migration orientation of this species.

In the meantime, the breeding distribution of Glossy Ibis has increased a lot in S, E and SE Asia both during the wintering season (Figure 13) and the breeding season (Figure 14) of the northern breeders.

Additional practical considerations include:

1) Currently the S, SE Asia (non-br) population is the only one Glossy Ibis population that is defined based on the non-breeding ground. All others are based on the breeding grounds. In the range of the S, SE Asia (non-br) population there is a growing segment of resident birds both in S Asia and in SE Asia. Migrants are likely to mix with the birds breeding in S Asia, but not with the ones in SE Asia. Furthermore, there is probably very little exchange between the birds of S and SE Asia.
2) Experience shows that producing population size estimates is almost impossible based on the IWC counts for this species. Perennou et al. (1994) reported total counts for the South-west Asia/Eastern Africa and the S, SE Asian (non-bre) populations at the level of 1,490 and 4,020 individuals respectively while estimated each population to be over 10,000 individuals. Monitoring a colonial breeding bird during the breeding season would make more sense both from monitoring and from the point of view of safeguarding key nesting sites.

These arguments all support redefining the populations of Glossy Ibis in Asia. This means creating a new Caspian & C Asian (bre) population from the South-west Asia/Eastern Africa and from the C Asian part of the former S, SE Asian (non-bre) populations and separating out a S Asian (bre) population and a, E, SE Asian (bre) one (Figure 15). The new delineation of the Caspian & C Asian (bre) takes into account the observations of Glossy Ibis in Socotra and Oman shown by eBird data[1]. However, it ignores the relatively small number of movements from the Caspian towards the Black Sea and East Mediterranean.

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

There are no implications for the listing of the population in Table 1. Already the estimates from Scott (2002) have included Kazakhstan, Turkmenistan and Uzbekistan. Updated data from these countries were also reported in CSR8.

[1] https://ebird.org/map/gloibi?neg=true&env.minX=&env.minY=&env.maxX=&env.maxY=&zh=false&gp=false&ev=Z&excludeEx=&mr=1-12&bmo=1&emo=12&yr=all&byr=1900&eyr=2023

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Figures

Figure 10. Delineation of the South-west Asia/Eastern Africa population of Glossy Ibis as presented on the CSN Tool.

Figure 11. Delineations of the South-west Asia/Eastern Africa and the S, SE Asian (non-bre) populations of Glossy Ibis. Source: Wetlands International, unpublished shapefiles.

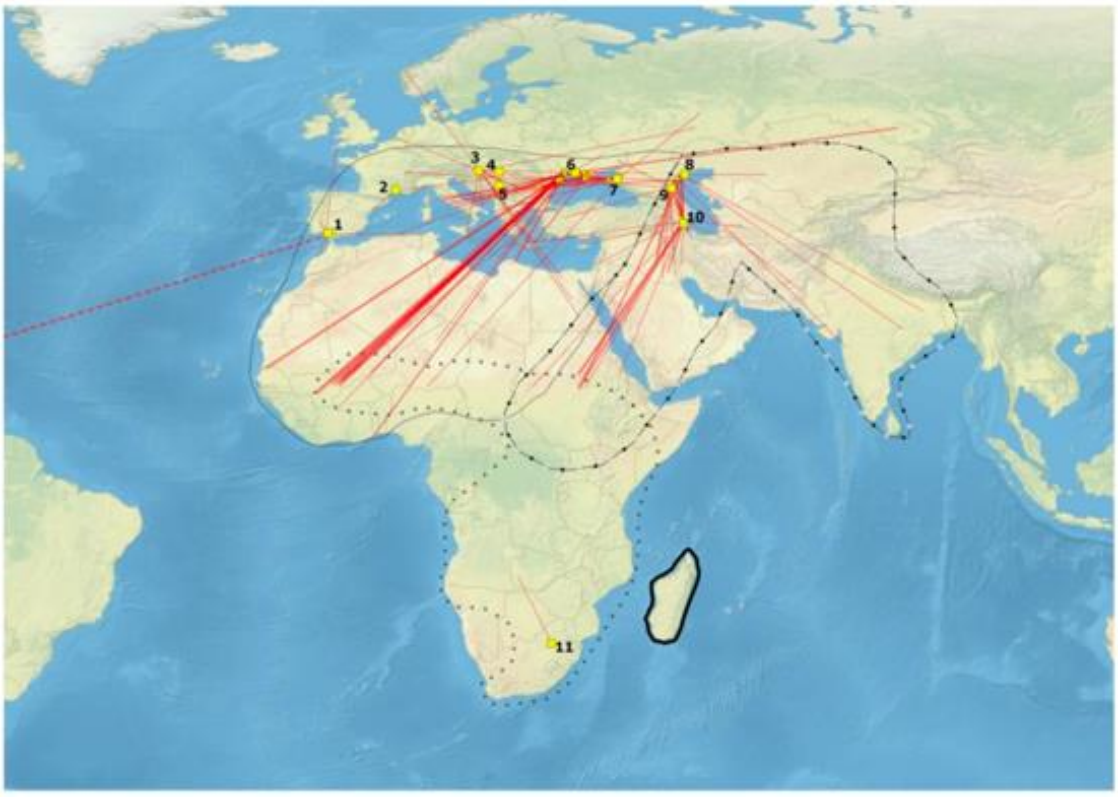

Figure 12. European ringing locations of Glossy Ibis recovered in the Eurasian-African region. The red lines show the dispersal movements from the ringing areas that are yellow squares (main ringing sites) or circles (sporadic ringing sites). The main ringing sites are numbered clockwise starting from (1) Espacio Natural de Doñana (Spain), (2) Camargue wetlands (France), (3) Kis-Balaton (Hungary), (4) Pusztaszer Landscape Protection Area (Hungary), (5) Special Nature Reserve Obedeska Bara (Serbia), (6) Dniestr River Delta (Ukraine), (7) Kuban River (Russia), (8) Volga River Delta (Russia), (9) Dagestan (Russia), (10) Kyzyl-Agach Nature Reserve (Azerbaijan), (11) Benoni (South Africa). The ringing sites (1) and (2) are still active whereas all the others are old (between 1910s and 1990s) ringing programs. One dispersal movement signalled with a dashed red line departs from Doñana wetlands to Virgin Islands (not shown for visual clarity).
Source: Santoro et al. (2019).

