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AGREEMENT ON THE CONSERVATION OF
AFRICAN-EURASIAN MIGRATORY WATERBIRDS

**Report on the Conservation Status of Migratory
Waterbirds in the Agreement Area**

Second Edition

Draft Report prepared by Wetlands International

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1. INTRODUCTION

In Article II of the Agreement on the Conservation of African-Eurasian Migratory Waterbirds, Parties agree, as a fundamental principle, to take co-ordinated measures to maintain migratory waterbird species in a favourable conservation status or to restore them to such a status. To this end, the Parties agree to apply within the limits of their national jurisdiction a number of general conservation measures prescribed in Article III of the Agreement, as well as a number of more specific actions determined in the Action Plan appended to the Agreement. While in the great majority of cases, successful implementation of the conditions and provisions of the Agreement can only be accomplished by the Parties themselves, either at national level or through bilateral or multi-lateral co-operative programmes, there are several areas in which a broad international approach is required. This is especially the case with respect to the compilation of international reviews of the conservation status of the waterbird species covered by the Agreement.

If the populations of migratory waterbirds are to be conserved effectively, it is essential that reliable information be available on their current status. This will include information on the size of the various populations, their breeding ranges, wintering distributions and migration routes, and the long-term trends in their population levels. It is a requirement of the Agreement (Article VI, paragraph 8) that at each of its ordinary sessions, the Meeting of the Parties shall consider actual and potential changes in the conservation status of migratory waterbirds and the habitats important for their survival, as well as the factors which may affect them. In paragraph 7.4, the Action Plan calls for the preparation of reports on the status and trends of populations covered by the Agreement, and in paragraph 7.5, requires that these reports be updated at intervals of not more than three years. Such information provides the basic material for operation, updating and evaluation of the Agreement. The need for regular reviews of the conservation status of the species of waterbirds covered by the Agreement is therefore evident.

The first report on the status and trends of waterbird populations covered by the Agreement was compiled by Wetlands International and presented as an information document (AEWA Inf. 1.1.) at the First Session of the Meeting of the Parties in Cape Town, South Africa, in November 1999. The final version of this document, entitled *Report on the Conservation Status of Migratory Waterbirds in the Agreement Area*, was subsequently published by the AEWA Secretariat as Technical Series No.1 (Wetlands International 2000). The report was intended to serve two purposes; firstly to fulfil the requirement in paragraph 7.4 of the Action Plan for an international review of the status and trends of the populations included in the Action Plan, and secondly to provide the necessary information to facilitate amendment of the Action Plan to include all populations of waterbirds covered by the Agreement at that time (a total of 170 species). The report also considered a number of species and populations of waterbirds occurring in the Agreement Area but not listed in Annex 2 to the Agreement, in an attempt to identify any additional migratory populations which had an unfavourable conservation status and would be appropriate for inclusion in the Agreement and Action Plan.

The present report constitutes the second edition of this *Report on the Conservation Status of Migratory Waterbirds in the Agreement Area*, and has been prepared as an information document for the Second Session of the Meeting of the Parties to be held in Bonn, Germany, in September 2002. Like its predecessor, this report summarises the present status and trends of all waterbird populations covered by the Agreement on the basis of the latest available information (a total of 369 populations of 170 species). It also summarises the present status and trends of an additional 134 populations of waterbirds that are currently under consideration for inclusion in the Agreement and Action Plan. Eighteen of these populations belong to species that are already included in Annex 2 to the Agreement. The remaining 116 populations belong to an additional 65 species which have been proposed for inclusion (see the AEWA document entitled *Proposed Amendments to the Action Plan*).

2. STATUS AND TRENDS OF WATERBIRD POPULATIONS

The first edition of the *Report on the Conservation Status of Migratory Waterbirds in the Agreement Area* provided information on the sizes and trends of 360 migratory populations of all 170 species listed in Annex 2 to the Agreement, and also included some information on the migratory populations of a further 50 species of waterbirds that were considered to be appropriate for inclusion in the Agreement. This information was based to a large extent on the second edition of *Waterfowl Population Estimates* (Rose & Scott 1997), but included a number of more recent estimates and trends taken from *The EBCC Atlas of European Breeding Birds* (Hagemeijer & Blair 1997), *The Atlas of Southern African Birds* (Harrison *et al.* 1997), *Goose Populations of the Western Palearctic* (Madsen *et al.* 1999) and various other published and unpublished sources available up until mid-1999.

The present report updates the information given in the first edition of the status report on the basis of the most recently available information. This information is currently being compiled by Wetlands International for the third edition of *Waterfowl Population Estimates* (now to be re-named *Waterbird Population Estimates*), with an anticipated publication date in late 2002. Throughout the present report, this work is referred to as WPE3. Much of the new information for WPE3 has been derived from the results of the International Waterbird Census (IWC) co-ordinated by Wetlands International, new material provided by Wetlands International's Specialist Groups, and direct input from Wetlands International's extensive network of contacts. Other major sources of new information have included *Threatened Birds of the World* (BirdLife International 2000), *European Bird Populations: Estimates and trends* (BirdLife International/European Bird Census Council 2000), *Important Bird Areas in Africa and associated islands* (Fishpool & Evans 2001), and four publications on waterbird numbers currently in preparation: *Waterbird Population Estimates in Africa* (Dodman 2002), *Status of Migratory Wader Populations in Africa and Western Eurasia in the 1990s* (Stroud 2002), *Breeding Waders in Europe 2000* (Thorup 2002), and *Results from the International Waterbird Census in the Western Palearctic and Southwest Asia in 1997, 1998 and 1999* (Gilissen *et al.* 2002).

As the compilation of the present report has pre-dated the finalisation of WPE3 by some months, it is likely that there will be some discrepancies between the estimates and trends given in this report and those given in WPE3. It is intended that these will be remedied in the final version of the present report which should be available in early 2003.

The present report is divided into three sections. The first section reviews the current status of all 360 populations of waterbirds currently included in the Action Plan¹. The second section reviews the current status of a further 65 species and 134 populations of waterbirds that have been proposed for inclusion in the Agreement and Action Plan. The third section draws attention to the remaining species of waterbirds (of the traditional 'waterbird' families) that have been recorded in the Agreement Area, but are inappropriate for inclusion in the Agreement.

¹: As a result of recent revisions to the limits of populations, nine of the populations listed in the Action Plan have each been split into two populations, giving a new total of 369 populations.

2.1. WATERBIRD SPECIES INCLUDED IN THE AGREEMENT

In the species accounts that follow, the introductory text describing the subspecies and populations is taken from the first edition of this status report, with some updating in the light of improved understanding. The sequence and composition of families follow *Handbook of the Birds of the World*, Vols. 1 and 3 (del Hoyo *et al.* 1992 & 1996), while the taxonomic treatment at species level and scientific nomenclature generally follow Sibley and Monroe (1990 & 1993). Each migratory population occurring within the Agreement Area is listed with an estimate of population size (or range category) followed by an indication of recent trends, where known. Unless otherwise stated, population sizes and trends are identical to those given in the third edition of *Waterbird Population Estimates*.

Populations are listed in one of four ways:

- When the breeding grounds and the wintering areas of a population are well known and these are widely separated, the breeding grounds are given first, followed by a slash (/), followed by the wintering areas *e.g.* Western Siberia/Western Europe for the single population of *Branta bernicla bernicla*.
- When the population has been identified largely or wholly on the basis of its distribution during the boreal winter, and the breeding grounds are either poorly known or overlap extensively with those of other wintering populations (as is the case in many ducks wintering in Western Eurasia), the population is described only by its winter distribution, and this is indicated the word '(wintering)' in the text and with the abbreviation '(win)' in table 1.
- Similarly, when a population has been identified largely or wholly on the basis of its breeding distribution, and the wintering grounds are either poorly known or overlap extensively with those of other breeding populations (as is the case in many herons and shorebirds breeding in Western Eurasia and wintering widely in Sub-Saharan Africa), the population is described only by its breeding distribution, and this is indicated with the word '(breeding)' in the text and the abbreviation '(bre)' in table 1.
- When there is a considerable amount of overlap between breeding and wintering ranges (*i.e.* when some individuals remain throughout the breeding range year round) or when both breeding and non-breeding ranges are poorly known (*e.g.* in many Afrotropical species), the population is described by its entire range.

Estimates of population size are given in two ways: either as the number of individuals present in the population (a 'best-guess figure' or a minimum-maximum range) or as being in one of five size categories, A to E. These size categories are as follows:

A:	Less than 10,000
B:	10,000-25,000
C:	25,000-100,000
D:	100,000-1,000,000
E:	Over 1,000,000

In a relatively small number of cases (*e.g.* some species of Rallidae), it is impossible to give even a rough indication of total population size.

The section **Changes in status** summarises recent information on population trends. It should be noted that in many cases, the change in status is merely the result of improved knowledge of population trends, and does not reflect any real change in the long-term trend of the population concerned.

The section **Comments** includes a note on those species which are currently listed as globally threatened or near-threatened. It includes information on listing in the Appendices to the Bonn Convention, and draws attention to any special action plans or management plans that have been produced in recent years. This section also includes a discussion of any recent changes in population limits which have been necessary because of improved understanding of migration routes.

Finally, this section includes recent information on population size, especially when there appears to have been a major change since 1999, when the first edition of this status report was prepared. Again it should be noted that in many cases, the new population estimate is derived from better census data, and does not imply that there has been any significant change in population size. Whenever the new estimate is believed to reflect a real change in population size, this is clearly stated.

The population sizes and trends of the 369 populations of the 170 species covered by the Agreement and Action Plan are summarised in Table 1.

GAVIIDAE

Red-throated Diver *Gavia stellata*

Monotypic. West Eurasian populations breed in Greenland, Iceland, Northern Europe and Western Siberia and winter on the Atlantic coast of Western Europe south to France (vagrant to Morocco), and less commonly in the Black and Caspian Sea (presumably West Siberian birds). Small numbers of birds winter on large lakes in Central European. No discrete populations are identifiable. Two main groups are recognised on the basis of their winter distributions.

- Northwest Europe (wintering): 183,000-420,000.

Trends: Decreasing.

- Caspian Sea, Black Sea & East Mediterranean (wintering): Unknown.

Trends: Unknown.

Changes in status: The Northwest European population is thought to be declining. Tucker & Heath (1994) and Hagemeyer & Blair (1997) found that there has been a decline over much of the European breeding range since 1970, following the loss of breeding sites due to drainage and disturbance from recreational activities. BirdLife International/EBCC (2000) have reported decreases in Russia (which holds the great majority of the breeding population), Finland, Norway and Sweden. Populations in Greenland, Iceland and Svalbard are thought to be stable, and there has been a slight increase in the relatively small British breeding population (935-1,500 pairs).

Comments: Only the Western Palearctic populations of *G. stellata* are included in Appendix II of the Bonn Convention.

The breeding population in Europe excluding Russia is estimated at 11,000-40,000 pairs, and that in Russia at 50,000-100,000 pairs (BirdLife International/EBCC 2000), suggesting a wintering population of at least 183,000 birds and possibly as many as 420,000. Most of this population is believed to winter in ice-free marine and coastal waters off Northwest Europe, with only small numbers of birds reaching Central and Southeast Europe.

Black-throated Diver *Gavia arctica*

Polytypic. Two subspecies occur in the Agreement Area. The nominate race breeds in Northern Europe and Northern Siberia east to the Lena River. Western populations (east at least as far as the Taymyr Peninsula) winter in Western and Southern Europe, south to Northwest Africa (scarce) and east to the Black Sea; small numbers of birds winter on large lakes in Central Europe. The Central Asian form *suschkini* (often lumped with *arctica*) breeds in south-western Siberia and winters in Turkmenistan and the Caspian region. Two populations are recognised.

- Northern Europe & Western Siberia/Europe (*arctica*): 360,000-690,000.

Trends: Decreasing.

- Central Siberia/Caspian (*suschkini*): Unknown.

Trends: Unknown.

Changes in status: The West Siberian/European population was listed as stable in the second edition of *Waterfowl Population Estimates*, but is now thought to be declining. Tucker & Heath (1994) and Hagemeyer & Blair (1997) have reported a decline in many parts of the European breeding range since 1970. Contributing factors include disturbance from recreational activities, increased fluctuations in water levels at some breeding lakes, a decline in fish stocks caused by acid rain, and increased pollution from mercury. BirdLife International/

EBCC (2000) have reported decreases in Russia (which holds the great majority of the breeding population), and

also in the large populations in Finland, and Norway. The smaller populations in Sweden and the U.K. are thought to be stable.

Comments: Only the nominate form *arctica* and Central Asian form *suschkini* are included in Appendix II of the Bonn Convention.

The breeding population in Europe excluding Russia is estimated at 20,000-30,000 pairs, and that in Russia at 100,000-200,000 pairs (BirdLife International/EBCC 2000), suggesting a wintering population of at least 360,000 birds, and possibly as many as 690,000.

Great Northern Diver *Gavia immer*

Monotypic. The Great Northern Diver is primarily a Nearctic species, breeding in North America mostly between 48°N and the Arctic Circle, and also in Greenland, Iceland, Bear Island and very occasionally Scotland. It occurs as a winter visitor to the Atlantic coast of Northwest Europe (north Norway to north-western France) from breeding grounds in Iceland (300 pairs), Greenland (200-2,000 pairs) and possibly also north-eastern Canada. Only one population is recognised.

- Europe (wintering): 5,000.

Trends: Unknown.

Changes in status: None known. The breeding populations in Greenland (200-2,000 pairs) and Iceland (estimated at 300 pairs in 1990) and believed to be stable (BirdLife International/EBCC (2000)).

Comments: Only the Northwest European population is included in Appendix II of the Bonn Convention.

A minimum of 5,000 birds winter along the coasts of Northwest Europe, with some 3,500-4,500 of these in British and Irish waters. The population in North America is still large (in the order of 400,000 birds), but the species has decreased steadily in the southern parts of its range throughout much of the 20th century.

White-billed Diver *Gavia adamsii*

Monotypic. The species breeds sparingly in north European Russia and more commonly from the Yamal Peninsula east across Northern Siberia (north to 78°N) to the Chukostky Peninsula, and also in northern Alaska and north-western Canada. Birds from western breeding areas winter along the coasts of Russia and Norway, and rarely southwest to the North Sea (to about 50°N). Only one population is recognised.

- Northern Europe (wintering): A.

Trends: Unknown.

Changes in status: None known.

Comments: Only the Western Palearctic population is included in Appendix II of the Bonn Convention.

No distinction is made between West Eurasian and East Asian populations in *Waterfowl*

Population Estimates. Very little is known about numbers, although the species is rather scarce in the western part of its Palearctic range. The breeding population in European Russia has been estimated at 50-100 pairs, and it is thought that 100-200 birds may winter in the North Sea, but the numbers wintering along the Russian and Norwegian coasts are unknown (Hagemeijer & Blair 1997; Snow & Perrins 1998). *G. adamsii* is almost certainly the least numerous of the four species of divers. However, most of the breeding areas are very remote, and it seems unlikely that populations have declined significantly in recent times.

PODICIPEDIDAE

Red-necked Grebe *Podiceps grisegena*

Polytypic. Only the nominate subspecies occurs with any frequency in Western Eurasia, although the subspecies *holboellii* of North America and Eastern Asia has been recorded as a vagrant in Greenland, Iceland and on the coast of Western Europe. *P. g. grisegena* breeds from Denmark and Germany east through North and Central Europe to West-central Asia, and winters from Norway and Britain south to the Bay of Biscay (vagrant to Northwest Africa), with smaller numbers wintering in the Caspian Sea, Black Sea and East Mediterranean. Birds breeding in the Lake Balkhash area in Central Asia (formerly assigned to the subspecies *balchashensis*) apparently winter in Pakistan and north-western India (O'Donnell & Fjeldså 1997), and are thus largely extralimital. Most European breeders are believed to winter in Northwest Europe; birds wintering in the Caspian are believed to originate from the Volga Basin and Western Siberia. The somewhat smaller numbers of birds wintering in the Black Sea and East Mediterranean presumably come from the breeding areas in Turkey, Bulgaria, Romania and Ukraine. Three main wintering groups are recognised.

- Northwest Europe (wintering): C.
Trends: Stable.
- Black Sea & Mediterranean (wintering): C.
Trends: Stable.
- Caspian (wintering): 15,000.
Trends: Unknown.

Changes in status: The species is thought to have increased and expanded towards the west in Europe during the second half of the 19th century, and is still increasing in some areas, although most populations now appear to be relatively stable. Tucker & Heath (1994) consider the European breeding population to be 'Secure', but report declines of over 20% in countries holding 29% of the breeding population. BirdLife International/EBCC (2000) report stable trends in Estonia, Germany and Sweden, increases in Denmark, Finland and Latvia, and a decrease in the small Lithuanian population, suggesting that overall trends in the Northwest European population are more or less stable. The Black Sea and Mediterranean population is also now thought to be stable. BirdLife International/EBCC (2000) report stable trends in the large breeding population in European Russia and small breeding populations in Belarus, Hungary, Moldova, Poland and Turkey. Only the breeding populations in Bulgaria, Romania and Ukraine are thought to be in decline. The status of the small Caspian wintering population remains unknown.

Comments: Only the nominate form *grisegena* is included in Appendix II of the Bonn Convention. An action plan for the conservation of *P. grisegena* has been prepared by O'Donnell & Fjeldså (1997).

O'Donnell & Fjeldså (1997) give the Northwest European wintering population as 18,000

individuals. However, the breeding population in Europe excluding Russia is estimated at 21,000-40,000 pairs, and that in Russia at 10,000-100,000 pairs (BirdLife International/EBCC 2000), suggesting a total wintering population in Northwest Europe and the Black Sea/Mediterranean region of at least 93,000 birds. Approximately 10,100-14,700 pairs are thought to breed in Fennoscandia, the Baltic and Germany alone, suggesting a minimum wintering population in Northwest Europe of 30,000-44,000 birds. It is probable that in this species, which winters mainly at sea, estimates of breeding populations are likely to give a better indication of population size than mid-winter counts. Until better agreement is reached between estimates from the breeding areas and estimates from the wintering grounds, both European wintering populations are retained in range C (25,000-100,000). The 15,000 birds estimated to winter in the Caspian region and sparingly further east to north-western India probably originate from breeding grounds east of the Urals.

Slavonian Grebe *Podiceps auritus*

Polytypic. Only the nominate form occurs in Western Eurasia, but two distinct forms, separable on bill-size, are present. Large-billed birds breed in Iceland, the Faeroes, Scotland and north Norway, and winter on the Norwegian coast and in Britain and Ireland. Small-billed birds breed from Sweden eastwards, and winter in the Baltic and on the Atlantic coast of Europe to Brittany (vagrant to NW Africa), with smaller numbers reaching the Black and Caspian Seas. Three main wintering groups are recognised.

- Northwest Europe (large-billed): 2,600-4,100.

Trends: Stable/increasing.

- Northeast Europe (small-billed): C.

Trends: Probably stable.

- Caspian & South Asia (wintering): B.

Trends: Unknown.

Changes in status: There has probably been an overall increase in numbers of large-billed *auritus* in the last three decades, as there has been a substantial increase in numbers in Norway, which holds over two-thirds of the population (Tucker & Heath 1994; Hagemeyer & Blair 1997; Snow & Perrins 1998). The Norwegian population increased from about 500 pairs in the 1960s to 1,000-1,500 pairs in recent years (O'Donnell & Fjelds  1997). The small breeding population in Scotland increased from 52 pairs in 1971 to a peak of 80 pairs in 1978-80, but by the late 1980s had levelled off at about 60 pairs (Gibbons *et al.* 1993). In the early 1990s, it fluctuated between 70 and 78 pairs (BirdLife International/EBCC 2000). The Icelandic population has decreased from 500-750 pairs in the early 1970s to about 300-400 pairs in recent years (Snow & Perrins 1998; O'Donnell & Fjelds  1997).

BirdLife International/EBCC (2000) suggest that the European breeding population is probably 'Secure'. They report declines in the breeding populations of small-billed *auritus* in Estonia, Finland and Sweden, but the large European Russian population is believed to be stable. In Finland, the large breeding population was probably halved from 1950 to the late 1970s, but has apparently recovered somewhat since 1980 (Hagemeyer & Blair 1997).

Comments: Only the Western Palearctic populations are included in Appendix II of the Bonn Convention. An action plan for the conservation of *P. auritus* has been prepared by O'Donnell & Fjelds  (1997).

The total breeding population in Europe excluding Russia is estimated at 6,000-10,000 pairs, and that in Russia at about 10,000-100,000 pairs (BirdLife International/EBCC 2000). The breeding population of the western large-billed form is estimated at only 870-1,380 pairs (data

from BirdLife International/EBCC 2000) or about 2,600-4,100 individuals, *i.e.* somewhat lower than the former rough estimate of 5,000. However, that there are at least 15,000 pairs and possibly as many as 100,000 pairs of small-billed *auritus* breeding in Northeast Europe. Because

of the uncertainty in the size of the Russian breeding population, the somewhat conservative estimate of C (25,000-100,000) is retained.

PELECANIDAE

Great White Pelican *Pelecanus onocrotalus*

Monotypic. The species breeds patchily from Southeast Europe to West-central Asia and in Subsaharan Africa. Populations breeding in Africa are largely sedentary, undertaking irregular local movements related to changes in feeding conditions. The West African population extends across the Sahelian zone from Mauritania and Senegal as far east as Cameroon. It undertakes nomadic movements across Southern Africa in response to changing water levels (Underhill *et al.* 1999). The birds breeding in Southeast Europe, Turkey and the Caspian region are almost entirely migratory. The main wintering areas of European breeders are unknown; 1,000-3,000 birds have wintered in Israel in recent years, and large numbers have been recorded on passage, suggesting that the bulk of the population may winter in Eastern Africa. Birds breeding in Southwest Asia winter in the Mesopotamian Marshes in Iraq (many thousands in the late 1970s; Scott & Carp 1982), southern Iran, neighbouring Afghanistan and probably also Pakistan. Only the Western Eurasia population is currently included in the Action Plan.

- Europe & Western Asia (breeding): 20,000-33,000.

Trends: Decreasing.

Changes in status: The European population underwent a considerable decline during the 20th century, mainly because of wetland drainage, and then appeared to stabilise in the late 1980s (Tucker & Heath 1994). However, the largest breeding population in Europe (in Romania) decreased drastically from 2,500-3,000 pairs in the late 1980s to only 1,100 pairs in 1996 (Snow & Perrins 1998). Recent decreases have also been reported in Greece and Turkey (BirdLife International/EBCC 2000). The total European breeding population (including Russia and Turkey) is now estimated at only 3,600-4,400 pairs (BirdLife International/EBCC 2000), and that includes an old estimate of 3,000-3500 pairs in Romania in 1989-93. Trends in Western Asia are unknown.

Comments: Only the Palearctic populations of *P. onocrotalus* are listed in Appendix I of the Bonn Convention, and only the Western Palearctic populations are listed in Appendix II.

A.J. Crivelli (*in litt.*) has recently estimated the total European and West Asian breeding population at only 6,703-10,964 pairs or about 20,000-33,000 individuals. This is substantially lower than the previous estimate of 70,000, and suggests that a major decline has occurred in recent years.

Dalmatian Pelican *Pelecanus crispus*

Monotypic. The species breeds at a number of widely scattered localities from Southeast Europe through Southwest Asia and Central Asia to Sinkiang Province in China, and winters south to the Mediterranean, Persian Gulf, northern India and southern China. Two populations are recognised in Western Eurasia: a small population in the East Mediterranean/Black Sea region, wintering within this region, and a larger Southwest Asian population wintering in the South Caspian region and from Mesopotamia through southern Iran to Pakistan. (A third population, in Eastern Asia, numbers less than 500 individuals).

- Black Sea & Mediterranean (wintering): 2,300-3,200.
Trends: Stable.
- Southwest & South Asia (wintering): 10,000-12,500.
Trends: Stable.

Changes in status: The breeding population in Europe has declined dramatically since the 19th century, principally through the loss of wetlands due to drainage, but in recent years this decline has halted and the population is now thought to be stable or increasing slightly. The breeding populations in Greece and Romania are increasing, and the species has started to breed again in Ukraine (Tucker & Heath 1994, Hagemeyer & Blair 1997, BirdLife International/EBCC 2000). However, the population in Albania has continued to decrease, from 200-300 pairs in the 1960s to only about 50 pairs in recent years, and the population in Turkey is also thought to be decreasing (Hagemeyer & Blair 1997, Snow & Perrins 1998, BirdLife International/EBCC 2000). The Southwest Asian breeding population is also thought to be relatively stable, although some increase has been reported in the Russian Federation (Hagemeyer & Blair 1997).

Comments: *Pelecanus crispus* was listed as a globally threatened species in the category 'Vulnerable' by IUCN (1996), but is now listed in the lower risk category 'Conservation Dependent' by BirdLife International (2000). It is included in Appendix I of the Bonn Convention. An Action Plan for *P. crispus* in Europe has been compiled by Crivelli (*in Heredia et al.* 1996).

A.J. Crivelli (*in litt.*) has recently estimated the Black Sea & Mediterranean population at 769-1,071 pairs or about 2,300-3,200 individuals, *i.e.* slightly more than the previous estimate of 2,000-3,300. A total of 2,956 were counted in the Black Sea and East Mediterranean region in January 1999 (Gilissen *et al.* 2002). Crivelli's new estimate of 3,265-4,125 pairs or about 10,000-12,500 individuals for the Southwest and South Asian population agrees closely with the previous estimate of 10,000-13,000.

PHALACROCORACIDAE

Pygmy Cormorant *Phalacrocorax pygmeus*

Monotypic. The species is confined to the Palearctic west of the Aral Sea, breeding from Southeast Europe (Albania, Bulgaria, Greece, Moldova, Romania and Ukraine) east through the Black Sea and Caspian regions to the Aral Sea and south-eastern Kazakhstan. Populations breeding in Eastern Europe and the Black Sea winter south to Greece and Turkey; populations breeding in the Caspian region and Aral Sea winter mainly in the south-western Caspian and lower Iraq. Two populations are recognised.

- Black Sea & Mediterranean: 23,000-37,000.
Trends: Stable or increasing.
- Southwest Asia: C.
Trends: Unknown.

Changes in status: The numbers breeding in Europe decreased considerably during the 20th century (and particularly during the 1950s), due to habitat loss, persecution by fishermen and destruction of breeding colonies, but in recent years the decline seems to have halted, and some breeding populations are now increasing. Almost two-thirds of the Black Sea/ Mediterranean population breeds in the Danube Delta in Romania, where numbers fell from about 8,000 pairs in the early 1960s to only 4,000 pairs in 1991. However, recent information suggests that this population is now increasing (Hagemeyer & Blair 1997). A recent increase has also been reported in the large Turkish breeding population (Tucker & Heath 1994, BirdLife International/EBCC 2000). The species re-colonised Moldova in 1982, where there were 200-

500 pairs by 1990 (Tucker & Heath 1994), and has recently begun breeding in Hungary (since 1985), Slovakia (since 1992), Israel (since 1992) and Italy (regularly since 1993) (Snow & Perrins 1998). Populations in Greece and Bulgaria are thought to be stable, and recent decreases have been reported only in the small populations breeding in Albania and Ukraine (Hagemeijer & Blair 1997).

Trends in the Southwest Asian population are uncertain. Perennou *et al.* (1994) thought that numbers were declining in the South Caspian region, but recent high counts in Azerbaijan have indicated that the population is many times larger than was formerly supposed.

Comments: *Phalacrocorax pygmeus* was formerly regarded as a globally threatened species in the category 'Insufficiently known' (IUCN 1993), but was listed as 'Near-threatened' by Collar *et al.* (1994) and BirdLife International (2000). An Action Plan for *P. pygmeus* in Europe has been compiled by Crivelli *et al.* (in Heredia *et al.* 1996).

The breeding population in Southeast Europe and Turkey is currently estimated at 7,671-12,378 pairs (data from BirdLife International 2000), or about 23,000-37,000 individuals. This estimate is adopted here, although recent mid-winter counts suggest that the population is even higher. Over 37,000 were counted in the Black Sea and East Mediterranean region in January 1997, and over 25,000 in January 1999 (Gilissen *et al.* 2002). These counts included over 11,600 in Bulgaria in 1999, and over 23,000 in Greece in 1998. There are thought to be a minimum of 15,000 pairs (45,000 birds) in Southwest Asia (BirdLife International 2000).

The size of the Southwest Asian population is poorly known. According to BirdLife International (2000), there were 14,749 pairs in Azerbaijan alone in 1986, while Paynter *et al.* (1996) counted 10,468 *P. pygmeus* at five sites in Azerbaijan in January and February 1996. As the species favours the many hundreds of kilometres of irrigation channels which have never been surveyed, these authors concluded that the total population in Azerbaijan alone must be in the high tens of thousands. The former rough estimate of C (25,000-100,000) is therefore retained.

Socotra Cormorant *Phalacrocorax nigrogularis*

Monotypic. The Socotra Cormorant breeds on islands off the Arabian Peninsula and southern Iran and disperses widely along adjacent coasts in winter south to the Gulf of Aden and southern Red Sea. Breeding is suspected in the Gulf of Aden and in Socotra. There is evidence of large-scale movements along the Oman coast, but these are poorly understood. Only one population is recognised, the entire population of the species.

- Persian Gulf & Arabian Sea: 450,000-750,000.

Trends: Decreasing.

Changes in status: The population appears to be in steep decline (BirdLife International 2000). Numbers apparently fell dramatically as a result of oil spills during the Gulf War in early 1991. Recent surveys have shown that from a total of at least 29 historical breeding sites in the Persian Gulf, as few as 11 extant colonies now remain, while from the breeding population in the Arabian Sea, only one extant colony is known (Symens *et al.* 1995).

Comments: *Phalacrocorax nigrogularis* was listed as 'Near-threatened' by Collar *et al.* (1994), but is now considered to be globally threatened in the category 'Vulnerable' (BirdLife International 2000). It is highly localised throughout the year, and is therefore particularly vulnerable to oil pollution which has repeatedly had serious effects throughout much of its range.

The world population has recently been estimated at 450,000-750,000 birds (BirdLife International 2000). About 95% of the breeding population in the Persian Gulf is restricted to only three colonies: the Howar Islands off Bahrain (up to 150,000 pairs), Siniyah Island in Umm al Quwain, United Arab Emirates (up to 40,000 pairs), and Judhaym Island in the Gulf of Salwa, Saudi Arabia (up to 15,000 pairs) (Symens *et al.* 1995). Many of the present breeding sites, including the three main sites, are under threat from increasing disturbance and/or development (Symens *et al.* 1995).

ARDEIDAE

Slaty Egret *Egretta vinaceigula*

Monotypic. *E. vinaceigula* was only confirmed as a distinct species in 1971. Until recently, the species was known to breed only in Botswana, mainly in the Okavango Delta, and north-eastern Namibia (Caprivi Strip). However, it is now known to breed in the Zambezi Delta in Mozambique (Collar *et al.* 1994), and breeding in Zambia also seems likely. The species undertakes extensive movements eastwards from Botswana during the wet season to wetlands around Lake Malawi and along the Shire and Zambezi Rivers in Malawi and north-western Mozambique. Concentrations of up to 40 have been observed in the Okavango Delta, and parties of up to 30 have been recorded during the dry season at the Kafue Flats, Liuwa Plain and Bangweulu Swamp in Zambia. A colony of 26 nests was discovered in the Caprivi Strip in north-eastern Namibia in 1988. Only one population is recognised, the entire population of the species.

- South-central Africa: 3,000-5,000.

Trends: Decreasing.

Changes in status: Little information is available on the status of this species, but there are some indications of a decrease in some areas. Flood regulation has caused it to disappear from one area of the Kafue Flats in Zambia, and there are development plans that may seriously affect the ecology of the Okavango Delta, while in Namibia, rice cultivation and developments taking place in the tourist and livestock industries are likely to have a negative impact (Collar *et al.* 1994). Dodman (2002) refers to recent chemical spraying operations in the Okavango which may be having an adverse effect on the population.

Comments: *E. vinaceigula* is a globally threatened species in the category 'Vulnerable' (BirdLife International 2000). The total population has recently been estimated at 3,000-5,000 individuals (BirdLife International 2000). The centre of distribution is the Okavango where the non-breeding population has been estimated at 2,000 birds (Dodman 2002).

Purple Heron *Ardea purpurea*

Polytypic. Three subspecies occur in the Agreement Area. *A. p. madagascariensis* of Madagascar and *A. p. bournei* of the Cape Verde Islands are sedentary. The nominate subspecies occurs widely in Africa, Southern Europe and Southwest Asia east to Kazakhstan. The populations breeding in Subsaharan Africa appear to be mainly sedentary. North African and West Eurasian populations winter almost exclusively in Africa south of the Sahara south to the equator, with birds from the Western Europe and Northwest Africa wintering mainly in West Africa, and those from Eastern Europe and Southwest Asia wintering mainly in Northeast and East Africa. Only two populations are currently included in the Action Plan (see also Section 2.2).

- Western Europe & West Mediterranean/West Africa: 12,000-13,200.

Trends: Decreasing.

- Eastern Europe & Southwest Asia/Subsaharan Africa: D.

Trends: Decreasing.

Changes in status: *Ardea purpurea* is now decreasing across much of its range in Europe, after a period of increase in the 1950s and 1960s. BirdLife International/EBCC (2000) report declines in 15 countries and stable populations in only three. These declines have been attributed largely to the loss and degradation of habitat and possibly to climatic changes causing drought conditions on

the winter quarters, at least in West Africa (Tucker & Heath 1994). In the West Mediterranean population, there have been major declines in Spain, the Netherlands and Austria, and smaller declines in France and Italy. In France, a marked decline in the south has to some extent been offset by increases in central and western regions. In Eastern Europe and Southwest Asia, there have been major declines in Bulgaria, Croatia and Ukraine, and smaller declines in Albania, Hungary, Moldova, Romania and Turkey. A. Bankovics (in Hagemeyer & Blair 1997) believes that the large breeding population in Russia is also declining. No information is available on the status of the species further east, but as its reed-bed habitat is widely under threat in Southwest Asia, it seems likely that the species is also decreasing there.

Comments: Only the populations of the nominate form breeding in the Western Palearctic are included in Appendix II of the Bonn Convention.

Marion *et al.* (2000) have estimated the Western European and West Mediterranean population at 4,000-4,400 pairs or about 12,000-13,200 individuals. The breeding population in Eastern Europe and Turkey is estimated at 45,000-100,000 pairs or 135,000-300,000 individuals. To these should be added an unknown, but probably large, number of birds breeding in Southwest Asia. The former estimate of D (100,000-1,000,000) is therefore retained for the East European and Southwest Asian breeding population.

Great Egret *Casmerodius albus*

Polytypic. Three subspecies occur in the Agreement Area. The nominate race breeds in Eastern Europe and Southwest Asia, and winters west to France and south to Tunisia, Egypt and the Persian Gulf. Birds breeding in Eastern Europe (excluding Russia) and Turkey winter mainly in the Black Sea and East Mediterranean; those breeding in Southwest Asia (including the Caspian region) appear to winter mainly in Kazakhstan, Iraq and Iran. Some birds from both these populations also winter in Africa south of the Sahara, but the numbers may be small. *E. a. melanorhynchos* breeds throughout Africa south of the Sahara and appears to be largely sedentary except for some post-breeding dispersal. *E. a. modesta* breeds from southern Iran east through Southern and Eastern Asia, and is largely extralimital. Two populations of the nominate form currently included in the Action Plan (see also Section 2.2).

- West, Central & Southeast Europe/Black Sea & Mediterranean: 12,000-22,500.

Trends: Increasing.

- West Asia/Southwest Asia: C.

Trends: Possibly increasing.

Changes in status: The Black Sea and Mediterranean population is now thought to be increasing. BirdLife International/EBCC (2000) report increases in the large breeding populations in Hungary and Ukraine, and in the small populations in Italy and Slovakia, while the populations in Croatia and Moldova are thought to be stable. Recent decreases have been reported only in Bulgaria, Romania and Turkey which together support only 450-860 pairs (BirdLife International/EBCC 2000). The Austrian population fluctuated widely in the 1970s and 1980s, but has shown a steady increase since 1991 (Hagemeyer & Blair 1997). In recent years, a few pairs have bred in the Netherlands (regularly since 1991) and Latvia (since 1977).

The West Asian population may also be increasing, as the large breeding population in

European Russia is increasing (BirdLife International/EBCC 2000). This population, estimated at 10,000-11,500 pairs in the early 1990s, includes at least 5,000 pairs in the Volga Delta (Snow & Perrins 1998).

Comments: Only the Western Palearctic populations of the nominate form *albus* are included in Appendix II of the Bonn Convention.

Marion *et al.* (2000) have estimated the breeding population in Europe, excluding Russia, at 4,000-7,500 pairs or about 12,000-22,500 individuals. As most of the birds breeding in European Russia occur in the Caspian drainage and are therefore best assigned to the West Asian population, this estimate of 12,000-22,500 is adopted for the western population. The size of the West Asian population is unknown, but is likely to be in the range C (25,000-100,000) as there some 30,000-34,500 birds in European Russia alone.

Madagascar Pond-Heron *Ardeola idae*

Monotypic. The species is confined as a breeding bird to Madagascar and Aldabra (where it has bred since 1967). Almost the entire population migrates to winter in East and Central Africa, mainly in the southern half of Kenya, Tanzania, Rwanda and eastern Democratic Republic of Congo, but also less commonly in the eastern half of Zambia, north-eastern Zimbabwe, northern Mozambique and southern Uganda. Only one population is recognised, the entire population of the species.

- Madagascar & Aldabra/Central & East Africa: 2,000-6,000.

Trends: Decreasing.

Changes in status: The species is apparently still fairly common within its restricted range, but numbers have declined dramatically in Madagascar over the past 50 years. It formerly ranged throughout the country, although it was rather rare in the south, but is now confined as a breeding species to the west (Langrand 1990). Numbers at the best known breeding grounds at Antananarivo in central Madagascar dropped from 1,500 birds in 1945 to only 50 in 1970 (del Hoyo *et al.* 1992). The dramatic decline in numbers in Madagascar is thought to be due to competition with *Ardeola ralloides*, which seems to be a recent colonist to the island and has adapted better to man's modification of the landscape, *e.g.* transformation of wetlands into rice fields and intensive deforestation (del Hoyo *et al.* 1992).

Comments: *Ardeola idae* was listed as 'Near-threatened' by Collar *et al.* (1994), but is now considered to be globally threatened in the category 'Vulnerable' (BirdLife International 2000). BirdLife International (2000) gave an estimate of 2,500-10,000, but more recently, Dodman (2002) has revised this downwards to only 2,000-6,000 birds. This estimate includes 20-50 pairs in Aldabra and up to 15 pairs on the atoll of Europa in the Mozambique Channel. One of the highest counts in recent years is from Lac d'Alarobia or Tsarasotro near Antananarivo, where there were 162 in January 1998 (Dodman *et al.* 1999). Numbers of non-breeding *A. idae* in Tanzania tend to be highest in July and August (Dodman 2002).

Rufous-bellied Heron *Ardeola rufiventris*

Monotypic. The species breeds in Central and Southern Africa from southern Angola and Tanzania to South Africa. It is at least partially migratory over much of its range, but its movements are poorly understood. It has been recorded as a vagrant or rare migrant in Kenya and Nigeria. Only one population is recognised, the entire population of the species.

- Tropical Eastern & Southern Africa: B or C.

Trends: Unknown.

Changes in status: There is some evidence that it is now less common in Southern Africa than previously (Harrison *et al.* 1997), but overall trends are unknown.

Comments: *A. rufiventris* is generally a local and rather scarce bird, with strongholds in the floodplains of western and northern Zambia and the Okavango Delta in Botswana. A concentration of 1,000 birds at a large roost of herons and egrets on the Usangu Plains in south-western Tanzania in January 1993 (R. Lansdown, pers. comm.) is much the largest concentration of the species hitherto recorded. Fishpool and Evans (2001) suggest a population estimate of B or C, and this is adopted by Dodman (2002). The highest counts during recent African Waterbird Censuses have been 46 in Southern Africa in January 1998 (Dodman *et al.* 1999), and 84 during a nation-wide count of Tanzania in January 1995 (Dodman & Taylor 1995).

Little Bittern *Ixobrychus minutus*

Polytypic. Three subspecies have been described. *I. m. payesii* breeds widely in Africa south of the Sahara and appears to be mainly sedentary, although there is evidence of seasonal movements in Southern Africa. *I. m. podiceps* is almost confined to Madagascar (recorded once in Zanzibar). The nominate subspecies breeds widely across Southern Eurasia east to the Central Asian Republics, north-western China and north-western India, and winters mainly in Africa south of the Sahara, although the small population breeding in Pakistan and India apparently winters in Southern Asia. Two populations of the nominate form are currently included in the Action Plan. These overlap extensively on their main wintering grounds in Eastern Africa, where they come into contact with the local *payesii* (see also Section 2.2).

- Europe & North Africa/Subsaharan Africa: D.

Trends: Decreasing.

- Western & Southwest Asia/Subsaharan Africa: C.

Trends: Unknown.

Changes in status: The species has declined over much of its range in Europe since the middle of the 20th century, and this decline continues, particularly in Northwest and Central Europe. BirdLife International/EBCC (2000) have reported large decreases in ten countries and small decreases in 13 countries. No increases were reported, and only in Bulgaria, Portugal and Ukraine were the populations thought to be stable. During the period 1970-1990, declines of over 50% were reported in Latvia, the Netherlands, Germany, France, Austria, Czech Republic, Slovakia, Slovenia and Spain (Hagemeyer & Blair 1997). It is thought that this widespread decline has been due largely to drought in the African passage and wintering quarters, rather than to habitat loss or pollution in the European breeding areas (Tucker & Heath 1994).

Overall trends in the Southwest Asian population are unknown. However, the breeding population in the steppe zone of European Russia is reported to have decreased during the 1980s (Snow & Perrins 1998).

Comments: Only the Western Palearctic populations of the nominate form *minutus* are included in Appendix II of the Bonn Convention.

The breeding population in Europe excluding Russia is estimated at 26,000-50,000 pairs, that in Russia at 10,000-50,000 pairs, and that in Turkey at 1,000-10,000 pairs (BirdLife International/EBCC 2000). The breeding population in Northwest Africa is unlikely to number more than a few hundred pairs, and many of the birds breeding in European Russia (*e.g.* in the Volga Delta) belong to the West and Southwest Asian population. Nevertheless, these figures suggest a minimum European/North African population of well over 30,000 pairs or about 100,000 birds. The estimate of D is therefore retained for this population, given the uncertainty

in the size of the Russian and Turkish populations.

Dwarf Bittern *Ixobrychus sturmi*

Monotypic. The species occurs widely in Africa south of the Sahara, and is a rains migrant. Populations breeding in equatorial regions are mainly sedentary, while those breeding to the north and south are seasonal migrants. The two migratory populations probably do not overlap with one another to any great extent, but until more information becomes available on the limits of these populations, no separation is possible. Thus only one population is recognised, the entire population of the species. This contains a mixture of sedentary as well as migratory birds.

- Subsaharan Africa: C.

Trends: Unknown.

Changes in status: None known. The breeding population in South Africa, estimated at about 200 pairs, appears to be more or less stable (Harrison *et al.* 1997). No other information is available on population trends.

Comments: Although widespread, *I. sturmi* is uncommon to rare throughout its extensive range. It appears to be commonest in north-eastern Namibia and southern Angola during the breeding season. Fishpool and Evans (2001) gave an estimate of C, and this estimate has been adopted by Dodman (2002).

Great Bittern *Botaurus stellaris*

Polytypic. Two subspecies occur in the Agreement Area. The nominate subspecies breeds widely in Western Eurasia and winters south to the Mediterranean, Egypt, Iraq, and occasionally in Africa south of the Sahara. Northern and eastern populations are migratory, while those in the south and west are more sedentary, movements generally being associated with hard weather conditions in winter. European breeders winter mainly within Europe and in North Africa; West Asian breeders probably winter mainly in Southwest Asia. Birds wintering in Turkmenistan and Seistan (Iran/Afghanistan border) may belong to the Southwest Asian wintering population or be a part of a South Asian population. *B. s. capensis* breeds from central Botswana and Natal south to southern South Africa, and appears to be mainly sedentary, although some seasonal movements have been recorded within South Africa. Two populations of the nominate form are currently included in the Action Plan (see also Section 2.2).

- Europe (breeding): C.

Trends: Decreasing.

- Southwest Asia (wintering): A or B.

Trends: Unknown.

Changes in status: The widespread decline in the European breeding population, which began in the 19th century, continues. This has been attributed to the widespread loss and degradation of suitable reed-bed habitats almost throughout the region. Protection has eased the situation in some countries, but has not reversed the overall trend, and the species is now considered to be threatened throughout much of its range in Europe. BirdLife International/EBCC (2000) report large decreases in Germany, the Netherlands, Spain and the U.K., and smaller decreases in 12 other countries. In Eastern Europe, populations have remained generally stable since the early 1970s, but increases have been reported in Denmark, Estonia and Finland (Hagemeijer & Blair 1997).

Overall trends in the Southwest Asian population are unknown. However, *B. stellaris* remains relatively common in parts of the Caspian region, and a slight increase has been reported in the

steppe zone of European Russia (Snow & Perrins 1998).

Comments: Only the Western Palearctic populations of the nominate form *stellaris* are included in Appendix II of the Bonn Convention. An Action Plan for *Botaurus stellaris* in the European Union has been prepared by BirdLife International (Schäffer & Gallo-Orsi 2001).

Birdlife International/EBCC give the European breeding population as 20,000-44,000 pairs, while Schäffer & Gallo-Orsi (2001) give a slightly lower figure of 19,000-43,000. This includes an estimated 10,000-30,000 pairs in European Russia. Many of these (*e.g.* birds breeding in the lower Volga) presumably winter in Southwest Asia and are best assigned to the eastern

population, but nevertheless, it seems likely that the western population exceeds 30,000 birds and may exceed 60,000. The former estimate of C (25,000-100,000) is therefore retained.

CICONIIDAE

Yellow-billed Stork *Mycteria ibis*

Monotypic. The species occurs widely in Africa south of the Sahara. Central and Eastern African populations appear to be sedentary or locally dispersive. Populations in Southern Africa and West Africa are migratory, the species occurring in Southern Africa mainly as a non-breeding migrant during the wet season (October-April). There is a small, apparently sedentary population in Madagascar, recently estimated at only 250-1,250 individuals (F. Hawkins, *in litt.*). The species has occurred as a vagrant in North Africa. Only one population is recognised, the entire population of the species excluding the Madagascar population.

- Sub-Saharan Africa (excluding Madagascar): 50,000-100,000.

Trends: Stable.

Changes in status: The species is common to locally abundant throughout its range, and numbers appear to be generally stable. It is a scarce breeder in Southern Africa (less than 50 pairs), but there is no evidence of any decline in this small population. However, it may have decreased as a non-breeding visitor to Cape Province since the 1960s (Harrison *et al.* 1997).

Comments: Fishpool and Evans (2001) and W. Van den Bossche and M. Coulter of the Storks, Ibises and Spoonbills Specialist Group (*in litt.*) have proposed an estimate of C (25,000-100,000) for this population. However, Dodman (2002) has recently summarised high counts in Africa, and has suggested that the total population is in the range 50,000-100,000 individuals. This latter estimate is adopted here.

Black Stork *Ciconia nigra*

Monotypic. The species breeds widely across temperate Eurasia from Iberia to Eastern Siberia and China, and also in Southern Africa. Five populations are recognised: (1) a small population which breeds in Western Europe (mainly Portugal and Spain, but also Belgium, France, Italy and Luxembourg) and is partly sedentary and partly migratory, with some birds wintering in North Africa (Morocco and Algeria) and at least formerly in West Africa (Senegal to Chad); (2) a much larger population which breeds in Central and Eastern Europe and is mainly migratory, wintering in Northeast and East Africa south to Ethiopia, Uganda and Tanzania (although some birds remain throughout the winter in Southeast Europe); (3) a population of unknown size which breeds in Western and Central Asia and winters from the Arabian Peninsula and southern Iran east into Southern Asia; (4) a very small population breeding in Eastern Siberia and China and wintering in China and Japan; and (5) a small population breeding in Southern Africa. Only the two populations breeding in Europe are currently included in the Action Plan (see also Section 2.2). The relatively small number of birds

breeding in Western Asia and the small number wintering in southern Iran are probably best treated as part of the Central Asian population which winters mainly in the Indian subcontinent and is thus largely outside the Agreement Area.

- Southwest Europe/West Africa: 1,300-1,370.

Trends: Increasing.

- Central & Eastern Europe/Subsaharan Africa: 19,500-28,000.

Trends: Decreasing.

Changes in status: The breeding populations in Western and Central Europe suffered a prolonged decline starting in the second half of the 19th century and continuing locally until the 1950s. The decline then seems to have halted, and increases were reported in many areas, with some re-colonisation of former breeding areas (Hagemeijer & Blair 1997). In Western Europe, the Spanish population increased slightly during the period 1970-1990, and this increase may be continuing (300 pairs were reported in 1992), while the Portuguese population increased from only 30-50 pairs in 1989 to 113 pairs in 1997 (L.T. Costa, *in litt.*). In Central and Eastern Europe, population increases were reported in Austria, Belarus, Bulgaria, the Czech Republic, Estonia, Germany, Hungary, Latvia, Poland, Slovakia and Slovenia, and the species appeared (or reappeared) as a breeding species in France (since 1976), Belgium (since 1989), Luxembourg (since 1993), Denmark (since 1982), Italy (since 1994) and Moldova (since 1976) (Tucker & Heath 1994, Hagemeijer & Blair 1997, Snow & Perrins 1998). BirdLife International/EBCC (2000) report stable populations in Romania, Russia and Ukraine, and declining populations only in Albania, Croatia, Greece and Lithuania. However, W. Van den Bossche and M. Coulter of the Storks, Ibises and Spoonbills Specialist Group (*in litt.*) have recently reported that the Central and East European population is now decreasing again, and this new trend is adopted here.

Comments: W. Van den Bossche and M. Coulter (*in litt.*) have recently calculated the West European breeding population at 434-457 pairs (or about 1,300-1,370 birds), and that in Central and Eastern Europe and Turkey at 6,500-9,308 pairs (or about 19,500-28,000 birds). These estimates are adopted here, the former somewhat higher than the previous estimate of 1,000, and the latter marginally lower.

Woolly-necked Stork *Ciconia episcopus*

Polytypic, with two subspecies in Asia and one in Africa. The subspecies *microscelis* occurs widely in Africa south of the Sahara, from Senegal west to Sudan and south to north-eastern South Africa, Botswana, northern Namibia and Angola. It is known to be migratory, especially in the central and southern parts of its range, but the movements are poorly understood. In Southern Africa, there is a small resident breeding population in the east, and a larger non-breeding migratory population present during the wet season (November-April). Only one population is recognised, the entire population of *microscelis*.

- Subsaharan Africa: B or C.

Trends: Unknown.

Changes in status: In Southern Africa, the species is adapting to human development and seems to have expanded its breeding range in Natal southward along the coast (Harrison *et al.* 1997). Elsewhere, the trends in this widespread but generally rather uncommon species are unknown.

Comments: Only the subspecies *microscelis* is included in Appendix II of the Bonn Convention. The species is quite widespread in Africa, but appears to be nowhere numerous, although there may be large numbers in the forests of Central Africa (Dodman 2002). Fishpool and Evans (2001) and W. Van den Bossche and M. Coulter (*in litt.*) have suggested that the former estimate of C (25,000-100,000) remains appropriate, but Dodman (2002), in a summary of recent counts, has concluded that this may be too high, and has proposed a new

estimate of B or C. The latter estimate is adopted here.

White Stork *Ciconia ciconia*

Two subspecies have been described; the nominate form in Western Eurasia and Africa, and *asiatica* in Central and Southern Asia. Four populations of the nominate form are recognised in Africa and Western Eurasia: (1) a tiny breeding population in South Africa; (2) a population breeding in Western Europe (Iberia east to Belgium, The Netherlands, Germany and Switzerland) and Northwest Africa and wintering mainly in West Africa (increasingly in southern Iberia in recent years); (3) a population breeding in Central and Eastern Europe and western Turkey, and wintering in Africa south of the Sahara; and (4) a population breeding in the Caucasus, eastern Turkey, Iraq and western Iran and wintering in south-western Iran, Iraq, the Arabian Peninsula and probably also Eastern Africa. Breeding adults from the South African population remain in their breeding area throughout the year, but ringing results have shown that at least some of their offspring migrate to tropical Africa and even Egypt (Hockey *et al.* 1989, Dodman 2002). Birds breeding in Central and Eastern Europe show two different migration strategies. Birds breeding in west-central Europe (east to about 11°E) migrate southwest to winter in West Africa (Senegal to Chad), while those breeding further east migrate southeast or south to winter in Eastern and Southern Africa. However, there is a broad region of overlap from which birds (even progeny of the same nest) may go either way. Probably less than 1,500 birds take the south-westerly route.

- Southern Africa: 24.

Trends: Stable.

- Iberia & Northwest Africa/Subsaharan Africa: 93,000.

Trends: Increasing.

- Central & Eastern Europe/Subsaharan Africa: 390,000-400,000.

Trends: Stable.

- West Asia/Southwest Asia: B.

Trends: Decreasing.

Changes in status: *C. ciconia* was first recorded breeding in South Africa in about 1933, and has bred regularly since 1961, but numbers have never exceeded about 10 pairs (Hockey *et al.* 1989; Harrison *et al.* 1997). Only eight pairs bred in 2001, and seven of these were in Tyerberg Zoo in Cape Town (W. Van den Bossche and M. Coulter, *in litt.*).

The Iberian and Northwest African population was in decline for much of the 20th century, with the breeding population in Spain halving between 1948 and 1984 (Hagemeyer & Blair 1997). However, this decline has now halted, at least in Iberia, where the Spanish population has increased considerably in recent years. Tucker & Heath (1994) give the Spanish population as 7,901 pairs and increasing. However, in 1993, the population was estimated at about 14,000 pairs (Snow & Perrins 1998). The population of 1,000-2,000 pairs in Portugal has fluctuated widely in recent years, without showing any significant trend; the population of 350 pairs in Tunisia is thought to be stable, and the population of 13,500 pairs in Morocco (in 1974) is thought to be stable or decreasing very slightly (Snow & Perrins 1998, BirdLife International/EBCC 2002). Trends in the Algerian population of about 2,000 pairs are unknown. W. Van den Bossche and M. Coulter (*in litt.*) have concluded that the overall trend is now one of increase.

The breeding population in Central and Eastern Europe and Turkey was also in decline throughout much of the 20th century. Tucker & Heath (1994) found that nearly 40% of the European population was in countries that showed rapid declines during the period 1970-1990. Some of the heaviest declines occurred in Denmark and Sweden, where the species last bred in 1954 (Tucker & Heath 1994). However, the decline seems to have halted and overall the population now seems to be stable (W. Van den Bossche & M. Coulter, *in litt.*). BirdLife International/EBCC (2000) report increases in Estonia, Italy, Latvia and European Russia,

stable populations in Belarus, Hungary and Poland, and declines in Albania, Austria, Bulgaria, Croatia, Lithuania, Romania, Slovakia, Slovenia, Turkey and Ukraine.

The population breeding in Western Asia is now thought to be decreasing (W. Van den Bossche & M. Coulter, *in litt.*).

Comments: Goriup and Schulz (1991) estimated that there were about 50,000 breeding adults and 35,000-40,000 non-breeders in the Iberian and Northwest African population, giving a total population of about 85,000 birds. This was subsequently increased to 100,000 birds, in view of the large increase in the Spanish population. W. Van den Bossche and M. Coulter (*in litt.*) have recently calculated the size of the population as 30,974 pairs, or about 93,000 birds, which agrees reasonably well with the earlier, rather rough estimate. Van den Bossche and Coulter give

the population breeding in Central and Eastern Europe and Turkey as 131,073-133,573 pairs (or about 390,00-400,000), which agrees closely with the previous estimate of 400,000.

The population wintering in Southwest Asia is poorly known. There were 3,150-3,400 pairs breeding in Iran in mid-1970s (Scott 1995), and some 20,000-24,000 birds have been recorded on passage in Azerbaijan (Goriup & Schulz 1991), suggesting a population well in excess of 30,000 birds. W. Van den Bossche and M. Coulter (*in litt.*) have recently given an estimate of only 2,937 pairs, or about 8,800 birds, for this population. This total apparently includes only the birds breeding in Armenia, Georgia and Iran, and is undoubtedly therefore an underestimate. A somewhat higher estimate of B (10,000-15,000) is adopted here.

THRESKIORNITHIDAE

Glossy Ibis *Plegadis falcinellus*

Two subspecies have been described: the nominate form in most of Eurasia, Africa, Madagascar and North America, and the form *peregrinus* in Australia and Indonesia. The nominate form occurs widely but patchily in Subsaharan Africa, Southeast Europe and Southwest Asia. European breeders appear to winter mainly in the East Mediterranean and West Africa south of the Sahara, mostly in Mali. 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. The populations breeding in West Africa, Eastern Africa and Southern Africa are partly sedentary and partly migratory, with extensive post-breeding dispersal from some colonies. There is a substantial movement of birds out of Southern African into Central Africa during the austral winter (Underhill *et al.* 1999). The population in Madagascar appears to be sedentary. Three populations are recognised.

- Subsaharan Africa (breeding): 1,000,000-2,000,000.

Trends: Unknown.

- Black Sea & Mediterranean/West Africa: 49,000-57,000.

Trends: Decreasing.

- Southwest Asia/Eastern Africa: C.

Trends: Unknown.

Changes in status: The overall status of the Subsaharan African population is unknown. However, in Southern Africa, the species has been expanding its range and increasing in numbers steadily since it first colonised the region in about 1950. Breeding was first recorded at Witwatersrand in about 1950, and this site now supports a population of about 1,800-2,000 birds. The increase has been attributed to species' adaptation to artificial wetland habitats (Harrison *et al.* 1997).

Tucker & Heath (1994) and Hagemeyer & Blair (1997) have shown that the widespread

decline in the European population during the first half of the 20th century has continued in recent decades, due to the destruction and degradation of wetlands, water pollution and local hunting. During the period 1970-1990, large decreases were reported in the important Romanian and Turkish populations, and smaller declines were reported in Albania, Bulgaria, Greece and Ukraine. The breeding population in the Danube Delta decreased from 12,000 pairs in 1976-77 to a maximum of only 2,000 pairs in 1995 (D. Munteanu, in Hagemeyer & Blair 1997). BirdLife International/EBCC (2000) also report declining trends in all parts of the European range outside Russia, except in Italy where the tiny population is apparently increasing. The only substantial increase reported in recent years is on the Sea of Azov in European Russia where there has been a 50-fold increase in the last 30 years to 5,500 pairs (Snow & Perrins 1998).

Comments: Fishpool and Evans (2001) have suggested a population estimate of C/D for the Sub-Saharan African population, but W. Van den Bossche & M. Coulter of the Storks, Ibises and

Spoonbills Research Group (*in litt.*) give an estimate of E (>1,000,000) and draw attention to a single estimate of 1,695,240 birds in the Sudd in Sudan (in Fishpool & Evans 2001). Dodman (2002) gives an estimate of 1,000,000-2,000,000, and this latter estimate is adopted here.

The breeding population in Europe excluding Russia and Turkey is estimated at 9,900-11,700 pairs (BirdLife International/EBCC 2000). To these can be added about 5,500 pairs which breed on the Sea of Azov in Russia, 500-1,400 pairs breeding in Turkey, and 300 pairs breeding in Israel, giving a total population of 16,200-18,900 pairs, or about 49,000-57,000 individuals. Despite the decreasing trend, this is slightly higher than the earlier, rough estimate of 40,000-50,000 given in the first edition of this report.

The breeding populations in Southwest Asia includes about 4,500-9,500 pairs in European Russia excluding the Sea of Azov, 12,000-18,000 pairs in Azerbaijan, and at least 500-1,000 pairs in Kazakhstan (Snow & Perrins 1998). The Iranian breeding population was estimated at about 130-200 pairs in the late 1970s (Scott 1995). The species also breeds in Turkmenistan, Uzbekistan, and possibly also Iraq. It seems likely, therefore, that the Southwest Asian population numbers at least 17,000 pairs and perhaps as many as 30,000 pairs, or 50,000-90,000 individuals, *i.e.* towards the upper end of Category C.

Northern Bald Ibis (Waldrapp) *Geronticus eremita*

Monotypic. There are two widely separated populations: one in Northwest Africa and one in Southwest Asia. The Northwest African population now breeds only in Morocco, and disperses in winter largely within this country, but with some birds (at least formerly) regularly moving south to winter in Mauritania and Mali. The Southwest Asian population formerly bred in Turkey and wintered in Northeast Africa (mainly Ethiopia). The Turkish breeding population is now extinct in the wild (last breeding in the wild in 1989), although there is a small captive breeding population from which a few birds are released each year. A small number of birds have recently been discovered in Arabia; up to 14 have been seen in Yemen (in 1985), and at least 27 were found in the Asir Mountains of south-western Saudi Arabia in 1991. It seems likely that these are birds from hitherto unknown breeding colonies in south-western Arabia. Two populations are recognised

- Morocco: 190.

Trends: Stable.

- Southwest Asia: >27.

Trends: Decreasing.

Changes in status: There has been a marked decrease in the Northwest African population since the mid-1970s (Snow & Perrins 1998), and this decrease apparently continued until the

late 1990s (38 birds were found dead in Morocco in spring 1996). There were 200-250 pairs in 19 colonies (600-650 individuals) in Morocco and Algeria in 1975, but only 60 pairs in four colonies (200 individuals), all in Morocco, in 1994 (Snow & Perrins 1998). The single breeding colony in Algeria, where breeding was first recorded in 1976, is now apparently extinct or almost so. The estimates of 400-450 and <250 in the first two editions of *Waterfowl Population Estimates*, respectively, reflect this decline, although both these publications give the status of the population as stable. BirdLife International (2000) gave an estimate of 220 birds based on the numbers in 1999, and listed the trend as increasing, while more recently, W. Van den Bossche & M. Coulter of the Storks, Ibises and Spoonbills Research Group (*in litt.*) have given the total as only 63 pairs or >190 individuals, and the trend as stable.

Comments: *G. eremita* is a globally threatened species in the category 'Critical' (BirdLife International 2000), and is included in Appendix I of the Bonn Convention.

Small numbers of *G. eremita* continue to be located in the Arabian Peninsula in winter (*e.g.* two in Yemen in January 1992, six in Yemen in January 1993 and six in Yemen in January 1994). Five were found on the coast of Eritrea in the winter of 1996/97 (Dodman *et al.* 1997), and three birds were seen moving north in Israel in April 1995 (Snow & Perrins 1998). However, the breeding areas, if any, of this tiny population remain unknown.

Sacred Ibis *Threskiornis aethiopicus*

Polytypic. Three subspecies have been described. *T. a. bernieri* and *T. a. abbotti* are confined to Madagascar and Aldabra, respectively. (The total population of *abbotti* is estimated at only about 300-750 birds; Dodman 2002). The nominate race is widespread in Africa south of the Sahara, from Senegal east to Ethiopia and western Somalia and south to southern South Africa. It formerly occurred in Egypt, but is now extinct there. An isolated population of the nominate form breeds in the Mesopotamian Marshes of lower Iraq, and occurs in winter in neighbouring south-western Iran. In Subsaharan Africa, the species is a rains migrant, regularly undertaking movements of up to several hundred kilometres to breed during the rains. There is a substantial movement of birds out of Southern African into Central Africa during the austral winter (Underhill *et al.* 1999). Two migratory populations of the nominate race are recognised.

- Subsaharan Africa: 200,000-450,000.

Trends: Stable.

- Iraq & Iran: 200.

Trends: Decreasing.

Changes in status: The large African population is thought to be more or less stable. However, in many areas the species has benefited from human activities, and it may be increasing in numbers locally (Harrison *et al.* 1997). The species was apparently a fairly common bird in Mesopotamia in the first half of the 20th century, but surveys in the late 1960s and 1970s suggested that the species had by then become very scarce, with the total population possibly numbering no more than 200 birds (Scott & Carp 1982). Large-scale drainage of wetlands in Mesopotamia in the late 1980s and early 1990s is likely to have put even greater pressure on this tiny population. No recent information is available from Iraq, but the small wintering population in south-western Iran, estimated at 50-100 birds in the late 1970s (Scott 1995), continues to survive: 16 were recorded in January 1992, 20 in January 1993 and 57 in January 1994 (data from Asian Waterfowl Census).

Comments: Only the nominate form *aethiopicus* is included in Appendix II of the Bonn Convention. Fishpool & Evans (2001) adopted an estimate of over 200,000 birds for the Subsaharan African population, while Dodman (2002) has proposed an estimate of 200,000-450,000.

Eurasian Spoonbill *Platalea leucorodia*

Polytypic. All four subspecies occur in the Agreement Area. The nominate subspecies breeds in Southern and Western Europe, Mauritania and Asia Minor and winters in Africa south to Senegal, Mali, Nigeria, Chad, Democratic Republic of Congo and Sudan. Birds breeding in the Netherlands, France, Spain and Portugal winter mainly on the Atlantic coast of West Africa; birds breeding in Central and Eastern Europe and Turkey winter in the East Mediterranean, Northeast Africa and inland West Africa. The West Asian population of *P. l. major* breeds from the Caspian region and lower Iraq east to Lake Balkhash, and winters from Iraq and the Arabian Peninsula east to Southern Asia. (An East Asian population of *major* winters in China). *P. l. archeri* occurs on the coasts of the Red Sea in Egypt, Sudan, Eritrea, Saudi Arabia and Yemen, and also in Somalia and possibly Socotra, and is to some extent dispersive. *P. l. balsaci* (7,000 birds) is largely confined to Mauritania and Senegal, where it is mainly sedentary. Four populations are currently included in the Action Plan (see also Section 2.2).

- Western Europe/West Mediterranean & West Africa: 9,945.

Trends: Increasing.

- Central & Southeast Europe/Mediterranean & Tropical Africa: 11,670.

Trends: Decreasing.

- Red Sea & Somalia (*archeri*): 1,250.

Trends: Unknown.

- West Asia/Southwest & South Asia (*major*): 23,000.

Trends: Unknown.

Changes in status: The West European population was in decline during the first half of the 20th century, but there has been a substantial increase in recent decades, from about 670 pairs in 1963, to 1,075-1,200 pairs in the early 1990s, and over 2,500 pairs in 1998 (Tucker & Heath, 1994, Hagemeyer & Blair 1997, C. de le Court, pers. comm.). A small French population, which became established in Loire-Atlantique in 1981, had increased to 53-58 pairs by 1997 (Snow & Perrins 1998, BirdLife International/EBCC 2000), and recent range extensions have also been reported in Spain and Portugal (A. Green, pers. comm.). The most recent estimates indicate that this population now numbers 3,315 pairs or about 9,945 individuals (O. Overdijk, *in litt.*).

In contrast, the Central and Southeast European population is declining strongly throughout much of its range. This decline has been attributed to loss of nesting sites and foraging habitat due to drainage, deterioration and disturbance of wetlands (Tucker & Heath 1994). BirdLife International/EBCC (2000) report major declines in Romania and Turkey, and small declines in Albania, Bulgaria, Greece, Moldova, Russia and Ukraine. Increases were reported only in Hungary and Croatia. Overall, during the period 1970-1990, numbers in Central and Eastern Europe fell by about a third.