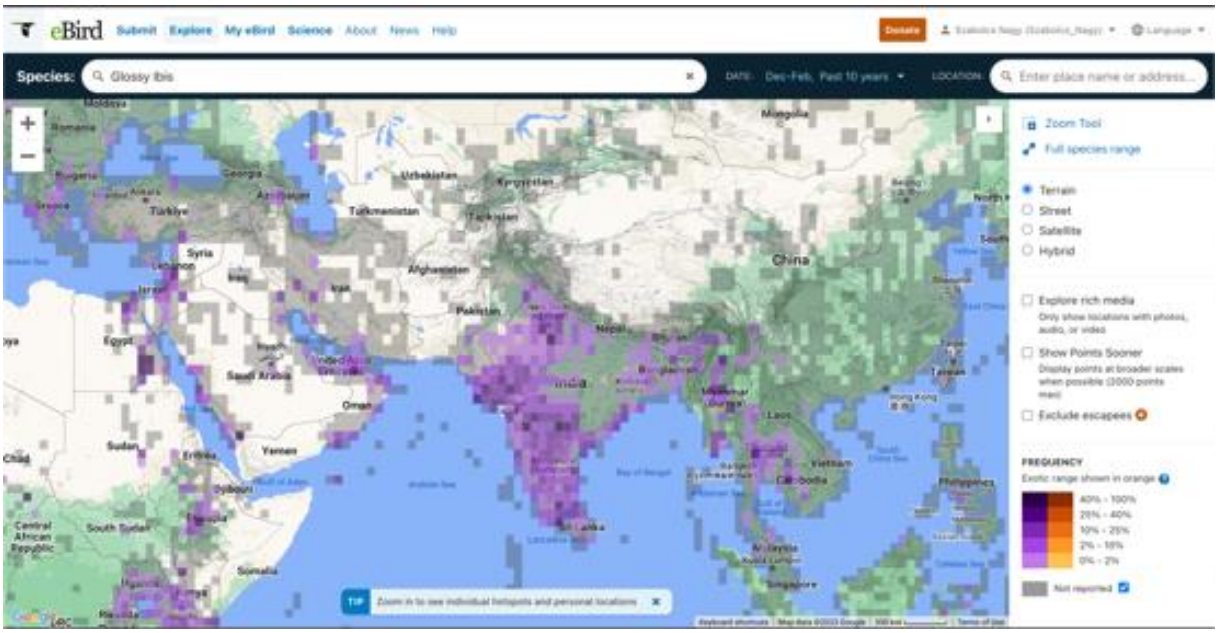

Figure 13. Winter (December – February) distribution of Glossy Ibis is Asia based on eBird data[2].

2 https://ebird.org/map/gloibi?neg=true&env.minX=&env.minY=&env.maxX=&env.maxY=&zh=false&gp=false&ev=Z&excludeEx=&mr=12-2&bmo=12&emo=2&yr=last10

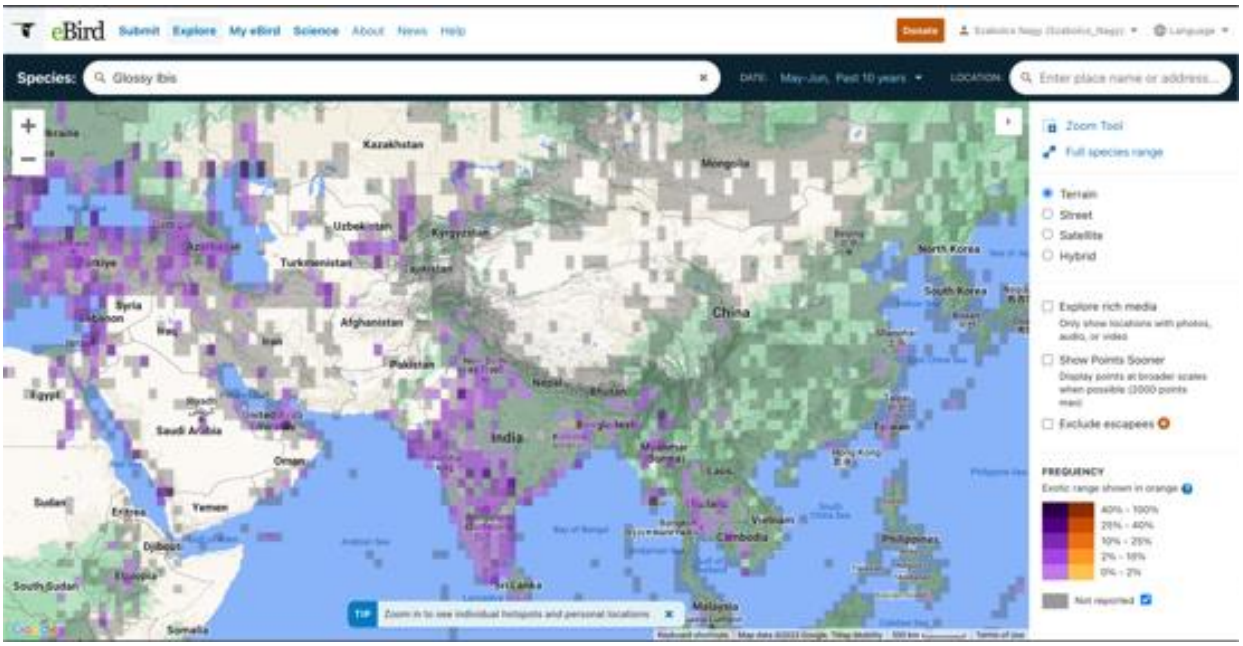

Figure 14. May - June[3] distribution of Glossy Ibis in Asia on eBird data[4].

[3] This represents the breeding season of the northerly populations. In S and SE asia, the breeding season probably starts earlier, e.g in S India laying starts in late January (Venkatraman, 2009). Venkatraman, C. (2009). Breeding of Glossy Ibis Plegadis falcinellus at Vedanthangal Waterbird Sanctuary, southern India. *Indian Birds*, *5*(1), 18–19.