In the Southwest Asian/South Asian population, a major decline occurred in the lower Volga in Russia between the early 1950s and 1980, with the breeding population falling from 2,500 pairs to 500 pairs (Hagemeyer & Blair 1997). However, the Russian population is now thought to be relatively stable, and there is no information on trends elsewhere in the range of this population, the size of which has been estimated on the basis of mid-winter counts (Perennou *et al.* 1994).

Comments: The total breeding population in Central and Eastern Europe and Turkey has recently been estimated at 3,890 pairs or about 11,670 birds (O. Overdijk, *in litt.*). This figure falls just above the mid-point of the earlier crude estimate of 5,000-15,000. Newton (*in litt.*) has estimated the total population of *P. l. archeri* at about 500 pairs or 1,250 individuals, including 200 pairs in Saudi Arabia, 100 pairs in Yemen and 200 pairs on African coasts. This

estimate, which improves upon the earlier estimate of 500-1,500, has been adopted by Dodman (2002) and is given here.

African Spoonbill *Platalea alba*

Monotypic. The species occurs widely in Africa south of the Sahara from Senegal east to Ethiopia, western Somalia and Madagascar, and south to southern South Africa, avoiding the dense forests of the Congo Basin and the Namibian and Kalahari Deserts. Most populations are to some extent nomadic, moving in response to seasonal rainfall and the condition of wetlands. Birds ringed at colonies in Southern Africa have shown a considerable dispersal within Southern Africa, with some birds being recovered over 1,000 km from the ringing site (Underhill *et al.* 1999). The population on Madagascar is also to some extent nomadic, but there is no evidence of any movement between this island and the African mainland. Only one population is relevant: the entire population of the African mainland.

- Sub-Saharan Africa: B or C.

Trends: Stable.

Changes in status: Dodman (2002) has suggested that the overall trend in the population is stable. In South Africa, the species has expanded its breeding range south-westward in Cape Province since the first breeding record in 1957, possibly because of the increase in artificial wetlands in the area (Harrison *et al.* 1997). It has also become more common in Zimbabwe in recent years (Harrison *et al.* 1997).

Comments: Only the population on the mainland of Africa is included in Appendix II of the Bonn Convention. The species is generally uncommon and patchily distributed, but can be locally common, especially in the Rift Valley lakes of East Africa and parts of West Africa. Flocks of up to 1,000 birds and colonies of up to 300-400 pairs have been reported. Dodman (2002) has summarised recent high counts and concluded that the earlier estimate of A or B was too low. He supports a new estimate of B or C (10,000-100,000). W. Van den Bossche and M. Coulter (*in litt.*) note that at least 16,000 birds have been recorded in the Important Bird Areas in Africa (data from Fishpool & Evans 2001).

PHOENICOPTERIDAE

Greater Flamingo *Phoenicopterus ruber*

Two subspecies have been described: the nominate form in the Americas and *roseus* in Eurasia and Africa. Five relatively discrete populations of *roseus* can be identified, all of which are to some extent migratory: (1) a population breeding at the Banc d'Arguin in Mauritania and dispersing in winter along the coasts of Mauritania, Senegal, Gambia Guinea-Bissau and Guinea, occasionally to Liberia; (2) an Eastern African population (mainly Ethiopia to southern Tanzania); (3) a Southern African population centred on Etosha Pan in Namibia and the Makgadikadi Pans in Botswana, and occurring outside the breeding season from Angola and Zambia south to South Africa and also in Madagascar; (4) a West Mediterranean population, more or less confined to the western half of the Mediterranean Basin; and (5) a Southwest Asian population breeding from central Turkey to Kazakhstan and north-western India and wintering widely from the East Mediterranean, Northeast Africa and the Arabian peninsula east to southern India and Sri Lanka. There is a considerable amount of mixing in winter between all breeding populations in Southwest Asia, but there appears to be very little mixing between these birds and the relatively small West Mediterranean population. However, birds from the West Mediterranean breeding colonies are known to occur at least occasionally south to Mauritania and Senegal, while birds from the Southwest Asian breeding colonies have been recovered in Sudan and Ethiopia, indicating some mixing between these birds and the Eastern African population.

- West Africa (Mauritanian breeders): 40,000.

- Trends: Stable.
- Eastern Africa: 35,000.
Trends: Stable.
- Southern Africa (to Madagascar): 65,000-87,000.
Trends: Stable.
- West Mediterranean: 100,000.
Trends: Increasing.
- East Mediterranean, Southwest Asia & South Asia: 290,000.
Trends: Stable.

Changes in status: Overall trends in the West African population would appear to be stable (Dodman 2002), although there are wide fluctuations in the breeding population at the principal sites on the Banc d'Arguin (1,000-13,000 pairs in the 1980s, 5,000 pairs in 1994, 4,730 pairs in 1995) (Snow & Perrins 1998, Johnson 1998). The Eastern African population also appears to be stable, as there has been no evidence of any decline in numbers since the 1970s (Dodman 2002). The this population was listed as declining in the second edition of *Waterfowl Population Estimates*. According to Harrison *et al.* (1997), there is no evidence of any change in distribution or decrease in numbers of *P. ruber* in Southern Africa since the beginning of the 20th century. Dodman (2002) has also concluded that this population is stable.

The decreasing trend, as given in the first edition of this report, was based on an apparent 25% decline in the population from at least 75,000 birds in the mid/late 1970s to an apparent total of only 55,000 in 1994 (R. Simmons, *in litt.*).

The West Mediterranean population is still thought to be increasing, although the complex pattern of movements in relation to season and hydrological factors make overall assessment of population size and trends difficult (Tucker & Heath 1994, BirdLife International/EBCC 2000). The breeding population in France showed a marked increase during the period 1970-1990, and a new colony with 1,600 pairs was established in Sardinia in 1993. This colony has been used regularly since then (with 2,000-2,100 pairs in 1996), and small numbers of flamingos have recently bred at two other sites in Italy (Johnson 1998). The breeding population in Spain fluctuates widely (*e.g.* 400-10,500 in 1991-1993), and breeding in North Africa is irregular. A. Johnson (*in litt.*) has recently increased the population estimate to 100,000 birds, and note that large numbers are now breeding at an increasing number of sites.

Comments: In West Africa, some 30,800 birds were counted in Banc d'Arguin National Park in April and June 1996 (Johnson 1998). However, almost 60,900 birds were counted in Mauritania and Senegal in January 1997 (Dodman *et al.* 1997), suggesting that this population is occasionally augmented by birds from the West Mediterranean population. Dodman (2002) and A. Johnson (*in litt.*) have concluded that the earlier estimate of 40,000 remains valid.

Dodman (2002) has also concluded that the earlier estimate of 35,000 for the Eastern African population (based on Kahl 1975) also remains valid. Recent high counts have included 22,400 in January 1994 (Taylor & Rose 1994) and 21,600 in January 1997 (Dodman *et al.* 1997).

In Southern Africa, the comprehensive survey in July 1994 suggested a total population of about 54,567 birds (Dodman & Taylor 1995), *i.e.* slightly higher than the 50,000 given in the second edition of *Waterfowl Population Estimates*. More recently, the Flamingo Specialist Group (2001) has proposed a population estimate of 60,000-82,000, based largely on work carried out by R. Simmons. Dodman (2002) has adopted this estimate for continental Southern Africa, and suggested that 5,000 be added to the total for the non-breeding population in Madagascar, giving an overall total of 65,000-87,000.

Alan Johnson (*in litt.*) has recently pointed out that the current estimate of 500,000 for the East Mediterranean, Southwest Asian and South Asian population is based to a large extent on estimates of 500,000 or more birds breeding in India in 1945 and 1960. Nothing similar has been reported since, and the largest colonies in India in recent years (1990-1991) held only 25,000-30,000 birds. Total counts during the International Waterbird Census in South and Southwest Asia in the period 1991-1996 never exceeded 223,000 birds. Johnson has therefore proposed a revised estimate of 290,000 birds, although he notes that this does not represent any decline in the population, at least in recent decades.

There is a tiny and apparently sedentary population of about 25-50 *P. ruber* in Aldabra (Dodman 2002).

Lesser Flamingo *Phoenicopterus minor*

Monotypic. Three more or less discrete populations can be identified in the Agreement Area: (1) a population in West Africa centred on Mauritania and occurring east to Cameroon; (2) an Eastern African population centred on the lakes of the Rift Valley from Ethiopia to southern Tanzania; and (3) a population in Southern Africa centred on Etosha Pan in Namibia and the Makgadikgadi Pans in Botswana. All three populations are dispersive and probably to some extent migratory, although the movements are poorly understood. The species is a common non-breeding visitor to Madagascar, presumably from the Southern African population.

- West Africa: 15,000.
Trends: Stable.
- Eastern Africa: 2,000,000-4,000,000.
Trends: Decreasing.
- Southern Africa (to Madagascar): 55,000-65,000.
Trends: Stable.

Changes in status: Censuses in Eastern and Southern Africa suggested that both these populations declined by over 20% during the period 1975-95 (R. Simmons, *in litt.*). The declines were attributed to poor breeding success, due in part to reduced rainfall and the drying out of some breeding sites, and possibly also to greater disturbance and degradation of flamingo habitat, especially in Eastern Africa. In Eastern Africa, there have been recent mass die-offs of flamingos, notably at Lake Nakuru and Lake Bogoria (Dodman 2002). The causes of these die-offs are still being investigated, but may be related to toxic algal blooms (Dodman 2002). This population is therefore still thought to be declining (Dodman 2002). However, recent counts in Southern Africa have revealed population levels comparable to those in the mid-1970s, and the long-term trend in this population is thought to be stable (Dodman 2002).

Comments: *P. minor* is listed as 'Near-threatened' by BirdLife International (2000), because of its high dependence on a relatively small number of sites.

Estimates of the West African population vary from 6,000 to 15,000-20,000 birds, but the largest colony ever found contained only 800-900 pairs. Over 11,650 were counted in January 1996 (Dodman & Taylor 1996), and 10,900 were found in Guinea in December 2000 (Dodman 2002). Recent high counts in Eastern Africa have included over 1,500,000 in January 1994 (Taylor & Rose 1994) and 1,900,000 in January 1995 (Dodman & Taylor 1995). Dodman (2002) has concluded that the earlier estimate of 4,000,000 may now be too high, especially in light of the recent flamingo die-offs. He has therefore proposed a more conservative population estimate of 2,000,000-4,000,000.

There has been some confusion over the size of the population in Southern Africa. A million *P. minor* were recorded at Etosha Pan in 1971 and 1.5 million at Makgadikgadi in November

1974, but these high numbers occurred during particularly wet years, and in 1974 there was a corresponding decrease in the numbers in Eastern Africa (Harrison *et al.* 1997). It is now known that there is a considerable amount of interchange between the Eastern and Southern African populations, with large numbers of birds from the East African population moving into Southern Africa to breed in some years (R. Simmons, *in litt.*). The estimate of <1,000,000 for the Southern African population, given in *Waterfowl Population Estimates*, is therefore very misleading, since it includes a large but unknown proportion of birds from the Eastern African population. Harrison *et al.* (1997) give an estimate of 60,000 for the resident Southern African population, but the highest counts in recent years have been much lower than this. Only 40,179 were recorded during a census in January 1995 (Dodman & Taylor 1995) and only 35,987 in January 1996 (Dodman & Taylor 1996). R. Simmons (*in litt.*) concluded that in the late 1990s, the resident Southern African population might have numbered as few as 40,000 birds. However, 52,000 birds were counted in March/April 1999 (R. Simmons *in litt.*). Dodman (2002) has summarised recent counts, and proposed an estimate of 55,000-65,000 for this population, including 5,000 non-breeding birds in Madagascar, which are assumed to come from the continental breeding population.

A fourth population of *P. minor* occurs in Pakistan and northwestern India. There is no firm evidence to suggest any regular movement between this population and the Eastern African population, but the recent sightings of large numbers of *P. minor* in the southern Arabian Peninsula (*e.g.* 9,160 in the Aden Marshes in Yemen in April 1996, and 300 at the Salalah Khawrs in Oman in October 1995) suggest that some mixing may occur.

ANATIDAE

Fulvous Whistling-Duck *Dendrocygna bicolor*

Monotypic. The species is widespread in Africa south of the Sahara and in Madagascar. Many populations, including those in Madagascar, appear to be mainly sedentary. However, the species is known to be at least locally migratory in East Africa, and there may be a regular movement of birds southwards into Southern Africa during the wet season (austral summer). Scott & Rose (1996) recognise three discrete populations: (1) a West African population extending from Senegal and Gambia to Cameroon and Chad; (2) a large Eastern and Southern African population extending from Ethiopia and Sudan to South Africa; and (3) a population confined to Madagascar. Thus only two populations are relevant.

- West Africa: 100,000.

Trends: Unknown.

- Eastern & Southern Africa: 150,000-350,000.

Trends: Unknown.

Changes in status: *D. bicolor* may be decreasing in some areas in West Africa (Scott & Rose 1996), but the overall trend in the population is unknown. It has increased its range in Southern Africa during the 20th century, but it remains uncommon and is confined to the north and east (Harrison *et al.* 1997).

Comments: Dodman (2002) has reviewed recent counts and concluded that the former estimate of 100,000 for West Africa remains valid. However, he has suggested that the former estimate of 200,000-500,000 for Eastern and Southern African population may be too high, and has proposed a more conservative estimate of 150,000-350,000, which is adopted here.

White-faced Whistling-Duck *Dendrocygna viduata*

Monotypic. The species occurs widely in Africa south of the Sahara and in Madagascar. Some populations, including those in Madagascar, appear to be mainly sedentary, while others are

migratory, undertaking long movements during the wet season, especially in West Africa and Southern Africa. Scott & Rose (1996) recognise three populations: (1) a West African population (extending east to Chad); (2) an Eastern and Southern African population; and (3) a population confined to Madagascar. There may be a considerable amount of interchange between the two populations on the mainland of Africa, and these are treated as separate populations primarily for practical reasons.

- West Africa (Senegal to Chad): 250,000-500,000.

Trends: Increasing.

- Eastern & Southern Africa: D.

Trends: Increasing.

Changes in status: Over much of Africa, the species has adapted well to man-made wetlands and locally has become a serious pest on rice-fields. It has probably benefited from the protection of extensive areas, and both populations appear to be increasing in many areas (Scott & Rose 1996, Dodman 2002). There has been a considerable range expansion in Southern Africa during the 20th century, and a marked spread in eastern South Africa since the 1950s (Harrison *et al.* 1997).

Comments: Dodman (2002) has reviewed recent counts and concluded that the former estimate of 250,000 for West Africa was an absolute minimum. He has proposed a revised estimate of 250,000-500,000, which is adopted here. However, Dodman (2002) considers the former estimate of 1,000,000-2,000,000 for the Eastern and Southern African population to be much too high. He notes that although widespread, this population does not occur in concentrations comparable to those in West Africa, and has therefore proposed a more conservative estimate in range D (100,000-1,000,000).

White-backed Duck *Thalassornis leuconotus*

Two subspecies have been described. The nominate form occurs widely in Africa south of the Sahara. *T. l. insularis* is confined to Madagascar. Some populations of *T. l. leuconotus* appear to be mainly sedentary, but others are at least partially migratory, with regular seasonal movements known to take place in Eastern, Central and Southern Africa. Two discrete populations of the nominate form are recognised: a small West African population extending from Senegal to Chad; and a relatively large Eastern and Southern African population extending from Ethiopia to South Africa.

- West Africa: <1,000.

Trends: Decreasing.

- Eastern & Southern Africa: 10,000-25,000.

Trends: Stable.

Changes in status: The very small West African population may now be on the verge of extinction (Perennou 1991). The maximum mid-winter count has been only 20 birds in 1968. The species was recorded only once during mid-winter waterfowl counts in the 1980s (seven in 1986), and there have been no records during the waterfowl censuses since then. (A report of 27 in the Cote d'Ivoire in January 1994 has since proven to be erroneous). In Nigeria, the species was previously a not uncommon resident in wetlands in the north, but there have been no records in the past 20 years (Elgood *et al.* 1994).

Despite local decreases, overall numbers in the population in Eastern and Southern Africa seem to be stable and may be increasing. The construction of artificial dams is thought to have resulted in local increases in several areas, *e.g.* in Zambia, the Transvaal region of South Africa, Zimbabwe and Malawi (Scott & Rose 1996). According to Harrison *et al.* (1997), the

range in Southern Africa has not changed in recent times, except perhaps in Zimbabwe and on the Zambezi River, where there appears to have been some range expansion.

Comments: Dodman (2002) has concluded that West African population may now number less than a thousand birds. The former estimate of 10,000-25,000 for the Eastern and Southern African population is believed to remain valid.

White-headed Duck *Oxyura leucocephala*

Monotypic. A declining and threatened species with a highly fragmented breeding distribution from Southwest Europe and Northwest Africa to Central Asia. Three discrete populations can now be recognised in Western Eurasia and North Africa: (1) a small West Mediterranean population (Spain and formerly Morocco); (2) a small population in eastern Algeria and Tunisia; and (3) much the largest population of the species, breeding from Romania and Turkey to Kazakhstan and wintering mainly in Turkey and the Caspian region. The West Mediterranean population is now confined to Spain, but small numbers of birds, presumably from this population, formerly wintered in Morocco, and as the Spanish population continues to increase, it is possible that a migration route between Spain and Morocco will become re-established. There is good evidence of regular movements between Algeria and Tunisia, with many of the Algerian breeders apparently wintering in Tunisia. All three populations are therefore relevant.

- West Mediterranean (Spain & Morocco): 2,000-4,500.
Trends: Increasing.
- Algeria & Tunisia: 400.
Trends: Stable.
- East Mediterranean, Turkey & Southwest Asia: 8,000-15,000.
Trends: Decreasing.

Changes in status: The Spanish population increased from only 22 birds in 1977 to 786 in 1992, 697 in 1993 and 665 in 1995. Counts of the entire West Mediterranean population increased from 1,087 in 1997 to 1,164 in 1999, 2,396 in 1999 and 4,489 in 2000, but then fell back to 2,678 in 2001 (B. Hughes, *in litt.*). A. Green (*in litt.*) has therefore proposed a revised estimate of 2,000-4,500, which is adopted here. The much smaller North African population is now apparently stable after a sharp decline in the mid-1970s (Scott & Rose 1996).

The East Mediterranean/Southwest Asian wintering population was estimated at about 17,000 individuals in the early 1990s (15,500 counted in January 1991), but counts have been much lower in recent years, and it is believed that there may have been a substantial decline in numbers following the degradation of Burdur Golu in Turkey (much the most important wintering site for the species). A conservative estimate of 8,000-15,000 was therefore adopted in the second edition of *Waterfowl Population Estimates* and first edition of this report. As no better information has become available since then, the estimate of 8,000-15,000 is retained. Increasing numbers have been reported wintering in Greece in recent years, suggesting a westward shift in the wintering grounds following degradation of the main site in Turkey. Over 2,210 were present at Lake Vistonis in Greece in January 1997 (Handrinos 1998).

Comments: *Oxyura leucocephala* is a globally threatened species listed in the category 'Endangered' (BirdLife International 2000). It is included in Appendix I of the Bonn Convention. The status and conservation of the species have been described in some detail by Anstey (1989), Green & Anstey (1992), Green (*in* Tucker & Heath 1994) and van Vessem

(1994), and an Action Plan for the species in Europe has been compiled by Green and Hughes (*in Heredia et al.* 1996).

The small population wintering in Pakistan (about 300 birds) is likely to be a discrete population breeding at the extreme eastern limit of the species' range in the region of Novosibirsk. Birds occurring in Seistan, on the Iran/Afghanistan border, may belong to this population.

Mute Swan *Cygnus olor*

Monotypic. Five populations are recognised in Western Eurasia: (a) a large population which breeds in Northwest Europe from southern Scandinavia and the Baltic States south to France, Switzerland and Austria and is partly migratory and partly sedentary; (2) a resident population in Britain; (3) a resident population in Ireland; (4) a population breeding around the Black Sea, which winters southwest to Greece; and (5) a population breeding in Western and Central Asia (east to 90°E), which migrates southwest to winter in the Caspian region (Scott & Rose 1996). The populations breeding in Britain and Ireland are very largely sedentary, as are birds breeding in the Low Countries, France and Central Europe. However, birds breeding in southern Scandinavia and the Baltic States are largely migratory, wintering mainly in Denmark. Three migratory populations are therefore relevant.

- Northwest Mainland & Central Europe: 210,000.

Trends: Increasing.

- Black Sea: 45,000.

Trends: Increasing.

- Western & Central Asia/Caspian: 250,000

Trends: Increasing.

Changes in status: All three populations continue to increase. Hagemeyer & Blair (1997) report rapid increases in numbers of breeding birds and range expansions in most areas of Europe, while Wieloch (1991) notes that the expansion of the Baltic population into western Ukraine now meets the expansion of the Black Sea population to the northwest. The widespread increases have been attributed to reduced hunting pressure, generally milder winters, and widespread artificial winter feeding (Hagemeyer & Blair 1997).

Comments: There has been no change in the population estimates since the first edition of this report. M. van Roomen (*in litt.*) has confirmed that the estimate of 210,000 for the Northwest Mainland and Central European population remains valid, and no better information has become available for the other two populations.

The Northwest Mainland & Central European population includes a mixture of migratory and sedentary groups. The migratory element in southern Scandinavia and the Baltic region is estimated at 170,000 birds. Two main sedentary groups are recognised: a population in north-western Germany, the Netherlands, Belgium and France, estimated at 20,000 individuals, and a population in Central Europe estimated at 16,000 individuals. The British and Irish populations are estimated at 25,000 and 10,000 individuals, respectively (Scott & Rose 1996).

Whooper Swan *Cygnus cygnus*

Monotypic. Four populations are recognised in Western Eurasia: (1) a population which breeds in Iceland and winters mainly in Britain and Ireland; (2) a population which breeds in northern Scandinavia and north-western Russia (east to Western Siberia) and winters in north-western continental Europe; (3) a population which breeds in extreme Northeast Europe and Western Siberia and winters in the Black Sea and East Mediterranean; and (4) a population which presumably breeds further east and winters in Southwest Asia from the Caspian Sea east to the region of Lake Balkhash.

- Iceland/U.K. & Ireland: 20,900.

Trends: Increasing.

- Northwest Mainland Europe: 59,000.

Trends: Increasing.

- Northern Europe & Western Siberia/Black Sea & East Mediterranean: 17,000.

Trends: Decreasing.

- Western & Central Siberia/Caspian: 20,000.

Trends: Decreasing.

Changes in status: The Icelandic breeding population is now thought to be increasing, as reflected in the increase in the population estimate from 16,000 to 20,900 (Cranswick *et al.* in press). There has been no change in the other population estimates or trends since the first edition of this report. M. van Roomen (*in litt.*) has confirmed that the estimate of 59,000 for the Northwest Mainland European population remains valid, and no new information has become available for the other two populations.

The population wintering in Northwest Mainland continues to increase rapidly, and has now trebled since 1974. A census in January 1995 gave a total of approximately 59,000 birds (Laubeck *et al.* 1999). There has been a marked increase in the breeding populations in Norway, Sweden and Finland since 1950, and re-colonisation of regions where the species had previously been eradicated by man (Hagemeijer & Blair 1997). However, there has been a steady decline in the population wintering in the Black Sea/East Mediterranean since the late 1960s and early 1970s, and there is now some evidence of a decline in the Southwest Asian wintering population after a period of increase in the 1960s and 1970s.

Bewick's Swan *Cygnus columbianus*

Polytypic. Only the subspecies *bewickii* occurs in the Agreement Area. Two populations are recognised: a large population breeding in extreme Northeast Europe and Northwest Siberia and wintering in Northwest Europe (south in small numbers to the south of France); and a much smaller population which presumably breeds further east and winters in the Caspian region south to Iran. Small groups of *C. columbianus* occasionally appear in winter in intervening areas, especially in Ukraine, Bulgaria, Greece and Turkey, and a bird ringed in Britain has been recovered in the North Caspian, suggesting that there may be a considerable amount of interchange between these two populations.

- Western Siberia & Northeast Europe/Northwest Europe: 29,000.

Trends: Decreasing.

- Northern Siberia/Caspian: 500.

Trends: Unknown.

Changes in status: The Northwest Europe wintering population appears to have been more or less stable (at about 17,000 individuals) during the 1980s. E. Rees (in Hagemeijer & Blair 1997) gave an estimate of 18,000 in the early 1990s, and concluded that until then there had been no definite evidence of an increase in the population since the mid-1960s. However, very high counts in the 1990s suggested that the population was increasing rapidly. Some 18,600 were counted in the Netherlands alone in November 1993, and 19,399 were found during the

January census in 1995. Beekman *et al.* (1996) suggested a figure of 20,000-25,000, and more recently, Beekman (1997) estimated the total population at approximately 29,000 in 1995. However, the numbers appear to have been declining since 1995, due to a long series of poor breeding seasons (Marc van Roomen, *in litt.*). Although the former estimate of 29,000 is retained (as the last published estimate available), the trend is now given as declining.

The status of the Caspian wintering population is poorly known. However, the population breeding in the Taymyr Peninsula (and the most likely source of the birds wintering in the Caspian) was reduced by about one third during a period of 12-13 years between 1966 and 1978/79 (Rogacheva 1992).

Pink-footed Goose *Anser brachyrhynchus*

Monotypic. There are two discrete populations: one breeding in East Greenland and Iceland and wintering mainly in Scotland, and the other breeding in Svalbard and wintering mainly in Denmark, the Netherlands and Belgium.

- East Greenland & Iceland/UK: 241,000.

Trends: Increasing.

- Svalbard/Northwest Europe: 37,000.

Trends: Stable.

Changes in status: The most recent estimate for the East Greenland and Iceland population is 241,000 (Kershaw & Cranswick, *in press*), a slight decrease on the previous estimate of 250,000 from Madsen *et al.* (1999), although the overall trend is probably still one of increase. The Svalbard population, however, now appears to have stabilised at between 35,000 and 40,000 birds, after a long period of increase (M. van Roomen, *in litt.*). The previous estimate of 37,000 is retained, but the trend is now given as stable. The increase in the population wintering in Scotland coincides with an expansion of the Icelandic breeding population into lowland areas (Hagemeijer & Blair 1997).

Bean Goose *Anser fabalis*

Polytypic. Three subspecies occur in the Agreement Area: *A. f. fabalis* (Taiga Bean Goose) breeding in the taiga of northern Scandinavia, Russian Karelia and the Kola Peninsula; *A. f. rossicus* (Tundra Bean Goose) breeding in the tundra from the Kanin Peninsula in European Russia east to the Khatanga River in Central Siberia; and *A. f. johanseni* breeding east of the Urals in Western Siberia. *A. f. fabalis* winters in Northwest Europe south to the Low Countries and Britain, and *A. f. rossicus* winters in Central Europe southwest to central Spain (formerly also Morocco and Algeria). These two subspecies overlap extensively on their wintering grounds in northern Germany and the Low Countries. The wintering areas of *A. f. johanseni* are poorly known, but are believed to be in Central Asia from Turkmenistan to western China. Only the populations of nominate *fabalis* and *rossicus* are currently included in the Action Plan (see also Section 2.2).

- Northeast Europe/Northwest Europe (*fabalis*): 100,000.

Trends: Stable.

- Western & Central Siberia/Northeast & Southwest Europe (*rossicus*): 600,000.

Trends: Unknown.

Changes in status: None known. The current population estimates and trends follow Madsen *et al.* (1999), and remain unchanged from the first edition of this report. The wintering population of *A. f. fabalis* apparently increased in the 1960s and 1970s, but in recent years it appears that numbers have been relatively stable (Madsen *et al.* 1999; Callaghan *et al.*, *in prep*). The breeding populations in Norway, Sweden and Finland (roughly 2,500-4,000 pairs) are thought to be relatively stable (Hagemeijer & Blair 1997), but increases have been reported

on some of the breeding grounds in Russia (Syroechkovski 1996). The status of *A. f. rossicus* is uncertain; some increases have been reported on the wintering grounds in Western Europe, but sharp declines have been reported on the breeding and staging areas in Russia (Flint & Krivenko 1990; Krivenko 1993; Syroechkovski 1996). Madsen *et al.* (1999) give the trends in this population as unknown, but state that the total numbers seem to have been more or less stable over the last 20 years.

Comments: Madsen *et al.* (1999) concluded that in recent years the population of *fabalis*, based on October counts, has been relatively stable at between 90,000 and 110,000 individuals. At this time of year, the birds are concentrated in southern Sweden (60,000-80,000) and Poland and northern Germany (20,000-30,000). These authors showed that the *rossicus* population is comprised of two main groups: about 275,000 birds from western breeding areas travelling via the White Sea and Baltic to wintering areas in Western Europe, and about 325,000 birds from further east taking an inland route via Poland and Ukraine to wintering areas in Central Europe.

Greater White-fronted Goose *Anser albifrons*

Polytypic. Two subspecies occur in the Agreement Area. The nominate subspecies breeds in the Arctic tundra from the Kanin Peninsula in European Russia east to the Kolyma River; western populations winter in four main wintering areas: Northwest Europe, Central Europe, the Black Sea region and Turkey, and the Caspian region south to Iraq and east possibly as far as the Aral Sea.

The birds wintering in Northwest Europe are believed to originate mainly from breeding grounds in European Russia, but there is a considerable amount of interchange between this population and the Central European wintering population (Y.U. Mineyev & J. van Impe, in Hagemeyer & Blair 1997). *A. a. flavirostris* breeds in Greenland and winters in Britain and Ireland.

- Northwest Siberia & Northeast Europe/Northwest Europe: 600,000.

Trends: Probably increasing.

- Western Siberia/Central Europe: 100,000.

Trends: Decreasing.

- Western Siberia/Black Sea & Turkey: 650,000.

Trends: Stable.

- Northern Siberia/Caspian & Iraq: 15,000.

Trends: Decreasing.

- Greenland/Ireland & U.K. (*flavirostris*): 30,000.

Trends: Stable.

Changes in status: None known. The current population estimates and trends for the four populations of nominate *albifrons* follow Madsen *et al.* (1996), and remain unchanged from the first edition of this report. Madsen *et al.* (1999) give a total of 1,400,000 for the four main groups of *albifrons* combined (*c.f.* 1,365,000 from Madsen *et al.* 1996). Mooij (1996) has given a higher estimate of 750,000 for the Northwest European wintering population of *albifrons*, and a lower estimate of 60,000 for the Central European wintering population for the period 1990-1993. This author suggests that the apparent increase in Northwest Europe and decrease in Central Europe could have been the result of a major shift in wintering distribution, in which case there may have been no significant increase in the numbers of *albifrons* wintering in Europe in recent decades. Numbers wintering in The Netherlands in the late 1990s fluctuated between 600,000 and 658,000, suggesting that the increase in this group is now slowing down (M. van Roomen, *in litt.*). The wintering population in the Black Sea

region and Turkey is believed to be stable. The numbers wintering in Turkey appear to have been relatively stable between 1967 and 1988 (Madsen 1991), and the numbers breeding on the Taymyr Peninsula also appear to have been stable in recent decades (Syroechkovski 1996). Madsen *et al.* (1999) conclude that there may have been no real increase in the numbers of *albifrons* wintering in the Western Palearctic since the 1950s.

The population of *flavirostris* now appears to have stabilised after a long period of increase. Some 34,600 *flavirostris* were counted during the winter of 1995/96 (Cranswick *et al.* 1997), and Madsen *et al.* (1999) revised the estimate up to 33,000. The population reached a peak of about 35,000 in spring 1999, but has since declined to about 27,000, due to low reproduction (C.M. Glahder, *in litt.*). A new population estimate of 30,000 has been proposed, with the trend as stable (C.M. Glahder, *in litt.*).

Comments: An international species conservation plan for the Greenland White-fronted Goose *A. a. flavirostris* has been compiled by the Joint Nature Conservation Committee, U.K. and the National Parks and Wildlife Service, Ireland (Stroud 1992), but this remains a draft document.

Madsen *et al.* (1999) have shown that there is extensive overlap of all Western Palearctic wintering populations of *A. a. albifrons* on migration and on their breeding grounds. These authors therefore conclude that the treatment of these wintering concentrations as separate populations is untenable, and consider all *albifrons* wintering in the Western Palearctic to belong to a single population of about 1,400,000 birds.

Lesser White-fronted Goose *Anser erythropus*

Monotypic. West Eurasian populations breed from northern Scandinavia east to Western Siberia and winter in Southeast Europe (Black Sea to Greece) and the Caspian region.

- Northern Europe & Western Siberia/Black Sea & Caspian: 8,000-13,000.

Trends: Decreasing.

Changes in status: There has been a drastic decline in the world population of *Anser erythropus* during the 20th century, accompanied by widespread contractions in breeding and wintering range. This decline has been attributed to heavy hunting pressure and habitat changes in the wintering areas in Southeast Europe and Southwest Asia. In Europe, the population size has probably been reduced by more than 90% since the 1940s. However, the extent of the decline in recent years is obscured by uncertainties in total population size and paucity of information from some of the species' key wintering areas in the Caspian region.

Comments: *Anser erythropus* is a globally threatened species in the category 'Vulnerable' (BirdLife International 2002), and is included in Appendix I of the Bonn Convention. The status and conservation of *A. erythropus* in Europe have recently been summarised by J. Madsen (*in* Tucker & Heath 1994) and van Vesseem (1994), and an Action Plan for *A. erythropus* in Europe has been compiled by Madsen (*in* Heredia *et al.* 1996). BirdLife International (2000) give an estimate of 25,000-30,000 for the world population, including 8,000-13,000 in the Western Palearctic (adopted here) and 14,000-16,000 in the East Asian flyway.

Because of uncertainties in migration routes and wintering areas, all breeding and wintering groups in Western Eurasia are currently regarded as belonging to a single population. There are some indications that birds breeding in Fennoscandia winter mainly in Southeast Europe, while those breeding in the Taymyr winter mainly in the Caspian region, but there have been at least two recoveries of Finnish birds in Kazakhstan, and one recovery of a Swedish bird in the

Manych River system north of the Caucasus (Madsen *et al.* 1999). L. von Essen and V.V. Morozov (in Hagemeyer & Blair 1997) suggest that the total population breeding in Russia west of the Urals may number less than 1,500 individuals, while the Fennoscandian breeding population is now thought to be no more than 30-50 pairs (Madsen *et al.* 1999).

The re-introduction of captive-bred birds into a former breeding area in Swedish Lapland since 1981 has resulted in the establishment of a small breeding population of about 50 individuals (von Essen 1996). A new wintering area for some of these geese has been established in the southern Netherlands near Strijen, and a spring and autumn staging and moulting area has been established near Hudiksvall, along the coastal region of mid-Sweden (Callaghan & Green 1993).

Greylag Goose *Anser anser*

Two subspecies have been described: the nominate form from West and Northwest Europe and *A. a. rubrirostris* from Southeast Europe and Asia. Birds in Central and Eastern Europe, which are somewhat intermediate, are usually lumped with the nominate form. Five relatively discrete migratory populations are recognised: (1) a population breeding in Iceland and wintering in Britain and Ireland (*anser*); (2) a population breeding in Norway, Sweden, Denmark and Germany and wintering from the Netherlands to southern Spain and Morocco (*anser*); (3) a population breeding in Central and Eastern Europe and wintering southwest to Tunisia and Algeria (*anser*); (4) a population breeding in the Black Sea region and Turkey and wintering within that region (*rubrirostris*); and (5) a population breeding in Western Siberia south to the Caspian region and wintering in the South Caspian, Iran and Iraq (*rubrirostris*). The small population of the nominate form breeding in the Outer Hebrides and on the northern mainland of Scotland (9,000 birds) is largely sedentary. Feral populations have become established from introduced birds in several parts of Western Europe, but these are largely sedentary.

- Iceland/UK & Ireland: 89,100.
Trends: Probably stable.
- Northwest Europe/Southwest Europe: 400,000.
Trends: Increasing.
- Central Europe/North Africa: 25,000.
Trends: Increasing.
- Black Sea & Turkey: 85,000.
Trends: Unknown.
- Western Siberia/Caspian & Iraq: Over 100,000.
Trends: Increasing.

Changes in status: The Icelandic population increased from about 25,000 individuals in 1952 to 110,000 in 1987, and averaged about 100,000 in the late 1980s and early 1990s (Madsen 1991; Madsen *et al.* 1996). However, counts in Britain from 1991/92 to 1995/96 suggested that the population had at least stabilised, if not declined slightly, by the mid-1990s (Cranswick *et al.* 1997). Madsen *et al.* (1999) believed that the population was declining, and gave a revised population estimate of 80,000. However, the most recent estimate of 89,100 from Kershaw and Cranswick (in press) suggests the population may now have stabilised.

The continental Northwest European wintering population continues to increase rapidly. This population increased from approximately 30,000 birds in 1967/68 to 120,000-130,000 in the 1980s and about 200,000 in the mid-1990s (Madsen *et al.* 1999). The increase has been particularly marked in recent years, especially in the breeding populations in Germany, The Netherlands and Sweden (M. van Roomen, *in litt.*), and a new estimate of 400,000 has been proposed (K. Koffijberg, *in litt.*).

The current population estimates and trends for the Central European population of nominate *anser* and two populations of *rubrirostris* follow Madsen *et al.* (1996), and remain unchanged from the first edition of this report. Madsen *et al.* (1996) thought that the Central European population had been relatively stable in recent decades. However, Madsen *et al.* (1999) report a considerable increase in this population during the period 1970-1982, and a modest increase in recent years. Recent increases have been reported on the breeding grounds in Estonia, Hungary and Poland (Hagemeijer & Blair 1997).

Madsen *et al.* (1996) considered the Black Sea & Turkey population to be stable. However, recent evidence is conflicting. An increase has been reported in the numbers wintering in Ukraine, but numbers wintering in Bulgaria, Greece and Turkey appear to have declined since the 1970s (Madsen *et al.* 1999). Decreases have also been reported in the breeding populations in Romania, Moldova, Bulgaria and Greece (Hagemeijer & Blair 1997). Madsen *et al.* (1999) concluded that the available data for the population as a whole were inadequate to establish long-term trends, and gave the status of this population as unknown.

The population wintering in Southwest Asia is thought to be increasing, at least in some areas (Perennou *et al.* 1994). Krivenko (1993) reports an increase in the numbers at the end of the breeding season in the middle regions of the former USSR. Because of uncertainties in the total number of birds in this flyway, Madsen *et al.* (1999) preferred to consider the status of the population as unknown.

Comments: Madsen *et al.* (1999) have recently revised the estimate for the Central European population to approximately 25,000 birds. The great bulk of these (23,000) winter in North Africa, and the remainder in the Balkans. There is some evidence to suggest that a further 3,000 or so *A. anser* from the Central European breeding population winter further west alongside birds from the Northwest European breeding population (Madsen *et al.* 1999).

Pirot *et al.* (1989) estimated the Black Sea & Turkey population of *rubrirostris* at 20,000 birds, but this estimate was revised upwards to 25,000 in the first edition of *Waterfowl Population Estimates*. Madsen *et al.* (1996) also gave an estimate of 25,000. However, with improvements in censuses in the Black Sea region in the late 1980s, it became apparent that this figure was much too low. Some 52,000 birds were counted in Romania in 1989, and in 1994, there were simultaneous counts of 50,900 in Ukraine and 33,900 in Romania (Madsen *et al.* 1999). Madsen *et al.* (1999) therefore concluded that the total population was in the region of 85,000 birds.

It is possible that the estimate of 100,000 for the Western Siberia/Caspian and Iraq population may be much too low. Late breeding season estimates give figures of 224,000 for the whole of the central part of the former U.S.S.R. (Krivenko 1993) and about 230,000 for the Turgay Basin and North Caspian region alone (Finlayson *et al.* 1993, Vinogradov & Auezov 1990).

The large feral population of *A. anser* in the United Kingdom has recently been estimated at about 22,000 birds (Madsen *et al.* 1999). This population is continuing to increase.

Barnacle Goose *Branta leucopsis*

Monotypic. Three discrete populations exist: one breeding in East Greenland and wintering mainly in Ireland and north-western Scotland; one breeding in Svalbard, wintering in south-western Scotland and staging at islands off the west coast of Norway in spring; and one breeding in northern Russia (Novaya Zemlya and Vaigach Island) and wintering mainly in Germany and the Netherlands. The recently established breeding colonies in the Baltic are regarded as part of the Russian population.

- East Greenland/Scotland & Ireland: 54,100.
Trends: Increasing.
- Svalbard/Southwest Scotland: 23,000.
Trends: Increasing.
- Russia/Germany & Netherlands: 360,000.
Trends: Increasing.

Changes in status: The long-term increase in the East Greenland population is continuing. This population increased from as few as 5,000 in the 1950s to over 38,000 in 1994 and at least 40,000 and perhaps as many as 45,000 in the late 1990s (Madsen *et al.* 1999). By the end of the century, the population had increased to 54,100 (Cranswick *et al.* 2000).

The Russian population also continues to increase rapidly. A complete census in January 1997 produced a total of 267,000 (Madsen *et al.* 1999), but since then the population has increased to an estimated 360,000 birds (K. Günther, *in litt.*). There has been an increase in numbers on the breeding grounds in Arctic Russia since the 1970s, and some westward expansion of the breeding range (Syroechkovski 1996). The small breeding population that became established in the Baltic, as recently as 1975 has grown rapidly since then to about 2,000 pairs in 1993 (Hagemeijer & Blair 1997) and over 3,600 pairs in 1997 (Madsen *et al.* 1999).

The current population estimate of 23,000 and increasing trend for the Svalbard population follow Madsen *et al.* (1996), and remain unchanged from the first edition of this report. This population was thought to have stabilised in the late 1980s and early 1990s at about 12,000-14,000 birds, after a long period of increase from a low of perhaps as few as 550 birds in 1950. However, recent counts at the principal wintering site in the Solway have shown that the increase is continuing. Some 13,700 birds were counted in 1993/1994, followed by 17,900 in 1994/95, 17,450 in 1995/96, 23,000 in 1996/97 and 23,500 in autumn 1997 (Cranswick *et al.* 1997; Madsen *et al.* 1999).

Comments: A management plan for the Svalbard population of *B. leucopsis* has been prepared by the Wildfowl and Wetlands Trust, U.K. (Black 1998a & 1998b).

Brent Goose *Branta bernicla*

Polytypic. Two subspecies occur in the Agreement Area. *B. b. bernicla* breeds in northern Russia (rarely as far west as the Kanin Peninsula) east to the Taymyr Peninsula, and winters along the coasts of Northwest Europe south to France and occasionally Iberia (vagrant to Morocco). There are two discrete populations of *B. b. hrota*, one breeding in north-eastern Canada and wintering mainly in Ireland, and one breeding in Svalbard, Franz Joseph Land and north-eastern Greenland and wintering in Denmark and north-eastern England. Although some *B. bernicla* from the Canada/Ireland population bred in Greenland in the early 20th century, the birds now breeding in northeastern Greenland have been shown by satellite tracking to belong to the population wintering in Denmark and England (Madsen *et al.* 1999).

- Western Siberia/Western Europe (*bernicla*): 190,000.
Trends: Decreasing.
- Svalbard/Denmark & U.K. (*hrota*): 5,000.
Trends: Stable.
- Canada & Greenland/Ireland (*hrota*): 20,000.
Trends: Stable.

Changes in status: The population of *B. b. bernicla* is now decreasing rapidly after a long period of increase, from a low of less than 20,000 in the 1950s to an average of 300,000 in the

late 1980s and early 1990s. An accompanying increase was also reported in numbers on the breeding grounds, along with some westward expansion of the breeding range in Arctic Russia (Syroechkovski 1996). However, poor breeding results from 1992 to 1994 reduced numbers somewhat (J. Madsen & B.S. Ebbinge, in Hagemeyer & Blair 1997), and the numbers wintering in Britain appeared to stabilise (Cranswick *et al.* 1997). Madsen *et al.* (1999) also concluded that the numbers of *B. b. bernicla* had stabilised by the mid-1990s. Since the winter of 1995/96, there has been a sudden decline in the population from 260,000 in May 1995 to an average of only 190,000 in recent years (K. Günther, *in litt.*).

The population estimates and trends for the two populations of *hrota* follow the second edition of *Waterfowl Population Estimates* and Madsen *et al.* (1996), and remain unchanged from the first edition of this report. The Svalbard population increased from a low of around 2,000 birds in the late 1960s to between 4,000 and 5,000 birds in the late 1980s (Madsen 1991). This population is now believed to have stabilised at about 5,000 birds (Wetlands International Goose Specialist Group, in Scott & Rose 1996). It is estimated that approximately 1,000 birds in this population originate from the recently discovered breeding areas in northeastern Greenland (Madsen *et al.* 1999).

Comments: An international action plan for the Dark-bellied Brent Goose *B. bernicla bernicla* has been prepared for the Ministry of Agriculture, Nature Management and Fisheries, The Netherlands (van Nugteren 1997).

Red-breasted Goose *Branta ruficollis*

Monotypic. The species breeds in the Taymyr, Gydan and Yamal regions of northern Russia (between 70°E and 100°E) and migrates southwest to winter in Southeast Europe, mainly in Romania and Bulgaria. *B. ruficollis* formerly wintered in the South Caspian region, Iraq and Egypt, but is now only a vagrant in these areas.

Only one population is recognised, the entire population of the species.

- Northern Siberia/Black Sea & Caspian: 88,000.

Trends: Increasing.

Changes in status: There is believed to have been a dramatic decline in numbers during the middle of the 20th century, but population trends in recent decades have been uncertain, because of inadequacies in the earlier population estimates. Madsen *et al.* (1996) gave an estimate of 70,000, and noted that although long-term trends were uncertain, numbers appeared to have been relatively stable in recent years. However, some 88,000 were counted at the autumn staging areas in Kazakhstan in October 1996, and about 74,000 were found on the wintering grounds in Bulgaria and Romania in February 1997 (Dereliev 1998). Madsen *et al.* (1999) retained the earlier estimate of 70,000, but gave the trend as increasing. These authors suggested that in the 1950s, the total population numbered about 50,000-60,000 birds. They speculated that the population fell to a low of under 26,000 for a period after the mid-1970s, but then increased to an average of about 70,000 in the early 1990s. They suggest that the increase may be continuing, possibly because of improved protection measures and the creation of vast tracts of cereal crops in the wintering grounds in Romania and Bulgaria in the 1960s and 1970s. BirdLife International (2000) have given a higher estimate of 88,000, based on the count in October 1996, and this estimate is retained here, although it is acknowledged that this may now be too low as there is a recent report of over 100,000 on the staging grounds in Kazakhstan (B. Hughes, *in litt.*). Despite the increase in numbers, the species remains extremely vulnerable because of its dependence on a small number of key sites during migration and in winter.

Comments: *Branta ruficollis* is a globally threatened species in the category 'Vulnerable' (BirdLife International 2000), and is listed in Appendix I of the Bonn Convention. The status and conservation of the species have recently been summarised by Madsen (*in* Tucker & Heath 1994) and Hunter and Black (*in* van Vesseem 1994), and an Action Plan for *B. ruficollis* has been compiled by Hunter and Black (*in* Heredia *et al.* 1996).

Egyptian Goose *Alopochen aegyptiacus*

Monotypic. The species occurs widely in Africa south of the Sahara and also in lower Egypt, and appears to be at least partially migratory over much of its range, although its movements are poorly understood. It undertakes considerable seasonal movements in Southern Africa (up to 1,100 km) and West Africa. It penetrates into the southern Sahara during the wet season, and there is some evidence of trans-Saharan migrations in Tunisia and Algeria. Scott & Rose (1996) recognised two populations: a West African population (extending east to Chad), and an Eastern and Southern African population.

- West Africa: 10,000-25,000.

Trends: Decreasing.

- Eastern & Southern Africa: 200,000-500,000.

Trends: Stable.

Changes in status: No trends were given for either population in the first edition of this report. Dodman (2002) has concluded that the West African population is in decline. There has been some retraction of range in the north, notably in Egypt, and it is said to be decreasing in Gambia, Nigeria and Niger (Scott & Rose 1996, Dodman 2002). However, the much larger Eastern and Southern African population appears to be relatively stable (Dodman 2002). In Southern Africa, the species has shown a marked increase during the 20th century as a result of the construction of farm dams and intensification of agriculture (Harrison *et al.* 1997).

Comments: The species is abundant in Southern Africa, where it is the commonest and most widespread of the large Anatidae. In the 1980s, there were estimated to be at least 30,000 birds on the Transvaal highveld in South Africa (Harrison *et al.* 1997). Dodman (2002) has reviewed recent counts and concluded that both of the former estimates remain valid, although the West African population appears to be decreasing.

The species has been introduced into Britain and the Netherlands, and has recently expanded its range into Belgium and France.

Ruddy Shelduck *Tadorna ferruginea*

Monotypic. Three main migratory groups can be identified in the Agreement Area: (1) a discrete population in Northwest Africa (Morocco and Algeria); this is mainly dispersive or nomadic, with up to 200 birds formerly occurring in southern Spain in winter; (2) a population which breeds in Greece, west and central Turkey and the Black Sea area, and winters in the East Mediterranean and in small numbers in the Nile Delta; and (3) a large Southwest and Central Asian population which breeds from eastern Turkey to Afghanistan and the Central Asian Republics and winters mainly in Iran and Iraq. A discrete and declining population of 30-80 birds in Ethiopia appears to be mainly sedentary (Dodman 2002).

- Northwest Africa: 3,000.

Trends: Decreasing

- East Mediterranean & Black Sea/Northeast Africa: 20,000.

- Trends: Decreasing.
- Western Asia & Caspian/Iran & Iraq: 35,000.
Trends: Increasing.

Changes in status: No changes have been proposed to the population estimates and trends given in the first edition of this report. Mid-winter counts in the East Mediterranean and Turkey in the early 1990s suggested that this population was decreasing rapidly (Rose 1995). The breeding populations in Greece, Romania, Turkey and Ukraine are thought to be decreasing, although the population of 50-200 pairs in Bulgaria is reported to be increasing slightly after a former decline (Hagemeijer & Blair 1997, BirdLife International/EBCC 2000). In the West Asian population, a dramatic increase was reported in the wintering areas in the 1980s and early 1990s (Perennou *et al.* 1994), and some increase was reported on the breeding grounds in Russia (Krivenko 1993).

Comments: There are an estimated 6,000 pairs in European Russia, 4,000-8,000 pairs in Turkey, and 220-480 pairs in the rest of Europe (BirdLife International/EBCC 2000).

South African Shelduck *Tadorna cana*

Monotypic. The species is confined to Southern Africa south of 19°S (South Africa, Lesotho, Namibia and Botswana), and is most abundant in arid Free State and southern Cape Province. It undertakes seasonal movements related to the moult and to the availability of water, with birds moving northeast in November and December and returning to their breeding areas after the moult. Birds ringed in southwestern Cape Province have been recovered in Namibia and Transvaal. Only one population is recognised, the entire population of the species.

- Southern Africa: 42,000.
Trends: Stable.

Changes in status: The numbers are thought to have been relatively stable in recent years. However, the species has increased its range two-fold since the 19th century, when it was confined to Cape Province and the highveld of Free State and southern Transvaal. This range expansion has been attributed to the great increase in the number of large and small dams throughout the region (Harrison *et al.* 1997).

Comments: The estimate of 42,000 individuals dates from 1981 (Brown *et al.* 1982). D. Harebottle (cited in Dodman, 2002) suggests that the population may now have increased to about 50,000 birds, following rapid range expansion. However, in the absence of any firm evidence, Dodman (2002) retains the old estimate. Twenty-three wing-moult localities are known. These accommodate about 30,000 birds, of which about 25,000 gather in the Free State in South Africa (Harrison *et al.* 1997).

Common Shelduck *Tadorna tadorna*

Monotypic. Scott & Rose (1996) recognised only three populations in Western Eurasia: (1) a Northwest European population extending from northern Norway and Finland to Britain, Ireland and the Atlantic coast of France; (2) a Black Sea/Mediterranean population, wintering south to the Nile Delta and Northwest Africa; and (3) a West Asian population breeding from eastern Turkey, north-western Iran and the Caspian region eastwards through Kazakhstan, and wintering from the South Caspian through Iran and Iraq to Arabia. There is known to be some mixing between the Northwest European and Black Sea/Mediterranean populations in the West Mediterranean, with some of the birds breeding in the West Mediterranean moving to the

Wadden Sea to moult, and there is probably a considerable amount of mixing between the West Asian and Black Sea/Mediterranean populations.

- Northwest Europe: 300,000.

Trends: Stable.

- Black Sea & Mediterranean: 75,000.

Trends: Decreasing.

- Western Asia/Caspian & Middle East: 80,000.

Trends: Increasing.

Changes in status: No changes have been proposed to the population estimates given in the first edition of this report. All three populations showed substantial increases during the 1980s, and the population estimate for Northwest Europe was revised upwards to 300,000 to reflect this (Rose 1996). However, there were already some indications in the mid-1990s that the rate of increase in the Northwest European population had slowed down, and this population is now believed to have stabilised (Delany *et al.* 1999). There are also indications that the Black Sea/Mediterranean population is now declining. Hagemeyer and Blair (1997) reported declines of 20-50% in the breeding populations in Ukraine, Romania and Greece since 1970, and Delany *et al.* (1999) found evidence of a decline in the wintering areas.

Comments: The total breeding population in Northwest Europe has been estimated at 36,760-48,960 pairs (BirdLife International/EBCC 2000). Using a factor of three to derive total number of individuals from breeding pairs suggests a total population of only 110,000-150,000 birds, *i.e.* less than half the estimate derived from mid-winter counts. The reason for this discrepancy is unclear.

Spur-winged Goose *Plectropterus gambensis*

Two subspecies have been described: *P. g. gambensis* from Gambia to Sudan and south to Zimbabwe, and *P. g. niger* in Southern Africa. The species is subject to marked seasonal movements over most of its range, but these are poorly understood. Moulting migrations have been observed in the Niger Delta, Senegal Delta and South Africa, but there have been no long-distance recoveries of birds ringed in South Africa (Underhill *et al.* 1999). Scott and Rose (1996) recognise three populations: (1) a West African population of *gambensis* (extending east to Chad); (2) an Eastern African population of *gambensis* (extending south to the Zambezi River); and (3) the entire population of *niger* in Southern Africa (south of the Zambezi).

- West Africa (*gambensis*): 100,000.

Trends: Stable.

- Eastern Africa (Sudan to Zambia) (*gambensis*): 200,000-300,000.

Trends: Stable.

- Southern Africa (*niger*): 50,000-100,000.

Trends: Increasing.

Changes in status: Dodman (2002) has concluded that all three populations are probably stable. It was previously thought that the West African population was decreasing as a result of desiccation of the Sahel zone (Scott & Rose 1996), but Dodman (2002) could find no evidence of any recent decline in numbers, and considered the population to be in a healthy condition.

The distribution of *niger* in Southern Africa has not changed significantly in the 20th century, although there may have been some spread into drier areas as a result of dam building, *e.g.* in south-eastern Botswana. There has been an increase in numbers in Southern Africa in recent years, probably because of the construction of dams and planting of grain crops (Harrison *et al.* 1997, Underhill 1999). Numbers on the highveld in Transvaal may exceed 20,000, with concentrations of over 2,000 on the Nyl floodplain in wet years (Harrison *et al.* 1997).

Comments: Dodman (2002) has reviewed recent counts and concluded that the former estimate of 50,000 for the West African population was too low. He has proposed a new estimate of 100,000, which is adopted here. The former estimates for the two other populations are thought to remain valid (Dodman 2002).

Comb Duck *Sarkidiornis melanotos*

Polytypic. The nominate subspecies occurs widely in Africa south of the Sahara, and in Madagascar. The species is migratory over much of its range in Africa, the movements probably being linked with seasonal rains. Large concentrations of non-breeders have been observed in the Senegal Delta, Central Niger Delta (Mali), Cameroon, Sudan, Democratic Republic of Congo, Kenya and Zambia. About 10% of those ringed in South Africa have been recovered over 2,000 km from the ringing site, at localities well north of the equator, while birds ringed in Zimbabwe have been recovered in South Africa, Swaziland, Mozambique, Zambia, Democratic Republic of Congo, Sudan and Chad (Harrison *et al.* 1997, Underhill 1999). Scott and Rose (1996) recognised three populations: a West African population (extending east to Chad), a Southern and Eastern African population, and a population confined to Madagascar. The Madagascan birds appear to be mainly sedentary.

- West Africa: 50,000-100,000.

Trends: Stable.

- Southern & Eastern Africa: 100,000-500,000.

Trends: Stable.

Changes in status: Both populations are still thought to be relatively stable (Dodman 2002). The distribution of the species in Southern Africa has apparently not changed since the 19th century (Harrison *et al.* 1997). It has adapted well to artificial wetlands, and there has been some increase in numbers in Zimbabwe in recent years (Harrison *et al.* 1997).

Comments: Dodman (2002) has reviewed recent counts and concluded that the former estimate of 50,000 for the West African population was too low, while that for the Southern and Eastern African population (500,000-1,000,000) was too high. He has proposed new estimates of 50,000-100,000 and 100,000-500,000, respectively, and these estimates are adopted here. The recovery in Chad of a bird ringed in Zimbabwe indicates that there is some interchange between the two populations.

African Pygmy-goose *Nettapus auritus*

Monotypic. The species occurs widely in Africa south of the Sahara, and is nomadic and/or migratory over most of its range, but its movements are poorly understood. Scott & Rose (1996) recognised three populations: a West African population (extending east to Chad), a Southern and Eastern African population, and a population confined to Madagascar. The Madagascan birds appear to be mainly sedentary.

- West Africa: <10,000.

Trends: Decreasing.

- Southern & Eastern Africa: 100,000-250,000.

Trends: Unknown.

Changes in status: No trends were given for either population in the first edition of this report. Dodman (2002) has reviewed recent records in West Africa and has concluded that this population is much smaller than was formerly supposed and is probably in decline. Overall trends in the much larger Southern and Eastern African population remain unknown. However, local declines have been reported in Kenya and Zimbabwe (Scott & Rose 1996), and the species has suffered from habitat destruction in South Africa, but its overall distribution in Southern Africa has changed little, if at all, since the 19th century (Harrison *et al.* 1997).

Comments: Dodman (2002) has suggested that the former estimate of 20,000-30,000 for the West African population was too high, and has proposed a new estimate of less than 10,000, which is adopted here. The estimate of 100,000-250,000 apparently remains valid, although Dodman (2002) suggests that true figure may be towards the low end of this range. *N. auritus* is the commonest duck in the Okavango Delta in Botswana, where the population has been estimated at 15,000 birds.

Cape Teal *Anas capensis*

Monotypic. The species is patchily distributed in Eastern and Southern Africa and is locally common to abundant, although it is scarce over much of its range. It is known to undertake considerable movements, presumably in response to changing water levels, especially in Southern Africa where 5% of ringing recoveries indicate movements of over 1,000 km (Harrison *et al.* 1997). Birds ringed in southwestern Cape Province, South Africa, have been recovered in Namibia and Mozambique. A scattering of records in West Africa (north to Libya) suggests that long-distance movements also occur in the north of the species' range, presumably in response to fluctuating water levels. Scott & Rose (1996) recognise two populations: a population in Eastern Africa, extending northwest to Chad; and a population in Southern Africa, extending north to Angola, southern Zambia and Zimbabwe.

- Eastern Africa (to Lake Chad & Libya): 5,000-15,000.

Trends: Decreasing.

- Southern Africa (north to Angola & Zambia): 100,000-250,000.

Trends: Increasing.

Changes in status: In the first edition of this report, the trends in the Eastern African population were given as stable. However, many earlier authors have described the species as common in East Africa (*e.g.* Britton 1980, Brown *et al.* 1982, Short *et al.* 1990), and given the present low estimate, it would seem likely that there has been a decline in numbers in recent decades. This

declining trend is supported by Dodman (2002), who notes that a number of other Rift Valley species, such as *Podiceps cristatus* and *Oxyura maccoa*, appear to be in decline.

The population in Southern Africa is believed to be stable or increasing slightly. The species has increased in Zimbabwe in recent years, and there may have been some range expansion elsewhere in Southern Africa, but according to Harrison *et al.* (1997), the numbers do not appear to have increased greatly since the beginning of the 20th century.

Comments: In a recent review of the status and distribution of *A. capensis* in Eastern and West Africa, Baker (in press) has suggested that the distribution of the species is far more restricted than was formerly supposed, and that the estimate of 100,000-250,000 given in Scott & Rose (1996) and the second edition of *Waterfowl Population Estimates* was much too high. Baker concluded that the total population in Eastern and West Africa was unlikely to exceed 10,000 individuals, and was probably in the region of 6,500, with 6,000 of these in the East African Rift Valley and about 500 centred on Lake Chad. Dodman (2002) has reviewed recent counts and concluded that Baker's assessment may have been unduly pessimistic. He proposes a broader estimate of 5,000-15,000, given the generally low coverage of the African Waterbird Census and the significant gaps in coverage, especially in areas between Lake Chad and the Rift Valley. Dodman (2002) retains the former estimate of 100,000-250,000 for the Southern African population. Over 33,500 were recorded in Southern Africa during the waterfowl census in January 1997 (Dodman *et al.* 1997).

Baker (in prep.) has pointed out that there is no direct evidence to link the birds in West Africa with those in Eastern African (Ethiopia to Tanzania), and has suggested that the West African birds comprise a separate population centred on Lake Chad. Although this can be a highly

dispersive species, as evidenced by records from, as far afield as Libya, it is quite possible that the birds centred on Lake Chad do indeed constitute a discrete population and merit separate treatment.

Gadwall *Anas strepera*

Polytypic. Only the nominate subspecies occurs in the Agreement Area. The Gadwall has a wide breeding distribution across northern Eurasia from Iceland eastwards, and winters south to North Africa (rarely to West Africa), the Arabian Peninsula (rarely to Northeast Africa) and southern Iran. No discrete populations are identifiable. Three populations are recognised on the basis of the main wintering regions.

- Northwest Europe: 50,000.

Trends: Increasing.

- Northeast Europe/Black Sea & Mediterranean: 75,000-150,000.

Trends: Decreasing.

- Western Siberia/Southwest Asia & Northeast Africa: 130,000.

Trends: Unknown.

Changes in status: The Northwest European wintering population has been increasing at a rate of between 8% and 10% per annum since counts began in 1967 (Rose 1995), and this increase is continuing (Delany *et al.* 1999). At the same time, breeding populations have increased in most countries in Central, Western and Southwest Europe, notably in the Netherlands, where the population increased from 80 pairs in 1970 to 1,600-2,400 pairs in 1994, and in France, where the population increased from less than 100 pairs in 1976 to 1,000-2,000 pairs in 1994 (Hagemeijer & Blair 1997). These increases are reflected in the increased population estimates: 12,000 in Monval & Pirot (1989), 25,000 in the first edition of *Waterfowl Population Estimates*, 30,000 in Rose (1996), and 50,000 in recent years (Delany, in prep.).

The limited data available for the Black Sea/East Mediterranean suggest that the number of birds wintering in this area has been decreasing by at least 1.88% per annum since counts began in the

late 1960s (Rose 1995). Decreases have also been reported in the breeding populations in Moldova, Romania, Russia and Ukraine (BirdLife International/EBCC 2000). The population estimate of 75,000-150,000 given by Rose (1996) was derived from better count data, and did not infer any increase in population size since Monval & Pirot (1989) produced their estimate of 75,000. There is no basis for any improvement on this estimate or the former estimate of 130,000 for the population wintering in Southwest Asia and Northeast Africa (Delany, in prep.).

Eurasian Wigeon *Anas penelope*

Monotypic. The species has a wide breeding distribution across northern Eurasia from Iceland eastwards, and winters south to Northwest Africa (rarely to West Africa), the Middle East and Northeast Africa. No discrete populations are identifiable. Three populations are recognised in the Agreement Area, based on the main wintering regions.

- Western Siberia & Northeast Europe/Northwest Europe: 2,000,000.

Trends: Increasing.

- Western Siberia & Northeast Europe/Black Sea & Mediterranean: 300,000.

Trends: Decreasing.

- Western Siberia/Southwest Asia & Northeast Africa: 250,000.

Trends: Decreasing.

Changes in status: The Northwest European wintering population has shown a significant increase over the last 20 years, with an apparent rate of increase of 7.48% per annum (Rose 1995). The population estimates have increased from 750,000 in the 1980s (Monval & Pirot

1989) to 1,250,000 in the early 1990s (Rose 1996) and 2,000,000 in recent years (Delany, in prep.). In contrast, the wintering population in the Black Sea and Mediterranean appears to be decreasing rapidly. Rose (1995) thought that the number of birds wintering in the West Mediterranean had probably decreased by 45% since the early 1970s, while the number wintering in the Black Sea and East Mediterranean had fallen to less than half the number in 1982. Scott and Rose (1996) gave a revised estimate of 560,000 for this population (*cf.* 600,000 in Monval & Pirot 1989), and Delany (in prep.) has recently estimated the population at only 300,000 birds. The wintering population in Southwest Asia is also thought to be decreasing (Krivenko 1993, Perennou *et al.* 1994).

Comments: The breeding population in Europe, including European Russia, is estimated at about 260,000-350,000 pairs (BirdLife International/EBCC 2000). These birds could account for between 40 and 50% of the birds wintering in Northwest Europe. There is no basis for any improvement on the former estimate of 250,000 for the population wintering in Southwest Asia and Northeast Africa (Delany, in prep.).

Mallard *Anas platyrhynchos*

Polytypic. The nominate subspecies has a wide breeding distribution across Western Eurasia from Iceland eastwards, wintering south to North Africa and the Middle East, with small numbers reaching Northeast Africa. *A. p. conboschas* is confined to Greenland, where it is said to be resident. No discrete populations of the nominate form are identifiable. Four main wintering groups are now recognised in Western Eurasia (Scott & Rose 1996).

- Northwest Europe: 4,500,000.
Trends: Decreasing.
- Northern Europe/West Mediterranean: 1,000,000.
Trends: Probably stable.
- Eastern Europe/Black Sea & East Mediterranean: 2,000,000.
Trends: Decreasing.
- Western Siberia/Southwest Asia: 800,000.
Trends: Unknown.

Changes in status: The population wintering in Northwest Europe now appears to be in decline, with a 10% reduction in numbers since the mid-1990s (Delany, in prep.). Delany has therefore given a revised population estimate of 4,500,000 (down from 5,000,000). The status of the West Mediterranean population is now uncertain. The numbers in Central Europe are well monitored, and have shown a long-term decline, but the data from the West Mediterranean are less clear cut, with decreases in some areas (Portugal and Spain) and increases in others (France and Italy) (Delany *et al.* 1999). Overall, numbers may now be more or less stable, after a long period of increase. The former estimate of 1,000,000 for this population is retained (Delany, in prep.). Rose (1995) concluded that there had been a significant decline in the numbers wintering in the Black Sea and Eastern Mediterranean region over the previous 20 years, and this decline appears to be continuing (Delany *et al.* 1999). Delany (in prep.) gives a revised estimate of 2,000,000 (down from 2,250,000). The European breeding population remained relatively stable from 1970 to 1990 (Hagemeijer & Blair 1997). BirdLife International/EBCC (2000) report increases in the breeding populations in Belarus, Belgium, Denmark, France, Luxembourg, The Netherlands, Slovenia, Sweden, Ukraine and the U.K., and decreases in the Czech Republic, Greece, Moldova, Romania and Spain.