[4] https://ebird.org/map/gloibi?neg=true&env.minX=17.32467268429701&env.minY=-3.3604438240894434&env.maxX=127.715297684297&env.maxY=47.915969610727835&zh=true&gp=false&ev=Z&excludeEx=&mr=on&bmo=5&emo=6&yr=last10&byr=2013&eyr=2023

Figure 15. New delineations of the Glossy Ibis populations in Asia as presented on the Waterbird Populations Portal[5] (dotted lines). The solid blue line represents the proposed new boundaries for the Caspian and C Asian (bre) population. The S Asian (bre) population is shown in yellow.

[5] https://wpp.wetlands.org/explore/3758/2531

ANNEX 5 - doc AEWA/TC 18.12

DELINEATION OF BIOGEOGRAPHIC POPULATIONS OF THE EUROPEAN SHAG (*GULOSUS ARISTOTELIS*)

PROPOSAL TO CHANGE POPULATION DELINEATIONS

Compiled by Szabolcs Nagy, Wetlands International &
Sergey Dereliev, UNEP/AEWA Secretariat

Note for TC18

The original proposal was produced and discussed by correspondence on the TC Workspace[14] in early 2022 (please see the discussion at the link provided in the footnote), but the TC could not conclude on the matter at its previous meeting. Therefore, the discussion was postponed for the next triennium.

Name of population:

European Shag (*Gulosus aristotelis*)

Current status on AEWA Table 1:

G. a. desmarestii, East Mediterranean (Croatia, Adriatic Sea) (bre) is listed in Category 1c of Column A. Other populations are not listed in Table 1 of AEWA.

What is the issue?

The European Shag and its 'Adriatic population' have been added to Annex 2 and Table 1 of AEWA at MOP7 in 2018. However, this motion has led to some issues to be resolved, namely:

1. The name of the AEWA listed population is long and misleading because there are more (sub)population segments of European Shag in the East Mediterranean. This could be easily resolved by simplifying the name to *G. a. desmarestii*, Adriatic Sea.
2. The definition of a new 'population' has created a discrepancy between the AEWA Table 1 and the population definitions in the WPE. This inconsistency needs to be resolved as Contracting Parties to the Ramsar Convention shall apply the population definitions of the WPE when applying Criterion 6 for the identification of Ramsar Sites (Ramsar Convention, 2012). Resolving this issue consistently is more complicated and different options are presented below.

What is the evidence supporting the proposal?

Since the first edition of the Waterbird Population Estimates (Rose & Scott, 1994) three populations of the European Shag has been recognised following the subspecies level taxonomy (Figure 16). This treatment followed the principles applied in the WPE (Rose & Scott, 1994): "*For sedentary species it becomes more difficult to apply the definitions suggested for populations. It is often possible to demonstrate that the dynamics of almost every smaller part of a population is relatively independent of each other. This is especially true for sedentary island populations. To justify many small populations of sedentary species through this argument is often impractical for conservation management purposes and probably not always justifiable in terms of maintaining biodiversity. The alternative is to treat every sedentary species as one population which is equally unjustifiable in many cases. In the lack of any practical guidelines or principles for defining populations of sedentary species, decisions have been made according to subspecific divisions with respect to practical implementation of the 1% thresholds*". The same principle has been maintained by AEWA in case of other seabirds (AEWA Secretariat, 2005).

However, Scott & Rose (1996) have also considered the degree of geographic separation of populations when delineated sedentary Anatidae populations (e.g. in case of the East African and Ethiopian highland populations of Maccoa Duck). Identifying smaller geographically and demographically distinct populations within the *aristotelis*

[14] https://tcworkspace.aewa.info/node/680

and *desmarestii* subspecies could follow similar principles. The resulting lower 1% thresholds for smaller populations would be beneficial to identify and protect a network of key sites for the species.

For a long time, the European Shag was considered being inappropriate for the inclusion in the agreement because it was considered non-migratory as defined by the CMS (see Table 2 in Wetlands International, 1999). At MOP7, the European Union has proposed listing two 'populations' that were formerly not recognised in the WPE as separate populations, namely:

- the 'Barents Sea', and
- the 'East Mediterranean (Croatia, Adriatic Sea) (bre)' populations.

MOP7 has agreed to listing only the latter. The listing of the Adriatic 'population' was justified based on the marking studies showing that a large part of the birds breeding in Croatia regularly winter in Slovenia and Italy. The nomination of the 'Barents Sea' population was opposed by Norway, Iceland and Denmark (on behalf of the Faroes) and, therefore, it was not added to Table 1.

As mentioned above, the listing of the Adriatic 'population' has created a discrepancy with the WPE list of populations, and it is necessary to agree on a consistent treatment of the populations of the European Shag both in the context of AEWA and in the context of the Ramsar Convention (WPE). In the context of AEWA, it is important to note that only populations that are migratory can be listed on Table 1. In this context, the applicable criterion for a migratory population is provided in Article I.1.a of the Convention on Migratory Species when *"… a significant proportion of whose members cyclically and predictably cross one or more national jurisdictional boundaries".*

For the consistent treatment of the European Shag populations, it is important to systematically review the structure and migratory behaviour of the European Shag populations. All five editions of the WPE have recognised three populations following the subspecies level classification of the Handbook of the Birds of the World (del Hoyo et al., 2020), which is the same as applied in AEWA's taxonomic reference: the HBW and BirdLife International Illustrated Checklist of the Birds of the World (del Hoyo et al., 2016):

- *G. a. aristotelis*: Iceland, N Scandinavia to Iberian Peninsula;
- *G. a. desmarestii*: C Mediterranean, E to Black Sea;
- *G. a. riggenbachi*: coast of Morocco.

However, this taxonomy may need revision (Orta et al., 2021). Within each of these still recognised subspecies, several more-or-less independent biogeographic units can be distinguished (Figure 17).