Comments: The European breeding population is estimated at about 2.3 to 3.9 million pairs (BirdLife International/EBCC 2000), suggesting a total population of 6.9 to 11.7 million birds. This agrees reasonably well with the estimate of 7.5 million birds wintering in Europe and the Mediterranean region. There is no basis for any improvement on the former estimate of 800,000 for the population wintering in Southwest Asia and Northeast Africa (Delany, in prep.).

Yellow-billed Duck *Anas undulata*

Two subspecies have been described: *A. u. undulata* from Angola and Uganda south to South Africa, and *A. u. ruppelli* in Ethiopia and Sudan. *A. u. ruppelli* appears to be mainly sedentary. In Eastern Africa, the nominate race seems to be subject to only limited local movements, and is generally described as resident. However, birds breeding in Southern Africa are at least partially migratory, undertaking considerable movements in response to changes in water level (with birds travelling up to 1,100 km from Barberspan in Transvaal). Scott and Rose (1996) recognise two populations of the nominate race, a mainly sedentary population in Eastern Africa (north of the Zambezi), and a partially migratory population in Southern Africa (south of the Zambezi). Only the latter is relevant here.

- Southern Africa (*undulata*): >100,000.

Trends: Stable.

Changes in status: The overall distribution in Southern Africa does not appear to have changed much in the past 100 years, except for a possible decrease in numbers in Zimbabwe. Elsewhere, the species has probably become more common, benefiting from artificial wetlands (Harrison *et al.* 1997).

Comments: Dodman (2002) has supported the former estimate of >100,000. However, he has suggested that the limits of this population should be extended north to include birds in Angola, Zambia, Malawi, Mozambique and southern Tanzania, as the Zambezi River is not a natural barrier for this population, whereas the extensive blocks of mopane woodland in northern Zambia and southern Tanzania possibly are. The highest count during the African Waterbird Census in recent years has been only 15,152 in July 1995 (Dodman & Taylor 1996). However, the population in southern Free State and southern Transvaal alone has recently been estimated at about 100,000 birds, with flocks of up to 5,000 birds during the moult or on large permanent wetlands, which act as drought refuges (Harrison *et al.* 1997).

Northern Shoveler *Anas clypeata*

Monotypic. The species has a wide breeding distribution across Western Eurasia from Iceland (since 1931) eastwards, and winters south to West Africa, East Africa and the Middle East. Birds breeding in Northern and Western Europe winter mainly in Northwest and Central Europe. Many of the birds breeding in Northeast Europe and Western Siberia pass through Western Europe on migration, but most of these birds apparently winter in the Mediterranean region and West Africa. Other West Siberian breeders take a more easterly route to winter in Southwest Asia and Northeast Africa. Three populations are recognised in Western Eurasia and Africa on the basis of the main wintering regions.

- Northwest & Central Europe (wintering): 40,000.

Trends: Probably stable..

- Western Siberia, Northeast & Eastern Europe/Southern Europe & West Africa: 450,000.

Trends: Unknown.

- Western Siberia/Southwest Asia, Northeast & East Africa: 400,000.

Trends: Probably decreasing.

Changes in status: The Northwest European wintering population appears to have remained relatively stable over the past 25 years (Rose 1995, Delany *et al.* 1999), and there has been no change in the population estimate. Recent trends in the breeding populations in Northern and Western Europe are to some extent masked by large annual fluctuations, but most populations appear to be relatively stable, including the two largest populations in the Netherlands and

Finland (Hagemeijer & Blair 1997, BirdLife International/EBCC 2000).

Poor coverage of the major wintering concentrations in the Black Sea and East Mediterranean precludes the determination of trends for this population on the basis of winter counts. However, Rose (1995) reported a significant increase of almost 2.5% per annum in the number of birds wintering in the West Mediterranean in the late 1980s and early 1990s, and this increase is apparently continuing (Delany *et al.* 1999). Elsewhere in the wintering range of this population, the trends are unclear. The former estimate of 450,000 has been retained (Delany, in prep.). There is some evidence of a decline in this population on the breeding grounds. A decrease has been reported in the large European Russian breeding population, and decreases have also been reported in the smaller breeding populations in the Czech Republic, Poland, Romania, Slovakia and Ukraine (BirdLife International/EBCC 2000).

Trends in the number of birds wintering in Southwest Asia and Northeast Africa are unknown. However, Krivenko (1993) reported a sharp decline in the numbers of birds in Western and Central Siberia between 1972 and 1989.

Comments: The breeding population in Europe and Turkey is estimated at about 100,000-150,000 pairs (BirdLife International/EBCC 2000), suggesting a total European population of 300,000-450,000 birds. These could account for all of the birds wintering in Northwest Europe, and perhaps 60-90% of the birds wintering in the Black Sea/Mediterranean region and West Africa.

There is no basis for any improvement on the former estimate of 400,000 for the population wintering in Southwest Asia and Northeast Africa (Delany, in prep.). High counts in Northeast Africa have included 25,400 in January 1995 (Dodman & Taylor 1995) and 26,100 in 1997 (Dodman *et al.* 1997).

Red-billed Duck *Anas erythrorhyncha*

Monotypic. The species occurs widely in Eastern and Southern Africa and Madagascar, and is the most abundant duck in Southern Africa. It is partly sedentary and partly nomadic throughout its range, but also undertakes lengthy movements in the dry season. There have been many long-distance recoveries of birds ringed in South Africa, mostly within Southern Africa south of 15°S, although one bird reached southern Tanzania (Underhill *et al.* 1999). Scott and Rose (1996) recognise three populations: (1) a population in Southern Africa extending north to Angola, Zambia and central Mozambique; (2) a population in Eastern Africa, from Ethiopia to Tanzania and northern Zambia; and (3) a population in Madagascar. The status of the birds occurring in Madagascar is uncertain. Although the species is common in Madagascar, there are only two confirmed breeding records, and it is likely that there is regular movement of birds between Madagascar and the African mainland. All three populations are therefore included here.

- Southern Africa: 500,000-1,000,000.

Trends: Stable.

- Eastern Africa: 100,000-300,000.

Trends: Stable.

- Madagascar: 15,000-25,000.

Trends: Decreasing.

Changes in status: The Southern and Eastern African populations are still thought to be

relatively stable (Dodman 2002). There appears to have been no change in the distribution in Southern Africa in historical times, although densities have probably increased with dam building (Harrison *et al.* 1997). The population in Madagascar is thought to be decreasing as a result of habitat alteration (Scott & Rose 1996, Dodman 2002).

Comments: The former estimates for all three populations are supported by Dodman (2002), although he suggests that the estimate for Eastern Africa may be found to be too high, as only small numbers are generally recorded during the African Waterbird Census. *A. erythrorhyncha* is a common duck in Kenya and northern Tanzania, often occurring on small, scattered wetlands, and thus easily overlooked. It is the most abundant and widespread duck in Botswana and Zimbabwe. There is an old report of 500,000 at Lake Ngami in Botswana in October 1954, and recent reports of up to 29,000 at Kafue Flats in Zambia. The population on the highveld in Transvaal, South Africa, has been estimated at about 50,000 in wet years (Harrison *et al.* 1997). Over 5,200 were recorded in Madagascar in January 1998 (Dodman *et al.* 1999).

Northern Pintail *Anas acuta*

Monotypic. The species has a wide breeding distribution at northern latitudes in Western Eurasia from Iceland eastwards, and winters south to West Africa, East Africa and the Middle East. No discrete populations are identifiable. Three populations are recognised in Western Eurasia and Africa on the basis of the main wintering regions.

- Northwest Europe: 60,000.

Trends: Decreasing.

- Western Siberia, Northeast & Eastern Europe/Southern Europe & West Africa: 1,000,000.

Trends: Decreasing.

- Western Siberia/Southwest Asia & Eastern Africa: 700,000.

Trends: Unknown.

Changes in status: The Northwest European wintering population has shown a pattern of slow decline over the past 25 years (Rose 1995, Delany *et al.* 1999). However, the former estimate of 60,000 (from Rose 1996) has been retained, because it is now thought that this was too low in the mid 1990s (Delany, in prep). The population wintering in the Black Sea/Mediterranean region and West Africa is also thought to be declining. Nothing is known of trends in West Africa, but there is evidence of declines in both the East and West Mediterranean since the mid-1980s (Delany *et al.* 1999). Numbers wintering in the Black Sea/East Mediterranean have shown a significant decline since counts began in 1967, with numbers falling at an average rate of 6.37% per annum (Rose 1995). Decreases have also been reported in the breeding populations in many parts of Europe, notably in the large breeding populations in European Russia (particularly in southern and central regions) and in Finland, but also in the smaller populations in Denmark, Estonia, Poland and Ukraine (Hagemeijer & Blair 1997, BirdLife International/EBCC 2000). Delany (in prep.) has given a revised estimate of 1,000,000 for this population (down from 1,200,000).

Comments: The breeding population in Europe is estimated at about 170,000-340,000 pairs (BirdLife International/EBCC 2000), suggesting a total European population of about 500,000-1,000,000 birds. European breeders are thought to account for most of the 60,000 birds wintering in Northwest Europe, and probably, therefore, some 45-90% of the birds wintering in the Mediterranean region and West Africa. High counts in West Africa have included 260,700 in January 1994 (Taylor & Rose 1994) and 122,800 in January 1996 (Dodman & Taylor 1996).

There is no basis for any improvement on the former estimate of 700,000 for the population wintering in Southwest Asia and Eastern Africa (Delany, in prep.).

Garganey *Anas querquedula*

Monotypic. The species breeds widely across Western Eurasia, birds from this region wintering almost exclusively in Africa south of the Sahara. No discrete populations are identifiable. Two main passage and wintering populations are recognised.

- Western Siberia & Europe/West Africa: 2,000,000-3,300,000.

Trends: Decreasing.

- Western Siberia/Southwest Asia, Northeast & East Africa: 100,000-200,000.

Trends: Unknown.

Changes in status: Tucker & Heath (1994) and Hagemeyer & Blair (1997) have shown that breeding populations are declining in many parts of Europe, and there are reports of a sharp decline in numbers in the middle region of the former USSR between 1972 and 1989 (Krivenko 1993). In Western Europe, the number of breeding pairs fell from about 12,000-22,500 in 1970 to less than 8,000 in the early 1990s (Tucker & Heath 1994). BirdLife International/EBCC (2000) report decreases in 18 European countries, and stable or fluctuating populations in 14 countries. There were no reports of increases. A decline has also been reported in the number of birds migrating through Western Europe (Hagemeyer & Blair 1997). The general decrease in numbers has been attributed to widespread deterioration of breeding habitat, especially in Central Europe, where increasing aridity in the climate and subsequent lowering of the water-table, drainage of wetlands and transformation of wetlands to dammed reservoirs have resulted in the loss and degradation of much former breeding habitat (Tucker & Heath 1994). There have also been indications of a decline in numbers in the wintering areas in West Africa (Dodman 2002), where large-scale river diversion and irrigation schemes pose a major threat to several of the most important wintering areas (Scott & Rose 1996).

Comments: The total breeding population in Europe and Turkey is estimated at 650,000-1,100,000 pairs (BirdLife International/EBCC 2000), suggesting a total population of 2.0-3.3 million birds. This figure is adopted here in preference to the earlier rough estimate of 2,000,000. The European breeding population could easily account for most if not all of the birds wintering in West Africa, although it is known that some of the West African birds originate from breeding grounds as far east as 90°E in Siberia (Scott & Rose 1996). Recent high

counts in West Africa have included 427,500 in January 1994 (Taylor & Rose 1994), 324,400 in January 1997 (Dodman *et al.* 1997), and 467,800 in January 1998 (Dodman *et al.* 1999). Many birds from Western Siberia migrate southwest through Southwest Asia to winter in Eastern Africa while some birds from the same breeding areas migrate southeast through Iran to winter in Southern Asia. Recent high counts in Eastern Africa have included 19,800 in Sudan in March 1996 and 20,600 throughout the region in January 1997 (Dodman *et al.* 1997).

No new information has become available on the population wintering mainly in Northeast and Eastern Africa, and the former estimate of 100,000-200,000 (from Scott & Rose 1996) is retained.

Common Teal *Anas crecca*

Polytypic. The nominate subspecies has a wide breeding distribution across Western Eurasia from Iceland eastwards, and winters south to North Africa, the Arabian Peninsula and Iran, with small numbers of birds reaching West Africa and Northeast Africa. No discrete populations are identifiable. Three populations are recognised on the basis of the main wintering regions.

- Northwest Europe: 400,000.
Trends: Stable.
- Western Siberia & Northeast Europe/Black Sea & Mediterranean: 1,000,000.
Trends: Probably stable.
- Western Siberia/Southwest Asia & Northeast Africa: 1,500,000.
Trends: Decreasing.

Changes in status: The long-term increase in the Northwest European wintering population (reported by Rose 1995) appears now to have halted, and numbers have been relatively stable in recent years (Delany *et al.* 1999). The former estimate of 400,000 is retained (Delany, in prep.). The data for the Black Sea/Mediterranean population do not show any significant trend, although there are indications of an increase in the East Mediterranean and a decrease in the West Mediterranean (Delany *et al.* 1999). Scott and Rose (1996) gave a rough estimate of 750,000-1,375,000 because of uncertainties in the numbers wintering in the Black Sea region, but Delaney (in prep.) has preferred to simplify this to 1,000,000, the same figure as that given by Monval & Pirot (1989). As a whole, the European breeding population appears to be stable or decreasing slightly (Hagemeijer & Blair 1997). BirdLife International/EBCC (2000) report decreases in ten European countries including Belgium, the Czech Republic, Germany, Latvia, Lithuania, The Netherlands and Russia. The Southwest Asian population appears to be decreasing rapidly (Krivenko 1993; Perennou *et al.* 1994).

Comments: The European breeding population is estimated at about 1,100,000-1,600,000 pairs (BirdLife International/EBCC 2000), suggesting a total population of 3.3 to 4.8 million birds. This is considerably more than the Northwest European and Black Sea/Mediterranean wintering populations combined, and may indicate that the estimate of 1,000,000 for the number of birds wintering in the Black Sea, Mediterranean region and West Africa is much too low.

Hottentot Teal *Anas hottentota*

Monotypic. The species occurs widely in Eastern and Southern Africa, and also locally in West Africa and Madagascar. The Madagascan populations appear to be sedentary. Elsewhere, the species is partly sedentary and partly migratory, undertaking regular short-distance migrations in response to changing water levels. Complex east-west movements have been reported in Botswana and Namibia, related to rainfall (Underhill *et al.* 1999). Scott and Rose (1996) recognise four populations, three of which are at least partially migratory: (1) a small isolated population in West Africa, confined to northern Nigeria, southern Niger, northern Cameroon and Chad; (2) a population in Eastern Africa, from Ethiopia to Tanzania and northern Zambia; and (3) a population in Southern Africa extending north to Angola, central Zambia and central Mozambique.

- Lake Chad Basin: <1,000.
Trends: Decreasing.
- Eastern Africa: C.
Trends: Stable.
- Southern Africa: C.
Trends: Stable.

Changes in status: The small population in the Lake Chad Basin appears to be in decline. Up to 300 were recorded during mid-winter waterfowl censuses in West Africa in the early 1970s (Perennou 1991), but despite good coverage by the African Waterbird Census in recent years, very few birds have been located (none in 1994, two in Niger in 1995; none in 1996; five in Nigeria in 1997; seven in Nigeria in 1998; and one in Cameroon in 1999). The species was thought to be increasing and becoming more widespread in Nigeria in the 1970s (Elgood 1982), but by the late 1980s, a decline was evident in some areas (Elgood *et al.* 1994). Dodman

(2002) has suggested that the population may now have dwindled to just a handful of individuals.

Both the Eastern and Southern African populations are still thought to be relatively stable (Dodman 2002). The distribution of *A. hottentota* in Southern Africa has probably changed little during the 20th century, although numbers may have increased in some areas because of the bird's ability to adapt to artificial water bodies (Harrison *et al.* 1997). It has become increasingly widespread in the Transvaal highveld in South Africa, although it remains uncommon and localised in this region (Harrison *et al.* 1997).

Comments: Dodman (2002) has reviewed recent records, and given a revised estimate of less than a thousand individuals for the dwindling population in the Lake Chad Basin. He has also concluded that the former estimate of 100,000-300,000 for the Eastern African population was too high, and proposed a new estimate of C (25,000-100,000). Only 1,962 birds were recorded in nation-wide counts in Tanzania in January 1995, when 725 were also reported from Kenya (Dodman & Taylor 1995). Just under 1,000 were recorded during the African Waterbird Census in Eastern Africa in 1997 (Dodman *et al.* 1997), 624 in 1998 (Dodman *et al.* 1999) and 886 in 1999 (Dodman 2002).

Scott and Rose (1996) estimated the Southern African population at between 100,000 and 200,000 birds, and this figure was given in the second edition of *Waterfowl Population Estimates*. However, over most of its range in Southern Africa, the species is uncommon and localised. It appears to be common only in the north, *e.g.* in the Okavango-Chobe system in Botswana and at Kafue Flats in Zambia. Concentrations of up to 500 have been recorded at Kafue Flats, but elsewhere flocks seldom exceed 50 birds. The highest counts during the African Waterbird Census in recent years have been 3,630 in January 1994 (including 3,193 in Zambia) and 1,433 in January 1995 (Taylor & Rose 1994; Dodman & Taylor 1995). Thus an estimate in range C (25,000-100,000) was given in the first edition of this report, and this estimate has been retained by Dodman (2002).

Marbled Teal *Marmaronetta angustirostris*

Monotypic. Three discrete populations are identifiable in the Agreement Area: (1) a small population in the West Mediterranean, some of which winter in Subsaharan West Africa; (2) a small population in Turkey and the Levant, wintering south to Egypt and perhaps formerly Chad; and (3) a large population which breeds from eastern Turkey, Armenia, Iraq, north-western Iran and the Caspian region east to Kazakhstan, and winters in Southwest Asia. The bulk of this population breeds in Iran and Iraq and winters in south-western Iran. A fourth population (of about 5,000 birds) in western China, Afghanistan, Pakistan and north-western India is extralimital.

- West Mediterranean/West Mediterranean & Africa: 3,000-5,000.

Trends: Unknown.

- East Mediterranean (Turkey & Levant): 1,000.

Trends: Decreasing.

- Southwest Asia: 5,000-15,000.

Trends: Decreasing.

Changes in status: The status of the West Mediterranean population is now in some doubt. Although it is clear that the population was declining in the second half of the 20th century, the recent discovery of relatively large numbers in Morocco and Tunisia has necessitated a considerable increase in the population estimate from the 2,000 given in the first edition of *Waterfowl Population Estimates* to 3,000-5000. The numbers in Spain in autumn fell from

about 1,000 in the late 1980s to as few as 200-400 in 1993 (van Vessem 1994), and in 1994 and 1995, the total Spanish breeding population was estimated at only 35 and 50 pairs, respectively (Green & Navarro 1997). However, there has been some recovery since then, with counts of 480 in El Hondo National Park in September 1996 and 535 in September 1997 (TWSG News No.10, June 1997, and No.11, July 1998). In 1998, the Spanish breeding population was estimated at 226 pairs (BirdLife International/EBCC 2000).

The East Mediterranean population is still thought to be declining, with the Turkish population decreasing by over 60% since 1970 (Green 1993).

The Southwest Asian population was estimated at 25,000 in the early 1990s (Green 1993; Perennou *et al.* 1994), but it appears that there has been a dramatic decline since then, following the drainage of a large proportion of the Mesopotamian Marshes in Iraq. It is now believed that this population may have fallen to as few as 5,000-15,000 individuals (Scott & Rose 1996). Most birds breeding in Iraq were thought to winter in Iran, and the extremely low mid-winter counts from Iran in recent years (5,021 in 1993, 1,919 in 1994, 3,667 in 1995, 1,604 in 1997 and 1,326 in 1998) seem to provide evidence for such a population crash (Heredia *et al.* 1996, Delaney *et al.* 1999, Gilissen *et al.* 2002).

Comments: *M. angustirostris* is a globally threatened species in the category 'Vulnerable' (BirdLife International 2000), and is listed in Appendix I of the Bonn Convention. The status and conservation of *M. angustirostris* have been described in some detail by Green (1993). The situation in Europe has been summarised by Green (*in* Tucker & Heath 1994) and van Vessem (1994), and an Action Plan for *M. angustirostris* in Europe has been compiled by Green (*in* Heredia *et al.* 1996). BirdLife International (2000) have recently given an estimate of only 9,000-19,000 for the global population of the species.

The recent discovery of relatively large numbers of birds in Tunisia has indicated that the former estimate of only 3,000 birds for the West Mediterranean population is too low. Some 360-1,070 pairs have been found breeding at wetlands in Tunisia, and 2,418 were counted in February 2002 (data from Amari & Azafzaf 2001, summarised in Dodman 2002). Dodman (2002) has therefore proposed a new estimate of 3,000-5,000 for this population. It is now thought that the marked fluctuations in the numbers in Morocco and Spain may be at least partly caused by movement of birds to and from Tunisia (Dodman 2002).

Red-crested Pochard *Netta rufina*

Monotypic. The species has a very patchy breeding distribution from Iberia across Southern and Central Europe to Western and Central Asia, and winters south to North Africa (scarce), Turkey and the South Caspian region. Three more or less discrete populations are identifiable in Western Eurasia.

- Southwest & Central Europe/West Mediterranean: 50,000.

Trends: Increasing.

- Black Sea & East Mediterranean: 20,000-43,500.

Trends: Decreasing.

- Western & Central Asia/Southwest Asia: 250,000.

Trends: Probably stable.

Changes in status: Rose (1995) thought that the overall numbers wintering in Central and Southwest Europe and the West Mediterranean had remained relatively stable for at least 20 years, although there had been a marked shift of birds within the wintering range, with more in

Central Europe and fewer in Southern Europe. However, Rose (1995) noted that the population was subject to very large fluctuations, and could reach 50,000 in some years. There is now evidence to suggest that the population has been increasing in recent years (Delaney *et al.* 1999), and the population estimate has recently been revised upwards to 50,000 (Delaney, in prep.) Over 21,000 were counted in Central Europe and over 16,000 in the West Mediterranean in 1999 (Gilissen *et al.* 2002). Trends in breeding populations are variable, but overall numbers appear to have increased slightly in recent decades. The slow expansion of the breeding range in Central Europe, which began in the late 19th century, is apparently continuing, and there has been a long-term increase in the large Spanish breeding population (Hagemeijer & Blair 1997, BirdLife International/EBCC 2000). Recent increases have also been reported in Austria, Portugal, Slovakia and Switzerland (BirdLife International/EBCC 2000).

The wintering population in the Black Sea/East Mediterranean region still appears to be decreasing (Delaney *et al.* 1999). The breeding populations in Southeast Europe are known to have declined between 1970 and 1990, especially in the strongholds in Russia and Romania (Tucker & Heath 1994, BirdLife International/EBCC 2000).

There has been no evidence of any decline in the large breeding population in west-central Asia, and this population is thought to have been relatively stable throughout the 1970s and 1980s (Krivenko 1993).

Comments: The total breeding population in Western and Central Europe and Northwest Africa has been estimated at about 6,380-9,770 pairs (data from Snow & Perrins 1998 and BirdLife International/EBCC 2000), suggesting a total population of only 19,000-29,000 birds, *i.e.* considerably fewer than the current estimate of 50,000. However, most of the breeding data are from the late 1980s and early 1990s, when the population was thought to number only about 25,000 birds.

Because of uncertainties in the data from the Black Sea/East Mediterranean region, Rose (1996) retained the population estimate of 50,000 from Monval & Pirot (1989). However, Scott & Rose (1996) considered this to be an upper limit, and suggested that the population might be as low as 23,000. The total breeding population in Southeast Europe and Turkey has been estimated at about 6,800-14,500 pairs (data from Snow & Perrins 1998), suggesting a total population of between 20,000 and 43,500 birds. These figures are taken as the present estimate (Delaney, in prep), but as the breeding data are mostly at least ten years out of date, the population may now be somewhat lower than this.

Paynter *et al.* (1996) counted 179,000 *N. rufina* at five sites in Azerbaijan in February 1996. Over 62,000 were counted elsewhere in Southwest Asia during the International Waterfowl Census in January 1996, suggesting a total population of perhaps as many as 250,000, some 50,000 more than the estimate given in the second edition of *Waterfowl Population Estimates*. Delaney (in prep) has taken this figure of 250,000 as the new estimate. Recent high counts have included over 30,000 at Isyk Kul in Kyrgyzstan in 1999 and over 24,000 in Turkmenistan in 1998 (Gilissen *et al.* 2002).

Southern Pochard *Netta erythrophthalma*

Polytypic. The nominate form is confined to South America; *N. e. brunnea* occurs widely in Eastern and Southern Africa from Ethiopia to Cape Province, South Africa, and undertakes both local and long-distance migrations. South African breeders have been recorded during the dry season north to Zimbabwe, Zambia, Malawi, Botswana, Mozambique and Kenya, *i.e.*

virtually spanning the range of the species in Africa, and only one population can therefore be recognised.

- Southern & Eastern Africa: 30,000-70,000.

Trends: Stable.

Changes in status: None known. Overall numbers are thought to be relatively stable, although decreases have been reported in some areas, and local increases in Zambia and Zimbabwe (Scott & Rose 1996, Dodman 2002). There are old records of flocks of up to 5,000 birds in south-western Cape Province, South Africa (Harrison *et al.* 1997).

Comments: Dodman (2002) has summarised recent counts in the African Waterbird Census and concluded that the former estimate of 30,000-70,000 remains valid. Some 10,845 were counted in Eastern Africa in January 1999, mostly in Ethiopia, and a further 3,309 were counted in Southern Africa in the same month (Dodman 2002).

Common Pochard *Aythya ferina*

Monotypic. The species has a wide breeding distribution across Western Eurasia, and winters regularly south to North Africa, the Arabian Peninsula and southern Iran, with small numbers reaching West Africa and the Nile Valley. No discrete populations are identifiable. Three populations are recognised in the Agreement Area on the basis of the main wintering regions.

- Northeast Europe/Northwest Europe: 350,000.

Trends: Stable.

- Central & Northeast Europe/Black Sea & Mediterranean: 1,100,000.

Trends: Increasing.

- Western Siberia/Southwest Asia: 350,000.

Trends: Probably decreasing.

Changes in status: Both the Northwest European and Black Sea & Mediterranean wintering populations exhibited declining trends from the late 1970s until the early 1990s (Monval & Pirot 1989, Rose 1995). However, the numbers wintering in Northwest Europe appear to have stabilised, while the numbers in the Black Sea & Mediterranean are now increasing (Delaney *et al.* 1999). The former estimate of 350,000 has been retained for the Northwest European wintering population, but the former estimate of 1,000,000 for the Black Sea & Mediterranean wintering population has been increased to 1,100,000 (Delaney, in prep.) Most breeding populations in Europe appear to stable or increasing slightly (Hagemeijer & Blair 1997, Snow & Perrins 1998, BirdLife International/EBCC 2000).

Trends in the Southwest Asian population are unknown, although a decline seems likely. Krivenko (1993) reports a slight decline in post-breeding numbers in the middle region of the former USSR between 1972 and 1989, and the numbers wintering in Iran apparently decreased by 20-30% between the early 1970s and 1991 (Perennou *et al.* 1994). There is no basis for any improvement on the former estimate of 350,000, and this has been retained (Delaney, in prep.).

Comments: The total breeding population in Europe and Turkey is estimated at about 230,000-330,000 pairs (BirdLife International/EBCC 2000), suggesting a total European population of 700,000-1,000,000 birds. These could account for all of the birds wintering in Northwest Europe, and perhaps 30-60% of the birds wintering in the Black Sea & Mediterranean region.

Ferruginous Duck *Aythya nyroca*

Monotypic. The species has a fragmented breeding distribution at temperate latitudes from the West Mediterranean (Spain, Morocco and Algeria) across Western and Central Eurasia to central China. Scott & Rose (1996) recognise three populations in Western Eurasia and Africa: a population breeding in Southwest Europe (few) and North Africa and wintering mainly in West Africa (Senegal to Chad); a population breeding in Eastern Europe and wintering in the Black Sea/East Mediterranean region south to Egypt and probably also in West Africa; and a Southwest Asian population wintering through the Arabian Peninsula to Northeast Africa. (A fourth population breeds in east-central Asia and winters in Southern and Eastern Asia).

- West Mediterranean/North & West Africa: 2,000-3,000.

Trends: Decreasing.

- Eastern Europe/East Mediterranean & Sahelian Africa: 40,000-65,000.

Trends: Decreasing.

- Western Asia/Southwest Asia & Northeast Africa: C.

Trends: Unknown.

Changes in status: *A. nyroca* has declined markedly throughout much of its main breeding range in Europe and Western Asia in recent decades, and this decline is continuing. The decline in numbers and contraction in range have been especially pronounced in Western Europe, where the small breeding populations in Spain and France have decreased to the verge of extinction. In Central and Eastern Europe, Tucker & Heath (1994) and BirdLife International/EBCC (2000) have reported large decreases in the breeding populations in Belarus, the Czech Republic, Russia, Slovenia and Ukraine, and small decreases in nine other countries. Petkov (1998) has reported decreases of up to 90% at most of the breeding sites in Bulgaria, and Wieloch (1998) has reported a marked decrease in Poland, where the number of breeding pairs has fallen from 400-500 in the late 1980s to 250-300 in the early 1990s, and even fewer in the mid-1990s. There has been a massive decline in Moldova in recent years, from an estimated 1,000-1,300 pairs in the 1980s to "some tens of pairs" in recent years (TWSG News No.11, July 1998). According to Schäffer and Gallo-Orsi (2001), there has been a 20-49% decline in the European breeding population since 1976.

In Western Asia, Krivenko (1993) reports a slight decline in numbers in Kazakhstan and the Caspian region between 1972 and 1989, and there has been a marked decline in the numbers wintering in Turkmenistan (Scott & Rose 1996). The wintering population in Northeast Africa has also declined markedly in recent decades (Brown *et al.* 1982). However, in view of the recent reports of large numbers of birds in Central Asia, the trends in this population must now be regarded as uncertain.

Comments: *A. nyroca* was considered to be a globally threatened species in the category 'Vulnerable' by IUCN (1996), but is now listed as 'Near-threatened' by BirdLife International (2000). It is listed in Appendix I of the Bonn Convention. An action plan for the conservation of

the species in Europe has been compiled by Hecker (*in van Vesseem* 1994), and more recently, an Action Plan for the species in the European Union has been prepared by BirdLife International (Schäffer & Gallo-Orsi 2001).

The migration routes and population limits of *A. nyroca* are very poorly understood. The first edition of *Waterfowl Population Estimates* treated the birds wintering in Southern Europe and the birds wintering in West Africa as separate populations, although there was no evidence that these birds came from different breeding areas. More recently, however, A. Green (*in litt.* in Scott & Rose 1996) has argued that the birds breeding in Southwest Europe and North Africa are now isolated from birds breeding further east, and probably therefore constitute a discrete population. On this basis, Scott & Rose (1996) recognised a West Mediterranean/West Africa population and an Eastern Europe/East Mediterranean population, and this treatment was adopted in the second edition of *Waterfowl Population Estimates*. An estimated 10,000 birds

wintered in West Africa in the 1980s (Monval & Pirot 1989), and this figure was retained in the second edition of *Waterfowl Population Estimates* in view of the poor coverage of some of the key wintering areas in recent years. However, it now seems likely that most of the birds wintering in Sahelian Africa originate from breeding areas in Eastern Europe, as the breeding population in Southwest Europe and North Africa can account for only about 2,000-3,000 birds (0-4 pairs in Spain, 5-10 pairs in Morocco, perhaps 600-1,000 pairs in Algeria, and a few pairs in Tunisia). The birds reaching Mauritania and Senegal may well originate from the Northwest African breeding population, as only low numbers have been recorded in recent years (e.g. 39 in Mauritania and 16 in Senegal in January 1998 (Dodman 2002).

The total breeding population in Europe and Turkey has recently been estimated at about 13,000-22,000 pairs (data from Schäffer & Gallo-Orsi 2001), suggesting a total population of about 40,000-65,000 birds. This figure has been adopted as the new estimate. The apparent increase on the previous estimate of 10,000-50,000 reflects an improvement in knowledge, rather than any change in population size. Most of these birds were formerly thought to winter in the Black Sea/East Mediterranean region, but the mid-winter counts can account for only some 2,000-9,000 birds (data from Schäffer & Gallo-Orsi 2001). However, there have been recent reports of large numbers wintering in Sahelian Africa, and it would seem likely that these are the missing birds from the Eastern European breeding population. There was a report of 5,000 *nyroca* wintering in the Sudd in Sudan in the mid-1990s (TWSG News No.10, June 1997), and there have been recent high counts in the Inner Delta of the Niger and Lake Chad basin, e.g. 14,300 in the Inner Niger Delta of Mali in January 1999 and 3,830 in the Lake Chad Basin in 1990-2000 (Trollet & Girard 2001a).

There have also been some very high counts of birds in the Southwest Asian population in recent years, including 9,000 in Azerbaijan, over 20,800 in Turkmenistan and 7,000 in Uzbekistan (BirdLife International 2000). The previous estimate of only 5,000 birds was obviously much too low, and a new estimate of C (25,000-100,000) is proposed. The small numbers of birds that reach Ethiopia and occasionally Kenya are thought to come from the Western Asian breeding population.

Tufted Duck *Aythya fuligula*

Monotypic. The species has a wide breeding distribution across Western Eurasia from Iceland eastwards, and winters south to North Africa and the Middle East, with small numbers reaching West Africa and East Africa. No discrete populations are identifiable. Three main wintering populations are recognised in Western Eurasia and Africa.

- Northwest Europe (wintering): 1,200,000.
Trends: Increasing.
- Central Europe, Black Sea & Mediterranean (wintering): 700,000.
Trends: Increasing.
- Western Siberia/Southwest Asia & Northeast Africa: 200,000.
Trends: Unknown.

Changes in status: The Northwest European wintering population has shown a significant increase over the past 25 years, and this increase is continuing (Delany *et al.* 1999). Delany (in prep.) has given a revised estimate of 1,200,000, up from 750,000 in the mid-1980s and 1,000,000 in the early 1990s. A similar increase has been reported in the breeding populations in Northern and Western Europe. Large-scale range expansions have taken place in Norway

and France, and increases have been reported in Belgium, Denmark, France, Germany, Ireland, Lithuania, The Netherlands, Norway, Poland, Switzerland and the U.K. (Hagemeijer & Blair 1997, Snow & Perrins 1998, BirdLife International/EBCC 2000).

The wintering population in Central Europe, the Black Sea and Mediterranean region is also thought to be increasing (Delany *et al.* 1999), and the population estimate has been revised upwards by 100,000 to 700,000 (Delany, in prep.). There have been some range expansions and increases in the breeding populations in Central Europe, and an increase has been reported in Ukraine, but the large breeding population in European Russia is thought to be decreasing slightly (Hagemeijer & Blair 1997, BirdLife International/EBCC 2000).

Comments: The European breeding population is estimated at about 610,000-830,000 pairs (BirdLife International/EBCC 2000), suggesting a total European population of 1.8-2.5 million birds. This agrees reasonably well with the estimate of 1.9 million for the total wintering population in Europe and the Mediterranean region. There is no basis for any improvement on the earlier estimate of 200,000 for the Southwest Asian and Northeast African wintering population (Delany, in prep.). Over 2,700 were counted in Ethiopia in January 1999 (Dodman 2002).

Greater Scaup *Aythya marila*

Two subspecies have been described: the nominate form in Western Eurasia and *mariloides* in Northeast Asia and North America. Some authors treat the North American birds as a separate form, *nearctica*, while Callaghan & Kear (in prep.) consider the name *mariloides* to be invalid, and use *nearctica* for the Northeast Asian and North American birds. The nominate form breeds in Iceland, Scandinavia and northern Russia east to about the Lena River, and winters south to the Atlantic coast of France, the Black Sea and the Caspian Sea. Two populations are recognised.

- Northern Europe/Western Europe: 310,000.

Trends: Stable.

- Western Siberia/Black Sea & Caspian region: 100,000-200,000.

Trends: Unknown.

Changes in status: The status of the Northwest European wintering population was given as unknown in the first edition of this report, but recent counts suggest that the population is more or less stable (S. Pihl, *in litt.*). BirdLife International/EBCC (2000) report stable breeding populations in Norway and Sweden, and fluctuating populations in Russia and Iceland. Decreases have been reported in Estonia and Finland, but these two countries support only about 850-1,050 pairs (BirdLife International/EBCC 2000).

Comments: The estimate of 310,000 for the Northwest European wintering population from Laursen *et al.*, (1992) and Pihl & Laursen (1996) is still thought to be valid (S. Pihl, *in litt.*). The total European breeding population is estimated at about 47,000-91,000 pairs (BirdLife International/EBCC 2000), suggesting a total of 140,000-270,000 birds. This suggests that up to 50% of the birds wintering in Northwest Europe originate from Western Siberia.

There is no basis for any improvement on the earlier estimate of 100,000-200,000 for the Black Sea/Caspian Sea population. This estimate was based on counts during the migration season and in winter in the Sea of Azov, Caspian Sea and Turkmenistan, and estimates of breeding populations in Western and Central Siberia (Scott & Rose 1996). Over 26,500 were counted in Turkmenistan in 1998 (Gilissen *et al.* 2002).

Common Eider *Somateria mollissima*

Polytypic. Three subspecies occur in the Agreement Area: the nominate form in Northwest Europe east to Novaya Zemlaya; *S. m. faroensis* in the Faroe Islands; and *S. m. islandica* in East Greenland, Iceland, Svalbard and Franz Josef Land. Many authors, including Scott & Rose (1996), include *islandica* within *S. m. borealis* of Northeast Canada and West Greenland, although Callaghan and Kear (in prep.) have recently argued that this form is valid. Birds breeding in the Shetland Islands and Orkney Islands (Scotland) are somewhat intermediate between *faroensis* and *mollissima*, but are perhaps best included in *faroensis* (Cramp & Simmons 1977). Many populations are mainly sedentary, but large numbers of birds from Russia, Finland, Sweden and Norway are migratory, wintering mostly on the Murman coast, along the north and west coasts of Norway, in the Baltic Sea and in the Wadden Sea, with a few birds reaching the large lakes of Central Europe and the West Mediterranean. Scott & Rose (1996) recognise nine populations in Western Eurasia, but six of these are mainly or entirely sedentary: East Greenland (*islandica* or *borealis*); Iceland (*islandica* or *borealis*); Faroe Islands (*faroensis*); Shetland and Orkney Islands (*faroensis*); the rest of Britain and Ireland (*mollissima*); and White Sea (*mollissima*). Three populations are migratory or include some migratory elements: (1) a population of *mollissima* breeding in the Baltic, Denmark and the Netherlands; (2) a population of *mollissima* breeding in Norway and Russia from the Kola Peninsula to Novaya Zemlaya; and (3) a population of *islandica* (*borealis*) breeding in Svalbard and Franz Joseph Land. Birds breeding in the Baltic, Denmark and the Netherlands winter mainly in the southern Baltic, Danish waters and the Wadden Sea, with smaller numbers reaching the south and east coasts of Britain and Normandy, France. Birds breeding in Norway and Russia winter mainly along the Murman and Norwegian coasts. Little is known about the wintering areas of the birds from Svalbard and Franz Joseph Land, although there have been recoveries of Svalbard birds from Iceland and Norway. A colony of *mollissima* was established on the Black Sea coast of Ukraine in 1975 (Ardamackaja 1990), and since then, numbers have increased steadily to 1,800 pairs in recent years (J. Shergalin, *in litt.*). The species has also nested in Switzerland on several occasions since 1988 (Hagemeijer & Blair 1997).

- Baltic, Denmark & Netherlands (*mollissima*): 850,000-1,200,000.

Trends: Decreasing.

- Norway & Russia (*mollissima*): 360,000-540,000.

Trends: Stable.

- Svalbard & Franz Joseph Land (*borealis* '*islandica*'): 40,000-80,000.

Trends: Stable.

Changes in status: The Svalbard population of *islandica* is thought to be stable, as are the numbers of nominate *mollissima* in Russia (Flint & Krivenko 1990). The numbers of *mollissima* in the Baltic, Denmark and The Netherlands increased considerably during the 1970s and 1980s and reached a peak in about 1990. However, by the early 1990s there were indications that over much of the mainland of Northwest Europe, the numbers had stabilised. (Scott & Rose 1996). An outbreak of avian cholera in Denmark in 1996 and mass mortality from starvation in the three winters of 2000, 2001 and 2002 have resulted in a substantial decline in numbers since then (Pihl 2002). Pihl (2002) has given a revised population estimate of 850,000-1,200,000 (down from 1,350,000-1,700,000), and declining trend.

Comments: Populations of *S. mollissima* breeding in the Arctic are included in a Circumpolar Eider Conservation Strategy and Action Plan prepared by the Circumpolar Seabird Working Group of CAFF (CAFF Circumpolar Seabird Working Group 1997). There is no basis for any improvement on the earlier estimates for the Norway & Russia and Svalbard & Franz Joseph Land populations.

King Eider *Somateria spectabilis*

Monotypic. In Western Eurasia, the species breeds only in Greenland, Svalbard and Arctic Russia. Birds from Svalbard and Russia winter from the White Sea south to central Norway. A small number of birds, probably from Greenland and Svalbard, reach Iceland in winter. Only one population is recognised: a North Atlantic population, extending from East Greenland to the Taymyr Peninsula (Scott & Rose 1996).

- East Greenland, Northeast Europe & Western Siberia: 300,000.

Trends: Stable.

Changes in status: Numbers appear to have been relatively stable in recent decades. The Greenland and Russian breeding population are thought to be stable (BirdLife International/EBCC 2000), and the Svalbard population is probably stable after a slight decline since the 1950s (Hagemeijer & Blair 1997).

Comments: *S. spectabilis* is included in a Circumpolar Eider Conservation Strategy and Action Plan prepared by the Circumpolar Seabird Working Group of CAFF (CAFF Circumpolar Seabird Working Group 1997).

Estimates of breeding populations in Greenland (<30,000 pairs), Svalbard (2,500-5,000 pairs) and European Russia (40,000-60,000 pairs), and an estimate of 220,000 birds in autumn in Western and Central Siberia suggest a total North Atlantic population of at least 300,000 birds and possibly as many as 400,000 (Scott & Rose 1996). About 45,000 birds are thought to winter along the Norwegian coast.

Steller's Eider *Polysticta stelleri*

Monotypic. The species breeds on Arctic coasts from the Yamal Peninsula east to northern Alaska. Birds breeding west of the Khatanga Gulf (100°E) are believed to migrate west to winter on the coasts of Murmansk and Finnmark and in the Gulf of Finland and south-eastern Baltic; birds breeding further east winter mainly in the southern Bering Sea. Only one population is relevant.

- Western Siberia/Northeast Europe: 30,000-50,000.

Trends: Stable or increasing.

Changes in status: There has been no evident trend in the numbers wintering at Varangerfjord in Norway since at least 1981, and trends in the large numbers wintering off the Kola Peninsula in Russia are unknown. However, numbers wintering in the Baltic have increased markedly since the first were recorded in the late 1960s and early 1970s. Mid-winter counts in the early

1990s produced totals of 3,500-6,500 birds in the Baltic, very largely off Saaremaa Island in Estonia and along the Palanga coast in Lithuania waters (Pihl & Laursen 1996), but some 8,000 were recorded in 1996 (Pihl 1997).

Comments: *Polysticta stelleri* was listed as a globally threatened species in the category 'Vulnerable' by IUCN (1996), but is listed in the lower risk category 'Least concern' by BirdLife International (2000). It is listed in Appendix I of the Bonn Convention. *P. stellaris* is included in a Circumpolar Eider Conservation Strategy and Action Plan prepared by the Circumpolar Seabird Working Group of CAFF (CAFF Circumpolar Seabird Working Group 1997). An action plan focusing on the West Eurasian population of *P. stellaris* has been

prepared for Wetlands International and BirdLife International by S. Pihl (Pihl 1997), and more recently an action plan for the species in the European Union has been prepared by BirdLife International (Schäffer & Gallo-Orsi 2001).

Nygaard *et al.* (1995) estimated the total wintering population in Europe at between 30,000 and 45,000 birds. Scott & Rose (1996) adopted a conservative estimate of 30,000, following Pihl & Laursen (1996), although it was thought likely that the population was considerably higher than this. Pihl (1997) concluded that there were between 30,000 and 50,000 birds wintering in Europe, and this estimated was adopted by BirdLife International (2000).

The world population has recently been estimated at about 220,000 birds, as compared with an estimated 400,000-500,000 in the 1960s (Pihl 1997). In Alaska, the species has ceased to breed on the west coast, and now breeds only in small numbers near Point Barrow and perhaps elsewhere on the North Slope (CAFF Circumpolar Seabird Working Group 1997). There has been a dramatic decline in the population breeding in Eastern Siberia from an estimated 500,000 birds in the early 1970s to about 172,000 in 1993 and 1994 (Solovieva 1997). The reasons for the decline are unknown, although Pihl (1997) identifies a number of negative factors affecting adult survival and breeding success which in combination may have been the cause.

Long-tailed Duck *Clangula hyemalis*

Monotypic. Circumpolar, in Western Eurasia breeding south to Iceland, northern Finland and the mountainous regions of Norway and Sweden, and wintering south to the southern North Sea. Small numbers (probably only stragglers) extend south to Central Europe, the Black Sea and the Caspian Sea. The majority of birds breeding in Scandinavia, European Russia and Western Siberia winter in the Baltic Sea. The large breeding population in Iceland is partly resident and partly migratory, some birds moving southwest to winter in Greenland, and others moving southeast to winter in Scotland. However, the movements of the species are poorly understood, and the origin of the bulk of the birds wintering in British and Irish waters remain unknown. Scott & Rose (1996) recognise two populations for practical purposes: a population breeding in Greenland and Iceland, and a population breeding in Northeast Europe and Western Siberia, although it is clear that there is considerable overlap between these two populations on their winter quarters.

- Iceland & Greenland: 100,000-150,000.

Trends: Stable.

- Western Siberia/Northern Europe: 4,600,000.

Trends: Stable.

Changes in status: Both populations are thought to be more or less stable, although the earlier estimate of 150,000 for the Iceland & Greenland population has been revised to 100,000-150,000 because of uncertainties in the size of the breeding population (S. Pihl, *in litt.*). The breeding populations in Greenland, Svalbard, Norway, Sweden, European Russia, and Western and Central Siberia are thought to be stable (Krivenko 1993, BirdLife International/EBCC 2000), and the Icelandic breeding population is apparently now stable after a marked decline earlier this century (Koskimies 1993). Only the Finnish breeding population has shown any signs of decline in recent years (BirdLife International/EBCC 2000).

Comments: There is no basis for any improvement on the earlier estimate of 4,600,000 for the Western Siberian population.

Common Scoter *Melanitta nigra*

Two subspecies have been described: the nominate form in Western Eurasia and *M. n. americana* in North America and Eastern Asia. The nominate form breeds in Iceland, Ireland, Scotland, northern Scandinavia and northern Russia east to the Lena (125°E), and winters south along the Atlantic seaboard to Morocco and occasionally Mauritania. Only one population is recognised.

- Western Siberia & Northern Europe/Western Europe & Northwest Africa: 1,600,000.

Trends: Stable.

Changes in status: Population levels in the main breeding areas in Russia, Norway and Sweden appear to be relatively stable (Krivenko 1993 BirdLife International/EBCC 2000). There has been some contraction in range and reduction in numbers at the southern edge of the breeding range in recent years, especially in Finland, Ireland and the U.K., but these local decreases have affected only a tiny proportion of the population (Scott & Rose 1996).

Comments: In the absence of any more recent comprehensive censuses, the former estimate of 1,600,000 has been retained. An estimated 1,200,000 birds were present in the Baltic in January 1993 (Pihl *et al.* 1995).

Velvet Scoter *Melanitta fusca*

Polytypic. Three subspecies are generally recognised: the nominate form in Western Eurasia, *M. f. stejnegeri* in Eastern Asia, and *M. f. deglandi* in North America. (Some authors give full specific status to *stejnegeri* and *deglandi* under the name *deglandi*). The nominate form breeds from Scandinavia east to the Yenisey River (85°E), and winters south to Britain and France, with small numbers of birds reaching inland waters in southern Germany, Austria and Switzerland during hard winters. The small, isolated population breeding at lakes in eastern Turkey, Georgia and Armenia appears to winter mainly along nearby Black Sea coasts, although occasional records from Bulgaria, Romania, Egypt and the South Caspian suggest that some birds move further afield. Two populations are recognised.

- Western Siberia & Northern Europe/Northwest Europe: 1,000,000.

Trends: Stable.

- Black Sea & Caspian: 1,500.

Trends: Unknown.

Changes in status: Population levels in the breeding areas in Russia, Norway and Sweden appear to be relatively stable, but decreases have been reported in the Finnish and Estonian breeding populations (Krivenko 1993, BirdLife International/EBCC 2000).

Comments: In the absence of any more recent comprehensive censuses, the former estimate of 1,000,000 for the Western Siberian and Northern European population has been retained. An estimated 950,000 *M. fusca* were present in the Baltic Sea in January 1993 (Pihl *et al.* 1995).

The size of the Black Sea population remains poorly known. The discovery of a flock of 750 moulting birds on the Black Sea in eastern Turkey, near the Georgian border in the mid-1990s (G. Magnin, *in litt.* in Scott & Rose 1996), suggested that this population was in the region of 1,500 birds (S. Pihl *in litt.* in Scott & Rose 1996). A total of 531 were counted in the East Mediterranean and Black Sea region in January 1997, including 438 in Turkey (Gilissen *et al.* 2002).

Common Goldeneye *Bucephala clangula*

Two subspecies have been described: the nominate form from Eurasia and *B. c. americana* from North America. The nominate form has a wide breeding distribution at northern latitudes in Western Eurasia from Scotland (few) and western Norway eastwards. No discrete populations are identifiable. Scott & Rose (1996) recognise four populations in Western Eurasia, based on the main wintering regions.

- Northwest & Central Europe (wintering): 400,000.

Trends: Increasing.

- Northeast Europe/Adriatic: 75,000.

Trends: Unknown.

- Western Siberia & Northeast Europe/Black Sea: 20,000.

Trends: Unknown.

- Western Siberia/Caspian: 25,000.

Trends: Unknown.

Changes in status: The number of *B. clangula* wintering in Northwest and Central Europe has increased significantly since the mid-1980s, and this increase is continuing (Delany *et al.* 1999). Delany (in prep.) has given a revised population estimate of 400,000 (up from 300,000). Recent increases in breeding populations have been reported in Finland, Sweden, Denmark, Estonia, Poland and the U.K., while a decrease has been reported only in the small population in Lithuania (BirdLife International/EBCC 2000). Trends in the other three populations remain unknown.

Comments: There is no basis for any improvement on the earlier estimates for the Adriatic, Black Sea and Caspian wintering populations (Delany, in prep.).

The European breeding population is estimated at about 240,000-350,000 pairs, including between 150,000 and 200,000 pairs in Finland (BirdLife International/EBCC 2000). This suggests a total European population of about 700,000-1,000,000 birds, which is considerably more than the estimate of less than 500,000 derived from mid-winter counts. The most likely explanation for the discrepancy is that the winter counts are far too low.

Smew *Mergellus albellus*

Monotypic. The species has a wide breeding distribution at high latitudes in Western Eurasia from northern Sweden eastwards, and winters south to the southern North Sea, Central Europe, the Black Sea, the South Caspian and Turkmenistan. In hard winters, large numbers of birds may extend much further south, *e.g.* to North Africa (Algeria, Tunisia and Egypt) and central Iraq. Three populations are recognised on the basis of the main wintering areas.

- Northwest & Central Europe (wintering): 40,000.

Trends: Increasing.

- Northeast Europe/Black Sea & East Mediterranean: 35,000.

Trends: Unknown.

- Western Siberia/Southwest Asia: 30,000.

Trends: Possibly decreasing.

Changes in status: There was a marked fall in breeding numbers in Europe during the second half of the 19th century and first two-thirds of the 20th century, but by the mid-1970s, some

populations had stabilised or were expanding slightly. Recent mid-winter counts suggest that the population wintering in Northwest and Central Europe is now increasing (Delany *et al.* 1999), and Delany (in prep.) has revised the estimate upwards to 40,000 (From 25,000-30,000). The small Norwegian and Swedish populations are now thought to be stable, and the much larger Finnish population is increasing (Hagemeijer & Blair 1997, BirdLife International/EBCC 2000). Numbers fluctuate widely in European Russia, without any clear trend.

Trends in the Black Sea & East Mediterranean and Southwest Asian wintering populations remain unknown. However, Krivenko (1993) has reported a slight decline in post-breeding numbers in Western and Central Siberia between 1972 and 1989, and Patrikeev (*in litt.* in Scott & Rose 1996) has reported a marked decline in the number of birds wintering in Azerbaijan during the 20th century.

Comments: Almost 25,000 were counted in Northwest and Central Europe in January 1992, and Pihl *et al.* (1995) estimated that there were 20,000 in the Baltic area alone in January 1993. Svazas *et al.* (1994) reported a huge flock of about 30,000 at Szczecin Lagoon in Poland in December 1991, and suggested that the Northwest European population was likely to be in the range 35,000-40,000. There is no basis for any improvement on the estimates for the Black Sea/East Mediterranean and Southwest Asian wintering populations given in the first edition of this report, and these remain unchanged.

The European breeding population is estimated at 8,100-17,000 pairs (BirdLife International/EBCC 2000), suggesting a total of 24,300-51,000 birds. These birds presumably account for the bulk of the Northwest European wintering population, and possibly a proportion of the birds wintering in the Black Sea and East Mediterranean region, as suggested by Svazas *et al.* (1994).

Not only is the population wintering in the Black Sea and East Mediterranean poorly known, but it has also been the subject of some confusion. The estimate of 65,000 given in the second edition of *Waterfowl Population Estimates* dates back to Atkinson-Willes (1976), who gave an estimate of 65,000 for the whole of the Black Sea region, the Caspian region and Turkestan combined. Monval & Pirot (1989) adopted this estimate, but listed it under the heading 'Black Sea-Eastern Mediterranean'. This heading has confused subsequent authors, who have taken the estimate of 65,000 to cover only the Black Sea/East Mediterranean region, and have provided a separate estimate of 30,000 for the birds wintering in the Caspian region and Turkestan (Perennou *et al.* 1994, Rose & Scott 1994 & 1997, Scott & Rose 1996). Assuming that the estimate of 65,000 remains valid for the whole of Southeast Europe and Southwest Asia, the estimate for the Black Sea/East Mediterranean becomes 35,000. Isakov (1970) reported up to 57,000 birds wintering in the Black Sea in the 1960s, but in recent decades the International Waterfowl Census has only been able to account for about 5,000 birds in this region (Rose 1995).

Helicopter surveys of the Black Sea coast of Ukraine in 1995 found only 1,350 *M. albellus*, and even allowing for potential numbers in adjacent Russia and Georgia, it had become clear that the current estimate of 65,000 was much too high (Pihl 1996).

Red-breasted Merganser *Mergus serrator*

Two subspecies have been described: the nominate form with a circumpolar distribution, and *schioleari* in West Greenland. The nominate form has a wide breeding distribution at northern

latitudes in Western Eurasia from East Greenland and Iceland eastwards, and winters south to Portugal, the Adriatic, the Black Sea and the Persian Gulf. *M. s. schioleri* is confined to the west coast of Greenland, and apparently winters mainly along the south-western coast. There are three main wintering groups of the nominate form in Western Eurasia: (1) a population wintering from Iceland and the Baltic south on the Atlantic coast to Portugal and, in smaller numbers, in Central Europe; (2) a population wintering in the Black Sea and Northeast Mediterranean; and (3) a population wintering in the Caspian region and Central Asian Republics south in small numbers to the Persian Gulf.

- Northwest & Central Europe (wintering): 170,000.

Trends: Increasing.

- Northeast Europe/Black Sea & Mediterranean: 50,000.

Trends: Unknown.

- Western Siberia/Southwest & Central Asia: <10,000.

Trends: Unknown.

Changes in status: The Northwest and Central European wintering population is now believed to be increasing, following a period of stability (Delany *et al.* 1999). Delany (in prep.) has given a new population estimate of 150,000 for the birds wintering on the mainland of Europe. To these should be added the 15,000-25,000 birds in East Greenland, Iceland, Ireland and the U.K. to give a total of 165,000-175,000 birds. The large breeding populations in Finland, Norway and Sweden are thought to be stable, while increases have been reported in the breeding populations in Denmark and the U.K (BirdLife International/EBCC 2000). Decreases have been reported only in some of the smaller marginal breeding populations. Trends in the Black Sea & East Mediterranean and Southwest & Central Asian wintering populations remain unknown.

Comments: Scott and Rose (1996) recognised that there were some grounds for treating the birds breeding in East Greenland, Iceland, Ireland and the U.K. as a separate population, and this treatment was adopted in the second edition of *Waterfowl Population Estimates*. However, there is some evidence from ringing recoveries and systematic counts of interchange between birds from this group and those from the rest of Northwest Europe (Robinson 1999). Therefore, for the time being at least, all the birds wintering in Northwest and Central Europe have been treated as a single population, although there is clearly a need for further study (Robinson 1999).

The European breeding population is estimated at 59,000-110,000 pairs (BirdLife International/EBCC 2000). This suggests a total European population of 177,000-330,000 birds, which agrees reasonably well with the estimate of 220,000 derived from the mid-winter counts. There is no basis for any improvement on the previous estimates for the other two populations.

Goosander *Mergus merganser*

Polytypic. Only the nominate subspecies occurs in Western Eurasia. This breeds in Iceland, in Britain, in Central Europe, and from Scandinavia and the Baltic region eastwards into Siberia.

There is also a tiny isolated breeding population in the southern Balkans (Albania and Greece). Birds breeding in Northern Europe and Western Siberia are migratory, wintering south to western France, Central Europe, Turkey and the South Caspian region. The Icelandic breeding population is resident in Iceland, and the birds breeding in Central Europe (France, Switzerland, southern Germany and Austria) and the Balkans appear to be mainly sedentary.

British breeding birds are also almost entirely resident within Britain, although there is some evidence of a moult migration of males to Norway. Most of the birds breeding in Northern Europe winter on the mainland of Northwest Europe, especially in the Baltic region, but some birds are known to reach the U.K. and Central Europe during severe winters. *Waterfowl Population Estimates* recognises seven populations in Western Eurasia, but four of these are mainly sedentary (the Icelandic, British, Central European and Balkan breeding populations). Thus only three migratory populations are relevant.

- Northwest & Central Europe (wintering): 250,000.

Trends: Increasing.

- Northeast Europe/Black Sea: 10,000.

Trends: Unknown.

- Western Siberia/Caspian: 20,000.

Trends: Unknown.

Changes in status: The Northwest and Central European population is now believed to be increasing after a long period of relatively stability (Rose 1995, Delany *et al.* 1999). Delany (in prep.) has recently revised the population estimate upwards from 200,000 to 250,000. An increase has been reported in the breeding populations in Denmark, Finland and Poland, while the Norwegian and Swedish breeding populations are thought to be stable (BirdLife International/EBCC 2000). Trends in the Black Sea and Caspian wintering populations remain unknown.

Comments: Pihl *et al.* (1995) estimated that there were between 140,000 and 200,000 birds wintering in the Baltic in the early 1990s. The total European breeding population has been estimated at 52,000-88,000 pairs (BirdLife International/EBCC 2000), suggesting a population of about 156,000-264,000 birds. This is somewhat lower than the estimate of about 270,000 birds based on the wintering populations in Europe (including the four small sedentary populations). However, many of the breeding estimates are now at least ten years out of date, and an increase in the population since then could account for the discrepancy.

There is no basis for any improvement on the previous estimates for the Black Sea and Caspian wintering populations which remain poorly known.

GRUIDAE

Siberian Crane *Grus leucogeranus*

Monotypic. The species has a fragmented breeding distribution in the lowland tundra and northern taiga of Western and Eastern Siberia, and winters south to the South Caspian, northern India and Yangtze Valley in China. Formerly much more widespread, the species is now reduced to three isolated populations, two of which are critically endangered. Much the largest population breeds in the Yakutia region of north-eastern Siberia and winters at wetlands along the middle Yangtze River in south-central China. A second population, reduced to only a few by the late 1990s, breeds in the lower basin of the Kunavat River (a tributary of the Ob) in Western Siberia, and migrates through Kazakhstan, Uzbekistan, Turkmenistan, Afghanistan and Pakistan to winter in Rajasthan in northern India (mainly in Keoladeo National Park near Bharatpur). The western population, now also reduced to a few individuals, occurs on migration in the Astrakhan Nature Reserve at the mouth of the Volga Delta and along the west coast of the Caspian Sea, and winters at wetlands near the south-eastern corner of the Caspian Sea in Iran. The breeding grounds of this tiny population remain obscure. In 1996, a paired male was tracked by satellite from the wintering area to a site on the Kunda River east of the Urals and about 630 km south of the breeding grounds of the central population. However,

other recent information indicates that the western birds may also breed at scattered locations west of the Urals, between the Kanin Peninsula and Pechora River (Meine & Archibald 1996). Only the western population is relevant.

- Iran (wintering): 3.

Trends: Decreasing.

Changes in status: Re-discovered in 1978, the tiny wintering population in northern Iran remained relatively stable at between 8 and 14 individuals until at least 1997 (when ten birds were observed). However, the population has dwindled rapidly within the last few birds, and only three individuals were present at the wintering site in early 2002 (E. Firouz, pers. comm.). Up to 300 birds occurred on migration in the Volga Delta in the 19th century, but the highest count since the 1950s has been 21 in 1971 (Meine & Archibald 1996).

Comments: *Grus leucogeranus* is a globally threatened species in the category 'Critical' (BirdLife International 2000). It is included in Appendix I of the Bonn Convention, and is the subject of a Memorandum of Understanding concluded under the Bonn Convention in 1993 (Memorandum of Understanding Concerning Conservation Measures for the Siberian Crane). The species is included in a Status Survey and Conservation Action Plan for the cranes compiled by the IUCN/SSC Crane Specialist Group for IUCN (Meine & Archibald 1996). BirdLife International (2000) have recently given an estimate of only 2,500-3,000 individuals for the global population of the species.

Demoiselle Crane *Grus virgo*

Monotypic. The species breeds widely across the steppe zone of Eurasia from the Black Sea to north-eastern China, and winters mainly in Northeast Africa and the Indian Subcontinent. There is also a disjunct resident population on the Atlas Plateau in Northwest Africa. Meine & Archibald (1996) recognise six main populations. Two of these, the Kazakhstan/Central Asian population and East Asian population winter in the Indian Subcontinent and are extralimital. The tiny population in Northwest Africa is now confined to Morocco, and is believed to be sedentary. Three migratory populations are distinguished in Southeast Europe and Southwest Asia: (1) a small Black Sea population, breeding mainly in the Kech Peninsula of Crimea and other parts of Ukraine and migrating through Turkey, Cyprus and Egypt to wintering grounds in Ethiopia and Sudan; (2) a tiny Turkish population, breeding in eastern Anatolia and probably wintering in the Sudan and other areas of Eastern Africa; and (3) a large 'Kalmykia' population breeding between the Black Sea and the Caspian Sea, and migrating through Georgia, eastern Turkey and the Middle East to wintering grounds in Sudan, Ethiopia and other areas of Eastern Africa. A few birds, presumably from this population, winter in the Arabian Peninsula.

- Black Sea (Ukraine)/Northeast Africa: 450-510.

Trends: Decreasing.

- Turkey (breeding): 60-90.

Trends: Decreasing.

- Kalmykia/Northeast Africa: 30,000-35,000.

Trends: Stable or increasing.

Changes in status: The Black Sea population, concentrated in south-eastern Ukraine, consists of only about 150-170 pairs, or 450-510 pairs (Hagemeijer & Blair 1997). This population has declined steadily since the 1950s, as its natural steppe habitat has been converted to agricultural land. It no longer occurs as a breeding bird in Romania, Moldova or Bulgaria, nor as a wintering bird in Egypt (Meine & Archibald 1996). Since the 1980s, however, the bird has begun to adapt to breeding in agricultural areas, and there are indications that this tiny population may now have stabilised (V. Serebryakov, in Hagemeijer & Blair 1997).

The status of the Turkish population is poorly known. According to Meine & Archibald (1996), it is believed to contain less than 100 individuals. BirdLife International/EBCC (2000) give an estimate of 20-30 pairs, or 60-90 individuals, and this estimate has been adopted here. However, according to Snow and Perrins (1998), there have been only two confirmed observations in the last fifteen years, following a drastic decline during the 20th century, and the population may now be extinct.

The large Kalmykia population is considered to be stable (Meine & Archibald 1996), or increasing slightly (Hagemeijer & Blair 1997, BirdLife International/EBCC 2000).

Comments: *Grus virgo* is included in Appendix II of the Bonn Convention under the name *Anthropoides virgo*. The species is included in a Status Survey and Conservation Action Plan for the cranes compiled by the IUCN/SSC Crane Specialist Group for IUCN (Meine & Archibald 1996). Under the IUCN Red List Categories, the Black Sea population is classified as Endangered and the Turkish population as Critically Endangered.

The Kalmykia population may be somewhat larger than 30,000-35,000 individuals suggested by Meine and Archibald (1996), as the breeding population in European Russia has been estimated at over 25,000 pairs (V. Serebryakov, in Hagemeijer & Blair 1997) or 15,000-25,000 pairs (BirdLife International/EBCC 2000).

The isolated population in Northwest Africa formerly occurred from Morocco to Tunisia, but the species last bred in Tunisia and Algeria in the early part of the 20th century. According to Meine and Archibald (1996), this population may now contain only 10-12 individuals, and may no longer be breeding. According to Snow and Perrins (1998), there have been no confirmed sightings of the species in Morocco since 1985, and this population may now be on the verge of extinction, if not already extinct.

Blue Crane *Grus paradisea*

Monotypic. The species is confined to Southern Africa, with the main concentrations in South Africa and smaller breeding populations in Namibia and Swaziland. It is an occasional visitor to Botswana, Lesotho and Zimbabwe, and probably also Mozambique. The species undertakes some seasonal movements within Southern Africa, but these movements are poorly understood. Meine and Archibald (1996) recognise two populations: a small population of less than 100 individuals centred on Etosha Pan in Namibia; and the main population in South Africa, Lesotho, Swaziland and neighbouring Botswana. Only the latter population is relevant.

- Extreme Southern Africa: 20,000-21,000.

Trends: Stable.

Changes in status: This population was considered to be healthy until as recently as 1980, but significant and rapid local declines were reported in the 1980s and 1990s. Retractions in range were reported in the Transkei region, Swaziland and Lesotho, and in some areas, populations

were thought to have declined by as much as 90%. Losses were most pronounced in the species' grassland strongholds, and were attributed to accidental poisoning, afforestation, open-cast mining and urbanisation (Collar *et al.* 1994, Harrison *et al.* 1997). However, in the semi-desert habitats of the Karoo and agricultural land of south-western Cape Province, numbers appear to be stable or increasing (Meine & Archibald 1996), and recent surveys have suggested that overall the population is now stable (McCann *et al.* 2001).

Comments: *G. paradisea* is a globally threatened species in the category 'Vulnerable' (BirdLife

International 2000). The species is included in a Status Survey and Conservation Action Plan for the cranes compiled by the IUCN/SSC Crane Specialist Group for IUCN (Meine & Archibald 1996).