Within the range of the *G. a. aristotelis* subspecies:

- Barents Sea: this population is truly migratory (Orta et al., 2021). 5,177 pairs in Norway (Fauchald et al., 2015) and 900–1100 pairs in Russia. However, it is a matter of judgement whether the less than 20% of the population crossing from Russia to Norway represent a significant part of the whole (sub)population.
- Norwegian Sea, North Sea and Skagerrak: Galbraith et al. (1986) have differentiated three sub-populations (in N, Mid and S Norway). The latter two is treated as North Sea and Skagerrak by Fauchald et al. (2015). Ringing data suggest that the northern Norwegian birds are truly migratory, but this apparent migratory behaviour might be the result of biased chances of ring recovery in the southern areas. Even if the N Norwegian birds migrate, they do not cross any national borders and thus would not qualify for listing in Table 1 of AEWA. Fauchald et al. (2015) estimated the size of the population in the Norwegian Sea area at 9,303 pairs and in the North Sea and Skagerrak area at 13,861 pairs.
- Iceland: resident (Galbraith et al., 1986), 3,700–3,800 pairs (BirdLife International, 2021).
- Faroes: resident (Hammer et al., 2014), 1500 pairs (BirdLife International, 2021).
- North and Celtic Seas birds have shown dispersive but not cyclic movements to variable distances, mainly in the first 4-5 months after fledging, but a minority of British and Irish birds travel further across the North Sea and further south along the Atlantic coast (Galbraith et al., 1986; Grist et al., 2014; Wernham et al., 2002). 7,300–7,500 pairs in France, 4,900–5,000 pairs in the Republic of Ireland, 13,600–20,800 pairs in Great Britain (BirdLife International, 2021).
- Iberian birds are mostly sedentary. A small proportion may move further along the Atlantic coast in winter (Orta et al., 2021). 100–150 pairs in Portugal and 1,600–1,700 pairs in Spain (BirdLife International, 2021).

Within the range of the *G. a. desmarestii* subspecies multiple biogeographic units can be separated with limited exchange amongst these areas:

- Balearic: including the Balearic Islands and the Mediterranean coast of mainland Spain. This unit contains over 2,000–2,100 pairs (BirdLife International, 2021);
- Alboran: including the Mediterranean coast of Morocco and Algeria. C. 70 breeding pairs in Algeria. This area also hosts around 100 wintering birds from further north (Orta et al., 2021). This represents only a small proportion of the Balearic population.
- Thyrrenian: including Provence, Corsica, mainland Italy, Sardinia and some birds wintering in Tunisian waters. This population includes over 800–1,200 pairs in France, 1,500–2,100 pairs in Italy (BirdLife International, 2021) and c. 30 pairs in Tunisia (Orta et al., 2021). There is an intensive exchange of individuals between Corsica and Italy, but it appears more like dispersal than seasonal movements [Spina & Volponi].
- Libyan: small and apparently isolated unit of c. 50 pairs (Orta et al., 2021)
- Adriatic: regular post-breeding movements from Croatia to the Gulf of Trieste and the Venice Lagoon (Sponza et al., 2013). 1600–2000 pairs in Croatia, 10–24 pairs in Albania (BirdLife International, 2021). A significant part of the colour ringed individuals from Croatia were observed in Italy.
- Aegean: the Greek and majority of the Turkish birds form one population 1300–1500 pairs in the former and 880–1200 pairs in the latter (BirdLife International, 2021). Probably, there is some transboundary dispersal movement between Turkey and the Greek islands, but no evidence of cyclical migration.
- Cilician: formed by a small proportion of the Turkish birds and 20–60 pairs in Cyprus (BirdLife International, 2021). Probably, there is some dispersal movement between Turkey and Cyprus.
- Black Sea: This includes 800–1000 pairs in Ukraine, 170–250 pairs in Bulgaria, 5–15 pairs in Russia and a small proportion of the Turkish population.

Based on genetic studies, Thanou et al. (2017) has distinguished two main clades within this subspecies: a Western Mediterranean (including the Balearic, Alboran, Thyrrenian) and an Eastern Mediterranean (Libyan, Adriatic, Aegean, Cilician, Black Sea). Within the latter, an Adriatic and two Aegean genetic clusters can be distinguished. Birds from the Black Sea were not included into the analyses and their genetic distinctness is not known.

The *G. a. riggenbacchi* has very limited range on the Atlantic coast, in Haha, Souss and W Anti-Atlas, with breeding formerly known on Essaouira I, until 1960s, in Tarfaya and Doukkala. The breeding population is only 20–40 pairs (Orta et al., 2021).

It can be concluded from the above review, that there are two truly migratory populations of European Shag:

- the Adriatic; and
- the Barents Sea.

In addition, the following populations also regularly cross-national borders and may benefit from transboundary conservation efforts:

- North and Celtic Seas;
- Western Mediterranean;
- Eastern Mediterranean.

There are different options to resolve the issue:

A. **Retain the population definitions in the WPE.** In this case, the MOP decision about the listing of the Adriatic 'population' should be reversed and it should be considered whether the whole *desmarestii* population would deserve listing in Table 1 of AEWA. Considering that the Adriatic subpopulation is just a small part of the whole population, it could be argued that not a significant part of the population is performing regular migratory and consequently it should be not listed in Table 1. The same argument would be valid also against the listing of the *aristotelis* population in Table 1.

B. **Both the *arsitotelis* and the *desmarestii* subspecies could be split into smaller populations** such as the (a1) Icelandic, (a2) the Faroe Islands, (a3) the Barents Sea, (a4) the Norwegian Sea, (a5) the North and Celtic Seas and (a5) Iberian as well as (b1) the West Mediterranean, (b2) the Adriatic, (b3) the Aegean and (b4) the Black Sea ones. This approach would deviate to some extent from the principles applied in the WPE process and applied to seabirds earlier in AEWA. However, it would reflect more closely the structure of the population and it would allow to consider the migratory nature and potential listing on Table 1 of each of

these new populations. It would certainly justify the listing of the Adriatic one and taking an informed decision on the listing of the Barents Sea one. This approach would also result in smaller 1% thresholds in the context of the Ramsar Convention. These smaller thresholds would be practically inconsequential in case of the larger populations, but could result in better site coverage of the smaller populations, especially within the range of the *desmarestii* subspecies where there is already a recognised need for better site protection (Velando & Freire, 2002).

C. It would be possible to **just split the former *desmarestii* population into two parts such as the Adriatic one and the rest of the *desmarestii* subspecies**. However, this would be a rather inconsistent approach.
D. Retain *aristotelis* as one population, but split *desmarestii* into a West and an East Mediterranean population (including also the Black Sea). This would be a more consistent approach than Option C and would be more in line with the principles applied in case of seabirds in AEWA. Majority of the *aristotelis* subspecies would be non-migratory as only the Barents Sea population performs cyclical cross-border movements, but this represents only 9% of the *aristotelis* subspecies. The West Mediterranean population could be also considered as being non-migratory. Within the East Mediterranean population, the Adriatic sub-population is truly migratory and it represents about one third of this population. Thus, it can be argued that a significant part of this population is migratory. In addition, no information is available on the migratory behaviour of the Black Sea population. There would be certainly exchanges between Greece and Turkey, but mostly likely not cyclical movements. The birds referred to as migratory in the Dardanelles and Bosphorus are likely to be local birds rather than indicating migratory ones from the Black Sea as the reported migration season is actually within the breeding season of Mediterranean birds and the EBBA2 data also shows that the species breeds there (Keller et al., 2020).

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

The consequence of **Option A** would be reversing the decision of MOP7 and removing the European Shag from Annex 2 of AEWA and its Adriatic population from Table 1. In the context of the Ramsar Convention, the existing (outdated) 1% thresholds would be applicable.

The consequence of **Option B** would be retaining the Adriatic population on Table 1 but correcting its current inaccurate name. The classification of the population on Table 1 would not change. However, both the *aristotelis* and the *desmarestii* subspecies could be split into smaller biogeographic populations (see Table 1 for the proposed new biogeographic populations and their 1% thresholds). The Technical Committee should consider which new populations would qualify for listing in Table 1. However, these new biogeographic populations should replace the existing ones in the WPE with the new proposed 1% thresholds.

The consequence of **Option C** would be only a name change on Table 1. In the context of the Ramsar Convention, the WPE definition of the *desmarestii* population should be changed. However, this would represent a rather inconsistent approach to population definitions, and it is not recommended.

The consequence of **Option D** would be that the *aristotelis* subspecies should be not added to Table 1 and the 1% threshold would be calculated the same way as currently for site selection purposes. The West Mediterranean population would be not listed on Table 1, but it would have a lower 1% threshold (150 individuals). The new East Mediterranean population (without specifying Croatia and the Adria) could be listed on Table 1. The 1% threshold would be 160 individuals as the geometric mean of this population would be 16,300 individuals, which means that it should be listed in Category 2 of Column A instead of Category 1c of Column A.

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Tables

Table 1. The proposed new biogeographic populations of the European Shag under Option B (in red font and yellow highlight are those with true migration behaviour, in yellow highlight only are those with other transboundary movements).

Subspecies	Proposed population	Population unit	Countries (breeding)	Min. Pairs	Max. Pairs	Geomean pairs	Individuals	1% threshold
aristotelis	Barents Sea		Russia	900	1,100			
			Norway	5,177	5,177			
			Total	**6,077**	**6,277**	**6,176**	**18,529**	**180**
	Norway		**Norway**	**23,164**	**23,164**	**23,164**	**69,492**	**700**
	Iceland		**Iceland**	**3,700**	**3,800**	**3,750**	**11,249**	**110**
	Faroes		**Faroes**	**1,500**	**1,500**	**1,500**	**4,500**	**45**
	North and Celtic Seas		France	7,300	7,500			
			Ireland	4,900	5,000			
			Great Britain	13,600	20,800			
			Total	**25,800**	**33,300**	**29,311**	**87,933**	**880**
	Iberian		Portugal	100	150			
			Spain (Atlantic coast)	1,600	1,700			
			Total	**1,700**	**1,850**	**1,773**	**5,320**	**55**

Subspecies	Proposed population	Population unit	Countries (breeding)	Min. Pairs	Max. Pairs	Geomean pairs	Individuals	1% threshold
desmarestii	West Mediterranean	Balearic	Spain (Mediterranean coast)	2,000	2,100			
		Alboran	Algeria	70	70			
		Thyrrenian	France	800	1,200			
			Italy	1,500	2,100			
			Tunisia	30	30			
			Total	**4,400**	**5,500**	**4,919**	**14,758**	**150**
	Adriatic		Croatia	1,600	2,000			
			Albania	10	24			
			Total	**1,610**	**2,024**	**1,805**	**5,416**	**55**
	East Mediterranean	Aegean	Greece	1,300	1,500			
			Turkey	880	1,200			
		Cilician	Cyprus	20	60			
		Libyan	Libyan	50	50			
			Total	**2,250**	**2,810**	**2,514**	**7,543**	**75**
	Black Sea		Ukraine	800	1,000			
			Bulgaria	170	250			
			Russia	5	15			
			Total	**975**	**1,265**	**1,111**	**3,332**	**35**

Figures

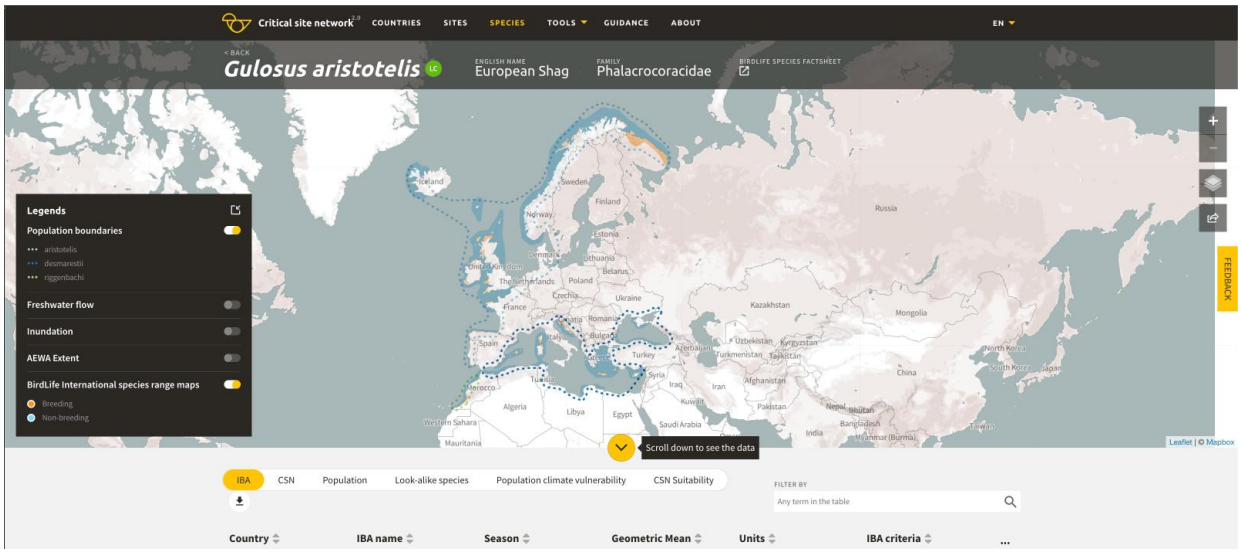

Figure 16. Population delineations for the European Shag as recognised in WPE5. Source: CSN Tool 2.0 (BirdLife International & Wetlands International, 2018)

Figure 17. Distinct biogeographic units within the range of the European Shag.