A study of the distribution and abundance of *G. paradisea* in Southern Africa in the early 1990s indicated a total population of about 21,000 individuals (Meine & Archibald 1996). The great majority of these were in South Africa, and there were probably not more than about 12 birds in Swaziland, 10 in Lesotho and 10 in neighbouring Botswana (Harrison *et al.* 1997). A total of 19,919 birds were observed in a census in 1998, and 16,250 in 2000. However, it is thought that many birds were missed during the census in 2000 (R. Beilfuss, *in litt.*), and the most recent estimate puts the population at 20,000-21,000 (McCann *et al.* 2001).

Wattled Crane *Grus carunculatus*

Monotypic. The species has a wide but rather patchy distribution in Eastern and Southern Africa from Ethiopia to South Africa. Meine & Archibald (1996) recognise three populations: (1) an isolated population of several hundred birds in the highlands of Ethiopia; (2) a much larger population in South-central Africa (Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Democratic Republic of Congo, Zambia and Zimbabwe); and (3) a small population of about 235-250 birds in South Africa. The Ethiopian birds appear to undertake short seasonal migrations within Ethiopia, while the South African birds appear to be mainly sedentary. The population in South-central Africa is to some extent migratory, with birds undertaking extensive seasonal movements apparently linked to the availability of water. Such movements have been recorded between Botswana and Namibia, with at least one bird moving over 200 km (Underhill *et al.* 1999). Only one population is relevant.

- Central & Southern Africa: 8,000.

Trends: Decreasing.

Changes in status: The species has been declining over much of its range for the last several decades, and this has been attributed to loss of habitat, disturbance and nest loss (Collar & Stuart 1985). The greatest changes have occurred in the South African population, but in Zambia, which supports over half of the South-central African population, numbers are believed to have fallen from an estimated 11,000 birds in 1985 to 7,000-8,000 in 1994 (Meine & Archibald 1996) and as few as 4,000-5,500 in recent years (R. Beilfuss, *in litt.*). A decline was also reported in Zimbabwe during the droughts of the 1980s and 1990s (Harrison *et al.* 1987). However, there is little evidence for any recent significant changes in Namibia and Botswana (Harrison *et al.* 1997).

Comments: *G. carunculatus* is a globally threatened species in the category 'Vulnerable' (BirdLife International 2000). The species is included in a Status Survey and Conservation Action Plan for the cranes compiled by the IUCN/SSC Crane Specialist Group for IUCN (Meine & Archibald 1996).

The total population of the species was estimated at only 6,000-7,500 individuals in the early in 1980s (Collar & Stuart 1985), but more thorough field surveys in the main breeding areas in the late 1980s and early 1990s indicated a much larger population of about 13,000-15,000 birds (Meine & Archibald 1996). BirdLife International (2000) give a slightly lower estimate of 12,000-15,000 for the global population of the species. More recently, Dodman (2002) has given an estimate of only 8,000 birds for the Central and Southern African population, and this estimate is adopted here. However, he notes that there are still considerable uncertainties in the estimates, and suggests that the population may be as high as 10,500.

Common Crane *Grus grus*

Two subspecies have been described, the nominate form from Europe and *lilfordi* from Asia, but the validity of *lilfordi* is now under some doubt (Meine & Archibald 1996). The breeding range extends from Northern and Central Europe across Eurasia to Eastern Siberia, northern Mongolia and north-eastern China, with isolated breeding populations in Asia Minor and Tibet. The winter range extends south to the Mediterranean Basin, Northeast Africa, the Middle East, northern India and southern China. Meine & Archibald (1996) recognise seven main breeding populations, five of which occur in Western Eurasia: (1) a Northwest European population breeding mainly in Scandinavia, Germany and Poland and wintering in Southwest France, Iberia and Morocco; (2) a Northeast and Central European population breeding in Finland, the Baltic States, eastern Poland, western Russia and Belarus, staging in Slovakia and Hungary, and wintering mainly in North Africa (Tunisia and Algeria) and Ethiopia, with some going to Iberia; (3) an East European population breeding in Russia west of the Urals, Belarus and Ukraine, and wintering in Turkey, the Middle East east to south-western Iran, and Northeast Africa; (4) a small isolated population breeding in Turkey and neighbouring Georgia, and believed to migrate with the East European population; and (5) a West Siberian population, breeding in Russia east of the Urals and in northern Kazakhstan, and wintering mainly in western and central India, with smaller numbers in eastern Iran and Afghanistan.

- Northwest Europe/Iberia & Morocco: 75,000.

Trends: Increasing.

- Northeast & Central Europe/North Africa: 70,000.

Trends: Decreasing.

- Eastern Europe/Turkey, Middle East & Northeast Africa: 35,000.

Trends: Decreasing.

- Turkey & Georgia (breeding): 300-900.

Trends: Decreasing.

- Western Siberia/South Asia: 70,000.

Trends: Unknown.

Changes in status: The Northwest European population has been increasing since the 1960s, and this trend appears to be continuing. Counts at staging areas and in the wintering grounds show an increase from 40,000 in the 1960s to 70,000 in the late 1980s, while recent increases in breeding populations have been reported in Denmark, Germany, Poland, Norway and Sweden (Hagemeijer & Blair 1997, BirdLife International/EBCC 2000). H. Prange (in Hagemeijer & Blair 1997) gives an estimate of 75,000 for the number of birds using the West European flyway, and this estimate is adopted here in preference to the earlier estimate of 60,000-70,000.

The Central European population has also increased in recent decades. However, it was showing signs of stabilising by the mid-1990s (Meine & Archibald 1996), and is now thought to be decreasing.

The numbers of birds migrating through Estonia and Hungary have been increasing in recent years, but this may be due to western translocation of the Russian migration routes (Tucker & Heath 1994). Declines have been reported in the large population in Finland and also in Lithuania, while increase have been reported only in the much smaller populations in Estonia and Latvia (Hagemeijer & Blair 1997, BirdLife International/EBCC 2000). H. Prange (in Hagemeijer & Blair 1997) gives an estimate of 70,000 for the number of birds using the Central European flyway, and this estimate is adopted here in preference to the earlier estimate of >60,000.

The large population breeding in Eastern Europe and the tiny population breeding in Turkey and Georgia are still thought to be decreasing. BirdLife International/EBCC (2000) report decreases in the breeding populations in Belarus, European Russia, Turkey and Ukraine. The status of the West

Siberian population is uncertain. According to some reports, there have been declines in many regions (Meine & Archibald 1996), but this population is now known to be much larger than was formerly supposed. G. Archibald (*in litt.*) has recently estimated the population at 70,000 birds, an increase of 15,000 on the previous estimate.

Comments: *G. grus* is included in a Status Survey and Conservation Action Plan for the cranes compiled by the IUCN/SSC Crane Specialist Group for IUCN (Meine & Archibald 1996). The European breeding population is listed as 'Vulnerable' by Tucker & Heath (1994), Hagemeyer & Blair (1997) and BirdLife International/EBCC (2000) because of the declines which have occurred in Eastern Europe.

In the first edition of *Waterfowl Population Estimates*, the cranes wintering in Iran and Iraq (estimated at about 20,000 birds) were treated as a separate population (following Perennou *et al.* 1994). It was thought that these birds originated from breeding areas in Western Siberia. Recent evidence suggests that the birds wintering in Iraq and south-western Iran originate from breeding areas in Russia south and west of the Urals, and are therefore best treated as part of the East European population. Birds breeding in Western Siberia and northern Kazakhstan apparently migrate south to Afghanistan then southeast across Pakistan to wintering areas in western and central India. A smaller portion of this population migrates though Uzbekistan and Turkmenistan to wintering grounds in eastern Iran and south-western Afghanistan (Meine & Archibald 1996).

RALLIDAE

Streaky-breasted Flufftail *Sarothrura boehmi*

Monotypic. The species occurs from Nigeria and Cameroon east to south-central Kenya and south to Zimbabwe and South Africa. Southern breeders are migratory, retreating towards the equator during the dry season, when the breeding habitat is liable to be burned. All records from the southern part of the range (Zambia, Malawi, Zimbabwe and South Africa) are during the rainy season, between November and April (Ripley 1977; Urban *et al.* 1986; Harrison *et al.* 1997; Taylor & van Perlo 1998). In wet years, the breeding range may extend south to northern South Africa. Only one population is recognised, the entire population of the species.

- Central Africa: Unknown.

Trends: Decreasing.

Changes in status: This species appears to be in decline. In many parts of its range, it is under threat from the widespread destruction of grassy plains and marshes through overgrazing by domestic livestock or conversion to agricultural land. Harrison *et al.* (1997) suggest that in Southern Africa numbers may have been affected by habitat loss.

Comments: A poorly known species; usually uncommon, but may be locally numerous in years of good rainfall, *e.g.* at least 100 were heard calling on a large grass plain in Zambia in January 1978 (Urban *et al.* 1986). In South Africa, where it apparently only occurs in seasons of unusually high rainfall, its maximum population (at known and predicted sites) may be as many as 130 birds (Taylor 1997).

Little Crake *Porzana parva*

Now generally regarded as being monotypic, although birds in Central and Southern Asia have been given subspecific status (*illustris*). The species breeds widely at temperate latitudes in Western Eurasia and probably winters mainly in Africa south of the Sahara from Mauritania and Senegal

east to Ethiopia and south to the equator in Kenya and Uganda, with some birds extending south at least to Zambia. However, small numbers of birds are known to winter in the Mediterranean Basin, and there are scattered winter records from further north in Europe, and also in Iraq and Arabia. Only one population is recognised in the Agreement Area, the entire population of Europe and Western Asia migrating to Africa. Birds breeding in Central Asia ('*illustris*') are believed to winter mainly in Pakistan and north-western India, and are therefore extralimital.

- Western Eurasia/Africa (*parva*): D.

Trends: Decreasing.

Changes in status: Tucker & Heath (1994) and Hagemeyer & Blair (1997) give the status of the European breeding population as provisionally 'Secure', although there is considerable evidence of a decline, especially in Central Europe. Tucker & Heath (1994) report declines of over 20% in countries holding 28% of the European breeding population, and declines of over 50% in countries holding 14% during the period 1970-1990. BirdLife International/EBCC (2000) report declines in the large populations in Romania and Ukraine, and in the smaller populations in Croatia, the Czech Republic, Estonia, France, Italy, Latvia, Moldova, Slovakia and Slovenia. Elsewhere in Europe, breeding populations appear to be stable or fluctuating, although a slight increase has been reported in Russia (Snow & Perrins 1998). In Hungary, the species increased and spread with the introduction of rice cultivation and expansion of fish ponds (Cramp & Simmons 1980), but the population has now apparently stabilised (Snow & Perrins 1998).

Comments: Only the nominate form *parva* is included in Appendix II of the Bonn Convention. The total breeding population in Europe is estimated at 35,000-140,000 pairs, including 10,000-100,000 pairs in Russia (BirdLife International/EBCC 2000), or somewhere between 105,000 and 420,000 individuals. As this estimate does not include any birds from Western Asia, a population estimate of range D (100,000-1,000,000) has been adopted.

Baillon's Crane *Porzana pusilla*

Polytypic. Three subspecies have been described in the Agreement Area: *obscura* in Africa south of the Sahara and also in Madagascar; *intermedia* in Southern Europe and North Africa; and the nominate form in Eastern Europe and Western Asia. The validity of *obscura* has recently been questioned, as birds assigned to this form are doubtfully distinct from *intermedia* of Southern Europe and North Africa (Taylor & van Perlo 1998). The populations breeding in Africa south of the Sahara ('*obscura*') are often considered to be sedentary, but in some areas occurrences are seasonal, and it is apparent that regular movements occur, presumably in response to changing habitat conditions (Taylor & van Perlo 1998). North of the Sahara, *intermedia* breeds patchily across Southern and Central Europe from Iberia to Romania, in Northwest Africa (Morocco) and, perhaps irregularly, in Turkey, Jordan, Israel and Egypt.

These birds apparently winter widely in Sub-Saharan Africa, although their distribution is poorly known because of overlap with resident '*obscura*'. Small numbers also apparently winter in Egypt, Israel and Iraq. Migrants occur in spring and autumn throughout the Mediterranean Basin and in Asia Minor, and there is considerable evidence of trans-Saharan migration (Cramp & Simmons 1980). The nominate race is largely extralimital, breeding from eastern European Russia and Ukraine east across Asia to China and Japan and wintering widely in Southern Asia. Only one migratory population is relevant, the population of *intermedia* breeding in Southern Europe and North Africa.

- Europe (breeding) (*intermedia*): 10,000-20,000.

Trends: Stable or decreasing.

Changes in status: The status of this population is uncertain because of the paucity of good

quantitative information. However, it is generally believed that the species was more numerous in Europe in the 19th century. BirdLife International/EBCC (2000) report declines in the breeding populations in Croatia, Moldova and Romania. Elsewhere in Europe, population trends, although mostly uncertain, are believed to have been stable or fluctuating in recent decades.

Comments: Only the form *intermedia* (excluding *obscura*) is included in Appendix II of the Bonn Convention. The total breeding population in Europe excluding Russia and Ukraine is estimated at 3,200-6,600 pairs (BirdLife International/EBCC 2000). Most of these birds can presumably be assigned to *intermedia*. As very few *intermedia* (excluding *obscura*) breed outside Europe, the total population is likely to be in the range 10,000-20,000 individuals, and this estimate is adopted here in preference to the earlier but slightly less precise estimate of B (10,000-25,000).

Spotted Crane *Porzana porzana*

Monotypic. The species breeds widely across Western Eurasia east to north-western China (Xinjiang). Birds breeding in Europe and Western Siberia winter mainly in Africa south of the Sahara, apparently sparingly in West and Eastern Africa and more commonly in Zambia, Malawi, Zimbabwe and probably also Mozambique, with a small number of birds continuing on south to South Africa. However, the species has recently been recorded as exceptionally common in winter in north-western Senegal (Taylor & Perlo 1998). A few birds also winter in Southwest Europe and North Africa. Migrants cross the Sahara on a broad front, and no discrete populations are identifiable. Central Asian populations winter in Southern Asia and are thus extralimital. Only one population is relevant, the entire population of Europe and Western Asia migrating to Africa.

- Europe/Africa: D.

Trends: Decreasing.

Changes in status: BirdLife International/EBCC (2000) give the status of the European breeding population as 'Secure'. There were some signs of an increase in Northern Europe in the 19th century, but there have been marked declines in many parts of Europe during the 20th century, attributable to drainage and reclamation of freshwater wetlands, and this decrease appears to be continuing, especially in parts of Central and Eastern Europe. Tucker & Heath (1994) report declines of over 20% in countries holding 27% of the European breeding population, and declines of over 50% in countries holding 8% during the period 1970-1990. BirdLife International/EBCC (2000) report declines in Austria, Czech Republic, Denmark, France, Italy, Latvia, Lithuania, Moldova, Poland, Romania, Sweden and Ukraine (Hagemeijer & Blair 1997; Snow & Perrins 1998). Elsewhere in Europe, population trends since 1970 are thought to have been mainly stable or fluctuating, although a slight increase has been reported in Finland (Koskimies 1993).

Comments: Only the population breeding in the West Palearctic is included in Appendix II of the Bonn Convention. The total breeding population in Europe excluding Russia is estimated at 42,000-70,000 pairs, and that in Russia at between 10,000 and 100,000 pairs (BirdLife International/EBCC 2000). These figures suggest a minimum of 156,000 and possibly as many as 500,000 birds in Europe alone. The earlier estimate of D (100,000-1,000,000) is therefore retained.

Striped Crane *Aenigmatolimnas marginalis*

Monotypic. The species is widely but patchily distributed throughout Africa south of the Sahara from Cote d'Ivoire, Ghana, Togo and Nigeria through Cameroon, Gabon and Congo to Democratic Republic of Congo and Kenya, and south to Zambia, Zimbabwe, Botswana, Namibia and South Africa. It is an intra-African rains migrant, apparently with two largely discrete populations: one

mainly north of the equator in West-central Africa (Nigeria, Cameroon Gabon and coastal Congo), and the other mainly south of the equator from eastern Democratic Republic of Congo, Uganda and Kenya south to Namibia, Botswana, Zambia and Mozambique. The breeding range may extend to South Africa in years of good rainfall (Taylor & Perlo 1998). Both populations migrate towards equatorial regions during the dry season. Vagrants have reached Aldabra, Algeria, Libya and extreme Southern Africa (Urban *et al.* 1986). Only one population is recognised (the entire population of the species), pending further study.

- Sub-Saharan Africa: Unknown.

Trends: Decreasing.

Changes in status: The species is widely distributed, but highly secretive and poorly known. It appears to be uncommon to rare throughout its range, and there are few breeding records (Ripley 1977; Urban *et al.* 1986; Harrison *et al.* 1997). However, its range may be more extensive and continuous than the records suggest (Taylor & Perlo 1998). It breeds in seasonally inundated grasslands such as those at temporary pans, riverine floodplains, short-grassed dambos and old rice fields, a habitat type which is widely under threat from overgrazing, the damming of rivers and wetland drainage. Its numbers are likely to have been affected in many parts of its range because of this habitat loss (Harrison *et al.* 1997; Taylor & Perlo 1998).

Common Coot *Fulica atra*

Four subspecies have been described: the nominate form in Eurasia, and *australis*, *lugubris* and *novaequinae* in Australasia. The nominate form breeds widely across Eurasia from Western Europe and Northwest Africa to the Russian Far East, Korea and Japan. Populations breeding in Western Eurasia winter south to North Africa, Iraq and the Gulf States, with a few birds reaching West Africa (Senegal to Chad) and Northeast Africa (Sudan). No discrete populations are identifiable. Three main wintering populations are recognised in the Agreement Area (Northwest Europe, Black Sea & Mediterranean, and Southwest Asia), but only the population wintering in the Black Sea and Mediterranean region is currently included in the Action Plan (see also Section 2.2).

- Black Sea & Mediterranean (wintering): 2,500,000.

Trends: Probably increasing.

Changes in status: This population, which includes birds wintering in Central Europe, is probably now increasing after a long period of decline starting in the late 1960s (Delany *et al.* 1999). The decline was most marked in Central Europe and the West Mediterranean. There was some recovery in West Mediterranean in the 1980s, but the population wintering in Central Europe continued to decline, the rate of decline suggesting that this population decreased by 20% during the ten-year period from 1984-1993 (Rose 1995). Insufficient data were available from the East Mediterranean to determine trends in this region in the 1980s, but in the 1990s, big increases were recorded in Turkey. Almost 1,550,000 birds were counted in the Black Sea & Mediterranean region in 1996, and it seemed likely that the population as a whole was now increasing slightly (Delany *et al.* 1999). Birds wintering in the Black Sea & Mediterranean region are believed to originate mainly from Central and Eastern Europe and Turkey, which together hold a minimum of 500,000-750,000 breeding pairs (incomplete data from Snow & Perrins

1998). In most parts of Central and Eastern Europe, breeding populations are believed to have been relatively stable in recent years, but increases have been reported in the large populations in European Russia and Ukraine (BirdLife International/EBCC 2000). No change has been proposed to the earlier estimate of 2,500,000.

DROMADIDAE

Crab Plover *Dromas ardeola*

Monotypic. The species is known to breed only in the Persian Gulf, Gulf of Oman, Gulf of Aden and southern Red Sea, but probably also breeds in western India. In Africa, it is known to breed only on the islets of Zeyla, Saad Din and Aibat off northern Somalia, and in Eritrea (a colony with at least 200 pairs discovered in 1996), but breeding is suspected in the Suakim Archipelago, Sudan (Urban *et al.* 1986; Dodman *et al.* 1997). Outside the breeding season, it disperses along coasts east in Asia to Pakistan, India and Sri Lanka (less commonly to Bangladesh, Thailand and Malaysia), and south in Eastern Africa to Mozambique and Madagascar (less commonly to South Africa). Only one population is recognised, the entire population of the species.

- Northwest Indian Ocean, Red Sea & Gulf: 43,000.

Trends: Probably stable.

Changes in status: None known. Stroud *et al.* (2002) have retained the former estimate of 43,000. The status of the population was given as decreasing in the second edition of *Waterfowl Population Estimates*, but this was based on reports of a decrease in the numbers of birds wintering in some areas in Southern Asia (Perennou *et al.* 1994), and may not have been applicable to the bulk of the population further west. Del Hoyo *et al.* (1996) concluded that there was no evidence of any change in numbers in recent years, and Stroud *et al.* (2002) give the trend as probably stable. The most serious threat to the species is the extensive pollution of shorelines with oil and resulting destruction of the birds' food supplies (mainly crabs, other crustaceans, molluscs and marine worms).

RECURVIROSTRIDAE

Black-winged Stilt *Himantopus himantopus*

Polytypic. Only the nominate subspecies occurs in the Agreement Area, although birds occurring in Southern Africa are sometimes assigned to the form *meridionalis*. The Black-winged Stilt breeds widely in Southern Europe, Africa and Southwest Asia. Most populations breeding in Europe and Southwest Asia are migratory, wintering south to North Africa and across the Sahara to the northern tropics (Senegal, Chad and Sudan), but the populations breeding in southern Spain, Iraq and southern Iran may be at least partly sedentary. Some populations breeding in Subsaharan Africa appear to be migratory, but the movements are poorly understood. In Southern Africa, coastal populations are probably locally nomadic, while inland birds move widely according to rainfall. Five main groups are recognised: (1) a large population in Subsaharan Africa, excluding Southern Africa; (2) a population in southern Africa ('*meridionalis*'); (3) a West Mediterranean population, breeding in Southwest Europe and Northwest Africa and wintering mainly in West Africa, although increasing numbers of birds have remained throughout the winter in Southwest Iberia in recent years; (4) a population breeding in Central Europe, the East Mediterranean, the Black Sea and Turkey, and wintering south to North-central Africa (to Chad); and (5) a population breeding in West and Southwest Asia and wintering in Iran, Iraq, the Arabian Peninsula and Northeast Africa (to Sudan).

- Subsaharan Africa (excluding south): D.

Trends: Unknown.

- Southern Africa ('*meridionalis*'): 15,000-30,000.

Trends: Increasing.

- Southwest Europe & Northwest Africa/West Africa: 71,000-82,000.

Trends: Stable.

- Central Europe & East Mediterranean/North-central Africa: 23,000-44,000.

Trends: Unknown.

- West, Central & Southwest Asia/Southwest Asia & Northeast Africa: 20,000-50,000.

Trends: Unknown.

Changes in status: The population estimates and trends follow Stroud *et al.* (2002), except that separate treatment is given to the population of '*meridionalis*' in Southern Africa. Overall trends in the Sub-Saharan African population are unknown. However, in Southern Africa there has been a marked expansion in the breeding range and increase in numbers during the 20th century, attributed to the creation of artificial water bodies (Harrison *et al.* 1997, Underhill *et al.* 1999). On the central plateau in Zimbabwe, the species has increased over the past two decades from an occasional visitor to a fairly common breeding and passage visitor, with concentrations exceeding 1,000 birds (Harrison *et al.* 1997). This population has recently been estimated at 15,000-30,000 birds (Underhill *et al.* 1999).

The status of the Southwest Europe and Northwest Africa breeding population appears to be stable, and the revised population estimate of 71,000-82,000 (up from 40,000) reflects an improvement in knowledge, rather than any increase in numbers.

Trends in the Black Sea & East Mediterranean breeding population are uncertain. Numbers fluctuate widely from year to year and region to region depending on water levels, with these asynchronous fluctuations masking any clear trends. Hagemeyer and Blair (1997) report some contraction of breeding range and reduction in numbers in Eastern Europe, particularly in Ukraine and Greece, while Snow & Perrins (1998) report decreases only in the small populations in Albania, Bulgaria and Moldova, and increases in Romania, several parts of European Russia, and southern Ukraine. The new population estimate of 23,000-44,000 is somewhat lower than the previous estimate (30,000-60,000), but this is thought to be due to an improvement in knowledge rather than any real change in numbers.

Comments: In the first edition of this report, the birds in Southern Africa ('*meridionalis*') were treated as part of the large Sub-Saharan African population.

Pied Avocet *Recurvirostra avosetta*

Monotypic. The species is widely but patchily distributed in Western Eurasia, Northwest Africa, and Eastern and Southern Africa. Five main populations are identifiable: (1) a population breeding in Southern Africa in Namibia, Botswana and South Africa; (2) a population breeding in Eastern Africa in Ethiopia, Kenya and Tanzania; (3) a population breeding on the Atlantic coast of Northwest Europe, in the West Mediterranean and locally in Northwest Africa, and wintering south along the Atlantic coast to Mauritania, Senegal and Gambia; (4) a population breeding in Southeast Europe, the Black Sea region and Turkey and wintering in the East Mediterranean and eastern Sahel Zone (Chad); and (5) a population breeding in Southwest Asia (Caspian region, Kazakhstan and Iran) and wintering from Iran and Iraq through Arabia to Northeast Africa (to Sudan). The movements of birds in Southern Africa are complex, with birds apparently moving away from the coast to ephemeral wetlands inland when breeding conditions become suitable. The species appears to be a non-breeding dry season visitor to Zimbabwe, and an occasional visitor in small numbers to southern Zambia (Harrison *et al.* 1997). The population breeding in Eastern Africa is partly sedentary, but some movements are known to occur, and non-breeding birds occasionally wander to Uganda, eastern Democratic Republic of Congo, Burundi, Rwanda and northern Zambia.

- Southern Africa: 19,300.

Trends: Probably increasing.

- Eastern Africa: C.
Trends: Unknown.
- Western Europe & Northwest Africa (breeding): 73,000.
Trends: Stable.
- Southeast Europe, Black Sea & Turkey (breeding): 47,000.
Trends: Stable or decreasing.
- Western & Southwest Asia/Eastern Africa: B.
Trends: Probably stable.

Changes in status: The population estimates and trends follow Stroud *et al.* (2002). The species is believed to have increased considerably in Southern Africa during the 20th century following the construction of permanent water bodies such as sewage works and salt pans which provide drought refuges (Harrison *et al.* 1997). Trends in the Eastern African population are unknown.

The West European and Northwest African breeding population is now thought to be relatively stable after a long period of increase which began in Western Europe in the early part of the 20th century has continued at least until the early 1990s. Breeding numbers along the North Sea coast increased from 1,800 pairs in 1924-25 to 10,000 pairs in 1969 and 16,400-19,700 in the 1980s (Tucker & Heath 1994). BirdLife International/EBCC (2000) report increases in Belgium, Denmark, Estonia, France, Germany, The Netherlands (where the population has doubled during the past 15 years), Sweden and the U.K. The revised estimate of 73,000 reflects a slight increase on the earlier estimate of 67,000 from Smit and Piersma (1989).

The Southeast Europe and Black Sea breeding population is thought to be stable or decreasing slightly. BirdLife International/EBCC (2000) report decreases in Albania, Bulgaria, Romania, Russia and Ukraine. A new estimate of 47,000 replaces the earlier rough estimate of C (25,000-100,000).

Comments: The size of the Eastern African population remains poorly known, but is thought to be in the range C (25,000-100,000). The species is reported to be common to locally abundant throughout its range, and 9,135 were recorded during the African Waterbird Census in January 1995 (Dodman & Taylor 1995). The West and Southwest Asian population also remains poorly known, and the earlier rough estimate of B (10,000-25,000) is retained. Some 2,000-2,500 pairs breed in Iran, and up to 13,600 birds have been recorded on passage at Lake Uromiyeh in north-western Iran (Scott 1995).

GLAREOLIDAE

Collared Pratincole *Glareola pratincola*

Five subspecies have been described: *pratincola* in Southern Europe, Southwest Asia and North Africa; *boweni* from Senegal to Chad and Gabon; *limbata* in Sudan, Ethiopia, Somalia and southern Arabia; *erlangeri* in southern Somalia and northern Kenya; and *fuelleborni* from eastern Democratic Republic of Congo and central Kenya to South Africa. (Some authors lump *boweni* with *fuelleborni* and consider *limbata* to be invalid). Almost the entire population of the nominate race, which breeds from Western Europe east to eastern Kazakhstan, winters in Africa south of the Sahara, although there is an isolated breeding population in Pakistan which probably winters in India (winter records south to Sri Lanka).

West European and Northwest African breeders winter mainly along the south edge of the Sahara in West Africa, from Senegal and Gambia to Nigeria. Breeders from Southeast Europe, the Black Sea

and Asia Minor winter mainly in the eastern Sahel zone. Breeders from the Caspian region, Iran and Iraq winter mainly in Northeast Africa south along the Nile Valley to Sudan and Ethiopia (possibly to about 5°N). The populations breeding in Sub-Saharan Africa appear to be mainly sedentary, although some seasonal movements have been observed, probably associated with changing water levels. Three relatively discrete migratory populations of nominate *pratincola* are recognised.

- West Europe & Northwest Africa/West Africa: 18,000-19,500.

Trends: Stable.

- Black Sea & East Mediterranean/Eastern Sahel zone: 16,000-31,000.

Trends: Decreasing.

- Southwest Asia/Southwest Asia & Northeast Africa: B or C.

Trends: Unknown.

Changes in status: The population estimates and trends follow Stroud *et al.* (2002). The West European and Northwest African population is now believed to be stable (previous trend given as 'unknown'), and more precise estimates of population size are available for the this population and the population breeding in the Black Sea and East Mediterranean. The decrease in the Black Sea and East Mediterranean population is continuing. A widespread decline has occurred throughout Southeast Europe in recent decades, with large decreases in Hungary and Ukraine, and smaller decreases in Albania, Bulgaria and Greece (Tucker & Heath 1994, Hagemeyer & Blair 1997, Snow & Perrins 1998, BirdLife International/EBCC 2000). In the Danube Delta in Ukraine, the population fell from 3,000 pairs in the 1960s to less than 100 pairs in the 1980s (Hagemeyer & Blair 1997). Only the populations in Italy and Romania are thought to be relatively stable. Trends in the large Egyptian breeding population are unknown, but a decrease has been reported in Israel, and the numbers breeding in Jordan fell dramatically following desiccation of Azraq Oasis (Snow & Perrins 1998). Nothing is known on trends in the Southwest Asian breeding population.

Black-winged Pratincole *Glareola nordmanni*

Monotypic. The species breeds from Southeast Europe (Romania and Ukraine) east in the steppe zone across southern Russia and Kazakhstan to about 85°E, and appears to migrate almost non-stop over western Arabia and the East Mediterranean to Northeast Africa. It occurs on migration in Sudan, Ethiopia, Uganda and Central Africa, and winters mainly in north-eastern Namibia, Botswana and South Africa; the main wintering area is on the highveld of the Transvaal and Free State in South Africa (Harrison *et al.* 1997). Only one population is recognised, the entire population of the species.

- Southeast Europe & Western Asia/Southern Africa: 29,000-45,000.

Trends: Decreasing.

Changes in status: The species has declined throughout its European breeding range since the 1970s, especially in Ukraine, where there has been a ten-fold decline in 20 years (Hagemeyer & Blair 1997). In southern European Russia, numbers increased following the irrigation of dry and desert steppe in the 1950s and this increase continued until the mid-1980s, but since then, numbers have been in decline (Tucker & Heath 1994, Hagemeyer & Blair 1997). The primary causes of the range contraction and decline in numbers in Europe are the cultivation of virgin steppes and intensive use of the remaining natural areas for livestock grazing (Belik 1994, Hagemeyer & Blair 1997). The species is also becoming increasingly scarce on its wintering grounds in South Africa, and no longer occurs in Natal (Harrison *et al.* 1997).

Comments: *Glareola nordmanni* was listed as 'Near-threatened' by Collar *et al.* (1994), because of its relatively small total population size and the widespread threats to its steppic breeding habitat. BirdLife International (2000) assigned it to the category 'Data deficient' because of the uncertainty in the size of the population. An International Action Plan for the Black-winged Pratincole has

recently been prepared for the Secretariat of the AEWA and BirdLife International Europe (RBCU 2002).

V.P. Belik & P.S. Tomkovich (in Hagemeyer & Blair 1997) estimated the world population at 15,000-45,000 breeding pairs, of which some 6,000-11,000 pairs were in Southeast Europe. BirdLife International/EBCC (2000) gave the European breeding population as only 5,000-6,100 pairs, based on data from the 1980s. More recently, the total population has been estimated at only 9,700-14,900 pairs (RBCU 2002). These figures suggest a population of only 29,000-45,000 individuals (the estimate adopted by Stroud *et al.* 2002). There was a report of possibly a million birds in Zambia in the 1970s, and a single congregation of at least 250,000 birds, but perhaps as many as 800,000, was seen in Free State, South Africa, in December 1991 (Harrison *et al.* 1997). Even if this latter concentration represented the entire world population of the species, it is evident that there has been a massive decline in numbers within the past decade.

CHARADRIIDAE

Eurasian Golden Plover *Pluvialis apricaria*

Two subspecies have been described. *P. a. altifrons* breeds widely at high latitudes in Western Eurasia from Iceland east to 100°E in Western Siberia, and winters south to North Africa (occasionally to Senegal) and the South Caspian. *P. a. apricaria* breeds at more southerly latitudes in the Britain, Ireland, Denmark and Germany, and is only a short-distance migrant, most birds wintering fairly close to their breeding areas. Considerable variation exists in most populations, and many authors consider the species to be monotypic. Four main breeding populations can be identified: (1) Icelandic and Faeroese breeders (*altifrons*), wintering mainly in Ireland, with smaller numbers to western Britain, France and Iberia, and a few to Northwest Africa; (2) a population of *altifrons* breeding from northern Norway east to about 70°E, and wintering mainly in western and southern continental Europe and Northwest Africa (Morocco to Tunisia); (3) a population of *altifrons* breeding in Western Siberia east to 100°E, and wintering in the Caspian region and possibly also Asia Minor; and (4) southern breeders (*apricaria*) breeding in Britain, Ireland, Denmark and Germany, and wintering in Northwest Europe.

- Britain, Ireland, Denmark, Germany & Baltic (*apricaria*): 69,000.

Trends: Decreasing.

- Iceland & Faeroes/East Atlantic coast (*altifrons*): 930,000.

Trends: Probably stable.

- Northern Europe/West Europe & Northwest Africa (*altifrons*): 645,000-954,000.

Trends: Stable.

- Northern Siberia/Caspian & Asia Minor (*altifrons*): Unknown.

Trends: Unknown.

Changes in status: The population estimates and trends follow Stroud *et al.* (2002). There has been a long-term decline in the British and Irish breeding populations which is apparently continuing, and previously extensive populations in Denmark, Belgium, Luxembourg, Germany and Poland have gone extinct or are near extinction (Hagemeyer & Blair 1997). The British population fell from an estimated 29,400 pairs in 1968-72 to 22,600 pairs in 1988-91, while the Irish population fell from 600 pairs to 400 pairs during the same period (Gibbons *et al.* 1993). These declines have been attributed to extensive afforestation of uplands, changed management

of moorlands and an increase in sheep grazing. Numbers in Estonia are thought to be more or less stable after an increase in the 1960s, while the small population in Latvia is increasing slightly (Hagemeyer & Blair 1997, Snow & Perrins 1998, BirdLife International/EBCC 2002). The two populations of *altifrons* breeding in Europe appear to be stable, and the revised

population estimates merely reflect an improvement in knowledge of numbers on the breeding grounds.

Comments: Very little is known about the West Siberian population. Substantial numbers of birds are thought to winter in Azerbaijan, but only about 500-1,000 birds reach the South Caspian littoral in Iran (Scott 1995).

Grey Plover *Pluvialis squatarola*

Monotypic. The species breeds at high latitudes in Canada and in Russia from the Kanin Peninsula (45°E) eastwards, and winters south to South Africa, Sri Lanka and Australasia. Two main wintering populations are relevant; (1) an East Atlantic/West Mediterranean population, extending from the Wadden Sea, Britain and Ireland south to West Africa (to the Gulf of Guinea); this population includes birds from breeding areas as far east as the Taymyr Peninsula (80°E) and also apparently some birds (perhaps 10%) from Northeast Canada; (2) a west Indian Ocean population, extending from the Persian Gulf and Arabian Peninsula south to South Africa and Madagascar. Birds wintering in South Africa and Namibia are believed to originate from the Taymyr Peninsula, with ringing recoveries suggesting a migration route that passes through the East Mediterranean and Black Sea (Harrison *et al.* 1997). Very few birds winter in the East Mediterranean.

- Western Siberia & Canada/Western Europe & West Africa: 247,000.

Trends: Increasing.

- Central & Eastern Siberia/Southwest Asia, Eastern & Southern Africa: 90,000.

Trends: Unknown.

Changes in status: The population estimates and trends follow Stroud *et al.* (2002). There has been a western expansion in the breeding range and increase in numbers in north-eastern European Russia in recent years (Y.N. Mineyev & J. van Impe in Hagemeijer & Blair 1987), and simultaneously a marked increase in the numbers of birds wintering in the Eastern Atlantic flyway. The numbers wintering in Britain increased by 103% (from 21,250 to 43,200) between 1981-85 and 1988-92 (Cayford & Waters 1996). The revised estimate of 247,000 for this population shows a substantial increase on the 168,000 given by Smit and Piersma (1989). However, a comprehensive survey of the Banc d'Arguin in Mauritania in early 1997 found only 15,200 *P. squatarola*, a decrease of 50% on the 1980 total (Dodman *et al.* 1997). Similarly, van der Have *et al.* (1997) found a 25% decrease in the numbers wintering in the Gulf of Gabes in Tunisia between 1984 and 1994. This suggests that some of the increase in Western Europe may be due to a northward shift in the distribution of wintering birds.

No change is known in the status of the Southwest Asian and Eastern African wintering population, although the population estimate has been revised upwards from 50,000 to 90,000 on the basis of better information. There is no evidence that the numbers wintering in Southern Africa have increased in the last two decades, and counts at one of the most important sites have shown no trend (Harrison *et al.* 1997).

Common Ringed Plover *Charadrius hiaticula*

Three subspecies have been described: the nominate form breeding in Northwest Europe from southern Scandinavia and the Baltic to France, Ireland and the U.K.; *psammudroma* breeding in north-eastern Canada, Greenland, Iceland and the Faeroes; and *tundrae* breeding from northern Scandinavia and Finland east across northern Russia to the Bering Strait. These subspecies are weakly defined, and many authors consider *psammudroma* to be invalid. The nominate form and *psammudroma* winter mainly on the Atlantic coast of Western Europe and Northwest Africa south to Mauritania, Senegal and Gambia, although birds assigned to *psammudroma* have been recorded

as far south as South Africa. (Harrison *et al.* 1997). The high arctic form *tundrae* appears to winter mainly in Eastern and Southern Africa and Southwest Asia east to Pakistan, although many probably reach the East Mediterranean and some apparently reach West Africa. (Very few birds winter in Asia east of Pakistan). Populations of the nominate form and *psammodroma* show the phenomenon of 'leap-frog' migration, with the northernmost breeding populations (in north-eastern Canada and Greenland) wintering furthest south (mainly in West Africa), and the southernmost breeding populations (in Ireland, the U.K. and Brittany) being almost sedentary. Icelandic breeders winter mainly in France, Iberia, Morocco and West Africa. Birds breeding in southern Scandinavia and the Baltic winter along the Atlantic coast from Ireland and the U.K. to West Africa. Three 'populations' are recognised, corresponding to the main wintering distributions of the three subspecies, but it is clear that there is a considerable amount of mixing between all of the sub-populations of this species.

- Northern Europe/Europe & North Africa (*hiaticula*): 73,000.

Trends: Increasing.

- Canada, Greenland & Iceland/West Africa & Southern Africa (*psammodroma*): 190,000.

Trends: Probably decreasing.

- NE Europe & Siberia/Southwest Asia, Eastern & Southern Africa (*tundrae*): 145,000-280,000.

Trends: Unknown.

Changes in status: The population estimates and trends follow Stroud *et al.* (2002). The population of nominate *hiaticula* continues to increase, as reflected in the revised population estimate of 73,000 (up from 47,500). The numbers wintering in Britain increased by 24% (from 23,040 to 28,600) between 1981-85 and 1988-92 (Cayford & Waters 1996), and increases have been reported on the breeding grounds in France, Germany, Lithuania and the U.K. (BirdLife International/EBCC 2000). The population of *psammodroma* may, however, be decreasing, and the new estimate is slightly down on the previous estimate of 195,000 from Smit and Piersma (1989). A comprehensive survey of the Banc d'Arguin in Mauritania in early 1997 found only 58,000 birds, a decrease of 42% on the 1980 total (Dodman *et al.* 1997). No change is known in the status of the Southwest Asian and Eastern African wintering population.

Little Ringed Plover *Charadrius dubius*

Polytypic. Only the subspecies *curonicus* occurs in the Agreement Area. This breeds widely across Western Eurasia and in Northwest Africa, and winters mainly in Africa south of the Sahara, generally north of the equator but occasionally south to Zambia. Two main populations are recognised: (1) European and Northwest African breeders, wintering mainly in West Africa (Mauritania to Chad and northern Democratic Republic of Congo); and (2) West Asian breeders, probably wintering mainly in Northeast Africa (south to northern Tanzania).

- Europe & Northwest Africa/West Africa: 180,000-290,000.

Trends: Probably stable.

- West & Southwest Asia/Eastern Africa: Unknown.

Trends: Unknown.

Changes in status: The population estimates and trends follow Stroud *et al.* (2002). The European and Northwest African breeding population is thought to be more or less stable. Populations in Europe declined in the late 19th and early 20th centuries, probably because of climate change, but there was then a rapid expansion in range, particularly in Northwest Europe, and increase in numbers during the middle and latter part of the 20th century, due in large part to the colonisation of man-made habitats, notably gravel pits. In recent years, most populations appear to have been relatively stable, although BirdLife International/EBCC (2000) report increases in 12 countries and decreases only in seven. Nothing is known of numbers and trends in the large West and Southwest Asian breeding population.

Comments: The breeding population in Europe excluding European Russia and Turkey has recently been estimated at about 60,000-96,500 pairs (Thorup 2002), and this forms the basis of the new population estimate. Bird breeding in European Russia and Turkey are included within the West and Southwest Asian population (Stroud *et al.* 2002).

Kittlitz's Plover *Charadrius pecuarius*

Three subspecies have been described, but variation is slight, and some recent authors consider the species to be monotypic. *C. p. allenbyi* has been described from the Nile Valley in Egypt, and *C. p. tephricolor* from northern Namibia. The nominate form occurs widely in Africa south of the Sahara (south to South Africa) and in Madagascar. This subspecies is at least partly migratory, especially in Southern Africa (Botswana, Zimbabwe, Zambia, Namibia and South Africa) where birds desert many areas during rains and flooding. Two populations are recognised: a large population of nominate *pecuarius* in southern and eastern Africa (excluding Madagascar); and a small, relatively isolated population of *pecuarius* in West Africa.

- Southern, Eastern & Northeast Africa (*pecuarius*): 50,000-100,000.

Trends: Unknown.

- West Africa (*pecuarius*): 10,000-20,000

Trends: Unknown.

Changes in status: The overall trends in both populations are unknown. In Southern Africa, the construction of dams has enabled the species to expand its range and increase in numbers substantially in recent years (Harrison *et al.* 1997, Underhill *et al.* 1999).

Comments: V. Parker (*in litt.*) has suggested that the relatively small number of birds in West Africa constitute a relatively discrete population and should be given separate treatment. This treatment is adopted here. Kittlitz's Plover is common to locally abundant throughout much of its range, and is one of the commonest *Charadrius* plovers recorded during the African Waterbird Census. Recent January counts have included up to 1,200 in West Africa, 6,300 in Eastern Africa and 3,400 in Southern Africa. V. Parker (*in litt.*) has estimated the total population in Southern, Eastern and Northeast Africa at 50,000-100,000 birds, and that in West Africa at 10,000-20,000 birds.

Three-banded Plover *Charadrius tricollaris*

Two subspecies have been described. The nominate race occurs patchily in West-central Africa in Niger, Chad, Nigeria and Cameroon, and widely from Sudan and Ethiopia south through Eastern Africa to South Africa. *C. t. bifrontatus* is confined to Madagascar. The nominate race is to some extent migratory. Substantial movements have been recorded in Ethiopia, Democratic Republic of Congo, Rwanda, Zambia, Zimbabwe, Botswana, Namibia and South Africa, but these are poorly understood. Only one population is recognised, the entire population of *tricollaris*.

- Southern & Eastern Africa (*tricollaris*): 40,000-100,000.

Trends: Increasing.

Changes in status: The species is increasing in many parts of its range through extensive exploitation of man-made wetlands (V. Parker, *in litt.*). In Southern Africa, in particular, the construction of dams has enabled the species to expand its range and increase in numbers substantially in recent decades (Harrison *et al.* 1997, Underhill, *et al.* 1999). V. Parker (*in litt.*) has estimated the total population at 40,000-100,000 birds, and this estimate is adopted here, although according to Underhill *et al.* (1999), the population in Southern Africa alone may number between 40,000 and 70,000 birds.

Comments: The species is generally common throughout Southern Africa, and somewhat less common in the northern parts of its range. The highest counts during recent African Waterbird Censuses (1994-1997) have been 1,223 in Southern Africa and 441 in Eastern Africa.

Forbes' Plover *Charadrius forbesi*

Monotypic. The species breeds from Ghana to northern Angola, south-western Sudan, western Uganda, western Tanzania and central Zambia, and apparently occurs as a non-breeding visitor west to Senegal. It is known to be seasonally migratory in West Africa, moving to rocky hillsides during the rainy season to breed. Only one population is recognised, the entire population of the species.

- West & Central Africa: B or C.

Trends: Unknown.

Changes in status: None known.

Comments: The species is said to be uncommon to locally common, especially in the western parts of its range, although very few are recorded during the African Waterbird Census. Fishpool and Evans (2001) have suggested that the population is in range B or C (10,000-100,000), and this estimate is adopted here.

Chestnut-banded Plover *Charadrius pallidus*

Two subspecies have been described. The nominate race occurs in Southern Africa from southern Angola, Botswana and Mozambique to South Africa; *C. p. venustus* is confined to southern Kenya and Tanzania. Both subspecies are partly migratory. East African populations move up and down the Rift Valley; inland populations in Southern Africa move to the coast after breeding. Two populations are recognised, the entire populations of the two subspecies.

- Southern Africa (*pallidus*): 11,200.

Trends: Stable.

- Eastern Africa (*venustus*): 4,000-5,000.

Trends: Unknown.

Changes in status: None known. The new estimate of 11,200 for nominate *pallidus* (up from 6,000-7,000) reflects an improvement in knowledge, rather than any increase in numbers. In Southern Africa, there have been no apparent changes in the distribution of *pallidus* since the beginning of the 20th century, although the development of salt works may have led to an increase in the size of the coastal population (Harrison *et al.* 1997). Trends in the population of *venustus* are unknown.

Comments: Both subspecies are common to locally abundant, but have very restricted ranges and are confined to a relatively small number of sites. The total population of *pallidus* was estimated at possibly as few as 6,000-7,000 birds by Harrison *et al.* (1997), but a recent census gave a total of 11,192 birds (Simmons 2000), and this figure, rounded to 11,200, has been adopted as the new estimate. The great bulk of the breeding population of *pallidus* is centred on Etosha Pan in Namibia and the Makgadikgadi Pans in Botswana. Outside the breeding season, these birds are concentrated on two coastal wetlands, Sandwich Harbour and Walvis Bay, in Namibia (Harrison *et al.* 1997).

In Eastern Africa, the species is confined to Rift Valley soda lakes on the border of Kenya and Tanzania. The previous estimate of range B (10,000-25,000) for the population of *venustus* is now thought to have been much too high. The highest count during the African Waterbird Census (up to and including 1998) was 1,370 in January 1995 (Dodman & Taylor 1995), but in most years, far

fewer than this were recorded. V. Parker (*in litt.*) has given a much more conservative estimate of 4,000-6,000 individuals, and this has been adopted here.

Kentish Plover *Charadrius alexandrinus*

Polytypic. Only the nominate subspecies occurs in the Agreement Area. This breeds widely across Western Eurasia and North Africa. Populations breeding in Africa (on the Atlantic coast south to Senegal, in Egypt, and on the Red Sea coast south to northern Somalia) appear to be mainly sedentary. Populations breeding north of 40°N in Western Eurasia are migratory, wintering south to Senegal and the Gulf of Aden (rarely to the equator in West Africa); southern populations are sedentary or dispersive. Three main populations are recognised, although in all cases there is extensive overlap of migratory and sedentary populations in winter: (1) a population breeding in the West Mediterranean and on the Atlantic coast of Europe north to Denmark and Sweden, and wintering south to West Africa; (2) a population breeding in the Black Sea region and East Mediterranean, and wintering in the Near East and eastern Sahel Zone; and (3) a population breeding in Southwest Asia and wintering from the South Caspian region through the Arabian Peninsula to Northeast Africa.

- Western Europe & West Mediterranean/West Africa: 62,000-70,000.

Trends: Decreasing.

- Black Sea & East Mediterranean/Eastern Sahel: 32,000-49,000.

Trends: Probably decreasing.

- Southwest & Central Asia/Southwest Asia & Northeast Africa: C.

Trends: Unknown.

Changes in status: The population estimates and trends follow Stroud *et al.* (2002). There has been a marked decline in most breeding populations in Europe since the early part of the 20th century, accompanied by a marked contraction in range in Northwest and Central Europe. This decline is continuing throughout much of Europe. In the west, recent decreases have been reported in Sweden, Germany, Denmark, the Netherlands, Belgium and Portugal, while in the east, decreases have been reported in Bulgaria, Hungary, Romania and Ukraine, and perhaps also in Albania and Greece (Tucker & Heath 1994, Hagemeyer & Blair 1997, BirdLife International/EBCC 2000). This widespread decline has been attributed mainly to human activities such as disturbance at coastal breeding sites, and destruction of breeding habitat. A comprehensive survey of the Banc d'Arguin in Mauritania in early 1997 found only 5,670 *C. alexandrinus*, a decrease of 69% on the 1980 total (Dodman *et al.* 1997).

White-fronted Plover *Charadrius marginatus*

Four subspecies are recognised by del Hoyo *et al.* (1996): the nominate race in South-western Africa from southern Angola to Cape Province, South Africa; *tenellus* in Madagascar; *mechowi* locally in Subsaharan Africa south to northern Angola, Botswana, Zimbabwe and northern Mozambique; and *arenaceus* from southern Mozambique to south-western Cape Province, South Africa. Some authors assign the birds in West and West-central Africa to *hesperius*, and the birds in southern Somalia to *pons*.

The birds in Eastern Africa, from Ethiopia and Sudan south to Natal, South Africa, are sometimes included within *tenellus*. Nominate *marginatus*, *arenaceus* and '*pons*' are coastal and sedentary, while *mechowi*, *tenellus* and '*hesperius*' occur both in coastal and inland areas. The West African population of '*hesperius*' and the Madagascan population of *tenellus* are largely sedentary, but inland populations of *mechowi* in Southern, Eastern and Central Africa are migratory, moving to the coast during the rainy season (December to May). Two migratory populations of *mechowi* are

recognised.

- Southern & Eastern Africa (*mechowi*): 25,000-35,000.

Trends: Unknown.

- West to West-central Africa (*mechowi*): 10,000-15,000.

Trends: Unknown.

Changes in status: Overall trends in both populations are unknown. However, there has been a considerable contraction of the breeding range of *mechowi* in Southern Africa during the 20th century, and a sharp decline in numbers was noted along the middle Zambezi River between 1981 and 1991 (Harrison *et al.* 1997, Underhill *et al.* 1999). This decline has been attributed in part to the loss of riverine sand bars following the construction of large dams.

Comments: In the first edition of this report, the birds in Southern and Eastern Africa were assigned to *tenellus*, following Hayman *et al.* (1986). The new treatment follows del Hoyo *et al.* (1996). The species is said to be locally common to common throughout much of its range, and abundant on the East African coast. V. Parker (*in litt.*) has recently given estimates of 25,000-35,000 for the Southern & Eastern African population of *mechowi*, and 10,000-15,000 for the West & West-central African population. The coastal population of nominate *marginatus* in South Africa and Namibia has been conservatively estimated at 18,000 birds (Harrison *et al.* 1997).

Mongolian Plover *Charadrius mongolus*

Polytypic. Only the subspecies *pamirensis* occurs in the Agreement Area. This breeds in the mountains of west-central Asia (Pamirs, Karakoram, Ladakh, Kun Lun and Tien Shan), and winters from Southern and Eastern Africa through Southwest Asia to western India, with small numbers reaching the Seychelles and Madagascar. Only one population is recognised.

- West-central Asia/Southwest Asia & Eastern Africa (*pamirensis*): At least 30,000.

Trends: Unknown.

Changes in status: None known.

Comments: It has been estimated that 28,000 *pamirensis* winter along the Saudi Arabian Gulf coast, and the species is locally common to abundant from Ethiopia to Tanzania, with thousands wintering in Kenya (del Hoyo *et al.* 1996). This has suggested a population in excess of 30,000 birds. Almost 20,300 were counted in Southwest Asia in 1997, including 17,970 in Oman (Gilissen *et al.* 2002). In the absence of any better information, Stroud *et al.* (2002) have retained the earlier estimate of at least 30,000.

Greater Sand Plover *Charadrius leschenaultii*

Three subspecies have been described. *C. l. columbinus* breeds in Turkey, Syria and Jordan east to south-western Iran, and winters mainly in the Red Sea and Gulf of Aden, with smaller numbers in the East Mediterranean west to Tunisia. *C. l. crassirostris* breeds in Transcaucasia (Armenia and probably Azerbaijan) and Transcaspia east to south-eastern Kazakhstan and Afghanistan, and appears to winter mainly in the Persian Gulf, Red Sea and Arabian Peninsula. The nominate form breeds from easternmost Kazakhstan and Kyrgyzstan east through Central Asia to China, and winters from East Africa through South and Southeast Asia to Australasia. Three populations are relevant, although two of these, *columbinus* and *crassirostris*, overlap extensively in their winter quarters and are then virtually inseparable in the field.

- Turkey & Southwest Asia/East Mediterranean & Red Sea (*columbinus*): A.

Trends: Unknown.

- Caspian & Southwest Asia/Arabia & Northeast Africa (*crassirostris*): C.

Trends: Unknown.

- Central Asia/Eastern & Southern Africa (*leschenaultii*): B.

Trends: Unknown.

Changes in status: The population estimates and trends follow Stroud *et al.* (2002). Trends in all three populations are unknown. However, *C. l. columbinus* appears to be a very scarce bird. It is known to breed only in Turkey (perhaps 500-1,000 pairs in recent years), Syria (20-30 pairs in 1967), Jordan (a few pairs in recent years), and Iran (a few pairs in the 1970s) (data from Snow & Perrins 1998 and BirdLife International/EBCC 2000). It may also have bred in Israel and Egypt. The Turkish breeding population is threatened by the destruction of breeding habitat through the drainage of lakes and marshes and conversion to agricultural land (Tucker & Heath 1994). As such habitat conversion is widespread throughout the breeding range of this subspecies, the population as a whole may be under considerable pressure.

Comments: Hirschfeld *et al.* (2000) have recently reviewed the subspecies and populations of *C. leschenaultii*, and have shown that the birds wintering on the coast of East Africa are nominate *leschenaultii*, and not *crassirostris*, as was formerly supposed. The population of *crassirostris*, as given in the first edition of this report, has therefore been split into two populations: a population of *crassirostris* wintering in the Red Sea, Persian Gulf and Arabian Peninsula, and a population of nominate *leschenaultii* wintering in East Africa. The breeding grounds of these latter birds are unknown, but are most likely to be at the western end of the breeding range of the subspecies in eastern Kazakhstan and Kyrgyzstan. Hirschfeld *et al.* (2000) have assigned the birds that have recently been found breeding in Armenia to *crassirostris*, and suggested that the few birds breeding in Azerbaijan also belong to this form.

Caspian Plover *Charadrius asiaticus*

Monotypic. The species breeds from extreme Southeast Europe in the region of Volgograd (42°E) east through Kazakhstan to about 82°E, and migrates through Southwest Asia to winter in Africa south of the Sahara. There are two main wintering areas: in the uplands of south-western Kenya and Tanzania, and in Botswana, northern Namibia and western Zimbabwe, but it is not known if this reflects the presence of two discrete breeding populations. Only one population is recognised, the entire population of the species.

- Southeast Europe & Western Asia/Eastern & South-central Africa: B or C.

Trends: Probably decreasing.

Changes in status: The small breeding population in European Russia (roughly estimated at 100-500 pairs), at the western extremity of the species' breeding range, is declining rapidly, mainly because of the loss of its arid steppe habitat through conversion to agriculture and overgrazing (Tucker & Heath 1994, Snow & Perrins 1998, BirdLife International/EBCC 2000). Breeding populations further east are thought to be stable or decreasing only slightly (Tucker & Heath 1994, Hagemeyer & Blair 1997). There has been a contraction in the wintering range and a decline in numbers in Southern Africa during the 20th century (Harrison *et al.* 1997).

Comments: Fishpool and Evans (2001) have suggested a total population estimate of 20,000 individuals, but Stroud *et al.* (2002) have retained the earlier rough estimate of B or C (10,000-100,000). Up to 12,500 have been recorded in Kenya and Sudan, and over 6,200 were recorded in Tanzania during the African Waterbird Census of January 1995 (Dodman & Taylor 1995). Flocks of 600-1,000 have been reported in Botswana, and up to 2,000 have been recorded at one locality in Zambia.

Eurasian Dotterel *Eudromias morinellus*

Monotypic. The species breeds across Northern Eurasia from northern Britain and Scandinavia to Alaska, and in the mountain ranges of Central Asia south to north-western China and northern Mongolia. (The species occasionally breeds in the mountain ranges of Central Europe and has bred in the Netherlands). All populations winter in the semi-arid belt from south-western Iran across the Middle East and North Africa to Morocco. Western breeders generally winter further west than eastern breeders, with most winter recoveries of birds ringed in Britain and Scandinavia coming from Northwest Africa (Morocco to Libya). However, there appears to be considerable mixing between breeding areas. Only two main groups are recognised: European breeders, wintering mainly in North Africa; and Asian breeders, probably wintering mainly in the Middle East.

- Europe/Northwest Africa: 39,000-110,000.

Trends: Stable or decreasing.

- Asia/Middle East: B or C.

Trends: Unknown.

Changes in status: Stroud *et al.* (2002) give the recent trend in the European breeding population as stable or possibly decreasing. There has been a marked decline in the European breeding population since about 1850, and although most populations now appear to be relatively stable, the decline is continuing in some areas. Initially, this decline is thought to have been caused by over-hunting, but recent declines are probably due to the indirect effects of anti-locust pesticides in the wintering areas (Hagemeijer & Blair 1997). A recent increase in the small British breeding population has been attributed to a cooling of spring climate since the early 1960s (Hagemeijer & Blair 1997).

Comments: The European breeding population has recently been estimated at about 13,000-37,000 pairs (Thorup 2002), and this has been used as the basis for the population estimate given by Stroud *et al.* (2002).

Northern Lapwing *Vanellus vanellus*

Monotypic. The species breeds widely across Eurasia south to Morocco (few), Turkey and north-western Iran, and winters throughout Southern and Western Europe, North Africa and the Middle East. No discrete populations are identifiable. Two main groups are recognised: European breeders, wintering in Europe, Asia Minor and North Africa; and West Asian breeders, wintering mainly in Southwest Asia.

- Europe/Europe & North Africa: 2,800,000-4,030,000.

Trends: Decreasing.

- Western Asia/Southwest Asia: 1,640,000-2,930,000.

Trends: Unknown.

Changes in status: The population estimates and trends follow Stroud *et al.* (2002). While most breeding populations in Eastern Europe appear to be relatively stable or increasing slightly (*e.g.* in Ukraine), many countries elsewhere in Europe have experienced range contractions and decreasing numbers during recent decades. The very large Dutch population appears to have been relatively stable since the mid-1980s, but the large populations in the U.K., Germany, Sweden, Finland, Norway, Denmark, the Baltic States and the Czech Republic have all been decreasing in recent years (Hagemeijer & Blair 1997, Snow & Perrins 1998, BirdLife International/EBCC 2000). Hotker (1991) also concluded that the overall trend in the large population breeding in the European Union (571,000-634,000 pairs) was decreasing. The principal causes of the decline are drainage, more intensive use of grasslands, and greater use of agricultural chemicals (Hagemeijer & Blair 1997).

Comments: The estimates given by Stroud *et al.* (2002) are based on the recent estimates of

breeding populations given in Thorup (2002). Stroud *et al.* include birds breeding in eastern European Russia, Ukraine and Turkey (550,000-975,000 pairs) in the 'Western Asian' population. This explains much of the discrepancy between the previous estimate for the European breeding population (about 7,000,000 birds) and the present estimate (2,800,000-4,030,000). Mid-winter counts suggest that only about 35,000 birds winter in Southwest Asia south of the Caspian.

Spur-winged Plover *Vanellus spinosus*

Monotypic. The species occurs in Southeast Europe, Asia Minor, Egypt and the Near East (east to western Iraq), and in Africa south of the Sahara from Mauritania and Senegal to Sudan, Ethiopia and Somalia, and south to Burundi and northern Tanzania. African breeders appear to be mainly sedentary. Birds breeding north of 35°N (*i.e.* in Greece, Turkey and Syria) are migratory, presumably wintering in the Levant and Egypt, but possibly also in Iraq. Birds breeding further south in Southwest Asia are mainly sedentary. Only one population is relevant, the population breeding in Southeast Europe, Southwest Asia and Egypt, and this contains a mixture of migratory and sedentary birds.

- Black Sea & Mediterranean (breeding): C.

Trends: Increasing.

Changes in status: None known. The small breeding population in Greece decreased from about 120-170 pairs in 1970 to 32-45 pairs in 1993, mainly due to the loss of wetland habitat. However, numbers seem to be stable in many parts of Turkey, and increases have been reported in Egypt and Israel during the last 30 years (Tucker & Heath 1994). In Israel, the population increased from only 300 pairs in 1975 to 5,000-10,000 pairs in the 1980s (Snow & Perrins 1998). This dramatic increase has been attributed to the considerable expansion of suitable habitat in the form of irrigated agricultural land. A few pairs have bred in Cyprus since 1988 (10-14 pairs in recent years).

Comments: Stroud *et al.* (2002) did not include this species in their review, and as no new information has become available, the previous estimate of C (25,000-100,000) is retained. The total breeding population probably numbers between 10,000 and 20,000 pairs, comprising several thousand pairs in Egypt, 1,000-5,000 pairs in Turkey, 5,000-10,000 pairs in Israel and probably less than 100 pairs elsewhere (data from Snow & Perrins 1998). Between 5,000 and 15,000 birds are thought to winter in Egypt (del Hoyo *et al.* 1996).

White-headed Lapwing *Vanellus albiceps*

Monotypic. The species is widespread in Africa south of the Sahara from Senegal and Gambia to south-western Sudan and south to northern Angola. Three relatively discrete populations can be identified: (1) a sedentary population of about 6,000-8,000 individuals in south-eastern Tanzania (N. Baker, *in litt.*); (2) a largely sedentary population in south-eastern Africa (Zambia, Zimbabwe,

Mozambique and South Africa), subject only to local movements (Underhill *et al.* 1999); and (3) a partially migratory population in West and Central Africa (from Senegal and Southwest Sudan to central Democratic Republic of Congo and northern Angola). The species is a regular migrant in most of West Africa, moving north during the rainy season. Only one migratory population is relevant.

- West & Central Africa: 10,000-20,000.

Trends: Unknown.

Changes in status: None known. The species is generally fairly common in West and Central Africa. V. Parker (*in litt.*) has recently given an estimate of 10,000-20,000 individuals for this population.

Wattled Lapwing *Vanellus senegallus*

Four subspecies have been described: *senegallus* from Senegal to Sudan, north-eastern Democratic Republic of Congo and Uganda; *solitaneus* from southern Democratic Republic of Congo to northern Namibia; *lateralis* from eastern Democratic Republic of Congo and Uganda to South Africa (Natal); and *major* in Ethiopia. Some authors lump *solitaneus* with *lateralis*, and *major* with *senegallus*. *V. s. major* is virtually confined to Ethiopia and Eritrea. Other populations are migratory, but the movements are complex and poorly understood. In Southern African, the species appears to be a partial altitudinal migrant (Underhill *et al.* 1999), while in West Africa, birds move north during the wet season. Three populations are relevant.

- West Africa (*senegallus*): C.
Trends: Unknown.
- Southwest Africa (*solitaneus*): C.
Trends: Unknown.
- Eastern & South-eastern Africa (*lateralis*): C.
Trends: Unknown.

Changes in status: None known. The species is generally fairly common throughout much of its extensive range, although seldom very numerous. There have been no major changes in its distribution in Southern Africa during the 20th century, and in certain areas, it appears to have adapted well to man-modified habitats (Harrison *et al.* 1997).

Comments: Fishpool and Evans (2001) have given an estimate of C (25,000-100,000) for the total population of the species, but this is now thought to be too low (V. Parker, *in litt.*). Parker has estimated the population of *senegallus* at 20,000-100,000 individuals, and that of *solitaneus* and *lateralis* combined at 50,000-100,000 individuals. An estimate of C (25,000-100,000) has therefore been adopted for each of the three populations. The population of *major* in Ethiopia and Eritrea has been estimated at 5,000-15,000 individuals (V. Parker, *in litt.*),

Senegal Lapwing *Vanellus lugubris*

Monotypic. The species is very patchily distributed in Africa south of the Sahara from Sierra Leone and southern Mali to southern Uganda and southern Kenya, and south in Eastern Africa to Mozambique and north-eastern South Africa. It is migratory throughout much of its range, but the movements are complex and poorly understood. Two populations are recognised: a rather small population in the southern parts of West Africa, from southern Mali and Guinea-Bissau to south-western Nigeria, and a much larger population in Central and Eastern Africa.

- Southern West Africa: 5,000-20,000.
Trends: Probably decreasing.
- Central & Eastern Africa: 20,000-50,000.
Trends: Decreasing.

Changes in status: The species appears to be decreasing throughout its range as a result of habitat loss through clearance of woodlands for agriculture and deforestation for charcoal manufacture (V. Parker, *in litt.*). It may have decreased in parts of South Africa as a result of a change in veld-burning practices (Harrison *et al.* 1997).

Comments: Only a single population of the species was recognised in the first edition of this report. However, the small West African population is widely separated from the Central and Eastern African population, and clearly merits separate treatment. V. Parker (*in litt.*) has estimated this population at only 5,000-20,000 individuals, and the Central and Eastern African population at 20,000-50,000 individuals.

Black-winged Lapwing *Vanellus melanopterus*

Two subspecies have been described: *melanopterus* in Sudan, Ethiopia and Somalia, and *minor* in Kenya, Tanzania and Southern Africa. *V. m. melanopterus* is mainly sedentary. There are two discrete populations of *minor*; a population which breeds in the highlands of Kenya and northern Tanzania and undertakes short altitudinal migrations; and a population which breeds in the highlands of South Africa and winters mainly on the coastal plain from southern Mozambique to East Cape. Only the latter is relevant.

- Southern Africa (*minor*): 2,000-3,000.

Trends: Decreasing.

Changes in status: The population of *minor* in Southern Africa is poorly known. It is nowhere abundant, and is thought to be decreasing as a result of the loss of habitat through changes in grazing and burning practices (Harrison *et al.* 1997). Underhill *et al.* (1999) have recently estimated the total population at only 2,000-3,000 individuals.

Comments: del Hoyo *et al.* (1996) and Harrison *et al.* (1997) assign the Eastern African population to *melanopterus*.