ANNEX 6 - doc AEWA/TC 18.13

DELINEATION OF BIOGEOGRAPHIC POPULATIONS OF THE BAR-TAILED GODWIT (*LIMOSA LAPPONICA TAYMYRENSIS*)

PROPOSAL TO CHANGE POPULATION DELINEATIONS

Compiled by Szabolcs Nagy, Wetlands International

Name of population(s):

Bar-tailed Godwit (*Limosa lapponica taymyrensis*):
Western Siberia/West & South-west Africa and
Central Siberia/South & SW Asia & Eastern Africa populations

Current status on AEWA Table 1:

Category 4 of Column A for both

What is the issue?

AEWA and the taxonomic reference of AEWA (del Hoyo et al., 2016) recognises two subspecies of Bar-tailed Godwit in the Agreement Area: the nominate form and the *taymyrensis* subspecies. Delany et al. (2009) have assumed that bird wintering in West Africa breed mainly in West Siberia east to the Taymyr Peninsula and birds wintering around Arabia and the eastern shores of Africa, breed mainly in eastern Taymyr.

Bom et al. (2022)[1] proposed defining the *taymyrensis* more narrowly and described the birds wintering on the Middle East as a new subspecies (*yamalensis*). They have also shown that the two subspecies have also different breeding areas. Therefore, **the population names in Table 1 should be changed to:**
***Limosa lapponica taymyrensis* and**
Limosa lapponica yamalensis

The respective breeding range descriptions should be changed on the Waterbird Populations Portal to:

- Central Siberia, Taymyr Peninsula and
- Western Siberia, Yamal Peninsula

The boundaries of the *yamalensis* population should be changed on the Critical Site Network Tool as shown on Figure 18.

[1] https://drive.google.com/file/d/1bwZ1sbr9TDd0lcr7LtiQ7-m95LT6cjCA/view

What is the evidence supporting the proposal?

Bom et al. (2022) provide tracking, morphological and genetic evidence. The evidence concerning the new subspecies has been reviewed and accepted by BirdLife International (Donalds in litt.) and will be reflected in the next update in their taxonomic checklist. As the results are based on birds caught in Oman, there are some uncertainties concerning the generality of the results. However, the proposal is based on the best available evidence, and this evidence is stronger than the assumptions made in Delany et al. (2009) concerning the breeding range. In addition, 58-65% of the *yamalensis* Bar-tailed Godwit population winter at Barr Al Hikman (de Fouw et al., 2017) and even larger proportion uses the site during passage.

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

The proposal leads to changing the names of the two populations in Table 1 of AEWA. It also leads to changes of the description of the breeding area of the *yamalensis* population in the Waterbird Population Portal and to the changing the boundaries on the Critical Site Network Tool.

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Figures

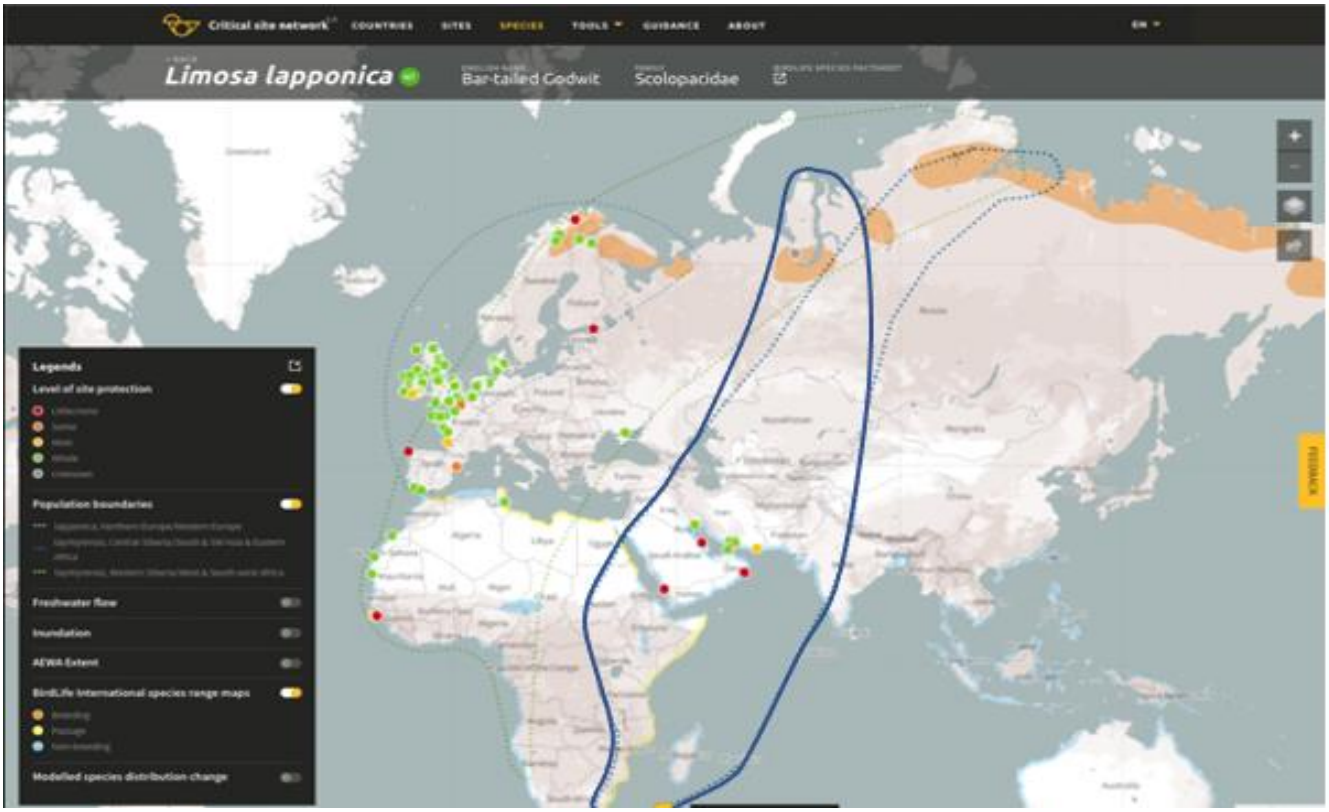

Figure 18. Existing (dotted dark blue line) and proposed (solid dark blue line) population delineations of the Bar-tailed Godwit yamalensis population.

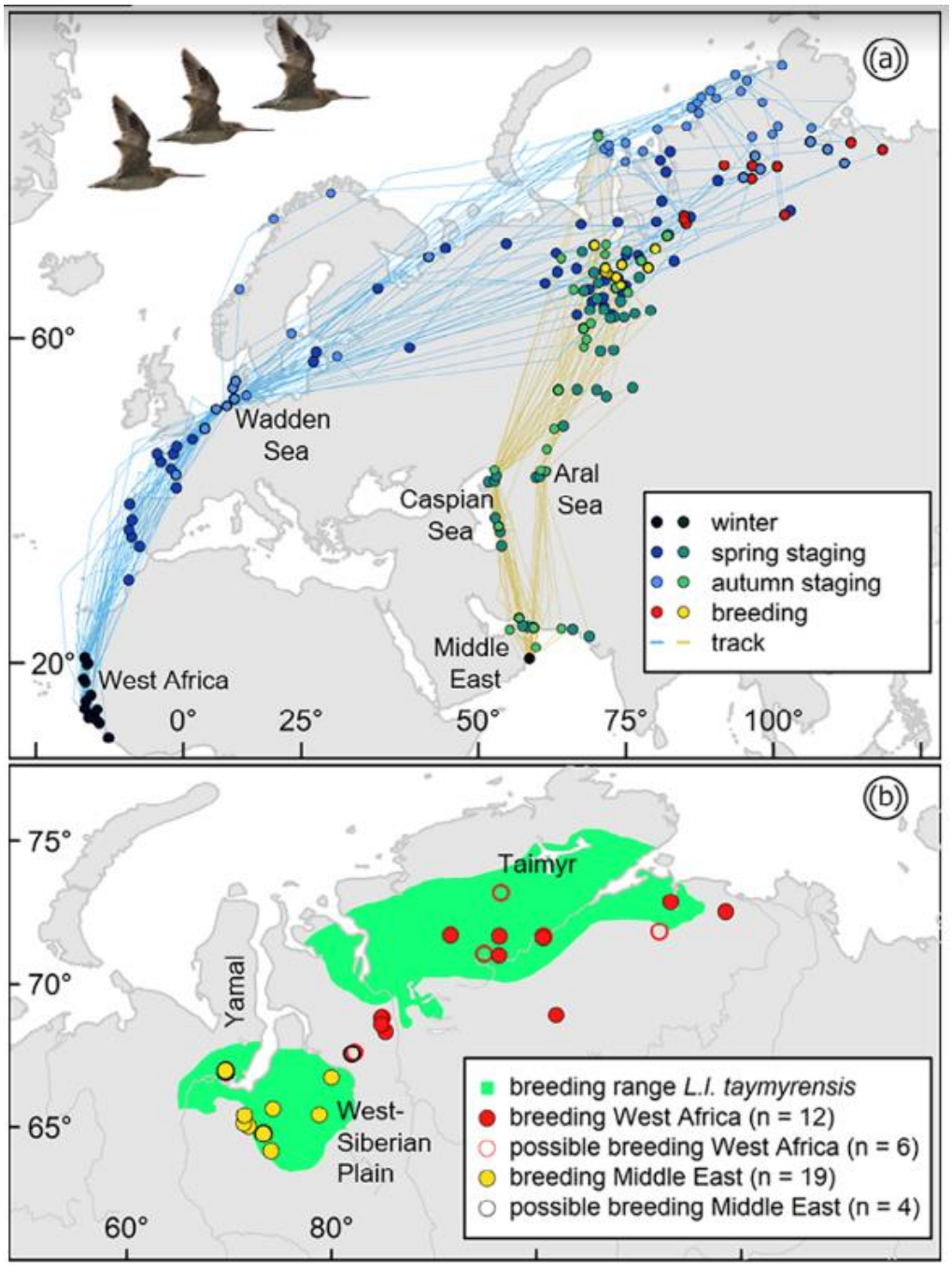

Figure 19. (a) Timing of migratory movements in Bar-tailed Godwits wintering in West Africa (blue lines and blue and red circles) and the Middle East (yellow lines and green and yellow circles). Note that autumn sites are plotted on top of spring sites. For visualization purposes, Siberian staging sites are notindicated by a separate colour, but they can be deduced from the latitude. Map is in Mercator projection. (b) Breeding sites derived from tracking data compared with the known breedingrange based on Lappo et al. (2012). From Bom et al. (2022)

ANNEX 7 - doc AEWA/TC 18.14

DELINEATION OF BIOGEOGRAPHIC POPULATIONS OF THE CASPIAN TERN (*HYDROPROGNE CASPIA*)

PROPOSAL TO CHANGE POPULATION DELINEATIONS

Compiled by Szabolcs Nagy, Wetlands International

Name of population(s):

Caspian Tern (*Hydroprogne caspia*), Baltic (bre)

Current status on AEWA Table 1:

Category 1 of Column B

What is the issue?

In the light of distribution, ringing and telemetry data the population boundaries should be amended as shown on Figure 20.

What is the evidence supporting the proposal?

EBBA2 data[1] (Keller et al., 2020) shows that the breeding range of the population includes now Denmark and should be extended to the western shore of Lake Vänern in Sweden. In the east, the breeding range should be extended to the eastern shore of Lake Lagoda (Figure 21).

Ringing (Spina et al., 2022; Figure 3) and telemetry (Rueda Uribe, 2021)[2] data shows that the flyway boundary can be extended to the Atlantic coast of Europe on the west and more towards the border of Russia and Ukraine on the east.

In Africa, the eastern limit of the flyway can be extended to the line of Djbuti to Maindi on the the Indian Ocean coast of Kenya to include the Rift-valley lakes. The southern boundaries can be extended to the Upemba National Park in the Democratic Republic of Congo (Figure 22).

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

The boundary changes will not affect the status of the population on Table 1 of AEWA only the list of Range States.