Crowned Lapwing *Vanellus coronatus*

Three subspecies have been described: *coronatus* from south-eastern Sudan and Ethiopia to Angola, Zimbabwe and South Africa; *demissus* in Somalia; and *xerophilus* in south-western Angola, Namibia, Botswana, western Transvaal and extreme western Zimbabwe. *V. c. demissus* is sedentary. Other populations are migratory, undertaking regular seasonal movements in response to changes in habitat. Three relatively discrete migratory populations are recognised: (1) a population of *coronatus* in Eastern Africa south to eastern South Africa; (2) a Central African population of *coronatus* in Southwest Uganda, eastern Democratic Republic of Congo, Rwanda and Burundi; and (3) the entire population of *xerophilus* in south-western Africa.

- Eastern & Southern Africa (*coronatus*): 200,000-400,000.

Trends: Probably increasing.

- Central Africa (*coronatus*): Unknown.

Trends: Unknown.

- Southwest Africa (*xerophilus*): Unknown.

Trends: Unknown.

Changes in status: The species has expanded its range in Southern Africa as a result of human activities (*e.g.* the clearing of vast areas of bush and woodland), but improved grazing practices with lower stocking rates and hence longer grass may have had a negative impact on abundance in some areas (Harrison *et al.* 1997). V. Parker (*in litt.*) suggests that overall the Eastern and Southern African population of *coronatus* is probably increasing.

Comments: The species is common to abundant in Eastern Africa (*coronatus*), locally common in Central Africa (*coronatus*), and common in Southwest Africa (*xerophilus*). V. Parker (*in litt.*) has recently estimated the Eastern and Southern African population at 200,000-400,000 individuals.

Brown-chested Lapwing *Vanellus superciliosus*

Monotypic. The species has only been proven to breed in southern Nigeria, although it probably breeds in a narrow band from Togo to north-eastern Democratic Republic of Congo. It is a trans-equatorial migrant, occurring in the breeding range only during the dry season (late November to early June), and spending the non-breeding season in southern Democratic Republic of Congo, Rwanda, Burundi, Uganda, south-western Kenya and north-western Tanzania. Only one population is recognised, the entire population of the species.

- West & Central Africa: A/B.

Trends: Unknown.

Changes in status: None known. The species is very poorly known. It is generally uncommon to rare, although local concentrations have been recorded in a few areas in its non-breeding range (Urban *et al.* 1986). Fishpool and Evans (2001) have given a population estimate of A/B (<25,000 individuals).

Sociable Lapwing *Vanellus gregarius* (*Chettusia gregaria*)

Monotypic. The Sociable Lapwing breeds in south-eastern Europe and Western Asia from the lower Volga east to eastern Kazakhstan. Most birds apparently migrate southwest to winter in Northeast Africa (mainly northern Ethiopia and Sudan) and to a much lesser extent in Israel, although some birds migrate southeast to winter in northern India and Pakistan. The species was formerly a regular winter visitor and passage migrant in Egypt, but there have been very few records in recent years. Old reports of wintering in Iraq have now been discounted (Kasperek 1992). Only the population wintering in Northeast Africa is currently included in the Action Plan (see also Section 2.2).

- Southeast Europe & Western Asia/Northeast Africa: 400-1,200.

Trends: Decreasing.

Changes in status: There has been a marked contraction of range and decline in numbers throughout Eastern Europe and parts of Western Asia during the 20th century, and this decline seems to have speeded up in recent years (Tucker & Heath 1994, Hagemeyer & Blair 1997, Snow & Perrins 1998, RBCU/CIS 2002). In northern Kazakhstan, numbers fell by 40% between 1930 and 1960, and by a further 50% between 1960 and 1987 (Tucker & Heath 1994). The decline has been attributed mainly to the conversion of grass steppes into arable land and the consequent increase in grazing pressure on remaining grasslands (Belik 1994, Tucker & Heath 1994, Hagemeyer & Blair 1997, RBCU/CIS 2002). The total breeding population, now confined to the steppes between the Volga and Ural Rivers in European Russia and western Kazakhstan, has recently been estimated at only 200-600 pairs or about 600-1,800 individuals (RBCU/CIS 2002). The majority of these birds (400-1,200) migrate southwest to winter in Northeast Africa, while the remainder migrate southeast to India and Pakistan (Stroud *et al.* 2002).

Comments: *Vanellus gregarius* is a globally threatened species in the category 'Vulnerable' (BirdLife International 2000), and is included in Appendix I of the Bonn Convention. An International Action Plan for the Sociable Lapwing has recently been prepared for the Secretariat of the AEW and BirdLife International Europe (RBCU/CIS 2002).

White-tailed Lapwing *Vanellus leucurus*

Monotypic. The species breeds from central Iraq and Azerbaijan east across Southwest Asia to Lake Balkhash in Kazakhstan. Populations breeding in southern Iran and Iraq appear to be mainly sedentary, but populations breeding in Kazakhstan, Turkmenistan, Uzbekistan and Kyrgyzstan are migratory. There is very little evidence of any southwest movement of birds across Iran in autumn, and it now seems likely that the bulk of this Central Asian breeding population migrates south or southeast to winter in Pakistan and Northwest India. Large numbers of birds have been recorded on passage in the Seistan Basin on the Iran/Afghanistan border, presumably from this population. A relatively small number of birds (perhaps only a few thousands) spend the winter in Northeast Africa (south to northern Sudan). The origin of these birds is uncertain, but it seems likely that they are from the population breeding in the Caspian region, Iran and Iraq, rather than Central Asia (Stroud *et al.* 2002). Only one population is currently included in the Action Plan, the population wintering in Southwest Asia and Northeast Africa. This comprises a mixture of migratory and sedentary birds. (See also Section 2.2).

- Southwest Asia/Southwest Asia & Northeast Africa: B.
Trends: Probably decreasing.

Changes in status: Stroud *et al.* (2002) have concluded that the Southwest Asian breeding population may now be in sharp decline, in view of the massive loss of wetlands that has occurred in the Mesopotamian Marshes of Iraq (the core breeding area of this population) within the past two decades. There has been some expansion in range in the north and west since the mid-1960s, with recent breeding in the north Caspian region, Azerbaijan, Armenia and Turkey (Hagemeijer & Blair 1997, Snow & Perrins 1998), but the numbers of birds involved is small. There are also recent breeding records from eastern Arabia (Snow & Perrins 1998).

Comments: The population size is poorly known, as the main breeding and wintering areas are likely to be in Iraq. Given the great reduction in wetland habitats in Iraq in recent years, Stroud *et al.* (2002) have given a conservative estimate of B (10,000-25,000), in preference to the previous estimate of B/C. Fishpool and Evans (2001) estimated the African wintering population at 5,000 birds, but this may be too high, as the total wintering population in Sudan was estimated at only 600-1,100 birds in the 1980s (Summers *et al.* 1987).

SCOLOPACIDAE

Great Snipe *Gallinago media*

Monotypic. The species breeds in Northern and Central Europe and Northwest Asia east to 90°E, and migrates southwest to winter in Africa south of the Sahara. Some birds winter in West Africa from Mali to Chad, but the majority winter in southern Democratic Republic of Congo, western and southern Tanzania, Angola, Zambia and Malawi. The species occurs commonly on autumn passage in the Ethiopian Highlands, at the height of the rainy season in August-September. The relatively small breeding population in Norway and Sweden is thought to winter mainly in West Africa. The large population breeding in Western Siberia and Northeast Europe is thought to migrate south on a relatively narrow front through Ethiopia and East Africa to wintering areas mainly in Southeast Africa, and to return north in spring on a broad front across Central Africa, the central Sahel Zone and the Mediterranean (Massoli-Novelli 1988). Two main breeding groups are recognised.

- Scandinavia/probably West Africa: 18,000-51,000.

Trends: Stable.

- Western Siberia & Northeast Europe/Southeast Africa: D.

Trends: Probably decreasing.

Changes in status: No change has been proposed to the earlier population estimate and trends for the Scandinavian breeding population since the first edition of this report. This population is thought to have been relatively stable since about 1945 (Tucker & Heath 1994, Hagemeijer & Blair 1997, BirdLife International/EBCC 2000, Kålås 2002). Decreases were reported in southern Norway and southern Sweden in the latter part of the 19th century, but there has been some recovery since then.

The population breeding in Northeast and Central Europe has been declining since the 19th century. There was a marked contraction in the breeding range in Central Europe in the second half of the 19th century and early 20th century, and a long-term decline in numbers since then. In recent decades, large decreases have been reported in the breeding populations in Belarus, southern European Russia and Ukraine, and smaller decreases in Estonia, Lithuania and Poland (BirdLife International/EBCC 2000). These recent declines have been attributed to the loss and deterioration of floodplain meadows and marshland (Tucker & Heath 1994, Kålås 2002).

Comments: *G. media* is listed as 'Near-threatened' by BirdLife International (2000) because of the

widespread decline of the species in Central and Eastern Europe. An International Action Plan for the Great Snipe has recently been prepared for BirdLife International (Kålås 2002).

The Norwegian breeding population has been estimated at 5,000-15,000 pairs (BirdLife International/EBCC 2000) and the Swedish population at 1,000-2,000 pairs (Koskimies 1993). These figures suggest a total Scandinavian population of 6,000-17,000 pairs or 18,000-51,000 individuals.

The population breeding in Central and Eastern Europe has recently been estimated at about 47,000-121,500 pairs (data from Thorup 2002), giving a total of 141,000-365,000 birds. To this should be added an unknown, but possibly very large, number of birds breeding in Western Siberia, given that about 50% of the breeding range lies to the east of the Urals. A population of *D* has therefore been adopted. Massoli-Novelli (1988) estimated that approximately 10 million *G. media* passed through the Ethiopian Highlands on autumn migration. This estimate was based on extrapolation from a single small study area, and is therefore very unreliable, but nevertheless suggests that the species is considerably more abundant than was formerly supposed.

Common Snipe *Gallinago gallinago*

Three subspecies have been described, two of which occur in the Agreement Area (the third subspecies, *delicata*, occurs in the Americas). The nominate subspecies has a wide breeding distribution across Western Eurasia, wintering south to northern Democratic Republic of Congo and western Tanzania (rarely to Zambia and Malawi). *G. g. faroensis* breeds in Iceland, the Faeroes, Orkney and Shetland, and winters mainly in Ireland. Fennoscandian populations of the nominate race winter mainly in Ireland, the U.K., France and Iberia. Central European populations winter mainly in Southwest Europe and Northwest Africa. West Siberian breeders winter mainly in Southwest Asia and Subsaharan Africa. Most British and Irish breeders are relatively sedentary. Three main breeding groups are recognised: (1) nominate *gallinago* breeding in Europe and wintering mainly in Southern and Western Europe and Northwest Africa; (2) *gallinago* breeding in Western Siberia and wintering in Southwest Asia and Subsaharan Africa; and (3) the entire population of *faroensis*, wintering mainly in Ireland.

- Europe/South & West Europe & Northwest Africa: E.

Trends: Decreasing.

- Western Siberia/Southwest Asia & Africa: Over 1,500,000.

Trends: Unknown.

- Iceland, Faeroes & northern Scotland/Ireland (*faroensis*): 570,000.

Trends: Probably stable.

Changes in status: Stroud *et al.* (2002) give the trends of the European breeding population of nominate *gallinago* as decreasing. Many authors have reported declines in Europe since the end of the last century, and have attributed these declines to the drainage and degradation of wetlands. BirdLife International/EBCC (2000) report decreases in the breeding populations in 19 European countries (rapid in eight), stable populations in ten countries, and fluctuating populations in two countries. They found no evidence of any increases. Hotker (1991) concluded that the overall trend in the population breeding in the European Union (57,200-59,000 pairs) was decreasing, probably through loss of breeding habitat. In Finland, numbers more than doubled between the 1940s and the 1970s, but decreased by 33% during the 1980s, and have continued to decrease since then (Hagemeijer & Blair 1997). A recent analysis of the numbers of snipe shot at a marsh in north-western France revealed that although there was considerable fluctuation from year to year, the long-term trend from the early 1970s to the mid-1990s was more or less stable (Olivier 1996). Numbers in European Russia are thought to have been relatively stable in recent decades, and there may have

been some increase on the Kola Peninsula during the 20th century (Snow & Perrins 1998).

By contrast, the breeding population in Iceland (*i.e.* the bulk of the population of *faroensis*) is thought to be stable (Koskimies 1993, Hagemeyer & Blair 1997, BirdLife International/EBCC 2000).

Comments: There is considerable dispute as to the size of the European population of *gallinago*. Beintema & Muskens (1983) estimated that between 20 million and 30 million birds passed through Northwest Europe in late summer. This estimate was accepted by Kalchreuter (1994) and Devort (1997), and was the basis for the estimate in the first edition of this report (>20,000,000). BirdLife International/EBCC (2000) estimated the European breeding population at 1,800,000-11,000,000 pairs including between 1,000,000 and 10,000,000 pairs in European Russia. These figures suggest a minimum population of 5.4 million and a possible maximum of 33 million. However, using data from a recent review of breeding waders in Europe by Thorup (2002), Stroud *et al.* (2002) estimate the European population of *gallinago* at only 785,000-1,297,000 pairs. This includes only about 300,000-660,000 pairs in European Russia. Stroud *et al.* (2002) therefore conclude that the total population is between 2,400,000 and 3,900,000, barely more than 10% of the estimate of Beintema & Muskens (1983). Given the wide discrepancy between these two estimates, a 'population estimate' in the range E is adopted here, pending further study.

Little is known of numbers of *gallinago* breeding in Western Siberia. However, the wintering population in Eastern Africa (probably mainly West Siberian breeders) has been estimated at 1,500,000 birds. Stroud *et al.* (2002) give a revised estimate of 570,000 for the population of *faroeensis*, based on improved estimates of the breeding populations (180,000 pairs in Iceland, 2,500 pairs in the Faeroes, and 6,900 pairs in the U.K.). This is considerably lower than the previous estimate of 750,000, which is now thought to have been too high as there has been no evidence of any decline.

Jack Snipe *Lymnocyptes minimus*

Monotypic. The species has a wide breeding distribution at northern latitudes in Western Eurasia from Sweden east to 160°E, wintering south to Senegal, southern Sudan, southern India and Southeast Asia. No discrete populations are identifiable. Two main breeding populations are recognised in Western Eurasia: a European breeding population wintering mainly in Southern and Western Europe and West Africa; and a West Siberian breeding population wintering mainly in Southwest Asia and possibly also in Northeast Africa.

- Northern Europe/South & West Europe & West Africa: D or E.

Trends: Stable.

- Western Siberia/Southwest Asia & Northeast Africa: Unknown.

Trends: Unknown.

Changes in status: Some breeding populations in Central and Eastern Europe declined significantly during the 19th century, and this trend is thought to have continued throughout much of the 20th century, due to the continuing loss and degradation of wetlands. Koskimies (1993) thought that the large Finnish breeding population was probably decreasing, and Kuresoo and Leibak (1994) reported a continuous decline in the small Estonian population since the 19th century. Tucker & Heath (1994) reported probable decreases in the large wintering populations in Denmark and Britain. However, estimates of breeding numbers for the period 1970-1990 suggested that some breeding populations had stabilised (Tucker & Heath 1994, Snow & Perrins 1998), while BirdLife International/EBCC (2000) reported stable populations in all four European countries with large breeding populations (Finland, Norway, Russia and Sweden). In a recent study of the population status of the Jack Snipe commissioned by the AEWAS Secretariat, Kalchreuter (2002) concluded that

although there had undoubtedly been declines in some of the smaller breeding populations at the southern and western edges of the breeding range in the 19th and early 20th centuries, there was no evidence of any recent decline in the population as a whole. He found that long-term monitoring projects in The Netherlands and hunting kill statistics in France suggested stable or slightly increased populations.

The West Siberian population remains very poorly known, although it seems that the species is much less common east of the Urals than in European Russia (Rogacheva 1992).

Comments: There is still considerable uncertainty as to the size of the European population of the Jack Snipe. Using ringing recoveries and hunting kill statistics, Kalchreuter (2002) estimated that the total autumn population of birds passing through Western Europe was in the region of 2.5-3.0 million. He suggested that these birds originated from a breeding population of about 500,000 pairs. He also estimated that some 120,000-150,000 Jack Snipe were harvested annually in Europe and North Africa. However, BirdLife International/EBCC (2000) have estimated the European breeding population at only 22,000-130,000 pairs (equivalent to about 66,000-130,000 birds), while Stroud *et al.* (2002), using data from Thorup (2002), give an even lower estimate of 16,400-24,400 pairs or 49,000-73,000 birds. The latter authors note that the estimates of breeding populations are likely to be too low because of the highly secretive nature of the species. Nevertheless, there remains a huge discrepancy between these estimates, and the broad range of D/E is therefore adopted here.

Black-tailed Godwit *Limosa limosa*

Three subspecies have been described. *L. l. islandica* breeds mainly in Iceland and winters mainly in Britain, Ireland and western France south to Morocco. Nominate *limosa* breeds on continental Europe from France eastwards across temperate Asia to about 90°E, and winters from North and West Africa east through the Middle East to Pakistan and India. *L. l. melanuroides* breeds in Eastern Asia and is extralimital. Three main groups of nominate *limosa* can be identified in Western Eurasia and Africa: (1) birds which breed in Europe east to about 20°E and migrate southwest to winter mainly in Northwest and West Africa from Morocco and Senegal east to the Niger inundation zone in Mali; (2) birds which breed in Europe east of about 20°E and migrate south through the Black Sea region and East Mediterranean to winter in east-central Africa north of the equator, and (3) birds which breed in west-central Asia and winter in Southwest Asia and Northeast Africa (south to Kenya). Small numbers of birds, presumably from this population, extent south to Zambia, Botswana, Zimbabwe, northern Namibia and South Africa, especially in years in which there is widespread drought in Africa (Harrison *et al.* 1997). Four populations are relevant.

- Western Europe/Northwest & West Africa (*limosa*): 148,000-183,000.

Trends: Decreasing.

- Eastern Europe/Central & Eastern Africa (*limosa*): 93,000-173,000.

Trends: Decreasing.

- West-central Asia/Southwest Asia & Eastern Africa (*limosa*): C.

Trends: Unknown.

- Iceland/Western Europe (*islandica*): 35,000.

Trends: Increasing.

Changes in status: The revised population estimates and trends follow Stroud *et al.* (2002). The West European population increased considerably in the early 20th century, but there has been a widespread decrease in recent decades, notably in The Netherlands, which supports the bulk of the population. Here the breeding population fell from 120,000-135,000 pairs in 1969 to 85,000-100,000 pairs in 1989-1991 and only 40,000-50,000 pairs in recent years (Hagemeijer & Blair 1997, Thorup 2002). This decrease, which is continuing, has been attributed to improved drainage and over-intensification of grasslands mainly affecting reproductive success (Hagemeijer & Blair

1997). The revised population estimate of 148,000-183,000 (down from the previous estimate 350,000) reflects this dramatic decline.

The East European population also appears to be in decline. An increase has been reported in the small breeding population in Romania, and the breeding populations in Belarus and Hungary are thought to be stable, but decreases have been reported during the past two decades in the Czech Republic, Estonia, Lithuania, Poland, European Russia, Slovakia and Ukraine (Tucker & Heath 1994, Hagemeyer & Blair 1997, BirdLife International/EBCC 2000).

No change is known in the status of the population wintering in Southwest Asia and Northeast Africa.

Stroud *et al.* (2002) give the trends in the population of *islandica* as increasing. The numbers wintering in the U.K. increased by 55% (from 4,770 to 7,410) during the period 1981-85 to 1988-92 (Cayford & Waters 1996) and there have been increases elsewhere in the wintering areas. However, the breeding population in Iceland thought to be stable or increasing only slightly (Tucker & Heath 1994, Snow & Perrins 1998). The revised estimate of 35,000 is considerably lower than the previous estimate of 65,000 because the latter estimate included a large number of nominate *limosa* wintering in Iberia and northern Morocco.

Comments: BirdLife International/EBCC (2000) have given an estimate of 7,000-10,000 pairs for the breeding population of *islandica* in Iceland. More recently, Thorup (2002) has given an estimate of 25,000 pairs, suggesting a population of about 75,000 birds. Stroud *et al.* (2002) consider this figure to be much too high, and base their revised estimate of 35,000 on winter counts, which are believed to locate most non-breeding concentrations.

Bar-tailed Godwit *Limosa lapponica*

Two subspecies are normally recognised: the nominate form breeding in Western Eurasia, and *baueri* breeding in Eastern Asia and Alaska. However, Engelmoer and Roselaar (1998) have recently recognised five subspecies, three of which occur in the Agreement Area. According to these authors, the nominate form breeds in northern Scandinavia and northern Russia east to the Kanin Peninsula and winters mainly in Western Europe. *L. l. taymyrensis* nov. ssp. breeds from the Yamal Peninsula to the delta of the Anabar River and migrates southwest through Western Europe to winter in West Africa, abundantly south to Guinea Bissau and locally in the Gulf of Guinea, with some birds continuing on to south-western Africa (Namibia and South Africa). *L. l. menzbieri* breeds in northern Siberia from the Lena Delta east to Chaunsk Bay, and migrate overland to winter on the coasts of the Arabian Peninsula and southern Iran east to north-western India, with rather few birds reaching the Indian Ocean coast of East Africa. Three discrete populations are recognised, corresponding to the populations of the three subspecies.

- Northern Europe/Western Europe (*lapponica*): 120,000.

Trends: Stable.

- Western Siberia/West & Southwest Africa (*taymyrensis*): 520,000.

Trends: Decreasing.

- Central Siberia/South & Southwest Asia & Eastern Africa (*menzbieri*): 100,000-150,000.

Trends: Unknown.

Changes in status: The revised population estimates and trends follow Stroud *et al.* (2002). The population of nominate *lapponica* is thought to be stable, and the revised estimate of 120,000 is only slightly higher than the previous estimate of 115,000 from Smit and Piersma (1989). The much larger population of *taymyrensis* has shown a marked decline since the mid-1980s, and the new estimate of 520,000 reflects this (down from 700,000). A comprehensive survey of the Banc

d'Arguin in early 1997 found only 342,000 *L. lapponica*, a decrease of 37% on the 1980 total (Dodman *et al.* 1997). However, the numbers wintering in Southwest Africa have been increasing, although these represent only a small fraction of the total population. There were only two records of *L. lapponica* in Southern Africa prior to 1939, but since then it has become a regular winter visitor to the west coast (Harrison *et al.* 1997), with numbers building up to an estimated 2,600 by the mid-1980s (Summers *et al.* 1987). No change is known in the status of the population of *menzbieri* wintering in Southwest Asia and Eastern Africa. A review of recent winter counts suggest that this population, which includes birds wintering in Pakistan and western India, numbers between 100,000 and 150,000 individuals (Stroud *et al.* 2002).

Comments: All three populations were assigned to nominate *lapponica* in the first edition of this report. are probably best treated as part of the same population as the birds wintering in Southwest Asia and Eastern Africa, in which case the total population probably exceeds 100,000 birds.

Whimbrel *Numenius phaeopus*

Polytypic. Four subspecies occur in the Agreement Area, although one of these, *variegatus*, is largely extralimital. The nominate form breeds from Scandinavia across Northern Europe and Asia to the Taymyr Peninsula and middle Yenisey (about 90°E), and winters from the coasts of Africa through the Middle East to Pakistan, western India and Sri Lanka. *N. p. islandicus* breeds in north-eastern Greenland (scarce), Iceland and Scotland and winters in West Africa. *N. p. alboaxillaris* was described from wintering birds in Mozambique and is believed to breed in the steppes of the lower Volga southeast of the Urals. Four populations are relevant, the populations of *islandicus* and *alboaxillaris*, and two populations of the nominate form: (1) birds breeding in Northern Europe and wintering mainly in West Africa to the Congo River; and (2) birds breeding in Western Siberia and migrating through the Caspian region and Middle East to winter in Eastern and Southern Africa and Madagascar. The population of *variegatus* which breeds in Western and Central Siberia and winters from eastern Arabia and south-eastern Iran east to western India and Sri Lanka is largely extralimital.

- Northern Europe/West Africa (*phaeopus*): 156,000-298,000.

Trends: Unknown.

- Western Siberia/Southern & Eastern Africa (*phaeopus*): D.

Trends: Unknown.

- Iceland, Faeroes & Scotland/West Africa (*islandicus*): 610,000.

Trends: Stable.

- Southwest Asia/Eastern Africa (*alboaxillaris*): A.

Trends: Unknown. Possibly on the verge of extinction.

Changes in status: The revised population estimates and trends follow Stroud *et al.* (2002). In the first edition of this report, the combined populations of North European *phaeopus* and *islandicus* were estimated at 600,000-700,000 birds and thought to be increasing slightly, especially in Fennoscandia. Stroud *et al.* (2002) give an estimate of 610,000 for the population of *islandicus*, based on estimates of the breeding populations, and give the trend as stable. These authors give the trend in the North European breeding population of nominate *phaeopus* as uncertain. However, BirdLife International/EBCC (2000) report increases in Estonia and Finland, stable populations in Norway, Russia and Sweden, and a decrease in the small population in Belarus, suggesting that overall the population is stable or increasing slightly. No change is known in the overall status of the West Siberian breeding population, except that the small number of birds wintering in Southern Africa (currently estimated at about 3,300 birds) has been increasing during the 20th century (Harrison *et al.* 1997).

Very little information is available on the status and abundance of *N. p. alboaxillaris*. However, the bird was evidently rare by the 1950s (Dement'ev & Gladkov 1969), and was thought by Belik (1994) to be extinct. Widespread ploughing of the native steppe and intensification of grazing on the remaining virgin lands in the mid-20th century led to a rapid decline in the Kazakhstan population of *Numenius arquata*, and are thought to have been responsible for the decline in *N. p. alboaxillaris*. However, a single bird showing the characteristics of *alboaxillaris* was seen in the steppes of southern Western Siberia in May/June 1997 (Boere & Yurlov 1998).

Comments: In the first two editions of *Waterfowl Population Estimates* and first edition of this report, the Icelandic and Scottish breeders were assigned to nominate *phaeopus* and included with the North European birds in a single European breeding population. Engelmoer and Roselaar (1998) have argued for the validity of *islandicus* as a distinct form, and their treatment has been adopted by Stroud *et al.* (2002). The breeding population of nominate *phaeopus* in Northern Europe has recently been estimated at 52,100-99,200 pairs (Thorup 2002), equivalent to a population of 156,000-298,000 birds (Stroud *et al.* 2002). The population of *islandicus* is estimated at about 203,000 pairs, including 200,000 pairs in Iceland, 2,500 pairs in the Faeroes, 530 pairs in the U.K., and less than 50 pairs in north-eastern Greenland (Boertmann 1994, Thorup 2002).

N. p. alboaxillaris was described in 1921 from specimens collected in Mozambique, and believed by its describer to be a resident form in East Africa and on Mauritius (Peters 1934). Peters (1934) did not give it subspecific status, but noted that if it was a valid form, its breeding range was likely to be somewhere in Western Siberia. Dement'ev & Gladkov (1969), quoting Portenko, give the breeding range as the steppes beyond the Volga River and on the Ural River, but these authors were unable to find any fully confirmed breeding records. They also noted that a number of specimens of nominate *phaeopus* had been obtained in summer in the supposed breeding grounds of *alboaxillaris*. According to Vaurie (1965), the form *alboaxillaris* represents rare individual variants of the nominate form. Hayman *et al.* (1986) also suggested that *alboaxillaris* was merely a colour morph of the nominate form, while Urban *et al.* (1986) questioned its validity, and Johnsgard (1981) disregarded it entirely. However, Cramp & Simmons (1983) accept it as a valid form, on the basis of size difference, but suggest that nominate *phaeopus* and *alboaxillaris* probably intergrade somewhere in south-eastern European Russia, as birds with intermediate coloration sometimes occur on migration as far west as Central Europe. Clearly, further study is required.

Slender-billed Curlew *Numenius tenuirostris*

Monotypic. The only definite breeding records are in the Tara region near Omsk (75°E) in Russia. The species migrates southwest to winter in the Mediterranean Basin west to Morocco, and perhaps also in small numbers in Iraq and the Arabian Peninsula. There have been very few confirmed records anywhere in its range in recent years, and the species now appears to be on the verge of extinction. Only one population is recognised, the entire population of the species.

- Central Siberia/Mediterranean & Southwest Asia: <50.

Trends: Decreasing.

Changes in status: Gretton (1991) estimated the total population at 100-400 in the late 1980s. Gretton (1994) revised the population estimate to only 50-270 birds, and Stroud *et al.* (2002) have retained this. However, BirdLife International (2000) have given an estimate of <50, and in view of the almost complete lack of records in the last few years, this estimate is adopted here. Between 1980 and the mid-1990s, there were on average only about 10 confirmed sightings of the species per year, involving only 15-22 individuals (A. Gretton in Heredia *et al.* 1996). The only substantial number of *N. tenuirostris* seen in recent years was a flock of 19 in Italy in the winter of 1994/95. The main

cause of the decline appears to have been excessive hunting in the 19th century and early part of the 20th century, although loss of habitat on the breeding grounds may have been an important contributing factor.

Comments: *Numenius tenuirostris* is a globally threatened species in the category 'Critical' (BirdLife International 2000). It is listed in Appendix I of the Bonn Convention, and is the subject of a Memorandum of Understanding concluded under the Bonn Convention in 1994 (Memorandum of Understanding Concerning Conservation Measures for the Slender-billed Curlew *Numenius tenuirostris*). The European Commission is financing a conservation and monitoring project for the Slender-billed Curlew under its LIFE Programme. An Action Plan for *N. tenuirostris* in Europe has been compiled by A. Gretton (*in Heredia et al.* 1996).

It has recently been suggested that the main breeding grounds of the species were in wet areas in the forest-steppe and northern steppe zones of Western Siberia (Danilenko *et al.* 1996). Some of the old summer records of *N. tenuirostris* on the steppes of Eastern Europe, Western Siberia and Kazakhstan perhaps relate to breeding birds. If this was the case, the widespread conversion of these steppes to agricultural land and intensification of grazing on the remaining virgin steppes may have been the principal cause for the near-disappearance of this species. A survey of many of the remaining steppe areas in May and June 1997 failed to locate any *tenuirostris* (Boere & Yurlov 1998).

Eurasian Curlew *Numenius arquata*

Three subspecies have been described. The nominate form breeds widely in Western, Central and Northern Europe east to the Urals, and winters south commonly to Mauritania. *N. a. orientalis* breeds from Southeast Europe and the Urals east across Asia to about 120°E, the westernmost populations wintering through the Middle East to Eastern and Southern Africa, and occasionally also on the coast of Southwest Africa north to the Gulf of Guinea. *N. a. suschkini* (recently considered valid by Engelmoer and Roselaar 1998) breeds on the steppes to the south of the Urals and in Kazakhstan, and is thought to winter mainly in Africa, where it would overlap extensively with *orientalis*. There may also be some mixing between nominate *arquata* and *orientalis* in the Gulf of Guinea, but the Banc d'Arguin in Mauritania seems to be the usual southern limit for birds of the nominate race. According to Harrison *et al.* (1997), there have been no definite records of nominate *arquata* in southern Africa. Three populations are recognised, corresponding to the entire populations of *arquata* and *suschkini* and the Western Siberian breeding population of *orientalis*.

- Europe/Europe, North & West Africa (*arquata*): 420,000.

Trends: Stable or increasing slightly.

- Western Siberia/Southwest Asia, Eastern & Southern Africa (*orientalis*): C.

Trends: Probably decreasing.

- Southeast Europe & Southwest Asia (breeding - *suschkini*): Unknown.

Trends: Probably decreasing.

Changes in status: The revised population estimates and trends follow Stroud *et al.* (2002). The current status of the European population of *arquata* is uncertain. Tucker and Heath (1994) concluded that the species was declining both as a breeding bird and in winter, while Hotker (1991) thought that the breeding population in the European Union (about 60,000 pairs) was stable or decreasing slightly. Recent decreases have been reported in the breeding populations in many parts of Europe, notably in Sweden, Norway, Ireland, Germany, Latvia and Lithuania (BirdLife International/EBCC 2000), and there is also some evidence of a slight decline in the large British population, especially in the south (Gibbons *et al.* 1993). The decreases have been most pronounced near the edge of the species' breeding range in Southern and Central Europe. However, recent increase have been reported in Belgium, Denmark, France, The Netherlands and parts of Germany,

and the large populations in Finland and European Russia are thought to be relatively stable or increasing slightly (Tucker & Heath 1994, Hagemeyer & Blair 1997, Snow & Perrins 1998, BirdLife International/EBCC 2000). Tucker & Heath (1994) thought that there had been a recent decrease in the number of birds wintering in Western Europe, especially in France and Ireland, and decreases have been reported in the numbers of birds wintering at the Banc d'Arguin in Mauritania (Dodman *et al.* 1997) and in the Gulf of Gabes in Tunisia (van der Have *et al.* 1997). However, Cayford & Waters (1996) found that the number wintering in Britain increased by 26% (from 91,200 to 115,000) during the period 1981-85 to 1988-92. It may be that the widespread (and conspicuous) declines in the relatively small breeding populations at the edge of the species' range have been more than compensated by increases elsewhere, and that overall numbers have remained relatively stable or are increasing slightly (Stroud *et al.* 2002). The revised estimate of 420,000, based on winter counts, represents a substantial increase on the previous estimate of 348,000 (from Smit & Piersma 1989).

N. a. orientalis is thought to be decreasing. It is reported to have become rare in many parts of its breeding range in Central Siberia because of a loss of suitable habitat to development (Rogacheva 1992), and has become less abundant on its wintering areas in Southern Africa since the beginning of the 20th century (Harrison *et al.* 1997).

Little is known of population size or trends of *suschkini*, and Stroud *et al.* (2002) do not attempt to give an estimate. However, there are thought to be no more than 1,200-2,200 pairs of *N. arquata* (presumably *suschkini*) breeding in south-eastern European Russia (Thorup 2002) and, according to Belik (1994), the species has disappeared from much of its range in the steppe zone of Kazakhstan since the 1950. He reports a tenfold decrease in the numbers of curlews breeding in the Transvolga region of Kazakhstan over the past two decades. Thus it would seem likely that the population of *suschkini* is both small and declining.

Comments: In the first two editions of *Waterfowl Population Estimates* and first edition of this report, the population of *suschkini* was assigned to *orientalis* and included with it in an enlarged population of *orientalis*.

Engelmoer and Roselaar (1998) have argued for the validity of *suschkini* as a distinct form, and their treatment has been adopted by Stroud *et al.* (2002).

The breeding population in Europe including Russia has recently been estimated at 244,000-320,000 pairs (Thorup 2002), suggesting a total population of 730,000-960,000 individuals. This is approximately double the estimate based on winter counts, and suggest that the latter may still be far too low.

Spotted Redshank *Tringa erythropus*

Monotypic. The species has a wide breeding distribution across northern Eurasia from central Sweden eastwards, with western populations wintering patchily in Southern and Western Europe, Northwest Africa and the Middle East and more commonly in Subsaharan Africa from Mauritania and Ethiopia south to northern Democratic Republic of Congo, Burundi and northern Tanzania. No discrete populations are identifiable. However, European breeders apparently winter mainly in Southern Europe, Northwest Africa and West Africa east to the Gulf of Guinea, while West Siberian breeders winter mainly in the Middle East and Northeast and Eastern Africa. Two main groups are recognised.

- Northern Europe/Southern Europe, North & West Africa: 77,000-131,000.

Trends: Probably stable.

- Western Siberia/Southwest Asia, Northeast & Eastern Africa: B or C.

Trends: Unknown.

Changes in status: There has been some southward expansion in the breeding range in Sweden since the 1960s, but otherwise the breeding populations in Fennoscandia and European Russia are thought to be relatively stable (Hagemeijer & Blair 1997, BirdLife International/EBCC 2000, Stroud *et al.* 2002).

Comments: The European breeding population has recently been estimated at 25,800-43,500 pairs (Thorup 2002), equivalent to a total population of about 77,000-131,000 individuals. Less than 20,000 can be accounted for in winter (Stroud *et al.* 2002), and it is assumed that the great majority are widely dispersed at wetlands in Africa south of the Sahara.

The Southwest Asian and Eastern African wintering population remains poorly known. Partial mid-winter counts give 1,000 in Southwest Asia and 8,000 in Eastern and Southern Africa.

Common Redshank *Tringa totanus*

Polytypic. Four subspecies occur in the Agreement Area. *T. t. robusta* breeds in Iceland and the Faeroes, and winters mainly in Britain and Ireland, the North Sea area and north-western France, although stragglers reach Northwest Africa. *T. t. britannica* breeds in the U.K. and Ireland, and winters mainly within the breeding range but also in north-western France and occasionally Portugal. The nominate race breeds from Fennoscandia, the Baltic and Poland east to the Urals. Fennoscandian, Baltic and west-central European birds winter in the West Mediterranean and on the Atlantic coast of Western Europe south to West Africa, while birds from Eastern Europe apparently winter in the East Mediterranean and Asia Minor, with many birds probably continuing on into Sub-Saharan Africa. *T. t. ussuriensis* breeds across Russia from the Urals to Manchuria, and winters in Eastern Africa (to about 10°S) and east through the Middle East and Southern Asia to the Philippines. Five populations are recognised.

- Northwest Europe/Western Europe, Northwest & West Africa (*totanus*): 222,500.

Trends: Decreasing.

- Central & Eastern Europe/East Mediterranean & Africa (*totanus*): 223,000-464,000.

Trends: Decreasing.

- Britain & Ireland/Britain, Ireland & France (*britannica*): 124,000-127,000.

Trends: Decreasing.

- West Asia/Southwest Asia, Northeast & Eastern Africa (*ussuriensis*): 213,000-326,000.

Trends: Unknown.

- Iceland & Faeroes/Western Europe (*robusta*): 64,500.

Trends: Stable or increasing.

Changes in status: The revised population estimates and trends follow Stroud *et al.* (2002). Both the continental European population of *totanus* and the population of *britannica* continue to decline. BirdLife International/EBCC (2000) report decreases in the large breeding populations in The Netherlands, Germany, European Russia and the U.K., and range contractions in several countries with smaller populations. In the Netherlands, the population has declined by over 50% since the 1960s (Hagemeijer & Blair 1997). Decreases have also been reported in the substantial populations in Denmark, Estonia, Latvia, Poland, Spain and Ukraine, while an increase has been reported only in Finland (BirdLife International/EBCC 2000). These widespread declines have been attributed to drainage of wetlands and agricultural intensification on the breeding grounds. Rather strangely, *T. totanus* was one of the few species of shorebirds to have shown an increase during a survey of the Banc d'Arguin in early 1997. Over 102,000 were counted during the 1997 survey, representing an increase of 46% over the 1980 total (Dodman *et al.* 1997). van der Have *et al.* (1997) also found

that there had been an increase of 28% in the numbers wintering in the Gulf of Gabes in Tunisia between 1984 and 1994 (to over 20,000).

The numbers of *robusta* breeding in Iceland are believed to be stable (Koskimies 1993; BirdLife International/EBCC 2000). However, Cayford & Waters (1996) found that the number of *T. totanus* wintering in Britain increased by 51% (from 75,400 to 114,000) during the period 1981-85 to 1988-92, and recent estimates of the numbers wintering in Northwest Europe (believed to be mainly *robusta*) suggests that there was a 34% increase between the mid-1980s and early 1990s (Stroud *et al.* 2002).

Trends in the West Asian population of *ussuriensis* remains unknown. Over 50,000 were counted at Barr al Hikman in Oman in January 1997 (Gilissen *et al.* 2002).

Comments: In the first edition of this report, the population of *britannica* was assigned to nominate *totanus* and included with it in an enlarged East Atlantic wintering population of *totanus*. Engelmoer and Roselaar (1998) have argued for the validity of *britannica* as a distinct form, and their treatment has been adopted by Stroud *et al.* (2002).

The revised population estimates for the Central and Eastern European population of *totanus*, the population of *britannica* and the population of *ussuriensis* are based on recent estimates of breeding populations from Thorup (2002). The estimates for the Northwest European population of *totanus* (222,500) and the population of *robusta* (64,500) are based on winter counts. Data from Thorup (2002) suggest that the breeding population of *totanus* in Northwest Europe is about 100,000-165,000 pairs or about 300,000-500,000 birds, *i.e.* considerably more than the estimate derived from the winter counts. The breeding population of *robusta* is estimated at about 50,000-100,000 (almost exclusively in Iceland), suggesting a population of 150,000-300,000 birds, again a much higher figure than that derived from winter counts. In both cases, it is thought that the most likely reason for the discrepancy is that the totals based on winter counts are too low.

Marsh Sandpiper *Tringa stagnatilis*

Monotypic. The Marsh Sandpiper breeds in a broad belt in the temperate zone from Eastern Europe (30°E) to about 115°E, the westernmost populations wintering in Southwest Asia and Sub-Saharan Africa south to the Cape. A few birds winter in the East Mediterranean. Two populations are recognised: (1) birds breeding in Eastern Europe and migrating through the Black Sea and Mediterranean region to winter mainly in West and Central Africa; and (2) birds breeding in Western Asia and wintering mainly in the Middle East and Eastern and Southern Africa.

- Eastern Europe/West & Central Africa: 21,000-52,000.

Trends: Unknown.

- Western Asia/Southwest Asia, Eastern & Southern Africa: C.

Trends: Unknown.

Changes in status: No change is proposed to the previous estimate of C (25,000-100,000) for the Western Asian breeding population, although it seems likely that the actual total is near the top end of this range. The breeding population in Eastern Europe has recently been estimated at 6,900 to 17,300 pairs (data from Thorup 2002), suggesting a total population of about 21,000-52,000 birds. The trends in this population are uncertain. There has been some expansion of the breeding range to the north and west in Europe in recent years, but the total population outside Russia remains very small (45-130 pairs; BirdLife International/EBCC 2000). Since the 1960s, there has been some northward expansion of the breeding range in Russia, but more recently, there have been reports of some decline in breeding populations in the Caspian and Aral Sea regions (del Hoyo *et al.* 1996).

Comments: Mid-winter censuses can account for only about 20,000 birds in Southwest Asia and Eastern and Southern Africa (Stroud *et al.* 2002).

Common Greenshank *Tringa nebularia*

Monotypic. The species breeds widely across northern Eurasia from Scotland eastwards, the westernmost populations wintering in Southern Europe (relatively few), Southwest Asia and Sub-Saharan Africa south to the Cape. The small breeding population in Scotland (1,080 pairs in 1995) apparently winters mainly in Britain, Ireland and Northwest France. Two populations are recognised: (1) birds breeding in Northern Europe and wintering in Southwest Europe, Northwest Africa and West Africa east to Chad; and (2) birds breeding in Western Siberia and wintering mainly in the Middle East and Eastern and Southern Africa. However, there is clearly a considerable amount of overlap between these populations, as ringing recoveries have shown that birds from breeding areas in Finland and north-western Russia may winter in areas as far apart as North Africa, Mali, Democratic Republic of Congo, South Africa and India (Harrison *et al.* 1997).

- Northern Europe/Southwest Europe, Northwest & West Africa: 234,000-395,000.

Trends: Stable.

- Western Siberia/Southwest Asia, Eastern & Southern Africa: D.

Trends: Unknown.

Changes in status: The new population estimate for the European breeding population follows Stroud *et al.* (2002), and is based on a recent estimate of 78,000-131,500 breeding pairs in Northern Europe (data from Thorup 2002). Tucker and Heath (1994) and Hagemeyer and Blair (1997) suggest that overall the European breeding population has been stable in recent decades. BirdLife International/EBCC (2000) report stable populations in Finland, Norway, European Russia and Sweden, which together hold the great bulk of the breeding population.

The small breeding population in Scotland also appears to have been stable in recent years, and a decrease has been reported only in the tiny population in Ukraine (BirdLife International/EBCC 2000).

Comments: The Southwest Asian and Eastern and Southern African wintering population remains poorly known. Mid-winter counts in Southwest Asia in the 1990s and estimates of national totals for many African countries give a total of 82,000 birds. Given the large gaps in coverage in Northeast Africa and Iraq, Stroud *et al.* (2002) conclude that the size of this population is in range D (100,000-1,000,000).

Green Sandpiper *Tringa ochropus*

Monotypic. The species breeds widely across northern Eurasia from Norway and Germany eastwards, the westernmost populations wintering in western and Southern Europe, North Africa, Sub-Saharan Africa south commonly to Democratic Republic of Congo and Zambia, and through Asia Minor and the Middle East to western Iran. Small numbers of birds reach Zimbabwe, Botswana and northern South Africa. Two populations are recognised: (1) birds breeding in Northern Europe and wintering in Southern and Western Europe, and North and West Africa; and (2) birds breeding in Western Siberia and wintering mainly in the Caspian region, the Middle East and Northeast Africa.

- Northern Europe/Southern & Western Europe, West Africa: 1,000,000-1,900,000.

Trends: Stable or increasing.

- Western Siberia/Southwest Asia, Northeast & Eastern Africa: D or E.

Trends: Unknown.

Changes in status: The new population estimate for the European breeding population follows Stroud *et al.* (2002), and is based on a recent estimate of 335,000-630,000 breeding pairs in Northern Europe (data from Thorup 2002). Most breeding populations in Europe appear to be stable or increasing. BirdLife International/EBCC (2000) report increases a big increase in the large Finnish population, smaller increases in Denmark and Germany, and stable populations in most other European countries. Expansions in the breeding range have been reported in Denmark, Norway, Finland and European Russia (Hagemeijer & Blair 1997, Snow & Perrins 1998).

Comments: The Southwest Asian and Eastern African wintering population remains poorly known. Given the vast range of this population and general abundance, Stroud *et al.* (2002) have concluded that the population certainly exceeds 100,000 birds, and is likely to exceed a million.

Wood Sandpiper *Tringa glareola*

Monotypic. The Wood Sandpiper breeds widely across northern Eurasia from western Norway and Denmark eastwards, the westernmost populations wintering mainly in Subsaharan Africa south to the Cape, but locally also in Northwest Africa, the Mediterranean Basin, Iraq and south-western Iran. Northwest European breeders winter mainly in West Africa east to Cameroon, while Northeast European and West Siberian breeders winter mainly in Eastern and Southern Africa, but there is a considerable amount of mixing in the Black Sea/East Mediterranean and east-central Africa. Two populations are recognised: (1) birds breeding in Northwest Europe east to Finland, the Baltic States and Belarus and wintering mainly in West Africa; and (2) birds breeding in European Russia and Western Siberia and wintering mainly in Eastern and Southern Africa.

- Northwest Europe/West Africa: 855,000-1,220,000.

Trends: Decreasing.

- Northeast Europe & Western Siberia/Eastern & Southern Africa: Over 2,000,000.

Trends: Probably stable.

Changes in status: The revised population estimates and trends follow Stroud *et al.* (2002). The new estimate for the Northwest European population is based on a recent estimate of 285,000-407,000 breeding pairs in Fennoscandia, the Baltic States and Belarus (data from Thorup 2002). The very large breeding population in Finland (200,000-300,000 pairs) has been decreasing since the 1970s, following a period of increase in the 1960s, and decreases have also been reported in recent years in Denmark, Lithuania and Ukraine (Tucker & Heath 1994, Hagemeijer & Blair 1997, BirdLife International/EBCC 2000). The reasons for the decline are unclear. Tucker & Heath (1994) attribute the decline to the drainage and exploitation of peatlands in Europe, while Vaisanen (in Hagemeijer & Blair 1997) thinks that the decline is more likely to be related to factors affecting the wintering areas in West Africa.

The large breeding population in European Russia is currently thought to be fairly stable (Snow & Perrins 1998, BirdLife International/EBCC 2000), and there has been no evidence of any change in the status of the species in Southern Africa, where it has adapted well to artificial habitats from sewage works to rice fields (Harrison *et al.* 1997).

Comments: The breeding population in European Russia has been estimated at 63,000-557,000 pairs (Thorup 2002). To these can be added an unknown, but presumably very large number of

pairs breeding in Western Siberia. Summers *et al.* (1987) gave an estimate of 250,000-500,000 for the number of birds wintering in Sudan, and recent rough estimates of wintering populations in Southern Africa have included 28,000 in Angola, 40,000 in Zambia, 10,000 in Mozambique, 10,000 in Namibia, 20,000 in Botswana, 2,000 in Swaziland, 30,000 in Zimbabwe, 51,000 in South Africa and 5,500 in Madagascar (Stroud *et al.* 2002). These figures suggest a total population in excess of two million birds.

Terek Sandpiper *Tringa cinerea*

Monotypic. The Terek Sandpiper breeds widely from Finland and Latvia eastwards across Northern Eurasia, the westernmost populations wintering in the Persian Gulf, southern Red Sea and Indian Ocean coast of Africa and Madagascar south to South Africa. A bird ringed in South Africa was recovered on the breeding grounds in eastern European Russia (Underhill *et al.* 1999). Only one population is recognised.

- NE Europe & Western Siberia/Southwest Asia, Eastern & Southern Africa: D.

Trends: Probably stable.

Changes in status: None known. There has been some westward expansion of the breeding range in Europe during the 20th century, with birds breeding in Finland since the 1950s and in Latvia in the 1980s (Hagemeijer & Blair 1997). The large breeding population in Russia is probably stable, as is the small population in Belarus (Snow & Perrins 1998, BirdLife International/EBCC 2000).

Comments: The breeding population in Europe excluding Russia is estimated at only 90-155 pairs, while that in European Russia is estimated at between 17,000 and 71,000 pairs (data from Thorup 2002). These figures suggest that there are at least 50,000 and possibly as many as 200,000 birds originating from breeding areas in Europe. To these can be added an unknown, but presumably equally large number of birds from breeding areas in Western Siberia. Given the uncertainties, an estimate in range D (100,000-1,000,000) is adopted here. Obviously, the previous estimate of 44,000 based on partial mid-winter counts in Southwest Asia and Eastern Africa was much to low.

Common Sandpiper *Tringa hypoleucos*

Monotypic. The species breeds widely across temperate Eurasia, the westernmost populations wintering mainly in Subsaharan Africa south to the Cape. Very small numbers winter in Southwest Europe, the Mediterranean Basin and Southwest Asia. Western and Central European breeders (east to about 30°E) winter mainly in West Africa. Birds breeding in Eastern Europe (and probably also eastern Turkey and north-western Iran) pass through the Black Sea/East Mediterranean region to winter mainly in Eastern, Central and Southern Africa. There have been seven recoveries of South African birds on the breeding grounds in European Russia (Underhill *et al.* 1999). The bulk of the population breeding east of the Urals probably migrates southeast to winter in Southern Asia, and is thus extralimital. Two populations are recognised: (1) birds breeding in Western and Central Europe and wintering mainly in West Africa; and (2) birds breeding in Eastern Europe and Western Siberia and wintering mainly in Eastern, Central and Southern Africa.

- Western & Central Europe/West Africa: 1,400,000-2,000,000.

Trends: Stable.

- Eastern Europe & Western Siberia/Central, Eastern Africa & Southern Africa: E

Trends: Probably stable.

Changes in status: The new estimate for the West and Central European population is based on a recent estimate of 464,000-683,000 breeding pairs in the relevant countries (data from Thorup 2002). The huge breeding populations in Fennoscandia and the large breeding populations in

Belarus, Estonia and Latvia are considered to be stable (Hagemeijer & Blair 1997, BirdLife International/EBCC 2000), while in the U.K., overall numbers have remained fairly stable in recent years, although there have been contractions on the fringes of the species' range (Gibbons *et al.* 1993). Smaller populations south of about 55°N are either stable or decreasing slightly. A 30% contraction in breeding range has been reported in Ireland since 1968, and decreases have been reported in recent years in Austria, Germany, Lithuania, Poland, Slovenia and Switzerland. However, there are also reports of increases in Hungary and Slovakia (Hagemeijer & Blair 1997, Snow & Perrins 1998, BirdLife International/EBCC 2000).

The numbers breeding in European Russia are considered to be stable (BirdLife International/EBCC 2000), but trends in Western Siberia are unknown.

Comments: The breeding population in European Russia is estimated at 365,000-440,000 pairs, and in Moldova, Romania, Turkey and Ukraine at 7,000 and 11,500 pairs (Thorup 2002). No information is available on the numbers breeding in Western Siberia and Southwest Asia, but these are likely to be large, given the wide distribution of the species and its abundance on migration. This population clearly exceeds a million birds (E), and could be much larger (Stroud *et al.* 2002).

Ruddy Turnstone *Arenaria interpres*

Two subspecies are normally recognised: the nominate form breeding mainly in Eurasia, and *morinella* breeding in North America. The nominate form breeds in north-eastern Canada and Greenland and from West Norway (and locally Denmark) eastwards across Northern Eurasia, the westernmost populations wintering on the coasts of Western Europe, the Middle East and Africa south to the Cape (including Madagascar). Three largely discrete populations are identifiable: (1) a population breeding in north-eastern Canada (Axel Heiberg Island and Ellesmere Island) and Greenland, and wintering in Western Europe from the Irish Sea and North Sea to Iberia, with a few reaching West Africa; (2) a population breeding in Fennoscandia and north-western Russia, and migrating through Western Europe and the West Mediterranean to winter on the Atlantic coast of Africa from Morocco to the Gulf of Guinea (with a few birds wintering in the West Mediterranean); and (3) a population breeding on the Arctic tundra east from about 50°E to Central Siberia, and migrating overland via Kazakhstan, the Caspian Sea and the Black Sea to winter in the East Mediterranean, Red Sea, Persian Gulf and Indian Ocean coast of Africa south to South Africa. There is some evidence to suggest that the birds wintering in Southern Africa undertake a loop migration, reaching Southern Africa via the east coast of Africa, and returning northward along the west coast of Africa to the Gulf of Guinea then across the Sahara to the East Mediterranean (Harrison *et al.* 1997). Birds ringed or recovered in South Africa have been recorded in the Black Sea and Caspian Sea in autumn, and in the central Mediterranean in spring (Underhill *et al.* 1999).

- Northeast Canada & Greenland/Western Europe & Northwest Africa: 100,000-200,000.

Trends: Increasing.

- Northern Europe/West Africa: 49,000-119,000.

Trends: Stable.

- West & Central Siberia/Southwest Asia, Eastern & Southern Africa: 100,000.

Trends: Unknown.

Changes in status: The population wintering in Western Europe and Northwest Africa increased during the 1980s and early 1990s, as reflected in the increased population estimate (up from >80,000), although there are recent indications that this increase may have slowed down (Stroud *et al.* 2002). Cayford and Waters (1996) found that the number wintering in Britain increased by 45% (from 44,480 to 64,400) during the period 1981-85 to 1988-92.

The revised estimate of 46,000-119,000 for the Northern European population is based on recent

estimates of the breeding populations in Fennoscandia and European Russia (15,200-39,700 pairs, from Thorup 2002). These breeding populations are considered to be stable, although there has been some decline in the southern Baltic during the 20th century (Hagemeijer & Blair 1997, Snow & Perrins 1998, BirdLife International/EBCC 2000). A decrease has also been reported in the number of birds wintering at the Banc d'Arguin in Mauritania. A comprehensive survey of the Banc d'Arguin in early 1997 found only 7,160 *A. interpres*, representing a decrease of 58% on the 1980 total (Dodman *et al.* 1997).

Comments: Stroud *et al.* (2002) give a revised estimate of 94,000 for the Northeast Canada and Greenland population based on winter counts, although they acknowledge that coverage for this species is generally poor. The breeding population in north-eastern Canada has been estimated at 15,000-30,000 pairs, and that in Greenland at 20,000-40,000 pairs (Thorup 2002), suggesting a total population of 35,000-70,000 pairs or about 100,000-200,000 individuals. This latter estimate is adopted here.

The new estimate for the West & Central Siberian population is based on a recent assessment of the numbers wintering in Southwest Asia and Africa. Estimates of national totals in most relevant African countries and recent counts in Southwest Asia account for about 85,000 birds, and given the gaps in coverage, suggest a population in the region of 100,000 birds (Stroud *et al.* 2002).

Great Knot *Calidris tenuirostris*

Monotypic. The Great Knot is mainly extralimital, the bulk of the population breeding in Eastern Siberia and wintering in Australasia. However, a small and apparently discrete population winters on the shores of the Arabian Sea, from Oman (up to 1,200), the United Arab Emirates and eastern Saudi Arabia (100) to Pakistan and north-western India. Only one population is relevant.

- Eastern Siberia/Southwest Asia & western South Asia: 2,000-5,000.

Trends: Unknown.

Changes in status: None known. Stroud *et al.* (2002) have given an estimate of 2,000-5,000 individuals for this small population.

Red Knot *Calidris canutus*

Polytypic. Two subspecies occur in the Agreement Area. The nominate form breeds in the Taymyr Peninsula and Severnaya Zemlya, and winters mainly on the coasts of West Africa (from Morocco to the Gulf of Guinea) and Southern Africa (Namibia and South Africa). A small number of birds, presumably of this form winter, in the Gulf of Gabes in Tunisia. *C. c. islandica* breeds in the north-eastern Canadian Arctic and northern Greenland, migrates through Iceland and northern Norway, and winters in Western Europe, mainly in Britain, Ireland and the southern North Sea, with apparently few birds moving further south than the Atlantic coast of France. Two populations are recognised, corresponding to the subspecies.

- Northern Siberia/Western & Southern Africa (*canutus*): 340,000.

Trends: Decreasing.

- Northeast Canada & Greenland/Western Europe (*islandica*): 450,000.

Trends: Decreasing.

Changes in status: The revised population estimates and trends follow Stroud (2002). The population of *canutus* wintering in Western and Southern Africa has apparently declined considerably since the 1980s. The revised estimate of 340,000 for the mid-1990s period is considerably lower than the estimate of 512,000 given by Smit and Piersma (1989) for the mid-1980s, a figure that is now believed to have been an underestimate (Stroud *et al.* 2002). A

comprehensive survey of the Banc d'Arguin in Mauritania in early 1997 found only 229,000 *canutus*, a decrease of 37% on the 1980 total (Dodman *et al.* 1997), and it was thought that by the late 1990s, the population may have numbered only about 260,000 birds (T. Piersma, *in litt.*). This latter figure, which was adopted in the first edition of this report, seems now to have been unduly pessimistic. The numbers of *canutus* wintering on the coasts of Namibia and South Africa (currently about 13,000) have undoubtedly increased during the 20th century (Harrison *et al.* 1997), but these represent only a small fraction of the total.

The population of *islandica* decreased from 609,000 in the early 1970s to 345,000 by the mid-1980s, probably because of severe summer weather in the Arctic. There was some recovery in the late 1980s and early 1990s, but the population seems to have stabilised in the mid-1990s at about 450,000 birds (Stroud *et al.* 2002). Cayford & Waters (1996) found that the number wintering in Britain had increased by 31% (from 222,800 to 291,000) during the period 1981-85 to 1988-92, but Cranswick *et al.* (1997) found that numbers had remained relatively stable during the period 1991/92 to 1995/96 (at between 230,000 and 260,000). Within the last few years, there appears to have been a sharp decline in numbers (T. Piersma, *in litt.*), and the trend is now given as decreasing (Stroud *et al.* 2002).

Comments: The populations and migration routes of *Calidris canutus* have been discussed in some detail in Piersma and Davidson (1992).

Sanderling *Calidris alba*

Monotypic. The species has a relatively restricted breeding range in Arctic Canada, northern Greenland and north-central Siberia between 90°E and 145°E, but winters widely along the coasts of North and South America, Western Europe, Africa, Madagascar, Southern Asia and Australasia. Birds breeding in northern Greenland (and possibly also north-eastern Canada) migrate southeast through Northwest Europe to winter mainly on the West African coast (south to South Africa) where they mix with Siberian breeders. The westernmost breeding populations in Siberia follow one of two routes; either along the Atlantic seaboard to winter in Western Europe and on the west coast of Africa south to South Africa, or overland via the Caspian Sea, Black Sea and East Mediterranean to winter from the Red Sea and Persian Gulf south along the East African coast to Madagascar and South Africa. There appears to be considerable mixing between these two 'flyways', and there is evidence of a 'loop migration', with birds travelling south in autumn via the Middle East and East African coast to South Africa, and returning in spring via the West African coast to the Gulf of Guinea, then overland to the central Mediterranean and North Sea. Most recoveries of birds ringed in South Africa suggest Siberian origin, although there have been several recoveries of bird from Greenland (Underhill *et al.* 1999). Two main wintering populations are recognised in the Agreement Area, although their validity is somewhat questionable. The population wintering from south-eastern Iran and eastern Arabia to Pakistan and India is largely extralimital.

- East Atlantic, Western & Southern Africa (wintering): 123,000.

Trends: Stable or increasing.

- Southwest Asia, Eastern & Southern Africa (wintering): 140,000.

Trends: Probably stable.

Changes in status: The revised population estimates and trends follow Stroud (2002). There has been no change in the population estimate or trends for the East Atlantic wintering population. There was some evidence of a big increase in numbers in Western Europe between the mid-1980s and the mid-1990s, but a part of this apparent increase may be due to improved coverage (Stroud *et al.*

2002). However, Cayford and Waters (1996) found that the number wintering in Britain had increased by 69% (from 13,700 to 23,200) during the period 1981-85 to 1988-92. Whether this reflects a genuine increase in the population or merely a redistribution of birds is unknown. The latter may be the case, as a comprehensive survey of the Banc d'Arguin in Mauritania in early 1997 found only 20,500 *C. alba*, a decrease of 40% on the 1980 total (Dodman *et al.* 1997).

The Southwest Asian, Eastern & Southern African wintering population is now thought to be relatively stable. The revised estimate of 140,000 (up from 120,000) reflects better coverage, rather than any real increase in numbers. The estimate includes about 16,000 birds in Southwest Asia, 26,000 in Eastern Africa and 98,000 in South Africa, Namibia and Angola (Stroud *et al.* 2002).

Little Stint *Calidris minuta*

Monotypic. The species breeds widely across Northern Eurasia from extreme north-eastern Norway east to about 150°E, the westernmost populations wintering from Southern Europe (few), North Africa and Southwest Asia south through Subsaharan Africa and Madagascar to South Africa. Birds breeding in Norway winter mainly on the Atlantic seaboard, while birds passing through the Black Sea and Mediterranean winter mainly in North and West Africa. Birds wintering in Southern Africa have been recovered on migration at the Rift Valley lakes in East Africa, in the South Caspian region and in Kazakhstan. Two main passage/wintering groups are recognised: birds occurring in Europe, the Black Sea, the Mediterranean and North and West Africa (presumably mainly European breeders); and (2) birds occurring in the Caspian region, Middle East, and Eastern and Southern Africa (presumably mainly West Siberian breeders).

- Northern Europe/Europe & West Africa: 200,000.

Trends: Probably decreasing.

- Western Siberia/Southwest Asia, Eastern & Southern Africa: 1,000,000.

Trends: Unknown.

Changes in status: The revised population estimates and trends follow Stroud *et al.* (2002). BirdLife International/EBCC (2000) report stable breeding populations in Europe, but recent counts of wintering birds in West Africa have suggested that there may have been some decline in numbers in this population (Stroud *et al.* 2000). The new estimate of 200,000 (down from 211,000) reflects this decrease. No change is known in the West Siberian population, and the previous estimate of 1,000,000 has been retained.

Temminck's Stint *Calidris temminckii*

Monotypic. The species breeds widely across Northern Eurasia from western Norway east to the Bering Straits, the westernmost populations wintering in Southeast Europe, Egypt, Tunisia, Subsaharan Africa mainly north of the equator, and the Middle East. No discrete populations are identifiable. Two main populations are recognised: (1) birds breeding in Northern Europe (Fennoscandia) and migrating through the Black Sea and East Mediterranean to winter in North and West Africa (south and east to the Gulf of Guinea); and (2) birds breeding in Northeast Europe (European Russia) and Western Siberia and migrating through the Middle East to winter in Northeast and East Africa (south to Kenya and Burundi).

- Fennoscandia/North & West Africa: 39,000-80,000.

Trends: Unknown.

- Northeast Europe & Western Siberia/Southwest Asia & Eastern Africa: Probably E.

Trends: Unknown.

Changes in status: The revised population estimates and trends follow Stroud *et al.* (2002). The Scandinavian coastal breeding population has declined markedly since 1970, especially in Finland (Hagemeijer & Blair 1997). BirdLife International/EBCC (2000) report stable populations in

Norway, European Russia and Sweden, and a steep decline in Finland.

Comments: The breeding population in Fennoscandia is estimated at 13,000-26,500 pairs (Thorup 2002) or about 39,000-80,000 birds. BirdLife International/EBCC (2000) give the Russian breeding population as 1,000,000-10,000,000 pairs, while Thorup (2002) give an estimate of only 6,700-26,000 pairs for European Russia. Stroud *et al.* (2000) give an estimate of probably over 1,000,000, based on the large numbers of birds believed to breed in Western Siberia.

Purple Sandpiper *Calidris maritima*

C. maritima is often regarded as being monotypic, although there is considerable geographical variation in size, and some authors (including Engelmoer & Roselaar 1998) now recognise at least three subspecies. *C. m. belcheri* breeds in the Hudson Bay area of Canada and winters in Canada, while *C. m. littoralis* breeds in Iceland and appears to winter almost exclusively within Iceland. The nominate form breeds in north-eastern Canada, Greenland, Svalbard, northern Scandinavia and northern Russia east to about 110°E. Northeast Canadian birds apparently winter mainly in North America, although a few have been recovered in Northwest Europe. Birds breeding in West Greenland are not known to emigrate. Many of the birds breeding in East Greenland winter in Iceland, but some continue on to Britain and Ireland. All Northeast European and Siberian breeders winter in Northern and Western Europe from the Kola Peninsula and northern Norway south to north-western France (less commonly to Spain and Portugal). Norwegian birds are thought to winter mainly in south-eastern Scotland and north-eastern

England; Russian and Svalbard birds are thought to winter mainly in Norway, although some Russian birds may reach the U.K. (Summers 1994). Only one migratory population is currently recognised, and this includes birds from north-eastern Canada, Greenland, Northern Europe and Western Siberia.

- Northern & Western Europe, excluding Iceland (wintering - *maritima*): 50,000-100,000.

Trends: Stable.

Changes in status: Stroud *et al.* (2002) have given a revised estimate of 50,000-100,000 birds, based on an estimate of 8,400-29,700 breeding pairs in Europe (excluding Iceland) and 10,000-20,000 pairs in Greenland (data from Thorup 2002). This is somewhat higher than the previous estimate of 50,500, which was based on winter counts. However, winter counts are very ineffective for this species, which is widely dispersed along rocky coasts and around offshore islands. Bird Life International/EBCC (2002) report stable breeding populations throughout the European breeding range except in the Faeroes, where the tiny population is declining, while Cayford and Waters (1996) found that the number wintering in Britain apparently increased by 32% (from 16,140 to 21,300) during the period 1981-85 to 1988-92.

Comments: There is some evidence that the *C. maritima* breeding in Northeast Europe and those breeding in Western Siberia comprise two distinct groups: short-billed birds from Scandinavia, wintering in eastern Britain; and long-billed Russian birds wintering in south-eastern Britain and the Netherlands. Some further sub-division of populations may, therefore, be necessary.

Dunlin *Calidris alpina*

Polytypic. Four subspecies occur in the Agreement Area. The nominate race breeds across Northern Europe and Western Siberia from northern Scandinavia east to about 85°E, and winters mainly in Western Europe, with some birds moving south as far as Northwest Africa. *C. a. centralis* breeds in Central Siberia from the Taymyr Peninsula to Kolyma River, and winters in the Mediterranean Basin, Northeast Africa (south to Ethiopia), the Caspian region and the Middle East. *C. a. schinzii* breeds in south-eastern Greenland, Iceland, Britain, Ireland and the Baltic region, and winters in Southwest Europe and Northwest Africa (south-western France to Mauritania). *C. a. arctica* breeds

in north-eastern Greenland and appears to winter mainly in West Africa (Morocco to Mauritania). Six populations are currently recognised: (1) *alpina* breeding in Northern Europe and Western Siberia and wintering in Western Europe south to Morocco; (2) *centralis* breeding in Central Siberia, and wintering in the Mediterranean Basin, Caspian region, Middle East and Northeast Africa; (3) *schinzii* breeding in south-eastern Greenland and Iceland, and wintering mainly in Northwest and West Africa south to Senegal and Gambia; (4) *schinzii* breeding in the U.K. and Ireland, and wintering in Southwest Europe and Northwest Africa; (5) *schinzii* breeding in the Baltic region (Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, southern Sweden and the Baltic regions of Russia) and wintering in Western Europe (6); and *arctica* breeding in north-eastern Greenland, and wintering in West Africa. There is considerable overlap between several of these populations on their wintering areas in Western Europe and Northwest Africa.

- Northeast Europe & NW Siberia/Western Europe & Northwest Africa (*alpina*): 1,330,000.

Trends: Stable.

- Central Siberia/Southwest Asia & Northeast Africa (*centralis*): 300,000.

Trends: Unknown.

- Iceland & Greenland/Northwest & West Africa (*schinzii*): 940,000-960,000.

Trends: Stable.

- U.K. & Ireland/Southwest Europe & Northwest Africa (*schinzii*): 23,000-26,000.

Trends: Decreasing.

- Baltic/Southwest Europe & Northwest Africa (*schinzii*): 3,600-4,700.

Trends: Decreasing.

- Northeast Greenland/West Africa (*arctica*): 21,000-45,000.

Trends: Probably stable.

Changes in status: The revised population estimates and trends follow Stroud *et al.* (2002). The population of *alpina* breeding in Northeast Europe and Northwest Siberia is now believed to be more or less stable. Substantial declines were reported in the numbers wintering in France and Britain between the mid-1970s and mid-1980s, but there is evidence of some recovery since then. Cayford and Waters (1996) found a 23% increase in the numbers wintering in Britain during the period 1981-85 to 1988-92 (from 433,000 to 532,000), while BirdLife International/EBCC (2000) report stable populations in Norway, Sweden and European Russia. The revised estimate of 1,330,000 is little different from the previous estimate of 1,373,000 from Smit and Piersma (1989). The estimate for the population of *centralis* has been revised upwards from 150,000 to 300,000, largely on the basis of counts of up to 254,000 birds on spring passage in the Black Sea (Stroud *et al.* 2002), but the trends in this population remain unknown.

The large population of *schinzii* breeding in Iceland is still considered to be stable, although the population has been revised upwards slightly on the basis of improved winter counts in West Africa. A comprehensive survey of the Banc d'Arguin in Mauritania in early 1997 found almost 920,000 *C. alpina* (mainly *schinzii*), representing an increase of 12% on the 1980 total (Dodman *et al.* 1997).

The populations of *schinzii* breeding in the U.K. and Ireland and the Baltic region are decreasing throughout their ranges as a result of upland afforestation, agricultural intensification and decrease in coastal grazing (Hotker 1991, Gibbons *et al.* 1993, Tucker & Heath 1994, Hagemeyer & Blair 1997, Stroud *et al.* 2002). The decreases have been particularly marked in the small populations breeding in coastal marshes around the Baltic (Tucker & Heath 1994). BirdLife International/EBCC (2000) report decreases in Denmark, Estonia, Finland, Germany, Latvia, Lithuania and Poland.

The new estimate for the population of *arctica* has been revised upwards (from 15,000) on the basis of improved estimates of the breeding population in Northeast Greenland, but the trends in this population are still believed to be stable.

Comments: In the first edition of this report, the birds breeding in Central Siberia and wintering in Southwest Asia and Northeast Africa were assigned to the nominate form. However, Engelmoer and Roselaar (1998) have argued for the validity of the form *centralis* for this population, and their treatment is adopted by Stroud *et al.* (2002). Van der Have *et al.* (1997) have shown that 42% of the birds wintering in the Gulf of Gabes in Tunisia can be assigned to this form.

In the first edition of this report, the southern populations of *schinzii* breeding in the U.K., Ireland and the Baltic were considered as a single population. However, it has recently been shown that the Baltic birds comprise a distinct biogeographic population, with different moult and migration phenology and different wintering areas (Stroud *et al.* 2002). This group is now, therefore, given separate treatment.

The British and Irish population of *schinzii* is estimated at 7,795-8,545 pairs (Thorup 2002) or about 23,000-26,000 birds. The Baltic population of *schinzii* is estimated at only 1,189-1,554 pairs (Thorup 2002) or about 3,600-4,700 birds.

Curlew Sandpiper *Calidris ferruginea*

Monotypic. The species has a rather restricted breeding range in extreme northern Russia between 80°E and 155°E, but a wide wintering distribution in Subsaharan Africa (south to South Africa), Southern Asia and Australasia. Birds wintering in Africa have been recovered from as far east as 128°E. Some birds migrate southwest along the Atlantic seaboard of Western Europe to West Africa in autumn, but these apparently return via the more direct route across the Sahara, Mediterranean and Eastern Europe in spring. Most recoveries of birds ringed in Southern Africa lie on a great circle route from the breeding grounds in Northern Siberia through the East Mediterranean, Black Sea and Caspian Sea (Underhill *et al.* 1999). No discrete populations are identifiable. Two main passage/wintering populations are relevant: (1) a population passing through Eastern Europe and the Mediterranean to winter mainly in West Africa; and (2) a population passing through the Caspian region and Middle East to winter mainly in Eastern and Southern Africa. These two populations are poorly defined, and it may be that the Black Sea is a major staging area for both groups (Smit & Piersma 1989).

- Western Siberia/West Africa: 740,000.

Trends: Increasing.

- Central Siberia/Southwest Asia, Eastern & Southern Africa: 330,000.

Trends: Stable.

Changes in status: The revised population estimates and trends follow Stroud *et al.* (2002). The new estimate for the West African wintering population represent a 70% increase over the previous estimate of 436,000 (from Smit & Piersma 1989). Part of this apparent increase is probably due to improved coverage, but there is evidence of a real increase in numbers in parts of the wintering range. Over 226,000 birds were recorded during a comprehensive survey of the Banc d'Arguin in Mauritania in early 1997, representing an increase of 30% on the 1980 total (Dodman *et al.* 1997). The new estimate for the Southwest Asia, Eastern & Southern Africa wintering population is only slightly higher than the previous estimate (310,000), suggesting approximate stability in this population (Stroud *et al.* 2002).

Broad-billed Sandpiper *Limicola falcinellus*

Two subspecies have been described: the nominate form breeding in Fennoscandia and north-western Russia east to the Kanin Peninsula, and probably also in Western Siberia, and *sibirica* breeding in Eastern Siberia. The breeding distribution of the nominate form east of the Urals is very imperfectly

known. An apparently isolated breeding population in the Taymyr region east to about the Yenisey River is assigned by some authors to *falcinellus* (Peters 1934; Ali & Ripley 1969; Cramp & Simmons 1983), and by other authors to *sibirica* (Hayman *et al.* 1986; del Hoyo *et al.* 1996). The migration routes and main wintering areas are poorly understood. The nominate form winters widely but sparsely in Sub-Saharan Africa (most commonly in the east), commonly around the Arabian Peninsula (especially on the Persian Gulf coast and in Oman), and also in Pakistan, western India and Sri Lanka. Small numbers of birds (75-100) have recently been found wintering in the Gulf of Gabes in Tunisia (van der Have *et al.* 1997). European breeders probably migrate mainly south or southeast on a broad front across East and Central Europe and the Caspian region to winter in Eastern Africa and the Arabian Peninsula, although there is evidence of a small passage through Western Europe, presumably to wintering areas in West Africa. The Sea of Azov and Black Sea region is an important staging area for this population. It is unknown whether the birds wintering in Pakistan, western India and Sri Lanka (generally assigned to nominate *falcinellus*) come from this population, or are from the Central Siberian (Taymyr) population. Only one population is relevant to the Agreement: a population breeding in Northern Europe (and possibly also Western Siberia) and passing through Eastern Europe and the Caspian region to winter in the Persian Gulf, Arabian Peninsula and Sub-Saharan Africa.

- Northern Europe/Southwest Asia & Africa: 61,000-64,000.

Trends: Unknown.

Changes in status: Overall trends in the population are uncertain. The large breeding population in Finland (about 15,000 pairs) has probably declined since 1970, and there may have been some range contraction associated with this, while the much smaller breeding populations in Norway, Sweden and European Russia are thought to be stable (Tucker & Heath 1994, Hagemeyer & Blair 1997, Snow & Perrins 1998, BirdLife International/EBCC 2000).

Comments: The European breeding population has recently been estimated at 20,400-21,300 pairs (Thorup 2002), suggesting a total population of 61,000-64,000 birds (Stroud *et al.* 2002). This is slightly more than the estimate given in the first edition of this report (40,000-60,000), but considerably higher than the old estimate of 25,000 (from Perennou *et al.* 1994), given in the first two editions of *Waterfowl Population Estimates*.

Ruff *Philomachus pugnax*

Monotypic. The species breeds widely across northern Eurasia from the U.K. (few) and the Netherlands east to about 170°E. The great majority winter in Africa south of the Sahara, the main concentrations being in the northern tropics from Senegal to Sudan and Ethiopia, although large numbers also winter in parts of East Africa and in Southern Africa. European breeders winter mainly in West Africa, along with some West Siberian birds (recoveries from as far east as 130°E). Birds wintering in Eastern and Southern Africa appear to be almost entirely of Siberian origin (with recoveries during the breeding season scattered between 70°E and 164°E). Recoveries of birds ringed in Southern Africa indicate that the spring migration follows a direct route over Eastern Africa, Arabia and the Caspian region to north-eastern Asia, while in autumn, some birds follow a more westerly route through Europe (Underhill *et al.* 1999). There is also some evidence of 'leap-frog' migration, with the easternmost breeders wintering furthest south in Africa (Underhill *et al.* 1999). Two main wintering populations are recognised, but these mix extensively on the breeding grounds in Siberia: (1) birds breeding mainly in Northern and Central Europe and Western Siberia, and migrating through Western Europe, the Black Sea and Mediterranean region to winter in West Africa; and (2) birds breeding in Siberia and migrating through Southwest Asia to winter mainly in Eastern and Southern Africa.

- Northern Europe & Western Siberia/West Africa: E.

Trends: Decreasing.

- Northern Siberia/Southwest Asia, Eastern & Southern Africa: E.

Trends: Probably decreasing.

Changes in status: The revised population estimates and trends follow Stroud *et al.* (2002). In Europe, the large breeding populations in Sweden and Russia are considered to be stable, and there has been some increase in Norway, but elsewhere, most breeding populations have shown a marked decline since about 1980 (Hagemeijer & Blair 1997). Steep declines have occurred in Finland, Latvia, The Netherlands, Poland and Ukraine, and smaller declines in Denmark and Germany (Hagemeijer & Blair 1997, BirdLife International/EBCC 2000). These declines in breeding populations have been attributed to drainage of breeding and feeding areas, increased use of fertilisers, encroachment on grasslands, and hunting (Hagemeijer & Blair 1997). A recent decline has also been reported in the numbers at the main wintering sites in West Africa (del Hoyo *et al.* 1986), where there has been a dramatic reduction in the floodplain habitat used by Ruffs (Stroud *et al.* 2002). The Northern Siberian population is probably also decreasing (Stroud *et al.* 2002).

However, the numbers wintering in Southern Africa have increased during the 20th century, the birds apparently benefiting from the great increase in artificial wetlands, irrigation schemes and agricultural land (Harrison *et al.* 1997).

Comments: The breeding population in Europe has recently been estimated at about 122,000-195,000 pairs (Thorup 2002), or about 370,000-580,000 birds. These probably account for less than half of the birds wintering in West Africa. The wintering population in West Africa has been estimated at just over 1,000,000 birds (Trolliet & Girard 2001b). However, BirdLife International/EBCC (2000) give an estimate of 1,800,000-11,000,000 pairs in Europe, including 1,000,000-10,000,000 pairs in Russia, while Girard and Kirby (1997) estimate the Russian population to be around 3,000,000 pairs. There is clearly much uncertainty in these figures, and the rough estimate of E (<1,000,000) has therefore been adopted for both populations (Stroud *et al.* 2002).

Red-necked Phalarope *Phalaropus lobatus*

Monotypic. The entire population breeding on the mainland of Western Eurasia (east to about the Taymyr Peninsula) apparently winters at sea off the Arabian Peninsula from the Gulf of Aden east almost to Pakistan. Huge concentrations sometimes occur on migration in the Caspian region, Kazakhstan and central Iran. The winter quarters of the large Icelandic breeding population and the small populations in the Faeroes and Scotland are unknown. These birds may migrate overland across Europe to join other European and Siberian breeders in the Arabian Sea, or they may join the Nearctic population which winters off the Pacific coast of South America. (Birds breeding in Greenland are thought to be a part of the Nearctic population). Only one population is relevant.

- Western Eurasia/Arabian Sea: E.

Trends: Unknown.

Changes in status: Overall trends are uncertain, but there is no evidence of any widespread decline. The large breeding populations in Norway, Russia and Sweden are thought to be stable, and the large Icelandic population is thought to be decreasing (BirdLife International/EBCC 2000).

Comments: The breeding population in Iceland is estimated at 50,000 pairs and elsewhere in Europe at about 56,000-120,000 pairs (Thorup 2002), suggesting a minimum of 300,000-500,000 birds from Europe alone. Concentrations of up to 600,000 have been reported on migration at Lake Tengiz in Kazakhstan, and over one million are thought to winter in the Arabian Sea (del Hoyo *et al.* 1996). Stroud *et al.* (2002) have concluded that the population exceeds a million birds (range E).

Grey Phalarope *Phalaropus fulicaria*

Monotypic. The large population breeding in northern Canada and presumably also the small populations breeding in Greenland (250-500 pairs) and Iceland (40-50 pairs) winter in the Atlantic in two main areas: in upwellings of the Guinea and Canary Currents off the bulge of West Africa between the Tropic of Cancer and 7-8°N; and in the Benguela Current off Namibia and South Africa. Whether or not these two wintering areas represent two different breeding populations is unknown. Populations breeding in Alaska and Northern Siberia (west to about 80°E) migrate southeast to winter in the Eastern Pacific off the coast of South America, and are thus extralimital. The winter quarters of birds breeding on Bear Island (50 pairs), Svalbard (100-1,000 pairs) and Novaya Zemlaya are unknown. These birds may migrate southwest to join the Nearctic populations in the Atlantic, or they may migrate east to join the Siberian and Alaskan birds in the Pacific. However, it is now becoming apparent that there is a small wintering population in the Indian Ocean. There have been several records of small numbers amongst the large flocks of *lobatus* in the Persian Gulf and Arabian Sea in recent years, and the species has been recorded as a rare passage migrant in Kazakhstan, the South Caspian and Iraq. These birds could account for some or all of the birds breeding in Svalbard and/or Novaya Zemlaya. In the absence of more convincing evidence, only one population is considered relevant here.

- Canada & Greenland/Atlantic coast of Africa: 920,000.

Trends: Unknown.

Changes in status: Overall trends are unknown. The small population in Iceland is reported to be decreasing, but the Greenland and Svalbard populations are thought to be stable (BirdLife International/EBCC 2000).

Comments: Morisson *et al.* (2001) have recently estimated the Canadian population at 920,000 individuals. As the Canadian birds comprises the great bulk of the Atlantic wintering population, this estimate is adopted by Stroud *et al.* (2002) and given here.

LARIDAE

White-eyed Gull *Larus leucophthalmus*

Monotypic. The species is virtually confined to the Red Sea and Gulf of Aden, breeding in Somalia, Ethiopia, Sudan, Egypt, Saudi Arabia and Yemen. It occurs throughout its range year round, but there is a pronounced southward and eastward shift of birds in winter, with stragglers reaching Kenya, Oman and Iran. Only one population is recognised, the entire population of the species.

- Red Sea & nearby coasts: 20,000.

Trends: Stable.

Changes in status: None known. Numbers are believed to be stable, but the species is confined to a small number of breeding sites, and is at constant risk from floating and beached oil.

Comments: *L. leucophthalmus* was considered to be a globally threatened species in the category 'Vulnerable' by IUCN (1996), but is now listed as 'Near-threatened' by BirdLife International (2000). It is listed in Appendix I of the Bonn Convention. The total breeding population has been estimated at 5,000-7,000 pairs.

Sooty Gull *Larus hemprichii*

Monotypic. The species breeds on islands off the coast of the Arabian Peninsula and Northeast Africa south to Kenya, in the Red Sea north to Wadi El Gamal Island in Egypt, and on the Makran coast of Pakistan (regularly only on Astola Island). Outside the breeding season, it disperses south along the East African coast to Mozambique and east along the coast of the Arabian Sea to Pakistan

and occasionally India. There is a large influx of birds into the southern Persian Gulf and Pakistan in spring and summer. Only one population is recognised, the entire population of the species.

- Red Sea, Persian Gulf, Arabia & East Africa: 150,000-300,000.

Trends: Unknown.

Changes in status: None known. The species is reported to be decreasing as a breeding species in Pakistan, possibly because of egg-collecting by fishermen (Roberts 1991), but increasing as a winter visitor to Eastern Africa (Urban *et al.* 1986).

Comments: Del Hoyo *et al.* (1996) have suggested that the total population is probably in the range 50,000-100,000 pairs. These authors refer to two colonies off the Arabian coast with over 5,000 pairs each.

Audouin's Gull *Larus audouinii*

Monotypic. The species breeds only on islands in the Mediterranean, with colonies in Algeria, Cyprus, France (Corsica), Greece, Italy, Morocco, Spain, Tunisia and Turkey. It winters mainly along Mediterranean coasts (especially Libya, Tunisia and Algeria), although some birds regularly pass through the Straits of Gibraltar to winter along the Atlantic coast of Morocco south to Mauritania and Senegal (Hoogendoorn & Mackrill 1987). Only one population is recognised, the entire population of the species.

- Mediterranean/North & West African coasts: 57,600.

Trends: Increasing.

Changes in status: There has been a major increase in the population of *L. audouinii* in recent decades, from possibly as few as 800-1,000 pairs in 1966 to 5,500-6,000 pairs in the early 1980s (Evans 1986) and 9,000-9,500 pairs in 1989 (Snow & Perrins 1998). Tucker & Heath (1994) gave the European breeding population as 13,000-14,000 pairs in the early 1990s, while Lambertini (in Heredia *et al.* 1996) gave an estimate of 15,000 pairs based on breeding season counts in 1993 (15,620-15,830 pairs). BirdLife International (2000) have given an estimate of 19,200 pairs for the population in the late 1990s. This figure suggests a total population of about 57,600 individuals, the estimate adopted here. Most of the dramatic increase has occurred in the Spanish breeding population. By 1993, the breeding population in Spain (including the Balearic Islands and Chafarinas) had increased to 14,000 pairs. A new colony in the Ebro Delta grew from 36 pairs in 1981 to 9,360 pairs in 1993. In the Balearic Islands, the population increased from about 350 pairs in the late 1970s to about 770 pairs in 1991. A breeding colony on the Columbretes Islands grew from 40-50 pairs in 1974 to 200 pairs in 1982, and 250-430 pairs during the period 1985-1991. The large colony on the Chafarinas Islands off the coast of Morocco grew from about 1,000 pairs in 1976 to 2,220 pairs in 1981, 3,188 pairs in 1991 and 4,440 pairs in 1992. Elsewhere, numbers have fluctuated or remained relatively stable (Evans 1984 & 1986; de Juana 1984; de Juana *et al.* 1984; Hoogendoorn & Mackrill 1987; Hagemeyer & Blair 1997; Snow & Perrins 1998). In historic times and until recently at least, the main threat to the species in Spain and probably throughout its range, was egg-collecting for human consumption. A virtual cessation of egg-collecting at the Spanish colonies is thought to have been the main cause behind the rapid recovery in the population (de Juana 1984).

Comments: *Larus audouinii* is listed in Appendix I of the Bonn Convention. It was listed as a globally threatened species in *Birds to Watch* (Collar & Andrew 1988) and the 1994 edition of the IUCN Red List of Threatened Animals (IUCN 1993). Because of the population increase which had occurred in the West Mediterranean since 1980, the species was removed from the list of globally threatened species, and listed as 'Conservation Dependent' by Collar *et al.* (1994). More recently, it

has been assigned to the category 'Near-threatened' by BirdLife International (2000). An Action Plan for *L. audouinii* in Europe has been compiled by M. Lambertini (*in Heredia et al.* 1996).

Armenian Gull *Larus armenicus*

Monotypic. The species is confined as a breeding bird to inland lakes in Armenia, Georgia, eastern Turkey and north-western Iran. It is largely migratory, wintering in the East Mediterranean (south-eastern Turkey to Egypt) and in small numbers in the Persian Gulf, although a few birds remain at some of the breeding sites throughout the winter. Only one population is recognised, the entire population of the species.

- Armenia, Eastern Turkey & Northwest Iran: 69,000-75,000.

Trends: Unknown.

Changes in status: None known.

Comments: *L. armenicus* has only recently been recognised as a distinct species, and is still considered by many authors to be a subspecies of the *Larus cachinnans* group. Rufray (2000) has recently estimated the total population at 23,000-25,000 pairs, or about 69,000-75,000 individuals. This estimate is somewhat higher than the former estimate of 45,000-60,000, but this reflects an improvement in knowledge rather than any real increase in numbers.

Great Black-headed Gull *Larus ichthyaetus*

Monotypic. The species breeds from the Black Sea eastwards across Western and Central Asia to the Tibetan Plateau, the westernmost populations wintering in the Caspian Sea, Persian Gulf, Arabian Sea and Red Sea, with small numbers reaching the Ethiopian lakes in Northeast Africa. One population is recognised in the Agreement Area.

- Black Sea & Caspian/Southwest Asia: 72,000-120,000.

Trends: Increasing.

Changes in status: The European breeding population increased by 150-200% during the 1980s, the main increase occurring in Ukraine, where there were 42,000 pairs in 1993. The increase has been attributed partly to successful conservation measures and partly to a redistribution of Asian and European populations, probably linked to changes in water level in the Caspian Sea (V. Serebryakov & V. Zubakin, in Hagemeyer & Blair 1997).

Comments: Only the population occurring in Western Eurasia and Africa is included in Appendix II of the Bonn Convention. The total breeding population in Europe has recently been estimated at 45,000-50,000 pairs (V. Serebryakov & V. Zubakin, in Hagemeyer & Blair 1997; BirdLife International/EBCC 2000).

Slender-billed Gull *Larus genei*

Monotypic, with a highly fragmented breeding distribution in Southern Europe, North and West Africa and Southwest Asia east to Pakistan and north-western India. Three largely discrete populations are identifiable: (1) a population which breeds in Mauritania and Senegal, and winters east along the West African coast to the Gulf of Guinea; (2) a population which breeds around the Black Sea and Mediterranean, and winters mainly in the Mediterranean (especially Egypt and Tunisia), with a few birds entering the Red Sea; and (3) a population which breeds in Kazakhstan, the Caspian region, Iran and Iraq, and winters in the Persian Gulf and Arabian Sea east to north-western India.

- West Africa (breeding): 22,500.

Trends: Increasing.

- Black Sea & Mediterranean (breeding): 123,000-237,000.
Trends: Increasing.
- West, Southwest & South Asia (breeding): 150,000.
Trends: Increasing.

Changes in status: The West African population appears to be increasing rapidly. Cooper *et al.* (1984) estimated the population at 2,850 pairs, based on 1970s data, but del Hoyo *et al.* (1996) have recently given an estimate of 6,000-7,000 pairs, suggesting that the total population may now be as high as 20,000 individuals.

At the Banc d'Arguin in Mauritania, the population increased from 770-870 pairs in 1964 to 1,733 pairs in 1974 (Urban *et al.* 1986), although there were only 1,050 pairs in 1995 (Snow & Perrins 1998).

Hagemeijer & Blair (1997) state that overall the numbers of *L. genei* breeding in Europe are increasing. Increases were reported in Russia and Ukraine until the mid-1980s, but there has been some decrease since then, especially in Ukraine, which supports about half of the population (Snow & Perrins 1998). Increases have been reported in the relatively small populations in France and Tunisia, and the breeding population in Egypt is also thought to be increasing (Snow & Perrins 1998). In recent years, small numbers of birds have appeared at Lake Victoria in Uganda (Dodman & Taylor 1996), suggesting some expansion in the wintering range of this population.

An increase has been reported in the number of birds wintering in north-western India (Perennou *et al.* 1994).

Comments: The total breeding population in Europe and North Africa is estimated at 40,000-80,000 pairs (data from Snow & Perrins 1998), the great majority of these in Ukraine and European Russia. BirdLife International/EBCC (2000) give a total of 41,000-79,000 pairs for the European and Turkish population, but this includes some birds breeding in the Caspian region.

Mediterranean Gull *Larus melanocephalus*

Monotypic. The species breeds mainly around the Black Sea and in the East Mediterranean (Greece), and winters throughout the Mediterranean to southern Spain and Morocco. Some birds continue on west to winter along the Atlantic coast from southern Portugal to Morocco. The species has expanded its range both westwards and eastwards in recent decades. It has become increasingly frequent in Northwest Europe, with evidence of an overland crossing from the Black Sea to the Baltic, and now breeds regularly, albeit in small numbers, in many countries. The eastward expansion reached the Caspian Sea by the late 1980s. Only one population is recognised, the entire population of the species.

- Western Europe, Mediterranean & Northwest Africa: 570,000-1,110,000.
Trends: Increasing.

Changes in status: The species has been expanding its range westward in Europe for some year. It now breeds regularly in Belarus, Belgium, Britain, France, Germany, Hungary, Netherlands and Poland, and continues to increase, but the total in these countries is probably still less than 1,000 pairs. An eastward expansion into the Sea of Azov and Transcaucasia was first noticed in 1972, and since then, the breeding population in this region has increased dramatically to as many as 10,000 pairs in good years (Hagemeijer & Blair 1997). The total population in the Former Soviet Union was estimated at 340,000-370,000 pairs in the mid-1980s, after a period of increase, but numbers at the main site in Ukraine decreased from 336,000 pairs in 1983 to 60,000-70,000 pairs in 1989-1990. A decrease has also been reported in the small population in Romania (BirdLife International/EBCC 2000).

Comments: The total breeding population has been estimated at between about 190,000 and 370,000 pairs (BirdLife International/EBCC 2000), suggesting a minimum non-breeding population of well over 500,000 birds and possibly over a million.

Gull-billed Tern *Sterna nilotica*

Polytypic. Only the nominate subspecies occurs in the Agreement Area. This breeds in widely scattered colonies across Southern Europe, North Africa and the Middle East, and also locally in Northern Europe and West Africa. West Eurasian breeders winter south to the Gulf of Guinea, Tanzania and the Arabian Peninsula. Three populations are identifiable: (1) a population which breeds in Western Europe (north to Denmark and Germany), the West Mediterranean (east to Tunisia) and Northwest Africa south to Mauritania and Senegal, and winters mainly inland in West Africa east to Nigeria and Chad; (2) a population which breeds in the Balkans, the Black Sea, the East Mediterranean and central Turkey, and winters mainly inland in Northeast and Eastern Africa from Sudan south to Tanzania (occasionally Botswana); and (3) a population which breeds in the Caspian region, Aral Sea and Kazakhstan, and winters in Iraq, southern Iran, the Persian Gulf and the Arabian Peninsula.

- Western Europe/West Africa: 9,500-10,800.

Trends: Decreasing.

- Black Sea & East Mediterranean/Eastern Africa: 14,000-39,000.

Trends: Decreasing.

- West & Central Asia/Southwest Asia (wintering): B.

Trends: Unknown.

Changes in status: The numbers breeding in Northwest Europe have declined markedly during the 20th century. In Germany, numbers peaked in 1917 and declined to only three pairs in 1972, but then increased to about 70 pairs in recent years. In Denmark, the population declined from about 650 pairs in 1895-1900 to 106 pairs in 1961-1970, 30 pairs in 1979 (Evans 1984) and only 11-16 pairs in the mid-1990s (BirdLife International/EBCC 2000). A slight decrease has been reported in the large Spanish population, and there may have been a major decline in Mauritania (1,600 pairs at the Banc d'Arguin in 1974 but only 660 pairs in 1995), but numbers in France appear to be stable or increasing (Tucker & Heath 1994, Hagemeyer & Blair 1997, Snow & Perrins 1998, BirdLife International/EBCC 2000). Dodman (2002) suggests that there has been a slight decline in the breeding population in West Africa in recent years.

The Black Sea and East Mediterranean population also appears to be decreasing. BirdLife International/EBCC (2000) report a marked decrease in Romania and smaller decreases in Greece, Russia, Turkey and Ukraine. Tucker & Heath (1994) and Hagemeyer & Blair (1997) attribute the widespread declines to loss of foraging habitats close to breeding areas, the destruction and disturbance of, and predation at, colonial nesting sites, and habitat destruction and degradation in the winter quarters.

Perennou *et al.* (1994) thought that the Southwest Asian wintering population was possibly declining, because of relatively low mid-winter counts in the 1980s. However, they noted that the lack of records in recent years was more likely to be due to the species being overlooked than to any decline in population. No new information has come to light, and the status of this population remains as 'unknown'.

Comments: Only the West Eurasian and African populations of the nominate form *nilotica* are included in Appendix II of the Bonn Convention.

The breeding population in Western Europe and North and West Africa is estimated at 3,175-3,600 pairs, of which about 800 pairs are in Africa (data from BirdLife International/EBCC 2000 and Keijl *et al.* 2001). These figures suggest a total population of about 9,500-10,800 individuals, *i.e.*

slightly fewer than the previous estimate of 12,000. Perennou (1991) estimated the West African wintering population at 12,000-15,000 birds.

The breeding population in the Black Sea and East Mediterranean region is roughly estimated at between 4,700 and 13,000 pairs (data from BirdLife International/EBCC 2000), suggesting a winter population of 14,000-39,000 birds. As many as 14,580 were counted in Eastern Africa in January 1997, including 12,640 at Lutembe Bay on Lake Victoria in Uganda (Dodman *et al.* 1997).

Caspian Tern *Sterna caspia*

Two subspecies have been described: the almost cosmopolitan nominate form, and *strenua* in Australia and New Zealand. The nominate form breeds at a number of widely scattered localities in temperate and Southern Eurasia from the Baltic to north-eastern China and also in Africa. The populations breeding in the Red Sea and Madagascar appear to be mainly sedentary. Reports of breeding in Eastern Africa are unsubstantiated. Four main migratory populations are identifiable: (1) a population which breeds in Southern Africa (Namibia, South Africa and Mozambique) and winters north to Zambia, Botswana and Angola; (2) a population which breeds in Senegal, Mauritania and Guinea-Bissau and winters along the coast of West Africa, possibly to the Gulf of Guinea; (3) a population which breeds in the Baltic (Sweden, Finland and Estonia), Black Sea (Ukraine) and central Turkey (few), and winters mainly in tropical West Africa, notably in the Upper Niger Inundation Zone and Gulf of Guinea, but with a few in the Mediterranean and upper Nile to Sudan; and (4) a population which breeds in the Caspian region and Iran, and winters in Northeast and East Africa, Arabia and southern Iran.

- Southern Africa (breeding): 5,000.

Trends: Probably increasing.

- West Africa (breeding): 40,500.

Trends: Increasing.

- Europe (breeding): 5,400-7,800.

Trends: Decreasing.

- Caspian (breeding): 9,000-16,500.

Trends: Probably decreasing.

Changes in status: Long-term trends in this species are to some extent masked by strong local fluctuations. In Southern Africa, the numbers of birds present at each breeding site varies widely from year to year, but the overall range does not appear to have changed during the 20th century (Harrison *et al.* 1997), and the population may have increased in recent years (Underhill *et al.* 1999). At the main breeding colony at Lake St Lucia in South Africa, there were 330 pairs in 1949, 150-180 pairs in the 1950s, 500-1,000 pairs in 1972, and 290 pairs in 1990 (Harrison *et al.* 1997).

The West Africa breeding population is now thought to be increasing (Dodman 2002).

The European population appears to be in decline. After some range contraction in Northwest Europe in the late 19th and early 20th centuries, there was a marked increase in the Baltic throughout the first half of the 20th century until at least the late 1970s. Since then, however, numbers have declined in Sweden, Finland and Estonia (Tucker & Heath 1994; Hagemeyer & Blair 1997, BirdLife International/EBCC 2000). Declines have also been reported in Ukraine and Turkey (BirdLife International/EBCC 2000).

Tucker & Heath (1994) reported a decline in the Caspian breeding population in the late 1980s, but Snow & Perrins (1998) indicated that numbers in European Russia were increasing or fluctuating in different parts of the species' range.

Comments: Only the West Eurasian and African populations are included in Appendix II of the Bonn Convention.

D. Harebottle (*in litt.*) suggests that the earlier estimate of 1,500 individuals for the Southern African population was much too low, and has proposed a new estimate of 5,000 which is adopted here. Du Toit & Byers (2002) have estimated this population at <2,500 mature individuals. Over 930 were counted in Southern Africa in January 1995 (Dodman & Taylor 1995), and 980 in July 1996 (Dodman *et al.* 1997).

The breeding population in West Africa has recently been estimated at 13,500 pairs (Keijl *et al.* 2001), as compared with an earlier estimate of only 3,500-4,300 pairs based on old data from Urban *et al.* (1986). A new population estimate of 40,500 pairs has therefore been adopted, although the extent to which this represents a real increase in numbers since the 1980s or merely reflects an improvement in knowledge is not known. Dodman (2002) refers to counts of 8,600 pairs in Saloum in Senegal and 4,000 pairs in Mauritania.

The population breeding in the Baltic, Southeast Europe and Turkey has recently been estimated at 1,800-2,600 pairs, including 1,375-1,500 in the Baltic, 250-800 pairs on the north coast of the Black Sea and 150-300 pairs in Turkey (BirdLife International/EBCC 2000). These figures suggest a total population of 5,400-7,800 individuals, which is slightly higher than the earlier estimate of 5,000-7,000, but is not thought to be indicative of any increase.

The Caspian breeding population is concentrated mainly in the Volga Delta where there are up to 3,000-5,000 pairs.

Royal Tern *Sterna maxima*

Two subspecies have been described: the nominate form in the Americas and *albidorsalis* in Africa. The latter is known to breed at five sites on the coast of Mauritania and Senegal, and has attempted to breed in Gambia. The bulk of the population winters south along the coast to Angola and Namibia, with most in the Gulf of Guinea, but some birds move north along the Atlantic coast of Morocco. Only one population is recognised, the entire population of *albidorsalis*.

- West Africa (breeding): 129,000.

Trends: Stable or increasing.

Changes in status: None known. Numbers fluctuate widely from year to year at the main breeding sites, but appear to be relatively stable (Snow & Perrins 1998) or possibly increasing (Dodman 2002).

Comments: Only the form *albidorsalis* is included in Appendix II of the Bonn Convention. The breeding population has recently been estimated at 43,000 pairs or about 129,000 birds (Keijl *et al.* 2001). This is substantially higher than the earlier estimate of 25,000 pairs, based on old data from del Hoyo *et al.* (1996). Recent counts of non-breeding birds in West Africa have included a count of over 16,000 birds in Guinea (Dodman 2002).

Lesser Crested-Tern *Sterna bengalensis*

Several subspecies have been described, but authors differ in their nomenclature and treatment of different populations. The nominate race (or *torresii*) breeds on islands in the Persian Gulf, and winters east along the Indian Ocean coast to Pakistan, India, Sri Lanka and occasionally the Malay Peninsula. *S. b. par* (or *bengalensis*) breeds in the Red Sea and Gulf of Aden, and winters south along the East African coast from Kenya to Madagascar and South Africa. There is a small, isolated population in the Mediterranean, assigned by some authors to *S. b. par*, by others to *S. b. torresii*, and by others to *S. b. emigrata*. This breeds almost exclusively on two islands off the Libyan coast, and winters mainly on the Atlantic coast of Northwest Africa south at least to Sierra Leone. In recent years, a few pairs have bred in Italy, Lebanon and Spain. Three apparently discrete populations are recognised.

- Persian Gulf/Southern Asia: 150,000-180,000.
Trends: Unknown.
- Red Sea/Eastern Africa: C.
Trends: Unknown.
- Southern Mediterranean/Northwest & West African coasts: 4,000.
Trends: Stable.

Changes in status: None known. Breeding colonies of 1,700 pairs and 40 pairs were found in the Gulf of Sirte off the Libyan coast in 1993, as compared with 2,000 birds (or 2,000 pairs) in 1937 (Meininger *et al.* 1994), suggesting long-term stability in the Mediterranean population (Snow & Perrins 1998).

Comments: Only the African and Southwest Asian populations are included in Appendix II of the Bonn Convention.

The breeding population in the Persian Gulf has been estimated at 50,000-60,000 pairs, following the discovery of 24,500 pairs on islets off the United Arab Emirates in 1994, and 24,250 pairs off Saudi Arabia in the early 1990s (del Hoyo *et al.* 1996). This suggests a total population of 150,000-180,000 birds.

The breeding population in the Red Sea and Eastern Africa (excluding Somalia, where the population is unknown) is estimated to be at least 7,000 pairs, suggesting a total population in excess of 25,000 birds.

A count of 376 on the coast of Sierra Leone in January 1994 (Taylor & Rose 1994) suggests that the main wintering area of the Mediterranean breeding population is farther south than was formerly supposed.

Great Crested-Tern *Sterna bergii*

Polytypic. Four subspecies occur in the Agreement Area. The nominate race breeds on the coasts of Southern Africa (Namibia and South Africa). These birds are at least partly migratory, with many adults and young birds moving to the Indian Ocean coast outside the breeding area, and some birds ranging north to Angola (Underhill *et al.* 1999). *S. b. enigma* breeds on islands off the north-western and eastern coasts of Madagascar (Morris & Hawkins 1998) and possibly also in the Bazarutos Archipelago off Mozambique (F. Hawkins, *in litt.*). Outside the breeding season, this form has been recorded in the Zambezi Delta and south to Durban in South Africa, where it may mix with nominate *bergii* from South Africa. *S. b. thalassinus* breeds on islands off the coast of Tanzania and in the Seychelles, Aldabra and Rodriguez, and winters along the East African coast north to Kenya and Somalia. *S. b. velox* breeds in the Red Sea and from the Persian Gulf east to Southeast Asia. Populations breeding from the Gulf eastwards appear to be sedentary or dispersive rather than migratory, but the population breeding in the Red Sea is partly migratory, wintering south along the East African coast to Kenya. Four populations are relevant.

- Southern Africa (Angola to Mozambique - *bergii*): 20,000.
Trends: Probably stable.
- Madagascar & Mozambique (*enigma*): 8,000-10,000.
Trends: Unknown.
- Eastern Africa & Seychelles (*thalassinus*): 2,550-4,500.
Trends: Unknown.
- Red Sea & Northeast Africa (*velox*): C.
Trends: Unknown.

Changes in status: There have been no major changes in the distribution of *bergii* in Southern Africa during the 20th century, although new breeding sites have become available at artificial salt pans and sewage works (Harrison *et al.* 1997). Trends in the other three populations are unknown.

Comments: Only the African and Southwest Asian populations are included in Appendix II of the Bonn Convention. In the first edition of this report, as in the first two editions of *Waterfowl Population Estimates*, the birds now assigned to *enigma* were treated as nominate *bergii* and included within the population of that form. Recognition of *enigma* as a valid taxon (following del Hoyo *et al.* 1996 and other recent authors) has necessitated the addition of an extra population).

The breeding population of *bergii* in Southern Africa has been estimated at 6,000 pairs or about 20,000 birds, at 22 localities (Harrison *et al.* 1997, Underhill *et al.* 1999). Some 5,550 birds were counted in Southern Africa in July 1994 (Dodman & Taylor 1995). The population of *enigma* is less well known, but there are thought to be about 8,000-10,000 birds, including a colony of 2,100 pairs, in Madagascar, and possibly also a few hundred birds on islands off the Mozambique coast, where 216 birds were recorded in January 1998 (F. Hawkins, *in litt.*).

The Eastern African population appears to be very small, although the earlier estimate of only 1,200 individuals was clearly too low. The few known breeding sites include Latham Island off the Tanzanian coast, Aldabra, African Banks in the Amirantes, and Rodrigues. Dodman (2002) has given estimates of 100-150 pairs on Cosmoledo and 750-1,000 pairs on Latham Island (in 1971), and suggested that the total population is in the range 2,550-4,500 individuals.

The first two editions of *Waterfowl Population Estimates* treat all individuals of the subspecies *velox* as belonging to a single population extending from Northeast Africa to Sri Lanka, the Maldives and Myanmar. However, the estimate of 40,000 individuals, taken from Perennou *et al.* (1994), applies only to the population breeding in Southwest Asia, and the total population size for this subspecies is unknown. Similarly, the decreasing trend ('possibly declining' in Perennou *et al.* 1994) applies only to Southwest Asia, and may not be applicable for the subspecies as a whole. There is some justification for giving separate treatment to the birds which breed in the Red Sea and Northeast Africa and winter south along the African coast to Kenya. This population would be relevant to the Agreement, whereas the mainly sedentary populations breeding from the Persian Gulf east to Myanmar would not. There are at least 5,300 pairs in the Red Sea and Northeast Africa, excluding Ethiopia (where the population is unknown), suggesting a total population size in range C (10,000-25,000).

Sandwich Tern *Sterna sandvicensis*

Polytypic. Only the nominate subspecies occurs in the Agreement Area. Three largely discrete populations are present: (1) a population which breeds in Northwest Europe (north-western France, Britain, Ireland, the North Sea and the Baltic Sea) and the north-western Mediterranean (Spain, France and Italy), and winters on the Atlantic coast of Africa from Mauritania (where abundant) to South Africa; (2) a population which breeds in the Black Sea (Romania, Ukraine and Russia), and winters in the southern Black Sea and south-eastern and central Mediterranean, occasionally west to Spain, Portugal and Northwest Africa; and (3) a population which breeds in the Caspian Sea (Russia, Kazakhstan and Turkmenistan), and winters in the Persian Gulf and on the coasts of the Indian Ocean from the Gulf of Aden to north-western India (with small numbers to East Africa and Sri Lanka). Most of the birds wintering in Southern Africa are believed to originate from breeding areas in Western Europe, but birds ringed as nestlings in Ukraine and the Caspian Sea have been recovered in South Africa (Underhill *et al.* 1999), suggesting that some mixing occurs between all three populations.

- Western Europe/West Africa: 159,000-171,000.

Trends: Increasing.

- Black Sea & Mediterranean (breeding): 44,000-73,000.

Trends: Decreasing.

- West & Central Asia/Southwest & South Asia: 110,000.

Trends: Unknown.

Changes in status: The West European breeding population has been increasing for some time. Large increases have been reported in Estonia, The Netherlands, Spain and the U.K., and smaller increases in France and Ireland, while a decrease has been reported only in Sweden (BirdLife International/EBCC 2000).

The Black Sea/East Mediterranean population is thought to be declining. BirdLife International/EBCC (2000) report decreases in Ukraine, which holds the bulk of this population. According to Tucker & Heath (1994), this population experienced a decline of 20-50% over the period 1970-1990 following an earlier increase. The small breeding populations in Bulgaria, Greece and Romania appear to be stable or increasing (BirdLife International/EBCC 2000). Trends in the West and Central Asian breeding population are unknown.

Comments: Only the nominate form *sandvicensis* is included in Appendix II of the Bonn Convention.

The West European breeding population is estimated at 53,000-57,000 pairs (data from BirdLife International/EBCC 2000), suggesting a population of 159,000-171,000 birds (an increase of about 10,000-20,000 on the previous estimate of 150,000).

The Black Sea/East Mediterranean population has been estimated at 40,000 pairs (Lloyd *et al.* 1991), 50,500-72,000 pairs (data from Tucker & Heath 1994), 22,000-41,000 pairs (O. Merne, in Hagemeyer & Blair 1997), or 38,000-40,000 pairs (data from Snow & Perrins 1998). Data from BirdLife International/EBCC (2000) suggest a population of only 14,700-24,400 pairs or 44,000-73,000 individuals, and this estimate is adopted here. The great majority breed on the Black Sea coast of Ukraine, where there were only 9,900-15,600 pairs in 1998 (BirdLife International/EBCC 2000)..

The Caspian breeding population has been estimated at 33,000-40,000 pairs (Lloyd *et al.* 1991), and this was the basis of the former estimate of 110,000 individuals. During the Asian Waterfowl Census in 1991, over 50,000 birds were counted in Southwest Asia (mainly in Oman), along with over 3,400 in Pakistan and north-western India. In the absence of any new information, the earlier estimate of 110,000 is retained.

Roseate Tern *Sterna dougallii*

Polytypic. Five subspecies are currently recognised, but the taxonomy of the subspecies is in need of revision as the subspecific boundaries are confused (del Hoyo *et al.* 1996). Three subspecies occur in the Agreement Area. The nominate form breeds in Northwest Europe, the Azores, Eastern Africa (mainly off the Kenya coast but also, erratically, in southern Somalia and Tanzania) and South Africa. *S. d. arideensis* breeds in southern Madagascar and the Seychelles east to Rodrigues Island, and *bangsi* breeds on islands off the coast of Oman in the north Arabian Sea. Birds from Northwest Europe and the Azores winter along the coast of West Africa from Mauritania to Gabon, apparently mainly in Ghana. Birds move away from the East African and South African breeding colonies at the end of the breeding season, but the extent of their movements is unknown (Urban *et al.* 1986). The few ringing recoveries available in South Africa suggest that birds from the South African colonies disperse along the coastline of the eastern Cape (Underhill *et al.* 1999). The birds reaching Mozambique are thought most likely to be birds from the Madagascar colonies (Underhill *et al.* 1999). Only the population of the nominate form breeding in Europe and the Azores is currently included in the Action Plan.

- Europe (breeding): 4,800-5,400.

Trends: Decreasing.

Changes in status: The breeding population in Western Europe and the Azores suffered a dramatic decline between 1969 and 1987, particularly in the northwest (Tucker & Heath 1994). In Britain and Ireland, the population fell from 2,392 pairs in 1969/70 to 470 pairs in 1985-87 (Lloyd *et al.* 1991). The decline has been attributed to disturbance and predation on the breeding grounds, and food shortage and hunting outside the breeding season. In West Africa, adults are trapped for food by netting, baited hooks or snaring, and this is believed to have been at least partly responsible for the decline in the population (del Hoyo *et al.* 1996). The total population was estimated at about 1,600 pairs in the early 1990s (Hagemeijer & Blair 1997), most of which were concentrated in the Azores (1,000 pairs in 1992) and Ireland (454 pairs in 1992). There is some indication that the population may now have stabilised, as there were about 1,820 pairs in 1995 (data from Snow & Perrins 1998). The estimate of 1,600-1,800 pairs given by BirdLife International/EBCC (2000) has been used as the basis for the present population estimate.

Comments: Only the Atlantic population is included in Appendix II of the Bonn Convention. Four other populations of this species are described in section 2.2 of this report.

Common Tern *Sterna hirundo*

Polytypic. Two subspecies occur in the Agreement Area. The nominate race breeds widely in Europe, Northwest Africa and Western Asia east to Kazakhstan and Western Siberia, and winters south to South Africa and east to western India. *S. h. tibetana* is mainly extralimital, breeding in Central Asia and wintering in Southern and Southeast Asia, although the subspecies has been recorded in some numbers in South Africa and once in Malawi. Three populations of *hirundo* are recognised: (1) birds which breed in Southern and Western Europe (east to Germany), North Africa (Tunisia) and West Africa (Mauritania and Senegal), and winter mainly in West Africa, from Mauritania to Nigeria; (2) birds which breed in Northern and Eastern Europe, and winter mainly on the west coast of Southern Africa from Angola to South Africa, but also to a lesser extent in West Africa to Ghana and along the east coast of Southern Africa north to Mozambique; and (3) birds which breed in Asia Minor, the Caspian region, Western Siberia, Kazakhstan, Iraq and Iran, and winter around the Indian Ocean from south-eastern Africa to Pakistan and north-western India, perhaps mainly off Northeast and East Africa. A recent review of ringing recoveries involving Southern Africa has shown that the great majority of birds reaching Southern Africa originate from breeding areas in the Baltic region and Finland, and travel via the Atlantic coast. However, some birds originate from breeding areas in Southeast Europe and apparently travel via the Indian Ocean coast as far south as the Cape (Underhill *et al.* 1999).

- Southern & Western Europe (breeding): 170,000-200,000.

Trends: Probably stable.

- Northern & Eastern Europe (breeding): 460,000-820,000.

Trends: Probably stable.

- Western Asia (breeding): C or D.

Trends: Unknown.

Changes in status: Both European breeding populations appear to be more or less stable. The species declined in many parts of Western Europe in the 19th century, but then increased, at least locally, with protection during the first half of the 20th century. In recent decades, trends have varied from region to region, with increases in some areas and decreases in others, and overall, numbers may be relatively stable. Similarly, in Northern and Eastern Europe, trends vary from region to region, with increases in some areas and decreases in others. BirdLife International/EBCC (2000) report increases in the breeding populations in ten European countries, stable or fluctuating populations in 15, and decreasing populations in 12. The large populations in Belarus, Finland, The Netherlands, Norway, Russia, Sweden and the U.K. are all stable or increasing, and most of the decreases are in the smaller, marginal populations in the south and west. Nothing is known of trends in Western Asia.

Comments: Only the populations of the nominate form *hirundo* breeding in the Western Palearctic

are included in Appendix II of the Bonn Convention.

BirdLife International/EBCC (2000) give the total European breeding population (including European Russia and Turkey) as 210,000-340,000 pairs. The breeding population in Southern and Western Europe and Northwest Africa is estimated at a minimum of 57,000-67,000 pairs (170,000-200,000 birds), and that in Northern and Eastern Europe at roughly 153,000-273,000 pairs (460,000-820,000 birds)

(data from Snow & Perrins 1998 and BirdLife International/EBCC 2000). Both sets of figures are close to the former estimates of 180,000 and 600,000, respectively, based on a similar set of data. Little is known of numbers in Western Asia. There are at least 25,000 pairs breeding around the Caspian Sea (Golovkin 1984), and a few hundred pairs in Iran (Scott 1995).

The small population breeding in coastal West Africa (500-2,000 birds) is given separate treatment in the second edition of *Waterfowl Population Estimates*, and this treatment is supported by Dodman (2002). However, there seems little reason to suppose that this population is any different from other small, outlying breeding populations at the southern and western extremities of the normal breeding range (e.g. those in Madeira, the Canary Islands and Tunisia), and for the present, at least, it is here retained in the large Southern and Western European population.

Arctic Tern *Sterna paradisaea*

Monotypic; circumpolar. Populations breeding in Canada, north-eastern U.S.A., Greenland, Iceland, Svalbard, Northern Europe and Western and Central Siberia are thought to converge in the East Atlantic off Western Europe and West Africa and migrate well offshore south to the edge of the pack-ice in Antarctica mainly between 50°E and 110°E. Immatures generally winter further north, with many occurring off South Africa. A recent review of ringing recoveries involving Southern Africa has shown that the great majority of birds reaching Southern Africa originate from breeding areas in Northern Europe, east to the White Sea (Underhill *et al.* 1999). There has been only one recovery from Iceland (which supports over half the European breeding population), and only seven from Greenland and one from Canada. Underhill *et al.* (1999) have concluded that the majority of Arctic Terns from Iceland, Greenland and north-eastern Canada probably migrate south through the mid Atlantic and do not reach the African coast. Breeding populations in Eastern Siberia and Alaska apparently migrate through the Eastern Pacific to the Southern Oceans. Because of the extensive mixing between birds from different breeding areas on their wintering grounds in the Southern Oceans, the first two editions of *Waterfowl Population Estimates* recognised only a single world population of the species. For the purposes of the Agreement, only the birds breeding in Western Eurasia (including Iceland) are considered here.

- Western Eurasia (breeding): 1,300,000-2,300,000.

Trends: Stable or decreasing slightly.

Changes in status: None known. BirdLife International/EBCC (2000) report increases in Denmark, Finland, Ireland and the U.K., and declines in Estonia, Norway and Russia. However, the very large population in Iceland is thought to be more or less stable (Koskimies 1993), and the populations in Germany, Iceland, The Netherlands, Svalbard and Sweden are also reported to be stable. Hagemeyer & Blair (1997) conclude that the overall numbers in Europe have not changed dramatically since the early 1970s.

Comments: Only the Atlantic populations are included in Appendix II of the Bonn Convention. BirdLife International/EBCC (2000) give the total European breeding population (excluding Greenland) as 440,000-760,000 pairs, suggesting a population of between 1,300,000-2,300,000 birds. Over half of the population (250,000-500,000 pairs) breeds in Iceland.

Little Tern *Sterna albifrons*

Polytypic. Two subspecies occur in the Agreement Area. The nominate form breeds across temperate and Southern Europe and North Africa east to Central Asia, and winters south to South Africa and north-western India. *S. a. guineae* occurs in West and Central Africa from Mauritania and Senegal to Ghana, Nigeria, Cameroon and Gabon. Birds breeding on the coast are largely sedentary, but those breeding inland in West Africa are migratory. An isolated population at Lake Turkana in Kenya is sedentary. Four main breeding groups are recognised: (1) birds which breed in Western Europe and Northwest Africa, and winter in West Africa from Senegal to the Gulf of Guinea and possibly also in Southwest Africa; (2) birds which breed in Eastern Europe, the Black Sea region and Turkey, and winter in the Red Sea, southern Arabia and probably along the East African coast to South Africa; (3) birds which breed in the Caspian region, Aral Sea, Iraq and Iran, and winter from the Persian Gulf east to Pakistan; and (4) birds belonging to the race *guineae* which breed in West Africa (Mauritania to Cameroon) and move to the coast in winter. Most of the birds which winter in Southern Africa are believed to originate from Eastern Europe and the Black Sea region or further east, as there are very few records of birds along the west coast of Southern Africa. - Eastern Atlantic (breeding): 31,000-37,500.

Trends: Stable.

- Black Sea & East Mediterranean (breeding): 63,500-127,000.

Trends: Decreasing.

- Caspian (breeding): B.

Trends: Unknown.

- West Africa (breeding - *guineae*): Unknown.

Trends: Unknown.

Changes in status: Numbers declined markedly throughout much of Northwest Europe in the late 19th century and early 20th century, but there was then some recovery up to the 1950s. Further declines occurred in some areas in the 1960s 1970s and 1980s, but in recent years, most populations appear to have stabilised or are still increasing (Snow & Perrins 1998). According to BirdLife International/EBCC (2000), the four largest breeding populations (in France, Spain, Poland and the U.K.) are all stable or increasing, and only the relatively small populations in Denmark, Germany, Lithuania, the Netherlands and Portugal are declining. Recent local increases (*e.g.* in France and the United Kingdom) are probably due to careful protection of breeding sites (Evans 1984).

The population breeding in Eastern Europe, the Black Sea and East Mediterranean appears to be in decline, with decreases reported in recent years in Albania, Greece, Romania, Russia and Ukraine, and increases only in Italy and Israel (Snow & Perrins 1998, BirdLife International/EBCC 2000).

No information is available on the trends in the other two populations.

Comments: BirdLife International/EBCC (2000) give the total European breeding population (including European Russia and Turkey) as 28,000-50,000 pairs. The breeding population in Western Europe (east to the Baltic States) is currently estimated at between 10,450 and 12,500 pairs (data from BirdLife International/EBCC 2000), suggesting a population of 31,000-37,500 individuals. The population breeding in Eastern Europe, the Black Sea and East Mediterranean is estimated at between 21,500 and 42,300 pairs, with 5,000-15,000 of these in Turkey and 3,700-4,800 in North Africa (data from BirdLife International/EBCC 2000 and Snow & Perrins 1998). These figures suggest a total of 63,500-127,000 individuals.

The population in the Caspian region and Middle East has been roughly estimated at about 12,000 birds (Evans 1994), including at least 1,000 pairs in Iran (Scott 1995). In West Africa, the coastal population of *guineae* in Senegal and Mauritania has been estimated at only 150 pairs (Cooper *et al.* 1984) or a few hundred pairs (del Hoyo *et al.* 1996), but the species is locally common inland, and up to 1,000 birds have been recorded on the Nigerian coast during the non-breeding season (Urban *et al.* 1986).

Saunders's Tern *Sterna saundersi*

Monotypic. The species breeds in the Red Sea, in the Persian Gulf, and on the Indian Ocean coast from Northeast Africa (south-eastern Somalia, Sudan and Socotra) to Pakistan and Sri Lanka. It winters south to Tanzania, Madagascar and Southeast Asia, and has straggled to Australia. Only one population is recognised, the entire population of the species.

- Western South Asia, Red Sea, Persian Gulf & Eastern Africa: 40,000.

Trends: Unknown.

Changes in status: None known.

Comments: There is some doubt as to the validity of this species, as many intermediates between *saundersi* and *S. albifrons* occur, especially in the Gulf (Olsen & Larssen 1995). The estimate of 40,000 individuals comes from Evans (1994) and may no longer be valid, but in the absence of any better information, it has been retained.

Damara Tern *Sterna balaenarum*

Monotypic. The species breeds on the coast of South Africa, Namibia and probably also Angola, and winters along the Atlantic coast of Africa north to Gabon, Cameroon, Nigeria and Ghana. The main wintering area is probably in the Gulf of Guinea. Only one population is recognised, the entire population of the species.

- Namibia & South Africa/Atlantic coast to Ghana: 13,500.

Trends: Probably increasing.

Changes in status: Habitat alteration has rendered some former sites in South Africa unsuitable for breeding, and the bird has probably been displaced from other sites by human disturbance and encroachment of alien vegetation (Harrison *et al.* 1997). BirdLife International (2000) give no trend for the global population, but D. Harebottle (*in litt.*) has recently suggested that overall the population has probably been increasing since the early 1980s.

Comments: *S. balaenarum* was listed as a globally threatened species by Collar & Stuart (1985) and IUCN (1993), in the category 'Rare'. With the discovery of large numbers of birds in Namibia, it has been removed from the Red List, and is now listed as 'Near-threatened' (Collar *et al.* 1994, BirdLife International 2002).

The total population of the species was formerly thought to be only about 4,000 individuals (Collar & Stuart 1985), but surveys in the main breeding strongholds along the coast of Namibia between 1992 and 1996 indicated that the population was much larger than this. Simmons *et al.* (1998) have estimated the total population at 13,500 adults, and this estimate has been retained by BirdLife International (2000). The great majority of these birds (13,450) occur along the coast of Namibia during the breeding season, and only about 150 pairs breed in South Africa (Harrison *et al.* 1997).

White-cheeked Tern *Sterna repressa*

Monotypic. The species breeds in the Persian Gulf, in the Red Sea and along the African coast south to northern Kenya (Lamu Archipelago). It occurs on passage and in winter south to East Africa and east to Pakistan and India, but most birds apparently stay well offshore in winter. Only one population is recognised, the entire population of the species.

- Western South Asia, Red Sea, Persian Gulf & East Africa: 600,000.

Trends: Decreasing.

Changes in status: A major decline occurred at the main breeding colony in Iran (Sheedvar Island) during the 1970s, almost certainly as a result of massive egg-collecting by the inhabitants of nearby Lavan Island (Gallagher *et al.* 1984). A decrease has also been reported in Kuwait (Snow & Perrins 1998).

Comments: The breeding population is thought to number at least 200,000 pairs (Evans 1994), and could be many more. As no better information has become available, the former estimate of 600,000 individuals, based on Evans (1994), has been retained.

White-winged Tern *Chlidonias leucopterus*

Monotypic. The discrete West Eurasian population breeds from eastern Poland, Hungary and Romania across Eastern Europe and west-central Asia to about 85°E, and winters at wetlands throughout Sub-Saharan Africa south to South Africa. Only one population is recognised in the Agreement Area.

- Eastern Europe & Western Asia/Africa: 3,000,000.

Trends: Unknown.

Changes in status: The relatively small breeding population in Central Europe is reported to be stable or fluctuating, while the large European Russian population is thought to be increasing (BirdLife International/EBCC 2000). Trends in the large West Asian breeding population are unknown. The wintering range in Southern Africa has apparently been expanding during the 20th century, probably as a result of the creation of artificial wetlands such as sewage works and shallow dams (Harrison *et al.* 1997).

Comments: Only the population occurring in Western Eurasia and Africa is included in Appendix II of the Bonn Convention.

Very little information is available on the numbers of birds in the main breeding grounds east of the Urals. However, Boere & Yurlov (1998) found about 12,000 pairs breeding at Lake Chany and other lakes in southern Western Siberia in 1997. BirdLife International/EBCC (2000) give the total European breeding population (including European Russia and Turkey) as 22,000-53,000 pairs. Perennou (1991) estimated the wintering population in Africa at 200,000-250,000 birds, and this was adopted as the total population estimate in the first two editions of *Waterfowl Population Estimates* and the first edition of this report. However, Byarubanga *et al.* (2002) found some 2.5 million birds at a roost at Lutembe Bay, Lake Victoria, in Uganda in early December 1999. Two million birds were still present in this area in February and March 2000, when there were an additional million birds in Matamba Bay, some distance away. These counts suggest that there are at least three million birds in the population, and possibly many more, as concentrations of up to 20,000 have been recorded in South Africa (Harrison *et al.* 1997).

Black Tern *Chlidonias niger*

Two subspecies have been described: the nominate form breeding in Western Eurasia, and *surinamensis* breeding in North America. The nominate form breeds in temperate regions of Europe and Western Asia from France and Spain in the west to about 85°E in Western Siberia, and winters almost entirely on the west coast of Africa from Mauritania south to Namibia. Major wintering concentrations occur from Mauritania to the Gulf of Guinea, and also off Namibia. Very small numbers have been recorded along the Nile Valley in Egypt and Sudan. Only one population is

recognised, the entire population of *niger*.

- Europe & Asia/Atlantic coast of Africa: 200,000-350,000.

Trends: Stable or decreasing.

Changes in status: There is evidence of a long-term decline in western and southern parts of the breeding range (Tucker & Heath 1994, Snow & Perrins 1998). Since the 1970s, breeding populations have decreased by more than 50% in most countries in Western Europe and the Mediterranean (Hagemeijer & Blair 1997). BirdLife International/EBCC (2000) report large decreases in Bulgaria, the Czech Republic, Denmark, France, Germany, Italy, The Netherlands, Slovakia, and Spain, and smaller decreases in Croatia and Hungary. The declines have been attributed to habitat loss and deterioration through wetland drainage, widespread introduction of intensive farming methods, and pollution on the breeding grounds (Tucker & Heath 1994; Hagemeijer & Blair 1997). However, these declines all relate to countries with populations of less than about 1,000 pairs. The large breeding population in European Russia (20,000-30,000 pairs) is thought to be stable, and the relatively large populations in Belarus, Poland and Romania are said to be stable or fluctuating (BirdLife International/EBCC 2000). The only large population thought to be declining is that in Ukraine (3,500-5,000 pairs). Overall, the population is probably stable, with some local declines, especially near the edge of the range.

Comments: Only the nominate form *niger* is included in Appendix II of the Bonn Convention.

BirdLife International/EBCC (2000) give the total European breeding population (including European Russia and Turkey) as 47,000-88,000 pairs, or about 141,000-264,000 individuals. However, about half of the breeding range lies to the east of the Urals, and the size of the population there is unknown but thought to be large. According to del Hoyo *et al.* (1996), several hundreds of thousands of pairs breed in the former Soviet Union, although recent estimates give only 6,000-22,000 in Belarus and 20,000-30,000 pairs in European Russia (BirdLife International/EBCC 2000). Thus the earlier estimate of 200,000 for the total population is almost certainly too low, and a new estimate of 200,000-350,000 is proposed. Concentrations of up to 150,000-200,000 birds at the IJsselmeer in the Netherlands during autumn passage probably represent almost the entire Northern and Eastern European population (Hagemeijer & Blair 1997). Wintering concentrations of up to 100,000 were found at the Banc d'Arguin in Mauritania in the early 1970s, and some 10,000-35,000 are believed to occur off the coast of Namibia (Underhill *et al.* 1999).

2.2. WATERBIRD SPECIES PROPOSED FOR INCLUSION IN THE AGREEMENT

One hundred and seventy species of waterbirds are included in the Agreement. However, there are a further 215 species of birds belonging to the traditional waterbird families which have been recorded in the Agreement Area. Many of these are inappropriate for inclusion in the agreement for one reason or another (see Section 3). However, there remain 63 species of birds that occur in substantial numbers in the Agreement Area in a wild state, are to some extent dependent on wetlands, and are known or thought to be at least partly migratory in the sense of the Bonn Convention. Nine of these (*Phalacrocorax coronatus*, *P. neglectus*, *P. carbo*, *P. capensis*, *Haematopus moquini*, *Larus dominicanus*, *L. cirrocephalus*, *L. hartlaubii* and *Sterna vittata*) have been proposed for inclusion in the Agreement by the Government of South Africa, along with two species of seabirds, the African Penguin *Spheniscus demersus* and Cape Gannet *Sula (Morus) capensis*. A further six species were identified as being especially worthy of consideration for inclusion in Resolution 1.9. of the First Session of the Meeting of the Parties (*Oxyura maccoa*, *Sarothrura ayresi*, *Crex crex*, *Glareola ocularis*, *G. nuchalis* and *Rhynchops flavirostris*). The remaining 48 species comprise all those that should be included in the Agreement if, as proposed by the AEWA Secretariat, it were to be expanded to include all migratory waterbird species occurring in significant numbers and in a wild state in the Agreement Area.

The status and trends of the migratory populations of these 63 species are summarised below, along with the status and trends of *Spheniscus demersus*, *Sula (Morus) capensis* and 18 populations of 12 species already included in Annex 2 of the Agreement but omitted from the Action Plan. Most of the latter were omitted from the Action Plan either because they were thought to have a favourable conservation status or were not thought to be migratory in the sense of the Bonn Convention.

The population sizes and trends of the 134 relevant populations are summarised in Table 2.

SPHENISCIDAE

African Penguin *Spheniscus demersus*

Monotypic. The African Penguin (Jackass Penguin) is confined to the southwest coast of Africa in Namibia and South Africa, breeding at 24 islands and three mainland sites between Hollamsbird Island, Namibia, and Bird Island, Algoa Bay, South Africa (Harrison *et al.* 1997). It is usually found within 40 km of the coast. Adults generally remain within 400 km of their breeding locality, but young birds disperse over considerable distances, and have been recovered 1,800 km from their natal island (Harrison *et al.* 1997). Vagrants have occurred as far north as Gabon on the west coast and the mouth of the Limpopo River in Mozambique on the east coast. Only one population is recognised, the entire population of the species.

- Southern Africa: 180,000.

Trends: Decreasing.

Changes in status: The population underwent a catastrophic decline in the 20th century. There were probably at least 1.4 million penguins at Dassen Island alone at the beginning of the 20th century. Since then, there has been a steady decline, with a marked decline since about 1960. The total population had fallen to about 220,000 adults by the late 1970s, 190,000 by the late 1980s, and 180,000 by the early 1990s (Harrison *et al.* 1997). At least nine former breeding sites have been abandoned. The population declines have been attributed to food shortages resulting from large catches of fish by commercial purse-seine fisheries. Mortality from oil spills may also be severe. Between 1991 and 2001, about 35,000 penguins (20% of the population) were oiled, with 31,500 of these in four major oil spills, each involving over a thousand birds (du Toit & Byers 2002). Other threats have included human disturbance and egg-collecting, disturbance from guano collection, and predation from Kelp Gulls *Larus dominicanus* and feral cats (Harrison *et al.* 1997, BirdLife International 2000, du Toit & Byers 2002).