[1] https://ebba2.info/maps/species/Hydroprogne-caspia/ebba2/abundance/
[2] https://onlinelibrary.wiley.com/doi/pdfdirect/10.1111/jav.02743

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Figures

Figure 20. Existing (pale blue dotted line) and proposed (pale blue solid line) delineations of the Caspian Tern, Baltic (bre) population.

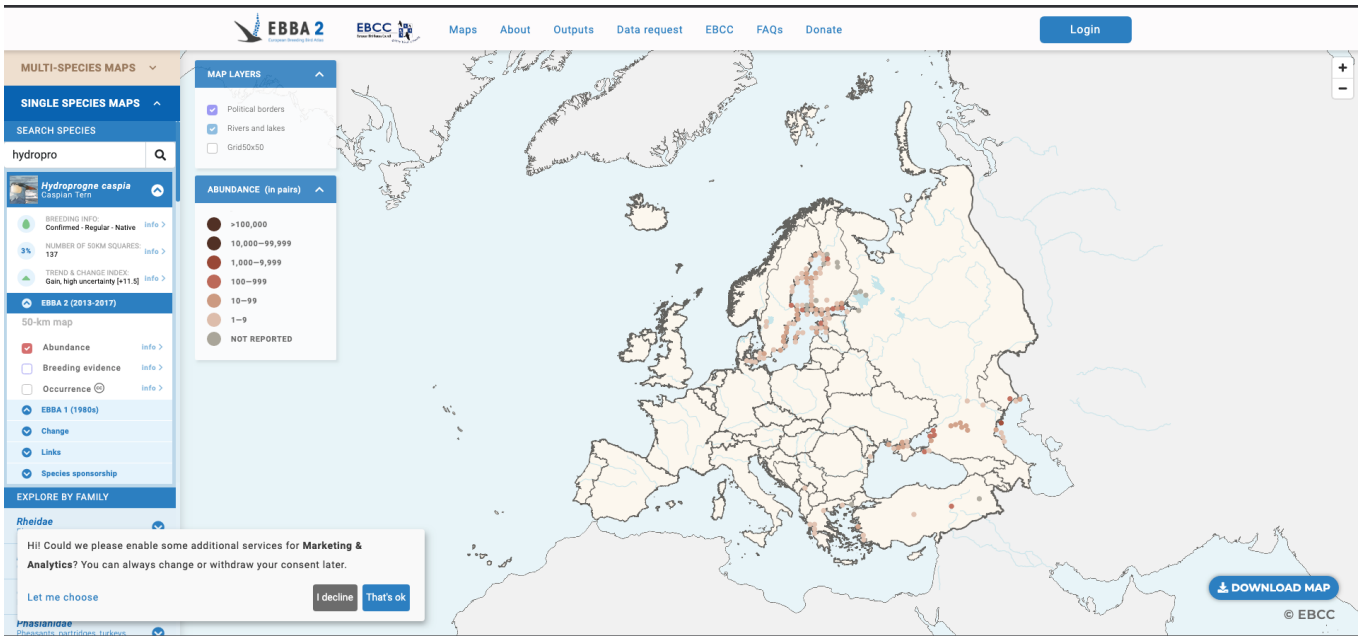

Figure 21. Breeding distribution of the Caspian Tern in Europe based on the EBBA2 data (Keller et al., 2020).

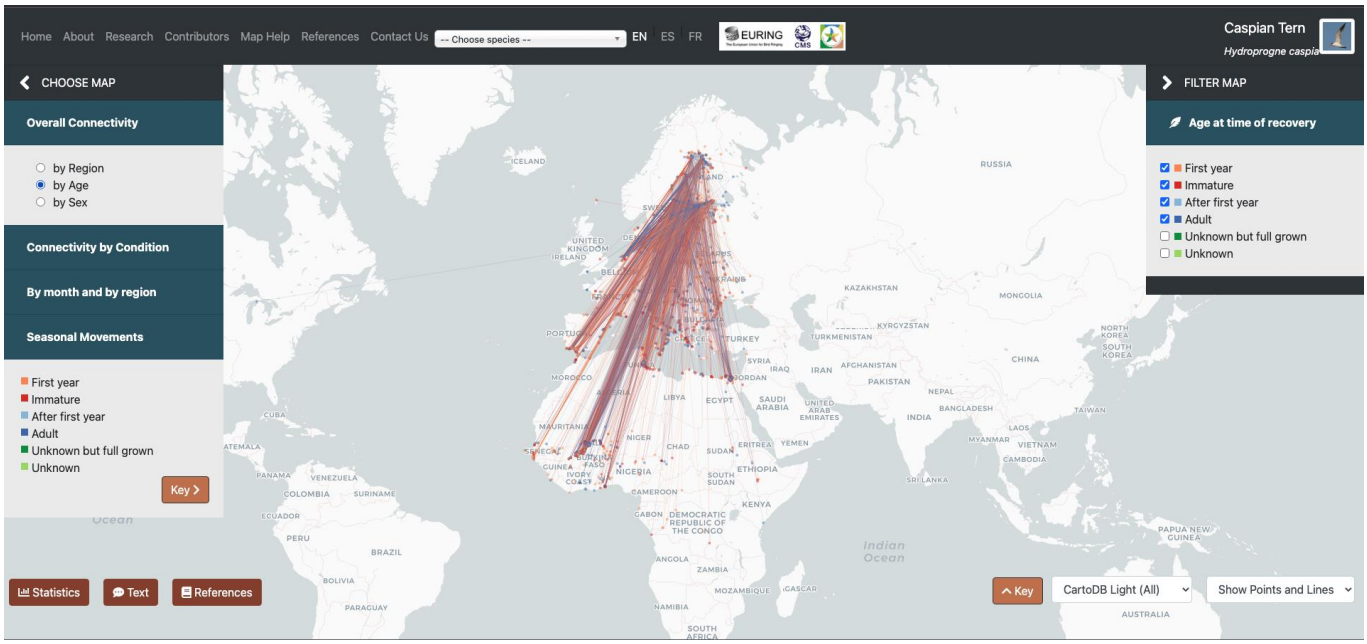

Figure 22. Ring recoveries of Caspian Tern marked in Northern Europe (Sweden and Finland) based on the Eurasian African Bird Migration Atlas (Spina et al., 2022).