Comments: *Spheniscus demersus* is a globally threatened species in the category 'Vulnerable' (BirdLife International 2000), and is listed in Appendix II to the Bonn Convention.

PODICIPEDIDAE

Little Grebe *Tachybaptus ruficollis*

Three subspecies occur: *T. r. ruficollis* in Europe and Northwest Africa; *T. r. capensis* in Southwest Asia and Africa south of the Sahara; and *T. r. iraquensis* in Iraq and south-western Iran. *T.r. capensis* and *T.r. iraquensis* are largely sedentary. The nominate race is also mainly sedentary, although most populations in temperate and southern Europe show some dispersion southwest, especially during hard weather. Populations breeding in Sweden, the Baltic States and Eastern Europe are migratory, wintering in Western and Southern Europe and therefore overlapping extensively with sedentary populations. Only one population is relevant, and this includes a mixture of resident and migratory populations.

- Europe & Northwest Africa (*ruficollis*): 230,000-450,000.

Trends: Stable.

Changes in status: The population appears to be mainly stable, with local increases in some areas and decreases in others (BirdLife International/EBCC 2000).

Comments: The European breeding population has recently been estimated at 77,000-150,000 pairs, suggesting a total population of 230,000-450,000 individuals (BirdLife International/

EBCC 2000).

Great Crested Grebe *Podiceps cristatus*

Polytypic. Two subspecies occur in the Agreement Area: the nominate form breeds widely across Western Eurasia and winters south to Morocco, Egypt and Saudi Arabia; *P. c. infuscatus* is patchily distributed on highland lakes in Eastern Africa from southern Ethiopia to northern Zambia, and in Southern Africa from Botswana and Namibia to Cape Province, South Africa. Both of these populations are to some extent migratory, dispersing over considerable distances in response to seasonal rainfall. Three populations of *cristatus* and two populations of *infuscatus* are recognised.

- Northwest & Western Europe (*cristatus*): 368,000-579,000.
Trends: Increasing.
- Black Sea & Mediterranean (wintering) (*cristatus*): >600,000.
Trends: Increasing.
- Caspian & Southwest Asia (wintering) (*cristatus*): 10,000.
Trends: Unknown.
- Eastern Africa (Ethiopia to northern Zambia) (*infuscatus*): <1,000.
Trends: Decreasing.
- Southern Africa (*infuscatus*): A.
Trends: Increasing.

Changes in status: The marked increase in the European breeding population, which began in the late 19th century, is continuing (Tucker & Heath 1994, Hagemeyer & Blair 1997, BirdLife International/EBCC 2000). The increase has been most pronounced in Northwest Europe, especially in Finland, where the population has increased from about 5,000 pairs in the 1950s to possibly as many as 50,000 pairs in recent years (O'Donnell & Fjelds  1997). However, increases have also been reported in several countries in Eastern Europe, including Belarus and Romania, and there have been only local decreases, *e.g.* in Sicily (Hagemeyer & Blair 1997).

The status of the Caspian wintering population is poorly known, but it seems likely that the population is much larger than the present estimate suggests, as there have been counts of almost 9,000 along the Caspian coast of Iran alone (Scott 1995).

The small Southern African population appears to be increasing. There is some evidence of a recent expansion in range and increase in numbers, especially in Botswana, probably due to an increase in dams in semi-arid and arid areas (Dodman & Rose 1997, Harrison *et al.* 1997). However, eutrophication and pollution have led to the disappearance of the species from some former breeding sites in Witwatersrand in South Africa, and the birds are sensitive to human disturbance, especially water sports (Harrison *et al.* 1997).

Drastic declines have been reported in the Eastern African population of *infuscatus* in recent years, possibly as a result of the rapid increase in the use of gill nets for fishing over the last 15 years, increased disturbance at wetlands, and the drying up of some sites due to persistent low rainfall (Dodman & Rose 1997, O'Donnell & Fjelds  1997). The highest national totals during the African Waterbird Census (1991-1998) were 10 in Zambia (July 1994), four in Tanzania (January 1995), 24 in Kenya (January 1991) and 101 in Ethiopia (January 1998) (Dodman & Rose 1997, Dodman *et al.* 1997, Dodman *et al.* 1999). Four were seen in Uganda in 1998, but none has been found since, despite extensive surveys in most suitable locations (Dodman 2002). There were no reports of breeding in Kenya between 1979 and 1992, and by 1995, the total Kenyan population was thought to be less than 50 birds (Zimmerman *et al.* 1996). Dodman (2002) has recently estimated the total Eastern African population at less than 1,000 individuals.

Comments: The breeding population in Northwest and Western Europe has been estimated at about 122,700-193,000 pairs, suggesting a total population of 368,000-579,000 individuals (data from BirdLife International/EBCC 2000). There are at least 200,000 pairs and perhaps over a million pairs in Eastern Europe (data from BirdLife International/EBCC 2000). The estimate for this population is given as >600,000, but could be much higher. These estimates are much higher than the estimates given in the second edition of *Waterfowl Population Estimates*, which were obviously far too low.

Black-necked Grebe *Podiceps nigricollis*

Polytypic. Two subspecies occur in the Agreement Area. The nominate subspecies breeds patchily across temperate and Southern Europe to west-central Asia, and winters south to North and West Africa and the Persian Gulf. *P. n. gurneyi* breeds in Botswana, Namibia and South Africa, and winters mainly along the coast of Namibia and Cape Province, South Africa, although some birds occasionally occur north to Angola and Mozambique. An isolated population in the Rift Valley zone from Ethiopia to northern Tanzania in Eastern Africa was assigned by Peters (1931) to *gurneyi*, but is now generally regarded as belonging to the nominate form (Britton 1980, O'Donnell & Fjeldså 1997). This population appears to be mainly sedentary or dispersive, wandering somewhat, depending on the rains (Short *et al.* 1990). Three migratory populations are relevant: two main wintering groups of *nigricollis* in Western Eurasia, and the population of *P. n. gurneyi* in Southern Africa.

- European/South & West Europe & North Africa (*nigricollis*): 117,000-450,000.

Trends: Stable or increasing.

- Western Asia/Southwest Asia & South Asia (*nigricollis*): 25,000.

Trends: Increasing.

- Southern Africa (*gurneyi*): 10,000-20,000.

Trends: Increasing.

Changes in status: *P. n. nigricollis* spread rapidly through Europe from about 1860, and numbers continued to increase until the 1980s, especially in parts of East and Central Europe. However, decreases were reported in some southern parts of its range (*e.g.* Italy, Spain and North Africa) in the 1980s, and more recently Tucker & Heath (1994) have reported declines in nine countries. The second edition of *Waterfowl Population Estimates* gives the trends in this population as increasing, but it now seems that the population may have stabilised, although the situation is confused by strong fluctuations in numbers from year to year (O'Donnell & Fjeldså 1997). BirdLife International/EBCC (2000) report increases in six countries, including Ukraine where there is a very large breeding population (15,000-19,000 pairs), decreases in five countries (mostly with small populations), and stable or fluctuating populations in 16 countries.

The population in Southern Africa has undoubtedly increased during the 20th century, with the construction of dams, salt works and sewage works which now provide permanent drought refuges (Harrison *et al.* 1997).

Comments: The breeding population in Europe has been estimated at 39,000-150,000 pairs (BirdLife International/EBCC 2000), suggesting a total population of 117,000-450,000 birds, *i.e.* considerably higher than the estimate of 100,000 given in the second edition of *Waterfowl Population Estimates*. Almost 32,000 were counted in the Black Sea and East Mediterranean region during the International Waterbird Census in January 1998 (Gilissen *et al.* 2002).

About 10,000 birds were recorded along the coast of Namibia and South Africa during surveys in 1976-81, and these were thought to represent the bulk of the population (Harrison *et al.* 1997). A count of 6,224 from four sites in Namibia in July 1994 is perhaps the highest count in recent years (Dodman & Rose 1997). As most sites for this species are probably well covered in the non-breeding period, Dodman (2002) has proposed a new estimate of 10,000-20,000 individuals to replace the old estimate of B/C.

PELECANIDAE

Great White Pelican *Pelecanus onocrotalus*

See species account in Section 2.1. The following three populations should be added to the Action Plan:

- West Africa: 60,000.
Trends: Stable.
- Eastern Africa: 150,000.
Trends: Stable.
- Southern Africa: 18,000.
Trends: Probably stable.

Changes in status: Numbers in West Africa and Eastern Africa are believed to be stable, although local declines have been reported at some breeding colonies, *e.g.* the formerly large colony at Lake Shalla in Ethiopia. (Dodman 2002). The Southern African population is thought to be stable (Harrison *et al.* 1997).

Comments: Only the Palearctic populations of *P. onocrotalus* are listed in Appendix I of the Bonn Convention, and only the Western Palearctic populations are listed in Appendix II.

Dodman (2002) has reviewed numbers in West Africa and concluded that the earlier estimate of 30,000 (from Perennou 1991) was too low. He has suggested a new estimate of 60,000 individuals. The most important breeding colonies appear to be at Djoudj in Senegal, where there were some 8,500 breeding pairs in 1982, and at Kalissaye, where there are 6,000 pairs (Dodman 2002). The counts in January 1998 included 4,887 in Mauritania and 5,476 in Senegal (Dodman *et al.* 1999).

Dodman (2002) concluded that there were about 50,000 pairs of *P. onocrotalus* in Eastern Africa, giving a population estimate of about 150,000 birds which agrees with that of Crivelli and Schreiber (1984). Over 43,100 were counted in Kenya in July 1993 (Taylor & Rose 1994).

Harrison *et al.* (1997) suggest a figure of 6,000 breeding pairs for Southern Africa (south of the Zambezi). The largest concentrations are in Botswana, but there are about 2,000 pairs breeding at three coastal sites in Namibia and South Africa. Over 6,000 birds were counted during the African Waterbird Census in July 1994 (Dodman & Taylor 1995).

Pink-backed Pelican *Pelecanus rufescens*

Monotypic. The Pink-backed Pelican breeds widely in Africa south of the Sahara and also in south-western Arabia. It is normally sedentary, undertaking only local movements perhaps related to water conditions. However, populations in West Africa are rains migrants, moving north in the wet season and south in the dry season. There also appears to be an influx of birds

into the Arabian peninsula from north-eastern Africa in summer (the wet season).

No discrete populations are identifiable, and only one population is recognised, the entire population of the species.

- Tropical Africa & Southwest Arabia: 50,000-100,000.

Trends: Stable.

Changes in status: The population is thought to be stable (Dodman 2002).

Comments: Although this species is widespread in Africa, especially along tropical coastlines, it is generally much less numerous than *P. onocrotalus* (Dodman 2002). Regional totals in the African Waterbird Census in January 1998 were 2,780 in West Africa, 124 in Central Africa, 2,851 in Eastern Africa, and 147 in Southern Africa, giving a total of 5,902 (Dodman *et al.* 1999). The total population in Southern Africa has been estimated at only 250 pairs (Harrison *et al.* 1997). Dodman (2002) concluded that the earlier estimate of D (100,000-1,000,000) was too high, and has proposed a new population estimate of 50,000-100,000.

SULIDAE

Cape Gannet *Sula (Morus) capensis*

Monotypic. The Cape Gannet is confined as a breeding species to six islands off the coast of South Africa and Namibia. Outside the breeding season, the adults generally stay within 500 km of the breeding colonies, but young birds range north along the Atlantic coast to the Gulf of Guinea and West Africa (mostly south of 4°N and east of 6°E), and east to Mozambique, Tanzania and exceptionally Kenya (Harrison *et al.* 1997). The birds usually stay within 100 km of land, but vagrants have reached Australia. Only one population is recognised, the entire population of the species.

- Southern Africa: 346,000 mature adults (BirdLife International 2000).

Trends: Decreasing.

Changes in status: The numbers breeding in South Africa increased between 1956 and 1996, but the Namibian population declined massively, and there was an overall decline of 15% in the population between 1978 and 1996 (BirdLife International 2000). The colony at Possession Island in Namibia decreased from 13,000 pairs in 1956 to 1,000 pairs in 1993, and some former breeding sites have been abandoned (Harrison *et al.* 1997). Food shortages, following the collapse of the Namibian sardine fishery, have been the main cause of the decline. Oil spills are also a serious threat. At least 1,300 birds were oiled in a major spill in 1983, and a further 1,000 were oiled in three unidentified spills in 1998 and 1999 (du Toit & Byers 2002). At some colonies, the gannets have been threatened with displacement by Cape Fur Seals *Arctocephalus pusillus* (Harrison *et al.* 1997, BirdLife International 2000).

Comments: *Sula capensis* is a globally threatened species in the category 'Vulnerable' (BirdLife International 2000). In 1996, the total population was estimated at about 173,000 pairs, with 84% of these being in South Africa (BirdLife International 2000).

PHALACROCORACIDAE

Crowned Cormorant *Phalacrocorax coronatus*

Monotypic. This species is confined to the cold waters of the Benguela Current off the west

coast of southern Africa from Mowe Bay in Namibia to Meester se Baai in western Cape Province, South Africa. It is known to breed at 48 localities from Walvis Bay in Namibia to

Cape Agulhas in South Africa. It forages in shallow coastal waters and estuaries, and seldom strays more than 10 km offshore. It is mainly sedentary, although there is known to be some movement between breeding sites, and there appears to be some post-breeding dispersal of young birds to the north and east of the breeding range (Harrison *et al.* 1997). There have been seven recoveries of birds over 100 km from their place of ringing, with the furthest being 562 km (Underhill *et al.* 1999). Only one population is recognised, the entire population of the species.

- Coastal Southwest Africa: 8,700.

Trends: Stable.

Changes in status: Although the total population is very small, there is no indication that it was ever much more numerous. The colonies in the Northern Cape may have decreased since 1980, but overall the population is believed to be stable (Dodman 2002). Information from ten well-monitored islands off South Africa suggests that the population is stable or increasing slightly (BirdLife International 2000). However, human disturbance, to which the species is very susceptible, is a major threat (BirdLife International 2000).

Comments: *Phalacrocorax coronatus* is listed as 'Near-threatened' by BirdLife International (2000). During 1977-1981, the total population was estimated at 2,665 breeding pairs, of which 977 were in Namibia and 1688 in South Africa (BirdLife International 2000). The most recent census of the population gave a total of 2,904 pairs, or about 8,700 individuals (du Toit & Byers 2002).

Bank Cormorant *Phalacrocorax neglectus*

Monotypic. The Bank Cormorant is confined to the cold waters of the Benguela Current off Namibia and South Africa. It is known to breed at 45 localities between Cape Cross in Namibia and Die Walle in South Africa (Harrison *et al.* 1997). Outside the breeding season it ranges north along the coast to just south of Hoanibmond in Namibia. It prefers inshore waters for foraging, and rarely strays more than 10 km from land. Adults remain close to the breeding grounds throughout the year, but young birds can disperse over hundreds of km. The most distant recovery of a ringed bird has been 429 km (Underhill *et al.* 1999). Only one population is recognised, the entire population of the species.

- Coastal Southwest Africa: 9,700.

Trends: Decreasing.

Changes in status: Several island populations have declined in recent years, and seven former breeding localities have been vacated (Harrison *et al.* 1997). The total number of breeding pairs fell from 8,672 in 1978-80 to 4,888 in 1995-97 (BirdLife International 2000). At Mercury and Ichaboe Islands in Namibia (which supported 56% of the global population in 2000-02), the numbers of breeding pairs decreased from 6,334 in 1990-92 to 1,803 in 2000-02 (du Toit & Byers 2002). The most recent census of the population gave a total of only 3,241 pairs, or about 9,700 individuals (du Toit & Byers 2002). Human disturbance resulted in the loss of four colonies and reductions at six others between 1978 and 1997. Cape Fur Seals *Arctocephalus pusillus* have displaced birds from nesting sites at several colonies, and predation by Kelp Gulls *Larus dominicanus* has also been a problem at some colonies (du Toit & Byers 2002). Decreases in the abundance of certain fish species are believed to have led to population reductions at colonies in central Namibia (Harrison *et al.* 1997, BirdLife International 2000).

Comments: *Phalacrocorax neglectus* is a globally threatened species in the category 'Vulnerable' (BirdLife International 2000).

Great Cormorant *Phalacrocorax carbo*

Six subspecies are normally recognised, and four of these occur in the Agreement Area. The nominate race breeds in eastern Canada, Greenland, Iceland, Norway, Britain and Ireland. Birds from Canada and Greenland winter in North America. The Icelandic population (2,200-2,600 pairs) is sedentary; Norwegian birds disperse south to the western Baltic; British and Irish birds disperse widely within Britain and Ireland, with a small proportion crossing the English Channel to winter in France and Portugal. *P. c. sinensis* breeds across continental Europe and Asia east to China. Western populations winter south to the Mediterranean, Black and Caspian Seas and Persian Gulf. *P. c. lucidus* occurs on the coast of West Africa from the Banc d'Arguin in Mauritania to Guinea-Bissau, on the coast of Southwest Africa from Angola to South Africa, and inland from Nigeria and Lake Chad to Sudan and Ethiopia, thence south through Eastern and Central Africa to Southern Africa. *P. c. lucidus* is largely sedentary or dispersive throughout much of its range, undertaking nomadic movements in response to changing water levels. Long-distance recoveries (up to 1,045 km) in Southern Africa show no seasonal pattern and reflect dispersal of young birds rather than true migration (Underhill *et al.* 1999). *P. maroccanus* occurs along the Atlantic coast of Morocco and northern Mauritania, and is largely sedentary. Six migratory populations are recognised in the Agreement Area.

- Northwest Europe (*carbo*): 114,000.
Trends: Increasing.
- Northern & Central Europe (*sinensis*): 275,000-340,000.
Trends: Increasing.
- Black Sea & Mediterranean (*sinensis*): At least 130,000-160,000.
Trends: Increasing.
- West & Southwest Asia (*sinensis*): 100,000.
Trends: Unknown.
- West & Eastern Africa: 135,000-535,000.
Trends: Stable.
- Southern Africa: 11,000-13,000.
Trends: Stable.

Changes in status: The West European population of the nominate form and the two European populations of *sinensis* have been increasing rapidly for many years and apparently continue to do so (BirdLife International/EBCC 2000). The Russian breeding population of *sinensis* (a large part of which is in the north Caspian) is also said to be increasing, but there have been recent reports of large declines in the numbers of birds wintering in the south Caspian region (E. Firouz *in litt.*). The West and Eastern African population of *lucidus* is thought to be relatively stable, given its adaptability, especially to man-made developments (Dodman 2002). The population of *lucidus* in Southern Africa is also believed to be stable (du Toit & Byers 2002). Here, the species has benefited from the construction of dams and their stocking with fish, and is now far more widespread inland than it was at the beginning of the 20th century (Harrison *et al.* 1997).

Comments: The European breeding population of the nominate form has been estimated at about 38,000 pairs or 114,000 individuals; the Northern and Central European population of *sinensis* has been estimated at 92,000-114,000 pairs or 275,000-340,000 individuals (data from BirdLife International/EBCC 2000). There are some 42,400-52,000 pairs of *sinensis* in the Black Sea & Mediterranean region, excluding Russia, suggesting a minimum population of 130,000-160,000 birds (data from BirdLife International/EBCC 2000). The bulk of the large

Russian breeding population of *sinensis* (20,000-35,000 pairs) are in the lower Volga drainage, and therefore belong to the West and Southwest Asian population, which was estimated at 100,000 individuals by Perennou *et al.* (1994).

Dodman (2002) has recently proposed that separate treatment be given to the population of *P. c. lucidus* in coastal West Africa (Mauritania to Gabon), as this seems to be widely separated from inland populations further to the east. He has estimated the Eastern and Central African population of *lucidus* at 100,000-500,000 individuals, and that in coastal West Africa at 35,000 individuals. The two groups are retained here as a single population, pending further study.

There have been suggestions that the coastal and inland populations in Southern Africa do not mix, but ringing recoveries show interchange in both directions. However, ringing recoveries suggest that there is little mixing between the population in Namibia and southern South Africa and that occurring further north (Underhill *et al.* 1999). Dodman (2002) has recently estimated the Southern African population at 11,000-13,000 individuals.

The two subspecies *lucidus* and *maroccanus* are sometimes considered to be a separate species, the White-breasted Cormorant *P. lucidus*, although *maroccanus* is somewhat intermediate in plumage characteristics between the black-breasted *sinensis* and white-breasted *lucidus*. The populations of *lucidus* in eastern Democratic Republic of Congo and Uganda are dimorphic, with some individuals resembling *P. c. sinensis*.

Cape Cormorant *Phalacrocorax capensis*

Monotypic. The Cape Cormorant is confined to the cold waters of the Benguela Current off Southern Africa, breeding at 69 localities between Die Oase, Namibia, and Stag Island in eastern Cape Province, South Africa. Outside the breeding season, it disperses widely along the coast, north on the Atlantic coast regularly as far as southern Angola, and east to the region of Durban. It has occurred as a vagrant in Gabon and southern Mozambique. Ringing recoveries have demonstrated a high degree of mobility within the range, with many recoveries of birds over 1,000 km from their breeding colonies, and one recovery over 2,100 km (Underhill *et al.* 1999). It generally forages within 10 km of the coast, and occasionally visits coastal lagoons and the brackish waters of estuaries. Only one population is recognised, the entire population of the species.

- Coastal Southern Africa: 216,000.

Trends: Decreasing.

Changes in status: The Cape Cormorant was much more numerous in the past, and is still thought to be declining due to commercial over-fishing and the resultant collapse in fish stocks. A census in 1956 revealed over 1,100,000 birds, including over 900,000 on Namibian guano platforms (Brown *et al.* 1982). However, the total population has decreased from 277,000 pairs in 1971-81 (Harrison *et al.* 1997) to only 72,000 pairs in 1996 (BirdLife International 2000, du Toit & Byers 2002). Large fluctuations in the numbers breeding in South Africa (8,000-100,000 pairs) are thought to be related to changes in availability of the anchovy *Engraulis capensis*, a major prey item (Harrison *et al.* 1997). Disease has caused high mortality, and oil pollution is a potential threat (Harrison *et al.* 1997, BirdLife International 2000, du Toit & Byers 2002).

Comments: *Phalacrocorax capensis* is listed as 'Near-threatened' by BirdLife International (2000). Du Toit & Byers (2002) have given a comprehensive review of all breeding records between 1977 and 2001. The most recent estimate of 72,000 pairs (or about 216,000

individuals) is adopted here.

ARDEIDAE

Black Heron *Egretta ardesiaca*

Monotypic. The species has a wide range in Subsaharan Africa from Senegal and Gambia east to Ethiopia and south through Eastern Africa to South Africa, and also occurs in Madagascar. Over much of its range it is generally uncommon, although it is locally abundant in parts of West Africa and Eastern Africa north of the Zambezi River. Although sedentary throughout much of its range, the species is known to undertake seasonal movements in Southern Africa, and is largely a summer visitor (September to April) south of 22°S (Harrison *et al.* 1997). A bird ringed in Zambia has been recovered in Zimbabwe. Only one population is recognised, the entire population of the species.

- Subsaharan Africa: B or C.

Trends: Decreasing.

Changes in status: The species is said to be decreasing over much of its range, although it is difficult to ascertain overall trends in such a widespread but generally rather scarce species (Dodman 2002). It seems to be particularly susceptible to disturbance during the breeding season, and many of the colonies studied have low breeding success (del Hoyo *et al.* 1992). According to Langrand (1990), this is the species of heron most affected by disruptions of human origin in Madagascar, where numbers have declined considerably since the 1960s. This dramatic decline appears to be continuing. Country-wide counts in July 1992 gave a total of 2,036 birds, but only 252 in January 1997 (H. Hafner *in litt.*). However, in Southern Africa, the species appears to have increased in abundance and range during the 20th century, although breeding is frequently unsuccessful owing to predation (Harrison *et al.* 1997).

Comments: The size of the population is poorly known. Although widespread, the species appears to be nowhere very numerous. Only 2,502 were recorded during the African Waterbird Census in January 1998, despite participation by 30 countries (Dodman *et al.* 1999). There is a report of 10,000-20,000 birds in Guinea-Bissau in October-December 1981 (del Hoyo *et al.* 1992), and 1,558 were recorded at Waza-Logone in Cameroon in January 1996 (Dodman & Taylor 1996).

Little Egret *Egretta garzetta*

Polytypic. Only the nominate subspecies occurs in the Agreement Area. This breeds widely across Southern Eurasia and in Africa south of the Sahara, and winters in Southern Europe, the Middle East and Africa south to the equator. European breeders winter mainly in West Africa; birds breeding in Western Asia winter mainly in Northeast and Eastern Africa. The species appears to be mainly sedentary over much of its range in Subsaharan Africa, but is known to be migratory in Southern Africa. Three populations are recognised, the European and West Asian breeding populations mixing extensively with the African population during the boreal winter.

- Subsaharan Africa: 100,000-500,000.

Trends: Unknown.

- Europe, Black Sea & Mediterranean/West & Central Africa: 140,000-210,000.

Trends: Increasing.

- Western Asia/Southwest Asia, Northeast & Eastern Africa: C.

Trends: Unknown.

Changes in status: The Mediterranean breeding population continues to increase in numbers and expand its range to the north, with recent notable range extensions in Britain and Ireland. However, there have been some decreases in the East Mediterranean and Black Sea, notably in Turkey and Ukraine, but also in the relatively small populations in Albania, Croatia and Hungary (BirdLife International/EBCC 2000). The large population in Portugal is also reported to be in decline (BirdLife International/EBCC 2000). Trends in the other two populations are unknown.

Comments: The European breeding population has recently been estimated at 47,400-70,100 pairs, suggesting a total population of 140,000-210,000 individuals (Marion *et al.* 2000). There are thought to be a minimum of 10,000-15,000 pairs in Western Asia. Fishpool and Evans (2001) gave an estimate of C/D for the total population in Subsaharan Africa, but Dodman (2002) has recently revised this to 100,000-500,000.

Western Reef Egret *Egretta gularis*

Two subspecies are normally recognised (although *E. gularis* is often considered to be conspecific with the Little Egret *E. garzetta*). The nominate form occurs in coastal West Africa from Mauritania east and south to the Gulf of Guinea islands and Gabon, and also in the Inner Delta of the Niger in Mali. *E. g. schistacea* occurs in the Red Sea, Gulf of Aden and Persian Gulf, on Socotra, and on the coasts of the Indian Ocean from East Africa (south as far as Kenya) to south-eastern India and Sri Lanka. Both subspecies appear to be mainly sedentary throughout much of their ranges, but *gularis* is thought to be at least partially migratory on the West African coast (Hancock & Kushlan 1984), and *schistacea* undertakes extensive dispersive movements, particularly in Northeast Africa. There are regular records in the Rift Valley lakes in Ethiopia, Kenya and Uganda, far from the nearest breeding areas, and the species is a regular non-breeding visitor to the Kenya coast (Zimmerman *et al.* 1996). Nominate *gularis* has strayed to the Cape Verde Islands, the Azores, southern Europe and even North America and the Caribbean. Three populations are recognised: the entire population of nominate *gularis* in West Africa; a population of *schistacea* in the Red Sea, western Arabia and Northeast Africa; and a population of *schistacea* extending from the Persian Gulf and eastern Arabia to Southeast India and Sri Lanka.

- West Africa (*gularis*): B/C.

Trends: Probably stable.

- Northeast Africa & Red Sea (*schistacea*): B/C.

Trends: Unknown.

- Southwest Asia & South Asia (*schistacea*): 17,000.

Trends: Unknown.

Changes in status: The population of nominate *gularis* is thought to be stable because of the relative isolation of the breeding colonies, some of which occur in protected areas (Dodman 2002). No information is available on trends in the other two populations.

Comments: The total population of nominate *gularis* is believed to lie in the range 10,000-100,000 (Dodman 2002). Over 3,100 were counted in West Africa in January 1998 (Dodman *et al.* 1998), and 1,897 nests were counted in Mauritania in 1997 (H. Hafner *in litt.*). The small population breeding in the Inner Delta of the Niger has been estimated at 80-110 pairs (del Hoyo *et al.* 1992). The population of *schistacea* occurring from the Persian Gulf to south-

eastern India and Sri Lanka has been assigned to the form *asha* (Peters 1931), but this form is not now widely recognised. Perennou *et al.* (1994) estimated the total population of 'asha' at 17,000 birds.

Mascarene Reef Egret *Egretta dimorpha*

Monotypic. This species, which is often regarded as a subspecies of *Egretta garzetta* or *E. gularis*, occurs on the East African coast from extreme southern Kenya to northern Mozambique, in Madagascar and on Aldabra. The Madagascar and Aldabra populations are believed to be sedentary, and there is no evidence of any movement to or from the East African coast. It breeds at the very south-eastern extremity of Kenya on Kisite Island, but most breeding colonies are in Tanzania (Dodman 2002). The movements are poorly understood, but there appears to be considerable post-breeding dispersal of birds from the breeding colonies along adjacent coasts. Only one population is relevant, the population occurring along the East African coast.

- Coastal Eastern Africa: 10,000.

Trends: Stable.

Changes in status: Dodman (2002) has summarised the status and distribution of this population, and concluded that the total population is in the order of 10,000 individuals. It is likely to be stable due to the relative safety and inaccessibility of some breeding colonies.

Comments: Almost 200 were recorded on the Tanzanian coast during the African Waterbird Census in January 1995 (Dodman & Taylor 1995). However, this census did not include Zanzibar and Pemba, where extensive surveys in January 1998 produced 792 birds (Dodman *et al.* 1999). There have also been counts of 400 on Mbudya Island in 1995 and 461 on Mafia Island in 1988-89 (Dodman 2002).

Grey Heron *Ardea cinerea*

Polytypic. Three subspecies occur in the Agreement Area. *A. c. monicae* of Mauritania and *A. c. firasa* of Madagascar, Seychelles, Aldabra and the Comoro Islands are sedentary. The nominate form is widespread in Eurasia and Africa, populations breeding in Northern and Eastern Europe wintering throughout Southwest Europe, North Africa and Africa south of the Sahara to about 4°S. West Asian populations winter south to the Arabian Peninsula. The populations breeding in Subsaharan Africa are mainly sedentary, as are those breeding in Britain and Ireland. Three populations are recognised.

- Subsaharan Africa: D.

Trends: Stable.

- Europe & North Africa (breeding): 480,000-600,000.

Trends: Increasing.

- West & Southwest Asia (breeding): C or D.

Trends: Stable or decreasing.

Changes in status: Dodman (2002) has suggested that the population is relatively stable in Subsaharan Africa, given the widespread occurrence of the species and its general adaptability. The recent marked increase in the European breeding population, which began in the 1970s, is continuing. Recent increases have been reported in 23 countries (rapid increases in 13 countries), and decreases have been reported in only three (Albania, Moldova and Turkey) (BirdLife International/EBCC 2000).

Comments: Fishpool and Evans (2001) proposed an estimate of D for the African population,

and this estimate has been retained by Dodman (2002) for the Sub-Saharan African population alone, as there are relatively few birds in Madagascar and Mauritania. Regional totals in the African Waterbird Census in January 1998 were 12,000 in West Africa, 2,000 in Central Africa, 1,400 in Eastern Africa and 1,200 in Southern Africa. Harrison *et al.* (1997) has estimated that there are 6,000-10,000 *A. cinerea* in Southern Africa, and almost 4,000 were recorded in Tanzania in January 1995 (Dodman & Taylor 1995).

The European breeding population has recently been estimated at 160,000-200,000 pairs, suggesting a total population of 480,000-600,000 individuals (BirdLife International/EBCC 2000). Little information is available on the size of the West and Southwest Asian population, although at least 10,000 individuals were found wintering in Southwest Asia in the 1970s and 1980s (Perennou *et al.* 1994).

Black-headed Heron *Ardea melanocephala*

Monotypic. The Black-headed Heron occurs widely throughout Africa south of the Sahara. It is apparently a rains migrant in Central Africa and the northern tropics, moving north during the wet season and retreating south of 12°N during the dry season. The pattern of ringing recoveries in Southern Africa suggests that young birds disperse in all directions over moderate distances, with many birds being recovered over 100 km from their natal area (Underhill *et al.* 1999). Only one population is recognised, the entire population of the species.

- Sub-Saharan Africa: 100,000-500,000.

Trends: Increasing.

Changes in status: Del Hoyo *et al.* (1992) suggest that this species is increasing, which may be true given the wide availability of suitable habitat (Dodman 2002). In Southern Africa, the species is increasing in numbers and expanding its range by exploiting man-made habitats (Harrison *et al.* 1997, Underhill *et al.* 1999).

Comments: *A. melanocephala* appears to be much less numerous than *A. cinerea*, and few sites attain the numbers counted at Cameroon's Waza-Logone, where 1,277 were recorded in January 1998 (Dodman *et al.* 1999). Fishpool and Evans (2001) gave a population estimate of D for this species, and Dodman (2002) has recently proposed an estimate of 100,000-500,000.

Purple Heron *Ardea purpurea*

See species account in Section 2.1. The following population should be added to the Action Plan:

- Tropical Africa: 75,000-100,000.

Trends: Stable.

Changes in status: The species is said to be decreasing in Southern Africa (Harrison *et al.* 1997). However, according to Dodman (2002), it could be increasing in some areas due to increases in habitat availability at man-made wetlands.

Comments: There are quite large breeding colonies in several extensive wetlands, especially in floodplains, but it is also found at small wetlands. Important sites include the Inner Niger Delta in Mali and the Sudd swamps in Sudan. Dodman (2002) has recently estimated the total population at 75,000-100,000 individuals.

Great Egret *Casmerodius albus*

See species account in Section 2.1. The following population should be added to the Action Plan:

- Sub-Saharan Africa & Madagascar (*melanorhynchos*): 100,000-500,000.

Trends: Stable.

Changes in status: Dodman (2002) suggests that overall the population is stable, given its widespread distribution and adaptability to a wide range of wetland habitats.

Comments: In the second edition of *Waterfowl Population Estimates*, the size of this population was given as C (25,000-100,000). Dodman (2002) has argued that it is undoubtedly larger than this, and has given a revised estimate of 100,000-500,000. High counts (summarised in Dodman 2002) have included 19,074 from the Sudd in Sudan, 2,488 from Tanzania, 6,205 from West Africa, and 1,901 from Cameroon. The species also occurs in Central Africa, where it is most likely to be heavily under-recorded.

Intermediate Egret *Mesophoyx intermedia*

Polytypic. The subspecies *brachyrhyncha* breeds widely in Africa south of the Sahara and undertakes local movements and possibly regular migrations in many parts of its range. Only one population can be identified.

- Sub-Saharan Africa: C.

Trends: Stable.

Changes in status: None known.

Comments: Fishpool and Evans (2001) have suggested a population estimate of C/D. However, this species appears to be much less numerous than *Casmerodius albus* almost throughout its range (Dodman 2002). Dodman (2002) has reviewed recent counts and proposed a more conservative estimate of C (25,000-100,000). Notable counts listed by Dodman (2002) include 2,000 birds in the Tana River Delta in Kenya and a colony of 530 pairs at the heronry of Koumbé Niasso in 1985.

Cattle Egret *Bubulcus ibis*

Polytypic. Two subspecies occur in the Agreement Area, but one of these, *B. i. seychellarum*, is confined to the Seychelles. The nominate race breeds widely in Africa south of the Sahara, in Madagascar and also in Northwest Africa, Southwest Europe, the East Mediterranean, Iraq and the Caspian region. Four main migratory populations are identifiable: (1) a population breeding in Southern Africa (from 16°S to the Cape), and wintering north to the Central African Republic, Democratic Republic of Congo, Uganda and Tanzania; (2) a population breeding in tropical Africa and undertaking seasonal movements within this region in response to rainfall; (3) a population breeding in Southwest Europe and Northwest Africa, and undertaking short migrations within this region, with Spanish breeders regularly crossing to Northwest Africa; and (4) a population breeding in the Near East and Caspian region. The wintering area of these latter birds is unknown; a few birds remain throughout the winter as far north as the Caspian, but the majority leave the area, possibly for wintering areas in Iraq or Northeast Africa. The population breeding in Madagascar is thought to be mainly sedentary.

- Southern Africa: D.

- Trends: Increasing.
- Tropical Africa: E.
Trends: Unknown.
- Southwest Europe & Northwest Africa: 300,000-450,000.
Trends: Increasing.
- East Mediterranean & Southwest Asia: A or B.
Trends: Unknown.

Changes in status: There has been a major expansion in range and increase in numbers in Southern Africa during the 20th century, and this increase is apparently continuing (Harrison *et al.*, 1997). The range expansion and increase in numbers that began in Southwest Europe in the early part of the 20th century is also continuing, with big increases reported in the large populations in France and Spain (Hagemeijer & Blair 1997, BirdLife International/EBCC 2000).

Comments: The species is now abundant in Southern Africa, where over 46,000 were counted during the African Waterbird Census in January 1996 (Dodman & Taylor 1996). It is probable that this population now exceeds 100,000 individuals. The species is also abundant throughout much of the tropical regions of Africa. At least 250,000 occur in tropical West Africa during the boreal winter (Perennou, 1991), and about 65,000 pairs breed in the Inner Niger Delta. The evidence strongly suggests that this population exceeds a million birds.

The breeding population in Southwest Europe has recently been estimated at about 80,000-100,000 pairs (Marion *et al.* 2000), and that in Northwest Africa at a minimum of 100,000-150,000 individuals (H. Hafner *in litt.*), suggesting a total population of about 300,000-450,000 birds, *i.e.* considerably higher than the estimate of 200,000-270,000 given in the second edition of *Waterfowl Population Estimates*.

Squacco Heron *Ardeola ralloides*

Two weakly defined subspecies have been recognised, although most authors consider the species to be monotypic. The nominate form breeds locally in North Africa and widely in Southern Europe and Southwest Asia as far east as 67°E in central Kazakhstan and north-eastern Iran. *A. r. paludivaga* breeds widely in Africa south of the Sahara. Populations breeding in Subsaharan Africa are thought to be mainly sedentary, although some local seasonal movements are known to occur. The North African and West Eurasian populations winter mainly in the northern tropics of Africa where they mix with the locally breeding populations. Three populations are recognised: two populations of nominate *ralloides*, one breeding in the Mediterranean and Black Sea regions, and one breeding in West and Southwest Asia, and a single population of *paludivaga*.

- Mediterranean, Black Sea & North Africa/Subsaharan Africa (*ralloides*): 40,000-70,000.
Trends: Decreasing.
- West & Southwest Asia/Subsaharan Africa (*ralloides*): C.
Trends: Unknown.
- Subsaharan Africa & Madagascar (*paludivaga*): 100,000-500,000.
Trends: Stable.

Changes in status: Some increase occurred in the European breeding population during the period 1940-1960, but a serious decline has taken place since the 1970s in some of the eastern breeding areas, notably in Bulgaria, Romania and Turkey, which hold large breeding populations. However, the small breeding populations in the West Mediterranean have remained stable (Italy, France and Portugal) or increased slightly (Spain) in recent years (Tucker & Heath 1994, Hagemeijer & Blair 1997, BirdLife International/EBCC 2000). The

status of the West and Southwest Asian breeding population is unknown. The population of *paludivaga* is likely to be stable or even increasing, given its adaptability to both coastal and inland wetlands and also to man-made wetlands (Dodman 2002).

Comments: The European breeding population has been estimated at 14,300-26,770 pairs (Marion *et al.* 2000). To these can be added about 100-200 pairs in Egypt, 100 pairs in Israel and 100 pairs in Northwest Africa to give a total breeding population of 14,600-27,170 pairs (H. Hafner *in litt.*). This suggests a total population of 43,800-81,500 birds. However, this total includes some birds breeding in the Caspian region of south-eastern European Russia (*i.e.* birds

belonging to the West and Southwest Asian population). Hence a slightly lower estimate of 40,000-70,000 is given for the western population.

The size of the eastern population of *ralloides* is poorly known. There are said to be 15,000-18,000 pairs in Azerbaijan (Snow & Perrins 1998) and about 1,200 pairs in Iran (Scott 1995). Taking into account the unknown, but probably large breeding populations elsewhere in the Middle East, Kazakhstan, Turkmenistan and Uzbekistan, it seems likely that the total population size is at the high end of the C range or low end of the D range.

The earlier estimate of C for the entire population of *paludivaga* is now thought to be too low, given its widespread occurrence and generally favourable status across Africa. Dodman (2002) has recently given a revised estimate of 100,000-500,000 individuals.

In the first edition of *Waterfowl Population Estimates*, the birds breeding in Eastern Europe and the Black Sea region were grouped with the Mediterranean and Northwest African birds in a single Northwest African and European breeding population. In the second edition, birds breeding in the Black Sea region were grouped with Southwest Asian breeders, leaving a much smaller 'Northwest Africa/Mediterranean' population in the west. However, as there are no obvious gaps in the breeding distribution between Iberia and central Turkey, and as the species is believed to migrate on a broad front across the Sahara (Snow & Perrins 1998), the separation of Mediterranean breeders from Black Sea breeders has been rejected, and the original population definitions as given in the first edition of *Waterfowl Population Estimates* have been retained.

Black-crowned Night-Heron *Nycticorax nycticorax*

Polytypic. Only the nominate subspecies occurs in the Agreement Area. This breeds widely in Southern Eurasia, North Africa, Sub-Saharan Africa and Madagascar. The populations breeding in Sub-Saharan Africa and Madagascar are mainly sedentary, although some local movements have been reported in South Africa. The North African and West Eurasian populations are migratory, wintering mainly in Africa south of the Sahara, although some birds winter in Southern Europe, Egypt, Iraq and south-western Iran. A bird ringed in Romania was recovered as far south as Mozambique (Underhill *et al.* 1999). European and Northwest African breeders winter mainly in West Africa; Southwest Asian breeders winter mainly in Northeast Africa. Three populations are recognised:

- Sub-Saharan Africa & Madagascar: C or D.

Trends: Stable.

- Europe & Northwest Africa/Mediterranean & Africa: 150,000-230,000.

Trends: Decreasing.

- Western Asia/Southwest Asia & Northeast Africa: C.

Trends: Unknown.

Changes in status: The second edition of *Waterfowl Population Estimates* stated that the

European population was increasing. However, the species is now declining in many parts of its European breeding range, and the overall trend is now one of decline (Tucker & Heath 1994, Hagemeyer & Blair 1997, BirdLife International/EBCC 2000). Recent declines have been reported in the large breeding populations in Moldova, Romania, European Russia, Spain and Turkey, although the large population in Italy is said to be increasing (BirdLife International/ EBCC 2000). Dodman (2002) suggests that the Sub-Saharan African population is more or less stable. Nothing is known of trends in the West Asian population.

Comments: Dodman (2002) has suggested that the earlier estimate of C (25,000-100,000) for the Sub-Saharan and Madagascan population may be too low, given the widespread distribution of this population, and has proposed a new estimate of C or D.

The European breeding population, including Russia and Turkey, has recently been estimated at about 49,500-74,500 pairs or about 148,500-223,500 individuals (Marion *et al.* 2000). To this should be added about 2,000 pairs in Israel, 50-100 pairs in Algeria and 500-1,500 pairs in Morocco, suggesting a total population of about 150,000-230,000 individuals (H. Hafner *in litt.*). An estimated 70,000-100,000 birds winter in tropical West Africa (Perennou 1991). In Western Asia, there are an estimated 7,000-8,000 pairs in Azerbaijan, 1,400-1,500 pairs in Kazakhstan and 650-700 pairs in Iran (Snow & Perrins 1998, Scott 1995).

Little Bittern *Ixobrychus minutus*

See species account in Section 2.1. The following population should be added to the Action Plan:

- Sub-Saharan Africa (*payesii*): C.

Trends: Unknown.

Changes in status: None known.

Comments: Fishpool and Evans (2001) propose a population estimate of C for this population, which occurs widely in Sub-Saharan Africa (Dodman 2002). Harrison *et al.* (1997) suggest that there are some 100 pairs in Southern Africa.

Great Bittern *Botaurus stellaris*

See species account in Section 2.1. The following population should be added to the Action Plan:

- Southern Africa (*capensis*): 5,000.

Trends: Decreasing.

Changes in status: Its status in Zambia is unclear, but it appears to be in decline further south (Harrison *et al.* 1997). Further research is needed to clarify its status; it may well be more numerous in the extensive swamps of Zambia and possibly in some other areas (Dodman 2002).

Comments: Fishpool and Evans (2001) give a population estimate of about 5,000 individuals.

CICONIIDAE

African Openbill *Anastomus lamelligerus*

Two subspecies occur. The nominate form breeds in Africa south of the Sahara, mainly south of the equator, and occurs north of the equator chiefly as a dry season visitor (November-May). However, the intra-African movements of this species are poorly understood (Dodman, 2002). *A. l. madagascariensis* is confined to Madagascar. Only one migratory population is currently recognised, the entire population of the nominate form.

- Sub-Saharan Africa (*lamelligerus*): 400,000-800,000.

Trends: Stable.

Changes in status: The population is thought to be stable in Southern Africa (Harrison *et al.* 1997) and may be increasing in East Africa (Dodman 2002).

Comments: This is probably the commonest stork in Africa. Dodman (2002) summarises recent high counts, including a record of 344,487 birds in the Sudd swamps in Sudan, a colony of 5,000 pairs in Tanzania, and counts of 3,530 in Kenya and 2,718 in Zambia. It is much less common in West Africa, where one of the highest counts in recent years was 770 in Benin in 1998 (Dodman *et al.* 1999). The status of *A. lamelligerus* in Central Africa is unclear, but overall this bird is generally common, often numerous, in floodplains and other wetlands, particularly of the eastern part of the region (Dodman 2002). Dodman (2002) has recently estimated the size of the population as between 400,000 and 800,000 individuals. He has suggested that the small population in West Africa may be discrete and should be considered for separate treatment.

Black Stork *Ciconia nigra*

See species account in Section 2.1. The following population should be added to the Action Plan:

- Southern Africa: 2,850-4,740.

Trends: Stable.

Changes in status: None known. O. Overdijk (*in litt.*) has concluded that the population has been relatively stable in recent years.

Comments: The estimate of <1,500 given in the second edition of *Waterfowl Population Estimates* was obviously too low as it did not include the full range of the species. A recent census based on counts in Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe gave an estimate of 951-1,580 pairs, or about 2,850-4,740 individuals (O. Overdijk, *in litt.*).

Abdim's Stork *Ciconia abdimii*

Monotypic. The species occurs widely in Africa south of the Sahara. It is a trans-equatorial rains migrant, breeding during the wet season (May-October) north of the equator from Somalia, Ethiopia, Uganda and north-western Kenya to Senegal, and spending the dry season mainly in the southern tropics of eastern Africa south to the Zambezi and Transvaal. Large concentrations occur in Zambia, especially around November (Dodman 2002). Relatively small numbers of birds reach south-western Arabia during the boreal summer, and the species has bred in Yemen. Only one population is recognised, the entire population of the species.

- Sub-Saharan Africa & Southwest Arabia: 300,000-600,000.

Trends: Probably declining.

Changes in status: Hunting appears to be a serious problem for this species in West Africa. Some 2,250 *C. abdimii* carcasses were found at the Hadejia-Nguru wetlands in 1996, and a further 260 birds were being used as live decoy baits (Dodman 2002). Because of this hunting pressure, Dodman (2002) has given the status of this species as declining.

Comments: The total population is thought to number between about 300,000 and 600,000 individuals (Dodman 2002). The population in West Africa has been estimated at 50,000 birds (Perennou 1991). Recent high counts have been summarised by Dodman (2002). These include 148,000 at Lake Engaruka Magadi in Tanzania in January 1995, 16,500 in the Sudd swamps in

Sudan, and a pre-breeding season total of 15,000-30,000 birds in Niger. N. Baker (*in litt.*) has estimated the total non-breeding population in Tanzania at 250,000 birds. Up to 4,000 have occurred in south-western Arabia.

Marabou Stork *Leptoptilos crumeniferus*

Monotypic. The species occurs widely in Africa south of the Sahara. It is mainly sedentary in equatorial regions of Central and East Africa, and a rains migrant in the northern and southern parts of its range. Only one population is recognised, the entire population of the species.

- Sub-Saharan Africa: 100,000-300,000.

Trends: Increasing.

Changes in status: Numbers are thought to be stable in Southern Africa (Harrison *et al.* 1997), but the species appears to be increasing in many other parts of its range.

Comments: *L. crumeniferus* is common and often gregarious in Eastern Africa from Somalia to Tanzania, and inland to Uganda, but is much less common in Southern Africa (south of the Zambezi) and in West Africa (Dodman 2002). The African Waterbird Census in January 1995 yielded 1,374 birds in Tanzania (Dodman & Taylor 1995). W. van den Bossche & M. Coulter (*in litt.*) have suggested a population estimate in range D (100,000-1,000,000). Dodman (2002) concludes that the total is near the bottom end of this large, and has proposed an estimate of 100,000-300,000, which is adopted here. This is somewhat higher than the former estimate of 100,000, which did not take into account the birds in Central Africa, where the species is locally common (Dodman 2002).

BALAENICIPITIDAE

Shoebill *Balaeniceps rex*

Monotypic. The Shoebill is widely but locally distributed in large swamps from southern Sudan and south-western Ethiopia south through the Central African Republic, Uganda, Rwanda and western Tanzania to southern Democratic Republic of Congo and northern Zambia. The species is almost entirely sedentary, most birds remaining in or near their home range throughout the year, but it is known to undertake small-scale displacements for feeding related to changes in water level. Recent records outside the normal range in northern Malawi and Kenya suggest that it occasionally undertakes much longer movements. Only one population is recognised, the entire population of the species.

- Central Tropical Africa: 5,000-10,000.

Trends: Decreasing.

Changes in status: In the second edition of *Waterfowl Population Estimates*, the global population of *B. rex* was estimated at 12,000-15,000 birds, and this figure was repeated by BirdLife International (2000). However, Dodman (2002) has recently given a detailed summary of the status and distribution of the species, and concluded that the total population may now number as few as 5,000-10,000 birds. He has given approximate national totals as follows: Sudan 5,000; Tanzania 2,000; Democratic Republic of Congo 1,000; Uganda 1,000; Zambia 500; Rwanda <50; and Ethiopia < 50. Over most of its range, it is threatened by agricultural development, water diversion, competition for habitat from humans and livestock, and in particular, capture of young birds for the zoo trade (Brown *et al.* 1982). In its stronghold in southern Sudan, it is said to be threatened by destruction of papyrus swamps by cattle and fire (BirdLife International 2000).

Dodman (2002) concluded that the species is certainly under threat due to hunting, habitat burning and disturbance, and is most likely in decline over much of its range.

Comments: *Balaeniceps rex* is listed as 'Near-threatened' by BirdLife International (2000).

THRESKIORNITHIDAE

Eurasian Spoonbill *Platalea leucorodia*

See species account in Section 2.1. The following population should be added to the Action Plan:

- Coastal West Africa (Mauritania) (*balsaci*): 7,000.
Trends: Stable.

Changes in status: This well-known population of about 7,000 birds has remained stable for many years (Overdijk *et al.* 2002).

Comments: This population, which breeds on the Banc d'Arguin in Mauritania and disperses locally to neighbouring countries, was omitted from earlier versions of the Action Plan because it was believed to be confined to Mauritania (*i.e.* not migratory in the sense of the Bonn Convention). The total population was estimated at 2,185 pairs and about 7,000 individuals in 2001 (Overdijk *et al.* 2002).

ANATIDAE

Maccoa Duck *Oxyura maccoa*

Monotypic. The Maccoa Duck has a patchy distribution in Eastern and Southern Africa, occurring from Ethiopia south to northern Tanzania, Rwanda, Burundi and eastern Democratic Republic of Congo, and from Zimbabwe and Namibia south to Cape Province, South Africa. Three populations are identifiable: (1) a sedentary population confined to the Ethiopian highlands; (2) a population in the East African highlands, now almost confined to Kenya and northern Tanzania; and (3) a population in Southern Africa. The Eastern African population is known to undertake some regular trans-border movements, and the Southern African population is to some degree nomadic (Underhill *et al.* 1999).

- Eastern Africa: 1,000-1,500.
Trends: Declining.
- Southern Africa: A.
Trends: Increasing.

Changes in status: *O. maccoa* has shown a marked decline in many parts of Eastern Africa in recent years. Numbers have fallen markedly in Kenya (L. Bennun, *in litt.*), and there have been no recent records from Uganda, Rwanda and the Democratic Republic of the Congo (Dodman 2002). The species was formerly common at Lake Nakuru and Lake Naivasha, but there have been no recent records from Nakuru and only small numbers now occur at Naivasha (Scott & Rose 1996). This decline in numbers has been attributed to the widespread illegal use of gill nets (Callaghan & Green 1993). The numbers in Tanzania have apparently halved from about 1,000 to 500 (Dodman 2002). In Southern Africa, however, it appears to be increasing in some areas, especially where there are new reservoirs and dams (Harrison *et al.* 1997).

Comments: Dodman (2002) has summarised recent counts in Eastern and Southern Africa, and has concluded that the earlier estimates of 15,000-25,000 for the two populations were much too high. Dodman concludes that there are likely to be some 500 birds in Tanzania and perhaps 1,000 in Kenya, where the distribution is more scattered. He has proposed a new population estimate of 1,000-1,500 for the Eastern African population, and this estimate is adopted here. In Southern Africa, the population is probably less than 10,000 birds. Harrison *et al.* (1997) have reported concentrations of 500 birds in Southern Africa, but in recent years, the regional totals in the African Waterbird Census have tended to number between about 300 and 500 birds, with Botswana usually producing the highest numbers (Dodman 2002). A revised population estimate of A is proposed, based on the general paucity of records of this readily recognisable duck.

Bean Goose *Anser fabalis*

See species account in Section 2.1. The following population should be added to the Action Plan:

- Western and Central Siberia/Turkmenistan to western China (*johanseni*): Unknown.
Trends: Unknown.

Changes in status: Very little is known about the status of this population, which was inadvertently omitted from the first two editions of *Waterfowl Population Estimates*. Counts of *A. fabalis* in Kyrgyzstan presumably relate to this population; 587 were counted in 1998 and 116 in 1999 (Gilissen *et al.* 2002).

Comments: The form *johanseni* is a 'taiga' Bean Goose, replacing nominate *fabalis* in Western Siberia from the Urals to the region of Lake Baikal. The wintering grounds are poorly known, but are believed to be in Central Asia from Turkmenistan to western China. This population was omitted from earlier versions of the Action plan because its wintering grounds were assumed to lie largely outside the Agreement Area.

GRUIDAE

Black Crowned Crane *Balearica pavonina*

Two subspecies have been described: *B. p. pavonina* occurs in scattered populations in Subsaharan West Africa from Senegal and Gambia to Lake Chad; *B. p. ceciliae* occurs in Subsaharan Africa from Chad to southern Sudan, western Ethiopia, northern Uganda and north-western Kenya. The stronghold of this form is in the upper basin of the River Nile. The species is largely sedentary, but undertakes daily and seasonal movements, up to perhaps several dozen km, between feeding and roosting areas. Such seasonal movements have been

recorded in Sudan, Ethiopia, Nigeria and Chad (Brown *et al.* 1986). It often forms large flocks during the dry season, dispersing from large permanent wetlands to breeding in small temporary wetlands during the rainy season (del Hoyo *et al.* 1996). Two populations are recognised, corresponding to the two subspecies.

- West Africa (Senegal to Chad)(*pavonina*): 15,000.

Trends: Decreasing..

- Eastern Africa (Sudan to Uganda)(*ceciliae*): 25,000-55,000.

Trends: Decreasing.

Changes in status: Both subspecies were probably more numerous and evenly distributed in the past. The population of the nominate form has fallen dramatically since the 1970s and is now thought to number only 15,000 individuals (Dodman 2002). This decline has been attributed to drought, overgrazing, agricultural and industrial pollution, wetland drainage and dam construction. Considerable hunting pressure also exists, including capture and sale of live birds for the zoo trade (BirdLife International 2000). A contraction of the range of this subspecies has led to its near or total extinction in several countries including Nigeria (del Hoyo *et al.* 1996).

In the mid-1990s, the population of *ceciliae* was estimated at 55,000-60,000 birds (Meine & Archibald 1996), but this was greatly influenced by a single count of 36,823 from the Sudd swamps of Sudan in the 1980s. Dodman (2002) has summarised recent records from Sudan and elsewhere in the range of this subspecies, and has given a revised population estimate of 25,000-55,000, based on a new estimate of 10,000-37,000 in the Sudd, 15,000 elsewhere in Sudan, and a total of 2,500 in Ethiopia, northern Uganda and northern Kenya.

Comments: *Balearica pavonina* is listed as 'Near-threatened' by BirdLife International (2000). A collaborative project was launched in 1999 to determine the distribution, population size and trends and threats to the population, and to draft an action plan for the species.

Grey Crowned Crane *Balearica regulorum*

Two subspecies are recognised: the nominate form breeds from southern Angola and northern Namibia east through Botswana to Zimbabwe thence south to south-eastern South Africa; *B. r. gibbericeps* breeds from Uganda and Kenya south to northern Zimbabwe and northern Mozambique. Both subspecies are apparently largely sedentary, although they are known to undertake some local and seasonal movements depending on the abundance and distribution of food, nests sites and rainfall. The southern population, in particular, is subject to more extensive local and seasonal movements. Although regular migrations are not known, non-breeding flocks move widely, especially in the drier portions of the range in Namibia and Botswana, where long-distance movements may be prompted by drought conditions (Harrison *et al.* 1997). Two populations are recognised, corresponding to the two subspecies.

- Southern Africa (N to Angola & southern Zimbabwe)(*regulorum*): 8,000-12,000.

Trends: Stable.

- Eastern Africa (Kenya to Mozambique)(*gibbericeps*): 50,000-65,000.

Trends: Decreasing.

Changes in status: Since the mid-1980s, there has been an overall decline in both populations of about 10% as indicated by surveys in Kenya, Uganda and South Africa, with contractions in

range reported from South Africa, Namibia and Zambia (del Hoyo *et al.* 1996, Harrison *et al.* 1997). The declines have been attributed to degradation of habitat as a result of human population growth, poisoning related to feeding on agricultural land, drought-related changes in land use, and loss and degradation of wetland breeding areas, mainly due to drainage and overgrazing (Harrison *et al.* 1997, del Hoyo *et al.* 1996). However, the species appears to have increased in Zimbabwe in the late 1980s owing to an increase in subsistence crop farming (Harrison *et al.* 1997), and Dodman (2002) has concluded that this population is now more or less stable.

Comments: Dodman (2002) has reviewed recent census data and proposed revised population estimates of 8,000-12,000 individuals for *regulorum* (as compared to <10,000 in Meine & Archibald 1996) and 50,000-65,000 individuals for *gibbericeps* (as compared to 75,000-85,000 in Meine & Archibald 1996).

RALLIDAE

White-winged Flufftail *Sarothrura ayresi*

Monotypic. *S. ayresi* is a rare and poorly known species, apparently occurring in two disjunct populations, one in Ethiopia and one in Southern Africa. In recent years, it has been recorded only from ten highland marshes in eastern South Africa and two sites near Addis Ababa in Ethiopia (Taylor & van Perlo 1998). There are several older records of the species in northern Zimbabwe, including a possible breeding record in the 1950s and two records in the late 1970s, and there is one acceptable record from Zambia (Taylor & van Perlo 1998). Lack of subspeciation suggests that migration may occur between Ethiopia and Southern Africa, but the paucity of records from intervening areas and an overlap in the dates of occurrence make this unlikely. It is more probable that the species is nomadic, undergoing periodic long-distance dispersal when populations are high (Harrison *et al.* 1997). Only one population is recognised, pending further study.

- Ethiopia & Southern Africa: 700.

Trends: Declining.

Changes in status: The species has been reported regularly in South Africa in recent years, in very small numbers. The total population at the ten sites at which it has been recorded since 1990 has been estimated at about 230-235 birds (Harrison *et al.* 1997; Taylor & van Perlo 1998). There have not as yet been any confirmed cases of breeding in South Africa, although breeding is suspected. The dense, freshwater marshes that it favours are under severe threat from damming, drainage, water abstraction, annual burning, overgrazing and commercial afforestation in their immediate catchments (Collar & Stuart 1985, Harrison *et al.* 1997, Taylor & van Perlo 1998).

There appears to have been only one record of the species in Ethiopia between 1957 and 1995, a bird seen in flight at Sululta in August 1984 (Collar *et al.* 1994). However, 10-15 pairs were found breeding in a wetland near Addis Ababa in August 1996 (Harrison *et al.* 1997), and at least 200 pairs were found at a second site near Addis Ababa in August 1997 (Taylor & van Perlo 1998). The seasonal marshes in which the species occurs are under severe threat from overgrazing, trampling and sedge-cutting (Taylor 1999).

Comments: *S. ayresi* is a globally threatened species in the category 'Endangered' (BirdLife International 2000). It is included in Appendix I and Appendix II of the Bonn Convention. BirdLife International (2000) give an estimate of 700 individuals for the total population, and this is adopted here.

Buff-spotted Flufftail *Sarothrura elegans*

Two subspecies have been described. The nominate form occurs from southern Ethiopia, extreme southern Sudan and western Kenya south through Zambia and Tanzania to eastern and southern South Africa. *S. e. reichenovi* occurs from south-eastern Guinea and Sierra Leone east to the Democratic Republic of Congo and Uganda, and south to northern Angola. The species is not closely associated with water, but will frequent muddy valleys, swamp patches in forest and forest streams. Recent evidence suggests that it undertakes seasonal movements over much of its range, and is predominantly a migrant in some regions, although these movements are poorly understood (Taylor & van Perlo 1998). In South Africa, there is strong evidence for regular movements, both altitudinal and coastal, possibly over long distances and involving more young birds than adults. It is also thought to be a migrant in Sudan, parts of Kenya, Tanzania and Zambia (Taylor & van Perlo 1998). Two populations are recognised, corresponding to the two subspecies.

- Northeast, Eastern & Southern Africa (*elegans*): Unknown.
Trends: Unknown.
- Southern West Africa to Central Africa (*reichenovi*): Unknown.
Trends: Unknown.

Changes in status: Nothing is known of overall numbers or population trends. However, the species is widespread and locally common, especially in Southern Africa. In parts of South Africa, it has increased in numbers and extended its range locally in recent years, following the creation of habitats associated with human habitation (Harrison *et al.* 1997).

Water Rail *Rallus aquaticus*

Three subspecies occur in the Agreement Area. *R. a. hibernans* is confined to Iceland where it is resident. The nominate subspecies breeds widely across Western Eurasia; northern and eastern populations are migratory, wintering south to North Africa, while western and southern populations are mainly sedentary. *R. a. korejewi* breeds from Iran east through Transcaspia to Pakistan and north-western India, and winters south to lower Iraq. There is some overlap between the two subspecies on their winter quarters in Iraq. Two migratory populations are recognised.

- Europe & North Africa (*aquaticus*): 390,000-1,170,000.
Trends: Stable.
- Western Siberia/Southwest Asia (*korejewi*): Unknown.
Trends: Unknown.

Changes in status: The European and North African population appears to be relatively stable. BirdLife International/EBCC (2000) report stable populations in 16 countries, increasing populations in three countries, and decreasing populations in 15 countries. Many of the decreases are in the smaller, marginal populations, and most of the larger breeding populations are reported to be stable.

Comments: The European breeding population has been estimated at 130,000-390,000 pairs (BirdLife International/EBCC 2000), suggesting a population of 390,000-1,170,000 individuals.

African Rail *Rallus caerulescens*

Monotypic. This occurs mainly from eastern Democratic Republic of Congo, southern Uganda and southern Kenya to South Africa, with an isolated population in the Ethiopian highlands. It is not known to be regularly migratory anywhere, although it undertakes some seasonal

movements, possibly local, in Eastern and Southern Africa, and its occurrences in West Africa are very erratic (Taylor & van Perlo 1998). Only one population is recognised, the entire population of the species.

- Southern & Eastern Africa: Unknown.

Trends: Unknown.

Changes in status: None known. Numbers in Southern Africa are thought to be relatively stable (Harrison *et al* 1997).

African Crane *Crexopsis egregia*

Monotypic. This crane occurs widely in Africa south of the Sahara, from Senegal and Ethiopia south to South Africa. It is a rains migrant, populations breeding in the northern and southern

parts of the species' range moving towards the equator during the dry season and then overlapping with sedentary equatorial populations. Only one population is recognised, the entire population of the species.

- Subsaharan Africa: Unknown.

Trends: Unknown.

Changes in status: None known. There has been no evidence of any change in the species' status in Southern Africa (Harrison *et al.* 1997).

Comments: The species is widespread and locally common to abundant, especially from Nigeria to Zambia. It is often assigned to the genus *Crex*.

Corncrake *Crex crex*

Monotypic. The Corncrake breeds widely across Western Eurasia at temperate latitudes east as far as western China and western Yakutia and Lake Baikal in Central Siberia. It winters throughout Africa south of the Sahara, with the main concentrations extending from the Democratic Republic of Congo and central Tanzania south through Zambia, Malawi, Mozambique, Zimbabwe and Botswana to eastern South Africa. Only one population is recognised, the entire population of the species.

- Europe & Western Asia/Subsaharan Africa: 3,400,000-6,000,000.

Trends: Decreasing (WPE3).

Changes in status: There is clear evidence of a long-term and very steep decline throughout much of the species' breeding range in Europe and Russia (Tucker & Heath 1994, Hagemeyer & Blair 1997, Snow & Perrins 1998, BirdLife International/EBCC 2000) and also on its winter quarters in Africa (Collar *et al.* 1994). In Europe, all countries with sizeable populations experienced declines of >20% (17 countries) or >50% (10 countries) during the period 1970-1990, except Sweden and Finland (Hagemeyer & Blair 1997). Declining populations were already apparent in many European countries in the early 1900s, but the rate of decline and range contraction has accelerated since the 1970s (Hagemeyer & Blair 1997). According to BirdLife International/EBCC (2000), the species is declining in all but seven of the 33 countries in its European breeding range, with major declines reported in nine of these. The only increase reported in recent years has been in the tiny Spanish population. The widespread declines have been attributed to drainage of sites, agricultural intensification and changes in grassland management on the breeding grounds, compounded by trapping of birds on migration, especially in Egypt (Collar *et al.* 1994).

Comments: *C. crex* is now listed as a globally threatened species in the category 'Vulnerable' (BirdLife International 2000). It is included in Appendix II of the Bonn Convention. An Action

Plan for *C. crex* in Europe has been compiled by Crockford *et al.* (in Heredia *et al.* 1996).

The breeding population in Europe, excluding Russia, has been estimated at 139,000-246,000 pairs, and that in Russia at between 1,000,000 and 1,540,000 pairs (BirdLife International/EBCC 2000), suggesting a total population of 3.3 to 4.5 million birds in Europe alone. BirdLife International (2000) has estimated the total population at 3.4 to 6.0 million birds, and this estimate is adopted here. These estimates are considerably higher than the estimate of C/D given in the second edition of *Waterfowl Population Estimates*.

Black Crake *Amaurornis flavirostris*

Monotypic. The Black Crake is one of the commonest and most widespread crakes in Africa, occurring widely south of the Sahara to South Africa. It is largely sedentary over much of its range, but appears to be locally migratory, especially in the drier parts of its range in Southern Africa, where it appears with the rains and disappears in the dry season (Harrison *et al.* 1997). It is probably also a rains migrant in the northern parts of its range (Ghana, Nigeria and the Sahel zone of Sudan), and may be at least partly migratory in East Africa (Taylor & van Perlo 1998). Only one population is recognised, the entire population of the species.

- Sub-Saharan Africa: E.

Trends: Unknown.

Changes in status: None known. Numbers are thought to be relatively stable in Southern Africa (Harrison *et al.* 1997).

Allen's Gallinule *Porphyrio alleni*

Monotypic. Allen's Gallinule is widely distributed in Africa south of the Sahara south to northern and eastern South Africa. It is a rains migrant north and south of the equator, while populations breeding in equatorial regions are largely sedentary (Taylor & van Perlo 1998). Only one population is recognised, pending further study.

- Sub-Saharan Africa: Unknown.

Trends: Unknown.

Changes in status: Little information is available. The species is known to be prone to high hunting mortality (Dodman 2002), and is thought to be declining in Southern Africa (Harrison *et al.* 1997).

Comments: Although widespread and locally common, it is generally rather scarce over much of its range. A concentration of 1,000 was recorded at Kafue Flats in Zambia in the early 1990s (Dodman 2002).

Common Moorhen *Gallinula chloropus*

Four subspecies occur, but three of these appear to be almost entirely sedentary (*correiana* of the Azores, *meridionalis* of Africa south of the Sahara, and *pyrrhorhoa* of Madagascar, Reunion and Mauritius). The nominate race breeds widely across West Eurasia and North Africa, and is migratory in the northern and eastern parts of its range. The species is a partial migrant over much of its range in Western Europe, while populations breeding in the south and extreme west are sedentary or dispersive. Northern and Eastern European breeders winter south to Iberia, the Balkans and North Africa, and less commonly in Sub-Saharan Africa from Senegal to Chad and Sudan (south to 17°N); West Siberian breeders probably winter mainly in the Middle East. No discrete populations are identifiable. Two main groups are recognised.

- Europe & North Africa: 2.6-4.5 million.
Trends: Stable.
- West & Southwest Asia: D.
Trends: Unknown.

Changes in status: The European population appears to be stable over much of its wide range, with increases reported in five countries and decreases in eight (BirdLife International/EBCC 2000).

Comments: The European breeding population has been estimated at 850,000-1,500,000 pairs (BirdLife International/EBCC 2000), suggesting a population of 2.6 to 4.5 million individuals.

Lesser Moorhen *Gallinula angulata*

Monotypic. This species is widely distributed in Africa south of the Sahara from Senegal, Sudan and Ethiopia south to north-eastern Namibia and eastern South Africa. It is a rains migrant north and south of the equator. Only one population is recognised, pending further study.

- Sub-Saharan Africa: C or D.
Trends: Unknown.

Changes in status: None known.

Comments: Although widespread and locally common (*e.g.* in Kenya, Zambia and Zimbabwe), it is rather scarce in many parts of its range. Fishpool & Evans (2001) have suggested that the total population is in the very broad range C/D.

Red-knobbed Coot *Fulica cristata*

Monotypic. The Red-knobbed (or Crested) Coot is widely distributed in Africa south of the Sahara and in Madagascar. The small population in Morocco and southern Spain appears to be mainly sedentary, although local movements have been recorded in Morocco, and it is believed that the tiny population in Spain is maintained by occasional immigration from Morocco. Sub-Saharan populations are also mainly sedentary, but with a tendency for nomadism and opportunism. Ringing recoveries have shown long-distance movements in Central and Eastern Africa, and populations breeding in Southern Africa (Zambia, Namibia, Botswana, Mozambique and South Africa) appear to be at least partly migratory, with movements of over 1,000 km recorded (Taylor & van Perlo 1998). Two populations are recognised, a large Sub-Saharan population and a small and very isolated population in Morocco and Spain.

- Sub-Saharan Africa: D or E.
Trends: Unknown.
- Morocco & Spain: 5,000-10,000.
Trends: Unknown.

Changes in status: Nothing is known of the overall trends in either population. The species is increasing in South Africa and Zimbabwe (Harrison *et al.* 1997, Taylor & van Perlo 1998) and the tiny population of 10-25 pairs in Spain is thought to be stable (BirdLife International/EBCC 2000).

Comments: The species is locally abundant, especially in South Africa, where there have been counts of 25,000 at Barberspan and 30,000 at De Hoop Vlei (Harrison *et al.* 1997). Over 51,000 were counted in South Africa in the July census in 1997, and over 3,270 in Zambia in

January 1998 (Dodman *et al.* 1999). Fishpool & Evans (2001) have suggested that the total Northwest African and Spanish population is only about 5,000 birds, but the totals from the Important Bird Areas in Morocco alone exceed 7,000 birds. An estimate of 5,000-10,000 individuals is therefore proposed. Seventy-three were counted in Spain during the mid-winter counts in 1998 (Gilissen *et al.* 2002).

Common Coot *Fulica atra*

See species account in Section 2.1. The following two populations should be added to the Action Plan:

- Northwest Europe (wintering): 1,750,000.

Trends: Increasing.

- Southwest Asia (wintering): 2,000,000.

Trends: Unknown.

Changes in status: The number of *F. atra* wintering in Northwest Europe continues to increase (Delany *et al.* 1999), and most breeding populations in the region are reported to be stable or increasing (BirdLife International/EBCC 2000).

Comments: The European breeding population has been estimated at 1,100,000-1,700,000 pairs (BirdLife International/EBCC 2000), suggesting a total population of 3.3 to 5.1 million individuals. This agrees well with the estimate of 4,250,000 for the number of birds wintering in

Northwest Europe, the Black Sea and Mediterranean. About 5,000-10,000 birds, possibly from the Southwest Asian population, reach East Africa.

HAEMATOPODIDAE

Eurasian Oystercatcher *Haematopus ostralegus*

Polytypic. Two subspecies occur in the Agreement Area, the nominate form in most of Europe and North Africa, and *longipes* on inland waters from Ukraine to Western and Central Asia. The Icelandic and Faeroes birds are sometimes considered as a separate subspecies (*malacophaga*), as are the British and Irish birds (*occidentalis*). Most breeding populations are migratory, although a small proportion of birds in Western Europe are sedentary or dispersive. The nominate race comprises five relatively discrete populations: (1) birds breeding in Iceland, the Faeroes and Scotland, and wintering in Ireland and western Britain; (2) birds breeding in Norway and wintering in the North Sea area; (3) birds breeding in the Baltic and north-eastern Russia, and probably wintering south to West Africa; (4) birds breeding in southern Britain, Ireland, the Low Countries and France, and wintering on the Atlantic coast of Europe south to Iberia and Morocco; and (5) birds breeding in the Mediterranean and wintering mainly on the North African coast. However, because of the extensive overlap of these five populations in Western Europe during the migration seasons, they are treated as a single population. *H. o. longipes* breeds from the Black Sea and Asia Minor to Western Siberia, north-western Iran and the Central Asian Republics, and winters along the coasts of Northeast Africa, the Arabian Peninsula and the Persian Gulf east to north-western India. Only two populations are recognised.

- Europe/South & West Europe & Northwest Africa (*ostralegus*): 1,020,000.

Trends: Increasing.

- SE Europe & West Asia/SW Asia & NE Africa (*longipes*): 100,000-200,000.

Trends: Probably stable.

Changes in status: The long-term increase in the European population is apparently continuing. BirdLife International/EBCC (2000) have reported stable or increasing trends throughout the breeding range in Europe, with increases in 12 countries. Stroud *et al.* (2002) have shown that the numbers wintering along the Atlantic coast of Europe have increased by 17% since the 1980s, while the numbers wintering in Britain increased by 28% (from 279,500 to 359,000) between 1981-85 and 1988-92 (Cayford & Waters, 1996). There have been increases in nearly all other parts of the European wintering range except The Netherlands, where numbers have declined by 6% since the 1980s (Stroud *et al.* 2002).

Little is known of the status of the population of *longipes* breeding in the Black Sea region and Western Asia. Recent increases have been reported in the small breeding populations in Bulgaria and Romania, and slight decreases in the populations in Russia and Ukraine (Snow & Perrins, 1998). The trends further east are unknown. Stroud *et al.* (2002) have concluded that the overall trend is probably stable.

Comments: Stroud *et al.* (2002) have estimated that there were about 1,020,000 *H. ostralegus* wintering on the Atlantic coast of Europe and West Africa in the mid-1990s. The European breeding population has been estimated at 301,000-369,000 pairs or 904,000-1,107,000 individuals (Thorup 2002), a figure that agrees well with the estimate derived from winter counts. The population of *longipes* is rather small by comparison. However, the previous estimate of 25,000 (from Perennou *et al.* 1994) was clearly much too low. Stroud *et al.* (2002) have recently given a revised estimate of 100,000-200,000, based on an estimate of 30,000-55,000 pairs in Western Siberia and 4,800-11,700 pairs in south-eastern Europe and Turkey.

African Black Oystercatcher *Haematopus moquini*

Monotypic. The African Black Oystercatcher is confined as a breeding species to the coast and offshore islands of southern Africa from Lüderitz in Namibia to Mazeppa Bay in eastern Cape Province, South Africa. More than half of the population occurs in the western Cape. The adults are almost entirely sedentary, although some undertake small-scale seasonal movements. A proportion of young birds move north to nursery areas in central Namibia and southern Angola where they spend the first two or three years of their life, while others move east to KwaZulu-Natal and occasionally southern Mozambique (Underhill *et al.* 1999). Four birds have been recovered at distances of between 1,024 and 1,766 km from their natal area. Once birds reach maturity, they mostly move back to their natal area (Underhill *et al.* 1999). Only one population is recognised, the entire population of the species.

- Coastal Southern Africa: 4,800.

Trends: Stable.

Changes in status: Overall, numbers appear to have been relatively stable for many years. Recent fieldwork suggests that there has been some decline along the mainland coast of the western Cape, while in eastern Cape, the species has increased in numbers and is expanding its breeding range eastwards (Underhill *et al.* 1999). Birds breeding on mainland beaches are prone to disturbance from recreational activities and accidental destruction of nests and chicks. However, on most offshore islands, population sizes have been stable or increased recently, probably due to improved management (BirdLife International 2000).

Comments: *Haematopus moquini* is listed as 'Near-threatened' by BirdLife International (2000). The total population was estimated at about 4,780 birds in the early 1980s (Urban *et al.* 1986), and this estimate, rounded to 4,800, apparently still remains valid, although Underhill *et al.* (1999) gave a figure of about 5,000.

BURHINIDAE

Senegal Thick-knee *Burhinus senegalensis*

Two subspecies have been described, *B. s. senegalensis* from Senegal to Chad and the Central African Republic, and *B. s. inornatus* from Egypt, Sudan and Ethiopia to northern Uganda and north-western Kenya, but these are poorly defined. Some populations are sedentary, others are rains migrants, moving northwards in the Sahelian zone during the wet season. Two populations are recognised, both probably containing a mixture of sedentary and migratory birds.

- West Africa (*senegalensis*): B.
Trends: Unknown.
- Northeast and Eastern Africa (*inornatus*): B.
Trends: Unknown.

Changes in status: None known.

Comments: Fishpool and Evans (2001) have suggested that the populations of both subspecies are in the range B (10,000-25,000).

GLAREOLIDAE

Egyptian Plover *Pluvianus aegyptius*

Two subspecies have been described: *P. a. aegyptius* from Senegal to lower Egypt and northern

Democratic Republic of Congo, and *P. a. angolae* in northern Angola and western Democratic Republic of Congo. *P. a. angolae* appears to be mainly sedentary. *P. a. aegyptius* is to some extent a rains migrant, moving north during the rainy season. Only one migratory population is recognised, the entire population of the nominate race.

- West and Eastern Africa (*aegyptius*): B.
Trends: Unknown.

Changes in status: The overall status of *P. a. aegyptius* is unknown. It remains locally common, but is dependent on a vulnerable habitat (sand banks in rivers) and has become scarcer in north-eastern Africa, especially Egypt (Dodman 2002).

Comments: Fishpool and Evans (2001) have suggested that the population is in the range B (10,000-25,000).

Madagascar Pratincole *Glareola ocularis*

Monotypic. The species is confined as a breeding bird to Madagascar, but occurs as a regular non-breeding visitor (March-September) to the East African coast between southern Somalia and Mozambique north of the Zambezi River (mainly Kenya and Tanzania). It sometimes occurs far inland, usually only in small groups, although concentrations of hundreds have been recorded at Lake Victoria (Urban *et al.* 1986). It occurs widely in Madagascar, but breeds mainly in the east, although a few colonies have recently been found in the west (Morris & Hawkins 1998). Only one population is recognised, the entire population of the species.

- Madagascar/East Africa: A or B.
Trends: Unknown.

Changes in status: No information is available on population trends. The widespread loss and degradation of wetland habitats in Madagascar in recent years are doubtless having a negative impact on the population, but details are lacking.

Comments: Langrand (1990) reported the species to be fairly common in Madagascar, although flocks seldom exceed 150 birds. However, F. Hawkins (*in litt.*) has suggested that the total population may be as low as 2,000-10,000 birds. It is frequent to locally abundant in East Africa, especially in coastal Kenya, where flocks of 9,000-10,000 birds were recorded in 1978. There is a record of 2,000 on the Dar es Salaam coast in Tanzania in 1982 (Dodman 2002), and flocks of 3,000 were reported in southern Somalia in 1979 and 1981 (del Hoyo *et al.* 1996). Fishpool and Evans (2001) gave an estimate of A (<10,000), but Dodman (2002) has suggested that a broader range (A/B) would be more appropriate, given the apparent abundance of the species on the East African coast.

Rock Pratincole *Glareola nuchalis*

Two subspecies have been described: *nuchalis* from Chad, north-eastern Sudan and Ethiopia south through the Democratic Republic of Congo, western Kenya and south-eastern Tanzania to east-central Angola, extreme north-eastern Botswana, Zimbabwe and western Mozambique; and *liberiae* from Guinea-Bissau and Sierra Leone to western Cameroon. Intermediates between *nuchalis* and *liberiae* occur in western Cameroon (Urban *et al.* 1986). Both subspecies are partly sedentary and partly migratory, and are known to make extensive movements, but these are poorly understood. Populations in Gabon and on the shores of Lake Victoria are sedentary. However, other populations undergo seasonal movements related to changes in water level. The species is a regular migrant in Nigeria, occurring on the Niger River only between mid-March and September. In Zambia, it is plentiful only between July and early January, with a peak in September when water levels become low. Migrants from north-eastern Namibia have been observed in eastern Democratic Republic of Congo between January and July. Migrants of the southern race *nuchalis* have been observed in October in the range of *liberiae* (Urban *et al.* 1986). Two populations are recognised.

- Eastern & Central Africa (*nuchalis*): C.

Trends: Unknown.

- West Africa (*liberiae*): B or C.

Trends: Unknown.

Changes in status: No information is available on the overall trends in either population. Some suitable habitat has been lost as a result of the creation of dams on some of the major rivers within the range of both populations, and the species is possibly at risk from the contamination of rivers with pesticides and other chemicals. The breeding population in Zimbabwe is decreasing because of silting on the south-eastern lowveld rivers and dam-building on the Zambezi River (Harrison *et al.* 1997).

Comments: Almost no information is available on numbers, but it seems unlikely that either population exceeds 100,000 individuals, and the population of *liberiae* may be much lower than this. Dodman (2002) has suggested C for the nominate race and B/C for *liberiae*. The species is locally abundant along suitable rivers, with breeding groups of up to 100 pairs in some areas (Urban *et al.* 1986). The Zimbabwe population has been estimated at 1,600-1,800 birds prior to breeding (Harrison *et al.* 1997).

Grey Pratincole *Glareola cinerea*

Two subspecies have been described: *cinerea* occurs widely from Ghana to central Democratic Republic of Congo; *colorata* is confined to the upper Niger River in Mali. The nominate race undertakes fairly extensive movements during the rainy season, moving down the major rivers to coastal estuaries and along the Logone River to Lake Chad. Only one migratory population is recognised, the entire population of the nominate race.

- SE West Africa & Central Africa (*cinerea*): B or C.

Trends: Unknown.

Changes in status: No information is available. This appears to be a rather poorly known species.

Comments: The species is said to be common to locally abundant. Dodman (2002) has suggested a population estimate of B/C for the nominate form.

CHARADRIIDAE

Pacific Golden-Plover *Pluvialis fulva*

Monotypic. The species breeds in northern Siberia from the Yamal Peninsula (at about 70° E) eastwards to the Chukotsky Peninsula and Anadyr Basin, and in Alaska; it winters throughout southern Asia from extreme eastern Iran to Australia, New Zealand and the Pacific Islands. Small numbers winter in the Arabian Peninsula and on the coast of Ethiopia and Somalia. It is an uncommon visitor south to Kenya and is rare in South Africa. Small numbers have recently been observed in Gabon, and it is possible that the species is regular on the Atlantic coast of

Africa. The birds wintering in the Arabian Peninsula and Africa probably belong to the large population which winters mainly in South Asia, and presumably reach these regions by overland passage across Western Siberia and Kazakhstan. It has occurred as a vagrant in most countries in Europe, and also in Turkey, Jordan and Egypt, and is described as a very rare passage migrant in Israel and Kuwait. Only one population is relevant.

- North-central Siberia/South Asia, SW Asia & NE Africa: 50,000-100,000.

Trends: Unknown.

Changes in status: Nothing is known of trends in the numbers of birds wintering in Southwest Asia and Northeast Africa. According to Byrkjedal and Ratcliffe (1998), no general increases or decreases in population are known for the Pacific Golden Plover, although there are reports of substantial declines (up to around 70%) in some Australian wintering areas in the period 1986-1995.

Comments: The total population wintering in South Asia, South Asia and Northeast Africa has been estimated at 50,000-100,000 birds (Stroud *et al.* 2002). However, the number of birds wintering in Southwest Asia and Northeast Africa is apparently small. The highest national totals in Southwest Asia during the mid-winter censuses of 1989-1994 were Bahrain 13, Iran 18, Oman 141, Qatar 3, Saudi Arabia 37, United Arab Emirate 507, and Yemen 3 (Scott & Rose 1989, Perennou *et al.* 1990, Perennou & Mundkur 1991 & 1992, Mundkur & Taylor 1993, Rose 1995). Counts in Northeast Africa are even lower. Summers *et al.* (1987) gave figures of <10 for East Africa (mostly inland) and <20 for Sudan (mostly on the Red Sea coast). Urban *et al.* (1986) describe it as locally common between September and early May in coastal Eritrea and Somalia, and report a maximum count of 138 near Mogadishu in March. Dijk *et al.* (1993) observed small groups on the coast of Gabon in January and February 1992, and estimated a total of 20-25 birds for the northern intertidal areas. However, the only reports during the African Waterbird Censuses in 1993-97 were a somewhat questionable record of eight birds in Burundi in January 1993 (Taylor 1993), and counts

of three and four individuals at Roche Caiman Bird Sanctuary in the Seychelles in January 1994 and January 1995, respectively. These figures suggest that the total population wintering in Southwest Asia and Northeast Africa is no more than a few thousand birds.

Strong anecdotal evidence from hunters in the Netherlands in the first half of the 20th century suggests that the species was a reasonably abundant winter visitor to the Wadden Sea area until about the 1950s, especially during periods of cold weather. It has been speculated that these birds originated from westerly breeding range extensions of the species in Western Siberia, but were exterminated by large-scale commercial trapping of golden plovers in the Netherlands (Byrkjedal & Ratcliffe 1998). Habitat loss may also have played a part, as the disappearance of the plovers coincided with the closure of the Isselmeer (Jukema & Piersma 2002).

Sociable Lapwing *Vanellus gregarius*

See species account in Section 2.1. The following population should be added to the Action Plan:

- Central Asian Republics/Northwest India: 200-600.

Trends: Decreasing.

Comments: This population was omitted from the 2000 version of the Action Plan because it winters outside the Agreement Area. The population estimate and trends follow RBCU/CIS (2002).

White-tailed Lapwing *Vanellus leucurus*

See species account in Section 2.1. The following population should be added to the Action Plan:

- Central Asian Republics/South Asia: B or C.

Trends: Possibly increasing.

Comments: This population was omitted from the 2000 version of the Action Plan because it winters outside the Agreement Area. The population estimate and trends follow Stroud *et al.* (2002).

SCOLOPACIDAE

Eurasian Woodcock *Scolopax rusticola*

Monotypic. The Eurasian Woodcock breeds widely across north temperate Europe and Asia from the Atlantic to the Pacific, north to about 64 or 65°N and south to northern Iberia, the Caucasus and the Himalayas. In maritime Western Europe, the birds are largely sedentary, but further east, birds migrate south and west to winter generally south of the 0°C winter isotherm. European breeders winter in Western and Southern Europe south to North Africa; West Siberian breeders are thought to winter mainly in the Caspian region, with smaller numbers reaching western Iran and northern Iraq. Few birds reach Egypt, and the species occurs only as a vagrant in the Arabian Peninsula. An isolated breeding population in the Caucasus Mountains appears to be at least partly sedentary (Snow & Perrins 1998), and may be discrete. Two migratory populations are relevant.

- Europe/Southern & Western Europe & North Africa: 21-25 million.

Trends: Stable.

- Western Siberia/Southwest Asia (Caspian): Unknown.

Trends: Unknown.

Changes in status: The European breeding population appears to be stable. Increases have been reported in Denmark, The Netherlands, Ireland and Spain, and decreases in Albania, Bulgaria, Germany, Latvia, Ukraine and the United Kingdom, but elsewhere populations appear to be mainly stable (BirdLife International/EBCC 2000).

Comments: Thorup (2002) has recently estimated the European breeding population at 7,090,000-8,410,000 pairs, suggesting a total population of about 21 to 25 million birds. This figure has been adopted by Stroud *et al.* (2002). Little is known about the size of the West Asian population, but the species is an abundant winter visitor to the south Caspian region in Iran.

Pintail Snipe *Gallinago stenura*

Monotypic. This species is mainly extralimital, breeding in northern Russia from the Urals east through Siberia and Transbaikalia to the Sea of Okhotsk, and wintering mainly in the Indian Subcontinent and Southeast Asia. The breeding range just extends into Europe in north-eastern European Russia. Small numbers of birds are regular on passage and in winter in the Arabian Peninsula (chiefly Oman and the United Arab Emirates), and there are scattered records from Socotra, southern Somalia, Kenya and Aldabra (Urban *et al.* 1986, Zimmerman *et al.* 1996). There is also a recent record of two birds on the Gulf coast of Iran in March 2000 (P.J. Dubois *et al.*, *in litt.*). It seems, therefore, that there is a small element of the population that migrates southwest to winter in the Arabian Peninsula and possibly also in Northeast Africa. These birds

are currently included within the large South Asian wintering population, pending further study.

- Northern Siberia/South Asia & Eastern Africa: C or D.

Trends: Unknown.

Changes in status: None known.

Comments: Perennou *et al.* (1994) gave an estimate of C/D for the South Asian wintering population. Little is known of the numbers reaching Southwest Asia and Africa, and nothing is known of their origin. The highest mid-winter counts in Southwest Asia in recent years have been 16 in Oman in January 1993 (Rose & Taylor 1993) and 13 in the United Arab Emirates in January 1994 (Rose 1994). However, concentrations of up to 27 have been recorded on passage in September in the United Arab Emirates (Richardson & Aspinall 1998). The breeding population in European Russia has been estimated at about 3,000 pairs, subject to annual fluctuations (BirdLife International/EBCC 2000).

LARIDAE

Common Gull *Larus canus*

Polytypic. Two subspecies occur in the Agreement Area. The nominate race breeds widely in Northern Europe from Iceland east to the White Sea (40°E), and winters in Northwest Europe south commonly to western France and in smaller numbers to Iberia, Morocco and the West Mediterranean. *L. c. heinei* breeds from the Kanin Peninsula and Moscow region east to the Lena River (125°E), and winters mainly in the Black Sea and Caspian Sea, with a few birds reaching the Persian Gulf, East Mediterranean and Baltic. Two populations are recognised.

- Northwest & Central Europe/Atlantic & Mediterranean (*canus*): 1,300,000-2,100,000.

Trends: Decreasing.

- Northeast Europe & Western Siberia/Black Sea & Caspian Sea (*heinei*): D.
Trends: Possibly increasing.

Changes in status: The species has increased and spread in Northwest Europe in the last hundred years, especially in Britain, Ireland and Germany, and now breeds in the Faeroes (since 1890), the Netherlands (since 1908), Belgium (since 1924), Iceland (since 1955), Poland (since 1956), Germany (since 1957), Austria (since 1958), Switzerland (since 1966) and France (since 1976). However, many populations appear to have stabilised in recent years or are declining slightly. The large populations in Sweden, Britain and Finland have been relatively stable since the 1970s, although there are recent indications of a decline in parts of Britain (M. Tasker, pers. comm.). The population is given as declining by BirdLife International/EBCC (2000), who report big declines in Denmark, Estonia and Norway, which support over a third of the total population. In Denmark, the species decreased from a peak at 75,000-100,000 pairs in the 1930s and 1940s to about 40,000 pairs in 1974 (Evans 1984) and 25,000 pairs in the early 1990s (Snow & Perrins 1998). However, the substantial populations in Germany, The Netherlands,

Poland and Ireland are said to be increasing, as well as many of the smaller, marginal populations (BirdLife International/EBCC 2000). The declines have been attributed to a wide variety of causes including predation from foxes and feral mink, culling by humans, reduced availability of human refuse, habitat loss, disturbance and climate change (Hagemeijer & Blair 1997).

The breeding population in Russia is reported to be increasing in most regions (Snow & Perrins 1998, BirdLife International/EBCC 2000). This presumably relates mainly to the population of *heinei*, but trends elsewhere in the range of this subspecies are unknown.

Comments: The breeding population of nominate *canus* in Europe excluding Russia is estimated at about 430,000-690,000 pairs (1,290,000-2,070,000 individuals); the European Russian population (mostly *heinei*) is estimated at 40,000-60,000 pairs (BirdLife International/EBCC 2000).

Great Black-backed Gull *Larus marinus*

Monotypic. The species breeds widely on the coasts of northern Europe from Greenland, Iceland, Svalbard and the Kola Peninsula south to the U.K, Ireland and Brittany. Populations breeding north of the Arctic Circle are completely migratory, wintering south commonly to the North Sea and in smaller numbers to the Bay of Biscay and occasionally Portugal. Those breeding in the southern part of the range are mainly sedentary with some southward dispersal of immatures in winter. Icelandic birds are mainly sedentary, although some winter in Northwest Europe. The population breeding in southern Greenland appears to be entirely sedentary. No discrete populations are identifiable, and only one population is recognised.

- Northern & Western Europe: 420,000-510,000.

Trends: Stable.

Changes in status: The population now seems to have stabilised somewhat after a long period of increase. The large populations in Norway, Sweden and the U.K. are reported to be stable, and the large population in Iceland is thought to be declining, although in most other countries the breeding populations are still said to be increasing (BirdLife International/EBCC 2000).

Comments: The European breeding population is estimated at 140,000-170,000 pairs (BirdLife International/EBCC 2000).

Kelp Gull *Larus dominicanus*

The Kelp Gull occurs widely in the Southern Hemisphere, in Southern Africa, Madagascar, Australia, New Zealand, South America, the Subantarctic islands and Antarctica. It is often considered to be monotypic, although some authors assign Southern African birds to the form *vetula* and Madagascan birds to the form *melisandae*. *L. d. vetula* is confined as a breeding species to the coast of Southern Africa from Cape Cross, Namibia, to Cape Province, South Africa. The adults appear to be largely sedentary, but young birds disperse over considerable distances from their natal area, sometimes reaching as far as Luanda in Angola and Maputo in southern Mozambique (Urban *et al.* 1986). The central Namibian coast appears to be an important nursery area for first-year to fourth-year birds from as far as the western Cape (Underhill *et al.* 1999). The population of *melisandae* in Madagascar appears to be sedentary. Only one population is relevant, the population of coastal Southern Africa.

- Coastal Southern Africa (*vetula*): 69,000.
Trends: Increasing.

Changes in status: The population has been increasing, especially on the mainland, since the 1950s (du Toit & Byers 2002). In 1976-81, the population was estimated at 11,200 pairs at a total of 55 sites (Urban *et al.* 1986, Harrison *et al.* 1997). Numbers have increase substantially in south-western Cape Province since then, partly because of increasing utilisation of artificial nest sites (Harrison *et al.* 1997). Breeding has now been reported from at least 79 sites, and the latest estimate indicates a population of about 23,000 pairs or 69,000 birds (D. Harebottle *in litt.*).

Comments: A few pairs of Kelp Gulls have bred in Senegal since 1980, but the origin of these birds is unknown.

Glaucous Gull *Larus hyperboreus*

Only the nominate subspecies occurs. This breeds in the Canadian Arctic, Greenland, Iceland, Svalbard and Northern Siberia east to the Taymyr Peninsula. The West Greenland and Icelandic populations appear to be sedentary, but the East Greenland population is believed to winter mainly in Iceland. Birds breeding in Svalbard and Siberia winter in North and West Europe south to Britain, Ireland and northern France, and also in Iceland and Greenland. Thus there is considerable overlap between populations, and only one population is therefore recognised.

- North Atlantic: 135,000-360,000.
Trends: Apparently stable.

Changes in status: Trends in the large Greenland population (30,000-100,000 pairs) are unknown. The much smaller populations in Svalbard and European Russia are though to be stable, while the Icelandic population (8,000 pairs) is said to be increasing rapidly (BirdLife International/EBCC 2000).

Comments: The breeding population in Greenland, Iceland, Svalbard and European Russia has been estimated at 45,000-120,000 pairs (BirdLife International/EBCC 2000), suggesting a minimum population of 135,000-360,000 birds.

Iceland Gull *Larus glaucooides*

Two subspecies have been described, but only the nominate form is of regular occurrence in the Agreement Area. This breeds in Greenland. Birds breeding on the west coast are sedentary or dispersive within Greenland, while those breeding on the east coast are migratory, wintering mainly in Iceland but also in small numbers to the Faeroes, Ireland, the U.K. and occasionally Scandinavia. Only one population is recognised.

- Greenland/Iceland & Northwest Europe: 90,000-300,000.

Trends: Apparently stable.

Changes in status: There has been no evidence of any change in distribution in Greenland (BirdLife International/EBCC 2000).

Comments: The breeding population in Greenland has been estimated at 30,000-100,000 pairs (BirdLife International/EBCC 2000). The form *kumlieni* of north-eastern Canada is sometimes considered to be a separate species. This occurs only as a rare vagrant in Europe.

Herring Gull *Larus argentatus*

Larus argentatus is here considered to comprise only the pink-legged forms of the *argentatus/cachinnans/fuscus* group (*L. a. argentatus* and *L. a. argenteus* in Europe, and *L. a. vegae* from the Taymyr Peninsula east to north-eastern Siberia). The nominate race breeds from Denmark and Scandinavia east to the Kola Peninsula, and winters south to the North Sea, Britain and Ireland. This includes the form '*omissus*' breeding in the Baltic, Estonia, Finland and Northwest Russia. '*omissus*' apparently winters in the western Baltic, southern Sweden and Danish archipelago. *L. a. argenteus* breeds in Iceland, the Faeroes, the U.K. and Ireland and on the coast of continental Europe from Germany to western France. Most populations are sedentary or dispersive, although some birds move southwest to Iberia in winter. Only two populations are recognised, corresponding to the entire populations of the two subspecies.

- North & Northwest Europe (*argentatus*): 1,100,000-1,500,000.

Trends: Increasing.

- Iceland & Western Europe (*argenteus*): 1,090,000.

Trends: Probably stable.

Changes in status: The population of nominate *argentatus* continues to increase throughout its range, but the population of *argenteus* appears now to have stabilised after a long period of increase. BirdLife International/EBCC (2000) report decreases in the large populations of *argenteus* in the U.K. and Ireland, and increases in Iceland, France and Germany.

Comments: The breeding population of nominate *argentatus* is estimated at 357,000-486,000 pairs, suggesting a total population of 1.1 to 1.5 million birds, and that of *argenteus* at 363,000-364,000 pairs, suggesting a total population of 1,090,000 birds (data from BirdLife International/EBCC 2000).

The westernmost populations of *L. a. vegae*, breeding from the Taymyr Peninsula east to the New Siberian Islands, have been assigned to the form *birulai*, but this is weakly defined (Yésou & Hirschfeld 1997). Both this form and typical *vegae* winter in the Pacific and Southeast Asia, and are thus largely extralimital.

Heuglin's Gull *Larus heuglini*

The form *heuglini* and the closely related forms *taimyrensis* and *barabensis* have variously been considered a races of *L. argentatus*, *L. fuscus* and *L. cachinnans*. Here they are treated as

a separate species, Heuglin's Gull *L. heuglini*, although there is some evidence to suggest that *barabensis* may comprise a distinct taxon (P. Yésou, *in litt.*). Typical *heuglini* breeds in north European Russia and Western Siberia from the southern Kola Peninsula to the Yenisey River. The weakly defined form *taimyrensis* has a relatively restricted breeding distribution from the lower Yenisey River to south-western Taymyr, and is believed by some authors to be merely the intergrades between *heuglini* and the 'birulai' form of *L. vegae* to the east. *L. (h.) barabensis* breeds in south-western Siberia, north of the region of Lake Balkhash. *L. h. heuglini* winters south through the Black, Aral and Caspian Seas to Northeast Africa, the Persian Gulf and the Arabian Sea east to India. The main winter quarters of 'taimyrensis' are probably on the shores of the Persian Gulf and Arabian Sea east to Pakistan, although small numbers have been reported in East Africa. *L. c. barabensis* is thought to winter mainly in the Persian Gulf and on the northern shores of the Arabian Sea (Yésou & Hirschfeld 1997). Only two populations are recognised, the population of nominate *heuglini* including *taimyrensis*, and the population of *barabensis*.

- Northeast Europe & Western Siberia/West Asia & NE Africa (*heuglini*): Unknown.
Trends: Unknown.

- Southwest Siberia/Southwest Asia (*barabensis*): Unknown.
Trends: Unknown.

Changes in status: None known.

Comments: Almost no information is available on numbers because until recently counts of birds from these populations have been included within counts of *L. cachinnans*, *L. argentatus* or *L. fuscus*.

Yellow-legged Gull *Larus cachinnans*

Larus cachinnans is here considered to comprise only three yellow-legged forms of the *argentatus/cachinnans/fuscus* complex: *atlantis* of the Azores, Madeira and the Canary Islands; *michahellis* of south-western France, western Iberia, Morocco and the Mediterranean; and *cachinnans* from the Black Sea through the Caspian Sea to eastern Kazakhstan and the region of Lake Balkhash. *L. c. atlantis* is mainly sedentary. *L. c. michahellis* is dispersive, with immatures undertaking substantial movements within the Mediterranean and on the Atlantic coast of Africa south to the Gulf of Guinea. *L. c. cachinnans* is partly migratory, wintering south to the East Mediterranean, northern Red Sea and Persian Gulf. Only two migratory populations are relevant, the entire populations of nominate *cachinnans* and *michahellis*.

- Black Sea & West Asia/SW Asia & NE Africa (*cachinnans*): D.
Trends: Probably increasing.

- Mediterranean, Iberia & Morocco (*michahellis*): 475,000-585,000.
Trends: Increasing.

Changes in status: *L. c. cachinnans* is reported to be increasing in Bulgaria, Romania, European Russia and Ukraine (BirdLife International/EBCC 2000), but its trends in Western Asia are unknown. *L. c. michahellis* is increasing throughout its range in Europe (BirdLife International/EBCC 2000).

Comments: The European breeding population of *michahellis* has been estimated at 159,000-195,000 pairs, suggesting a minimum population of 475,000 to 585,000 birds (data from BirdLife International/EBCC 2000). An estimated 36,000-59,000 pairs of nominate *cachinnans* breed in Europe including Turkey but excluding Russia (data from BirdLife International/EBCC 2000), suggesting a minimum population of about 140,000 birds, and

probably many more. (The total of 25,000-35,000 pairs of 'cachinnans' in European Russia includes an unknown number of *L. heuglini* breeding in north European Russia).

Lesser Black-backed Gull *Larus fuscus*

Larus fuscus is here considered to comprise only the two very dark-backed forms of the *argentatus/cachinnans/fuscus* group breeding in northern Europe, *L. f. fuscus* and *L. f. graellsii*. The nominate race breeds in north continental Europe from northern Norway and Sweden east to the Kola Peninsula and White Sea (35°E), and migrates south across eastern Europe, the Black Sea and the East Mediterranean to winter in the Red Sea and Central and Eastern Africa (east to the Gulf of Guinea and south to Zimbabwe, Mozambique and Malawi). It is an uncommon migrant in the Caspian Sea and scarce winter visitor to the Persian Gulf and Arabian Sea. (Most old reports of *L. fuscus* in the Arabian Peninsula and further east in Asia are now believed to refer to *Larus heuglini*). *L. f. graellsii* breeds from Iceland, Ireland, the U.K. and southern Norway south to north-western Spain and winters along the Atlantic seaboard from the Ireland and the U.K. south to West Africa (commonly to Guinea and Nigeria). A few birds

winter in the West Mediterranean east to Tunisia. Some authors have assigned the populations breeding in The Netherlands, Denmark and southern Norway to the form *intermedius*. Only two populations are recognised, corresponding to the entire populations of the two subspecies.

- NE Europe/Black Sea, Southwest Asia & Eastern Africa (*fuscus*): 156,000-228,000.

Trends: Decreasing.

- Western Europe/Mediterranean & West Africa (*graellsii*): 525,000.

Trends: Increasing.

Changes in status: Nominate *fuscus* is continuing to decrease throughout its breeding range. BirdLife International/EBCC (2000) report moderate declines in Estonia, Norway, Russia and Sweden, and a rapid decline in Finland. *L. f. graellsii*, on the other hand, continues to increase throughout its range, with rapid increases reported in Denmark, France, Iceland, The Netherlands and Spain (BirdLife International/EBCC 2000).

Comments: The breeding population of nominate *fuscus* is estimated at 52,000-76,000 pairs, suggesting a total population of 156,000-228,000 birds, and that of *graellsii* (including '*intermedius*') at 174,650-174,965 pairs, suggesting a total population of 525,000 birds (data from BirdLife International/EBCC 2000).

Grey-headed Gull *Larus cirrocephalus*

Only the subspecies *poiocephalus* occurs in the Agreement Area. This is widespread in Sub-Saharan Africa, occurring in coastal West Africa from Mauritania to Togo, inland along major rivers from Mali to Lake Chad, and through Eastern and Southern Africa from the Nile Valley in Sudan and Ethiopia to South Africa. There is also a small, isolated population in Madagascar. Most populations appear to be mainly sedentary, but the population in Southern Africa (South Africa, Zimbabwe, Zambia, Botswana, Namibia and southern Angola) is at least partly migratory. Recoveries of birds ringed in South Africa show a striking dispersal, with movements to Mozambique, Zimbabwe, Zambia, Botswana, Namibia and Angola (Underhill *et al.* 1999). Outside the breeding season, birds from the colonies on the coast of West Africa spread east along the coast as far as the Gulf of Guinea. Three populations are recognised.

- West Africa: 30,000.

Trends: Unknown.

- Central & Eastern Africa: D.

Trends: Unknown.

- Southern Africa: Probably B.
Trends: Increasing.

Changes in status: The Southern African population increased greatly during the 20th century and established many new colonies (Harrison *et al.* 1997). Trends in the other two populations are unknown.

Comments: The coastal West African population has recently been estimated at 30,000 birds (Keijl *et al.* 2001). The centre of abundance is in equatorial Africa, where there are several colonies with over 2,000 pairs. It is common seasonally at Lake Chad, and thousands nest on islands in Lake Victoria (del Hoyo *et al.* 1996). In Southern Africa, it is most abundant in the east, especially in Mozambique, where the population has been estimated at 5,000 birds (Underhill *et al.* 1999).

Hartlaub's Gull *Larus hartlaubii*

Monotypic. Hartlaub's Gull is confined to the coast of Southwest Africa, mainly from Cape Cross in central Namibia to Quoin Point in western Cape Province, South Africa. It is largely sedentary, but disperses along the mainland coast in both directions, wandering north on the Atlantic coast to about 22°S and east to KwaZulu-Natal. Most ringing recoveries have been within 30 km of the ringing site, but colour-ringed birds from Robben Island in western Cape Province have been recorded in Namibia (Underhill *et al.* 1999). Only one population is recognised, the entire population of the species.

- Coastal Southwest Africa: 32,000-33,000.

Trends: Stable or increasing.

Changes in status: There has been some evidence of an increase in recent decades. Local declines have been reported in Namibia, but in South Africa, it has expanded its range inland into cities, towns, suburbs and farmland, and increased in abundance, especially around the urbanised Cape Peninsula, where almost half the population is located (Urban *et al.* 1986, Harrison *et al.* 1997). However, the numbers breeding on offshore islands in South Africa have been decreasing in recent years, and overall the population may now have stabilised (Dodman 2002).

Comments: The breeding population was estimated at 12,000-13,700 pairs or 32,000-33,000 individuals in the late 1980s (Williams *et al.* 1990).

Common Black-headed Gull *Larus ridibundus*

Monotypic. The species breeds widely across north and temperate Eurasia from Iceland to Eastern Siberia, western populations wintering south to Mauritania and East Africa. No discrete populations are identifiable. Three main groups are recognised: (1) birds which breed in Western Europe (west of 30°E) and winter mainly in Western Europe, the West Mediterranean and West Africa; (2) birds which breed in Eastern Europe and winter mainly in the Black Sea and East Mediterranean; and (3) birds which breed in Western Siberia and winter in the Caspian Region, Middle East and Northeast Africa south through Sudan to East Africa.

- West Europe/West Europe, West Mediterranean & West Africa: 5,600,000-7,300,000.

Trends: Increasing.

- East Europe/Black Sea & East Mediterranean: 1,300,000-1,700,000.
Trends: Increasing.
- West Asia/Southwest Asia & Northeast Africa: 250,000.
Trends: Unknown.

Changes in status: Both European populations are increasing throughout their breeding ranges. BirdLife International/EBCC (2000) has reported increases in 19 countries in Europe, with rapid increases in Belarus, Denmark, France, Hungary, Italy, The Netherlands, Russia and Ukraine. Decreases were reported only in the Czech Republic, Finland, Poland and Sweden.

Comments: The West European breeding population has been estimated at 1,855,000-2,424,000 pairs, suggesting a total population of 5.6 to 7.3 million birds, and the East European breeding population at 445,000-576,000 pairs, suggesting a total population of 1.3 to 1.7 million birds (data from BirdLife International/EBCC 2000). Perennou *et al.* (1994) estimated the Southwest Asian and Northeast African wintering population at 250,000 birds, but this figure is likely to be too low, as at least 176,000 were thought to winter in Southwest Asia south of the Caspian

Little Gull *Larus minutus*

Monotypic. There appear to be two largely discrete populations in Western Eurasia: one breeding in Central Europe from the Baltic east to about 55°E, and wintering along the coasts of Southwest Europe and the West Mediterranean south to the Atlantic coast of Morocco; and the other breeding east of the Urals in the basin of the Ob and Irtysh, and wintering mainly in the Black Sea and Caspian Sea. Both populations may mix to a limited extent in the East Mediterranean. Two populations are recognised.

- Central & Eastern Europe/Southwest Europe & West Mediterranean: 66,000-102,000.
Trends: Probably stable.
- West Asia/East Mediterranean, Black Sea & Caspian: C.
Trends: Unknown.

Changes in status: The second edition of *Waterfowl Population Estimates* gives the trends in the European population as stable. Tucker & Heath (1994) concluded that the species was probably declining in Europe. However, Hagemeyer & Blair (1997) and BirdLife International/EBCC (2000) have reported a big increase in Finland, where the breeding range expanded by over 50% during the period 1970-90. Recent decreases have been reported in the breeding populations in Estonia, European Russia and Ukraine (BirdLife International/EBCC 2000). Overall, it would seem that the European population is probably stable, although there are marked fluctuations from year to year in most areas which mask short-term trends. There has been a marked northward expansion in the wintering range in Western Europe in recent years, perhaps related to the northward expansion in the breeding range. No information is available on trends in Western Asia.

Comments: The European breeding population has been estimated at 22,000-34,000 pairs (BirdLife International/EBCC 2000), suggesting a total population of 66,000-102,000 birds. The size of the West Asian breeding population is unknown, but is unlikely to exceed 100,000 birds. Over 50,000 *L. minutus* have recently been found wintering in the lagoons in the Nile Delta in Egypt (Hagemeyer & Blair 1997), which may be a major wintering area for this population.

Sabine's Gull *Xema sabini*

Four subspecies have been described, but these are weakly defined, and the species is often

considered to be monotypic. Most of the birds reaching Western Europe and the west coast of Africa probably belong to the nominate race breeding in Arctic Canada and Greenland. Large numbers of Sabine's Gulls from eastern Canada and Greenland are known to migrate southeast through the Atlantic to winter in the cool Benguela current off Southwest Africa between 18°S and 34°S and mostly off Namibia and Cape Province, South Africa (del Hoyo *et al.* 1996). The species occurs commonly on migration off the West African coast, but is only an occasional visitor to the Atlantic seaboard of Europe (mainly the Bay of Biscay). The few pairs breeding in Svalbard may belong to the Siberian race *palaearctica*, which breeds in northern Siberia from the Taymyr Peninsula east to the Lena Delta and is thought to winter in the Southeast Pacific. Only one population is relevant.

- Canada & Greenland/Southeast Atlantic: Unknown.

Trends: Unknown.

Changes in status: Nothing is known of overall trends in the population, but the small population in Greenland (100-300 pairs) is reported to be increasing rapidly (BirdLife International/EBCC 2000).

Comments: Four pairs were breeding in Svalbard in 1993 (BirdLife International/EBCC 2000).

Roseate Tern *Sterna dougallii*

See species account in Section 2.1. The following four populations should be added to the Action Plan.

- Southern Africa (*dougallii*): 750.

Trends: Increasing.

- East Africa (*dougallii*): 26,000.

Trends: Unknown.

- Madagascar, Seychelles & Mascarenes (*arideensis*): 10,000-15,000.

Trends: Probably decreasing.

- North Arabian Sea (Oman) (*bangsi*): <600.

Trends: Unknown.

Changes in status: After a long period of decline, the tiny breeding population in South Africa has begun to increase again. The main colony on Bird Island in Algoa Bay, eastern Cape Province, held only 130-140 pairs in the early 1990s (Harrison *et al.* 1997), but has been steadily increasing since then to more than 220 pairs in 1999 (Underhill *et al.* 1999). The species ceased to breed on Dyer Island in 1971, possibly due to disturbance from guano scraping (which ceased in 1985), but birds returned to the island in 1991, and 21 were present in 1996, including one on a nest (Harrison *et al.* 1997). About five pairs have bred on this island since then (Underhill *et al.* 1999). The species also formerly bred at Cape Recife in Algoa Bay, but disappeared apparently because of human disturbance and predation (Harrison *et al.* 1997).

Trends in the East African and North Arabian Sea populations are unknown. The population of *arideensis* may be in decline. Some of the colonies in Madagascar have been deserted due to human predation of eggs (Morris & Hawkins 1998), and colonies have also disappeared in the Seychelles, where the surviving colony on Aride declined from 4,000 pairs in 1975 to 1,000 pairs in 1988, perhaps due to long-line fishing (del Hoyo *et al.* 1996).

Comments: The population breeding in East Africa has been estimated at about 8,700 pairs, including 6,200 pairs on the Kiunga Islands off the Kenya coast (Urban *et al.* 1986, Fishpool & Evans 2001).

The population in Madagascar has been estimated at about 4,100 pairs (Cooper *et al.* 1984), but this includes a single colony of 4,000 pairs which has not been counted since 1948, although it apparently still exists. Recently F. Hawkins (*in litt.*) has estimated that there are a total of about 3,000 birds at other sites in Madagascar. The population in the Seychelles and Mascarenes has been estimated at less than 1,000 pairs, including over 100 pairs in the Amirantes, 100-1,000 pairs in the Seychelles and less than 10 pairs in the Mascarenes (Lloyd *et al.* 1991). These figures suggest a total population in the region of about 10,000-15,000 individuals.

The tiny population of *bangsi* on islands off the Oman coast has been estimated at less than 200 pairs (Lloyd *et al.* 1991). Much the most important site is the Daymaniyat Islands, where there were 70-135 pairs in the early 1990s (Evans 1994).

The birds breeding off East Africa are currently assigned to nominate *dougallii*, but are perhaps closer to *bangsi*. The subspecific status of the birds breeding in the north Arabian Sea (currently assigned to *bangsi*) is uncertain. *arideensis* of Madagascar, the Seychelles and Mascarenes may not be distinct from *bangsi* (del Hoyo *et al.* 1996). In the first two editions of *Waterfowl Population Estimates*, the birds breeding in Madagascar were erroneously assigned to nominate *dougallii* and placed in the same population as the East African birds. According to Urban *et al.* (1986), the reported occurrence of *S. dougallii* in large numbers and breeding in Northeast Africa is apparently erroneous.

Antarctic Tern *Sterna vittata*

Six subspecies are recognised. The species is widespread in the southern Oceans, breeding on the Antarctic Peninsula and many Subantarctic islands, and wintering north to Southern Africa, South America and New Zealand. Only the nominate form and *tristanensis* are known to occur in the Agreement Area. The nominate form breeds on Prince Edward Island, Marion Island, Crozet Island, Kerguelen Island and (probably this form) on Heard Island. *S. v. tristanensis* breeds on Tristan da Cunha, Gough and possibly Amsterdam and St Paul (del Hoyo *et al.* 1996). Both forms occur as regular non-breeding visitors during the austral winter to the coast of Cape Province, South Africa, between Lambert's Bay and East London. Vagrants have occurred north to central Namibia and in KwaZulu-Natal. The nominate form is believed to winter mainly on the east coast of South Africa, and *tristanensis* mainly on the south and west coasts (Harrison *et al.* 1997). Two populations are recognised, corresponding to the two subspecies.

- Prince Edward, Marion, Crozet & Kerguelen/South Africa (*vittata*): 3,000-6,000.

Trends: Unknown.

- Tristan da Cunha & Gough/South Africa (*tristanensis*): 2,500.

Trends: Unknown.

Changes in status: No information is available on trends in either population.

Comments: Roosts exceeding 4,000 birds (perhaps mainly *tristanensis*) have been recorded in western Cape, and the roost at Bird Island, Algoa Bay, in eastern Cape (perhaps mainly *vittata*) peaks at over 5,000 birds in August. The total numbers of birds visiting South African waters have been estimated to exceed 15,000 (Harrison *et al.* 1997), and this is now believed to be an underestimate (Underhill *et al.* 1999). If the birds wintering in South Africa are exclusively or very largely nominate *vittata* and *tristanensis*, it would appear that the population estimates of these two forms (based on estimates of breeding populations) are much too low. According to Urban *et al.* (1986), *S. v. georgiae* breeding on South Georgia and the South Orkneys also occurs as a regular non-breeding visitor to South Africa, but this form is

not mentioned by Harrison *et al.* (1997) or Underhill *et al.* (1999).

Whiskered Tern *Chlidonias hybridus*

Polytypic. Two subspecies occur in the Agreement Area. The nominate race breeds widely across Southern Europe and Southwest Asia to the South Caspian region, and also in Eastern Asia. West Eurasian populations winter mainly in Subsaharan Africa south to the Democratic Republic of Congo and Kenya. Three main breeding groups are identifiable: (1) birds which breed in Southwest Europe and occasionally in Northwest Africa, and winter in tropical West Africa east to Chad and the Democratic Republic of Congo; (2) birds which breed in Southeast Europe and Turkey, and winter mainly from the Nile Delta and Sudan to Ethiopia and Kenya; and (3) birds which breed in the Caspian region, Aral Sea, Iraq and Iran, and winter from lower Iraq and south-western Iran to Pakistan and India. Some of these may also reach Eastern Africa. *C. h. sclateri* (syn. *delalandii*) occurs widely in Eastern and Southern Africa from Kenya to South Africa, and also in Madagascar. Most populations appear to be highly nomadic or migratory, and there appears to be a regular movement of birds between Southern Africa and Madagascar. Five populations are recognised.

- Western Europe & Northwest Africa (breeding) (*hybridus*): 21,500-31,000.

Trends: Decreasing.

- Black Sea & East Mediterranean (breeding) (*hybridus*): 80,000-120,000.

Trends: Stable or increasing.

- Caspian (breeding) (*hybridus*): C.

Trends: Unknown.

- Eastern Africa (Kenya & Tanzania) (*sclateri*): A.

Trends: Unknown.

- Southern Africa (north to Malawi & Zambia) (*sclateri*): B.

Trends: Unknown.

Changes in status: The breeding population in the Mediterranean declined from 1930 to 1970, and more recently, another slight decrease has occurred in some areas (Hagemeijer & Blair, 1997). The most serious declines have occurred in the West European population. Tucker & Heath (1994), Hagemeijer & Blair (1997) and BirdLife International/EBCC (2000) all report decreases in the large population in Spain, which holds two-thirds of the West European population, and in the much smaller population in Italy. These declines have been attributed to wetland drainage.

In the Black Sea and East Mediterranean region, numbers appear to be stable or increasing. The large population in the Ukraine has shown a marked increase in recent decades, and slight increases have been reported in Hungary, Poland and Romania, while decreases have been reported only in Croatia, Italy and Russia (Tucker & Heath 1994, Hagemeijer & Blair 1997, BirdLife International/EBCC 2000). In parts of Eastern Europe, the species is thought to have benefited from the proliferation of fish-ponds (Cramp 1985).

Overall trends in the Caspian breeding population of the nominate form and the two populations of *sclateri* are unknown. The relatively small population breeding in Southern Africa has possibly increased during the 20th century (Harrison *et al.* 1997).

Comments: The breeding population in Western Europe is estimated at 7,140-10,300 pairs (data from BirdLife International/EBCC 2000) which, allowing for the very small number of pairs breeding in Northwest Africa, suggests a total population of about 21,500-31,000 birds. These figures contrast markedly with some earlier estimates which indicated that there might be as many as 100,000 pairs in Spain alone (Cramp 1985, del Hoyo *et al.* 1996). Perennou (1991)

estimated the numbers wintering in West Africa in the 1980s to be between 150,000 and 300,000 birds, a figure which lends support to the higher estimates of the breeding population in the past.

The population breeding in the Black Sea and East Mediterranean is estimated 29,000-41,000 pairs (data from BirdLife International/EBCC 2000), giving a total of 87,000-123,000 birds, but some of these are Russian birds breeding in the Caspian region (*e.g.* about 1,000 pairs in the Volga Delta), and so a slightly lower estimate of 80,000-120,000 has been adopted. Up to 25,000 birds, presumably from this population, have been found wintering in Egypt.

At least 8,000 pairs breed in the Caspian region and Iran. The breeding population in Iran alone was estimated at 3,600-7,000 pairs in the 1970s, very largely in the South Caspian region (Scott 1995).

Dodman (2002) has given estimates of A for the Eastern African population and B for the Southern African population of *sclateri*, while Fishpool and Evans (2001) have given an estimate of B for the two populations combined. In Southern Africa, the species is reported to be widespread but generally not very common (Urban *et al.* 1986).

RYNCHOPIDAE

African Skimmer *Rynchops flavirostris*

Monotypic. The African Skimmer occurs along major river systems in Subsaharan Africa from Senegal, Sudan and Ethiopia south to Botswana, Zimbabwe, Mozambique and South Africa. It is migratory over much of its range, but its movements are complex and poorly understood. Outside the breeding season, it occurs in the deltas of the Senegal and Gambia Rivers, in coastal Ghana, along the Nile north to southern Egypt, and widely in suitable habitat in the Democratic Republic of Congo, Tanzania and Angola. Three populations are recognised: a small, largely coastal population in West Africa (from Senegal to Nigeria); a population in Central Africa (from Cameroon and Chad south through the Congo Basin); and a population in Eastern and Southern Africa (from Ethiopia south to Botswana and Zimbabwe).

- Coastal West Africa: <5,000.

Trends: Decreasing.

- Central Africa: B (Dodman 2002).

Trends: Decreasing.

- Eastern & Southern Africa: B.

Trends: Decreasing.

Changes in status: All three populations are thought to be declining (Dodman 2002). There has been a marked contraction in the breeding range and decline in numbers in Southern Africa during the 20th century (Harrison *et al.* 1997). The species no longer breeds in South Africa, and the population along the middle Zambezi fell from 250 birds in 1987 to 36 in 1991. It is also believed to have declined dramatically in the Okavango basin in Botswana. Declines here and elsewhere in Africa have been attributed to the damming of rivers, contamination of rivers with pesticides, egg-collecting for human consumption, and disturbance of breeding colonies by fishermen and livestock (del Hoyo *et al.* 1996, Harrison *et al.* 1997). Contamination with pesticides has been identified as a serious problem in the Zambezi drainage and Okavango Delta (Harrison *et al.* 1997). A breeding colony of 50 pairs on Central Island in Lake Turkana,

Kenya, was much disturbed by humans (Urban *et al.* 1986).

Comments: *Rynchops flavirostris* is listed as 'Near-threatened' by BirdLife International (2000). Del Hoyo *et al.* (1996) suggested that the total population of the species may be under 10,000 birds, but this estimate is now considered to be too low. Dodman (2002) has recently estimated the small West African population at less than 5,000 birds. He refers to a count of 98 in Guinea in January 1999. Elsewhere in Africa, the species is locally common, and concentrations of several hundred birds are not infrequent, but the largest known breeding colony supported only 50 pairs (Urban *et al.* 1986). Dodman (2002) has suggested that both the Central African and Eastern & Southern African populations are in the size range B (10,000-25,000 birds). During recent African Waterbird Censuses, the highest counts in Central Africa have been 833 on the Sanaga River, Cameroon, in February 1998 and 520 in Gabon in January 1998 (Dodman *et al.* 1999). In Eastern and Southern Africa, high counts have included 900 at Lake Abijatta, Ethiopia in January 1998 (Dodman *et al.* 1999), 560 in Kenya in January 1993 (Taylor 1993), 1,090 in Tanzania in January 1995 (Dodman & Taylor 1995), 1,375 along the Victoria Nile in Uganda in January 1996 (Dodman & Taylor 1996), 800 along the Nile near Murchison Falls in Uganda in January 1997 (Dodman *et al.* 1997), and 242 in Malawi in January 1999 (Dodman 2002). The species becomes very scarce further south, with recent counts in Botswana and Zambia not exceeding 100 (Dodman 2002). Only four individuals were recorded during the census in Southern Africa in January 1997 (Dodman *et al.* 1997).

3. OTHER WATERBIRD SPECIES OCCURRING IN THE AGREEMENT AREA

In addition to the species described in section 2.1 and 2.2, there are further 152 species of birds belonging to the 'traditional' waterbird families that are known to occur in the Agreement Area. Many of these are either sedentary, dispersive or nomadic, and not migratory under the definition of 'migratory' in the Bonn Convention. Many others occur only as vagrants in the Agreement Area, or at the extreme edge of their normal distribution. Some species are not dependent on wetlands at any stage during their annual cycles, and cannot therefore be termed 'waterbirds' in the sense of the Agreement, while others occur in the Agreement Area only because of artificial introductions. None of these species is appropriate for inclusion in the Agreement. The 152 species concerned are listed in Table 3 with an indication of the reason why they are inappropriate for inclusion, and discussed in further detail in Annex 1.

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**TABLE 1 : POPULATION SIZES AND TRENDS OF WATERBIRD SPECIES
INCLUDED IN THE AGREEMENT**

KEY TO COLUMN HEADINGS:

Population

The migratory populations of the waterbird species covered under this Agreement. These populations may be the entire population of a species, the entire population of a distinct subspecies, a discrete biogeographical population of a monotypic species or of a subspecies, or that ‘population’ of birds which breeds and/or spends the boreal winter in one or more of the major sub-regions of the African-Eurasian region. For an explanation of the ways in which populations are listed, see section 2.1 in the main text.

Population size

Population estimates given in the column headed ‘CSR 1999’ are taken from the first edition of the *Report on the Conservation Status of Migratory Waterbirds in the Agreement Area* (Wetlands International 2000).

In all cases, the numerical estimates are given as number of individuals, although in many cases the estimates have been derived from numbers of breeding pairs. In these latter estimates, the total number of individuals has been obtained by multiplying the number of breeding pairs by a factor of three. For many species and populations, only a rough indication of population size is available. In these cases, the size of the population is given in one of five categories:

- A: Less than 10,000 individuals
- B: 10,000-25,000 individuals
- C: 25,000-100,000 individuals
- D: 100,000-1,000,000 individuals
- E: Over 1,000,000 individuals

Trends

Information on trends is confined to the situation in recent decades. Brackets are used to indicate either that there is some doubt about the trend, or that a particular trend has been reported in only a part of the species’ range, and may not be applicable throughout most of its range. The trends given in the column headed ‘Trend 1999’ are taken from the first edition of the *Report on the Conservation Status of Migratory Waterbirds in the Agreement Area*.

INC	-	Increasing	DEC	-	Decreasing
STA	-	Stable	?	-	Unknown

Population	CSR 1999	Revised estimate	Trend 1999	Revised trend
GAVIIDAE				
<i>Gavia stellata</i>				
- Northwestern Europe (win)	D	183,000-420,000	DEC	DEC
- Caspian, Black Sea & E Med (win)	?	?	?	?
<i>Gavia arctica arctica</i>				
- N Europe & Western Siberia/Europe	120,000	360,000-690,000	STA	DEC
<i>Gavia arctica suschkini</i>				
- Central Siberia/Caspian	?	?	?	?
<i>Gavia immer</i>				
- Europe (win)	5,000	5,000	?	?
<i>Gavia adamsii</i>				
- Northern Europe (win)	A/B	A	?	?
PODICIPEDIDAE				
<i>Podiceps grisegena grisegena</i>				
- Northwestern Europe (win)	C	C	STA	STA
- Black Sea & Mediterranean (win)	C	C	?	STA
- Caspian (win)	15,000	15,000	?	?
<i>Podiceps auritus auritus</i>				
- NW Europe (large billed)	5,000	2,600-4,100	STA/INC	STA/INC
- NE Europe (small billed)	C	C	(DEC)	(STA)
- Caspian & South Asia (win)	B	B	?	?
PELECANIDAE				
<i>Pelecanus onocrotalus</i>				
- Europe & Western Asia (bre)	70,000	20,000-33,000	DEC	DEC
<i>Pelecanus crispus</i>				
- Black Sea & Mediterranean (win)	2,000-3,000	2,300-3,200	STA	STA
- SW Asia & S Asia (win)	10,000-13,000	10,000-12,500	STA	STA
PHALACROCORACIDAE				
<i>Phalacrocorax pygmeus</i>				
- Black Sea & Mediterranean	25,000	23,000-37,000	STA/INC	STA/INC
- Southwestern Asia	C	C	?	?
<i>Phalacrocorax nigrogularis</i>				
- Persian Gulf & Arabian Sea	500,000-1,000,000	450,000-750,000	(DEC)	DEC
ARDEIDAE				
<i>Egretta vinaceigula</i>				
- South-central Africa	5,000-10,000	3,000-5,000	DEC	DEC
<i>Ardea purpurea purpurea</i>				
- W Europe & W Mediterranean/W Africa	B	12,000-13,200	DEC	DEC
- E Europe & SW Asia/Subsaharan Africa	D	D	(DEC)	DEC
<i>Casmerodius albus albus</i>				
- W, C & SE Europe/Black Sea & Med	7,000-17,000	12,000-22,500	STA/INC	INC
- West Asia/Southwest Asia	B/C	C	?	(INC)
<i>Ardeola idae</i>				
- Madagascar & Aldabra/Cen & E Africa	5,000	2,000-6,000	DEC	DEC
<i>Ardeola rufiventris</i>				
- Tropical Eastern & Southern Africa	B/C	B/C	?	?
<i>Ixobrychus minutus minutus</i>				
- Europe & N Africa/Subsaharan Africa	D	D	DEC	DEC
- West & SW Asia/Subsaharan Africa	C	C	?	?
<i>Ixobrychus sturmii</i>				
- Subsaharan Africa	B/C	C	?	?

Population	CSR 1999	Revised estimate	Trend 1999	Revised trend
<i>Botaurus stellaris stellaris</i>				
- Europe (bre)	C	C	DEC	DEC
- Southwestern Asia (win)	A/B	A/B	?	?
CICONIIDAE				
<i>Mycteria ibis</i>				
- Subsaharan Africa (excl. Madagascar)	C	50,000-100,000	STA	STA
<i>Ciconia nigra</i>				
- SW Europe/West Africa	1,000	1,300-1,370	STA/INC	INC
- Central & E Europe/Subsaharan Africa	20,000-30,000	19,500-28,000	?	DEC
<i>Ciconia episcopus microscelis</i>				
- Susaharan Africa	C	B/C	?	?
<i>Ciconia ciconia ciconia</i>				
- Southern Africa	30	24	INC	STA
- Iberia & NW Africa/Subsaharan Africa	100,000	93,000	STA/INC	INC
- Central & E Europe/Subsaharan Africa	400,000	390,000-400,000	DEC	STA
- West Asia/Southwest Asia	C	B	?	DEC
THRESKIORNITHIDAE				
<i>Plegadis falcinellus falcinellus</i>				
- Subsaharan Africa (bre)	?	1.0-2.0 million	?	?
- Black Sea & Med/West Africa	40,000-50,000	49,000-57,000	DEC	DEC
- Southwestern Asia/E Africa	C	C	?	?
<i>Geronticus eremita</i>				
- Morocco	200	190	DEC	STA
- Southwestern Asia	>27	>27	DEC	DEC
<i>Threskiornis aethiopicus aethiopicus</i>				
- Subsaharan Africa	D	200,000-450,000	STA	STA
- Iraq & Iran	200	200	DEC	DEC
<i>Platalea leucorodia leucorodia</i>				
- West Europe/W Medit. & West Africa	6,500	9,945	INC	INC
- C & SE Europe/Med & Tropical Africa	5,000-15,000	11,670	DEC	DEC
<i>Platalea leucorodia archeri</i>				
- Red Sea & Somalia	500-1,500	1,250	?	?
<i>Platalea leucorodia major</i>				
- W Asia/SW & S Asia	23,000	23,000	?	?
<i>Platalea alba</i>				
- Subsaharan Africa	A/B	B/C	?	STA
PHOENICOPTERIDAE				
<i>Phoenicopterus ruber roseus</i>				
- West Africa	40,000	40,000	?	STA
- Eastern Africa	35,000	35,000	DEC	STA
- Southern Africa (to Madagascar)	55,000	65,000-87,000	DEC	STA
- Western Mediterranean	80,000	100,000	INC	INC
- Eastern Med, SW & S Asia	500,000	290,000	STA	STA
<i>Phoenicopterus minor</i>				
- West Africa	15,000	15,000	STA	STA
- Eastern Africa	4,000,000	2.0-4.0 million	DEC	DEC
- Southern Africa (to Madagascar)	40,000	55,000-65,000	DEC	STA
ANATIDAE				
<i>Dendrocygna bicolor</i>				
- West Africa (Senegal to Chad)	100,000	100,000	?	?
- Eastern & Southern Africa	200,000-500,000	150,000-350,000	?	?

Population	CSR 1999	Revised estimate	Trend 1999	Revised trend
<i>Dendrocygna viduata</i>				
- West Africa (Senegal to Chad)	250,000	250,000-500,000	INC	INC
- Eastern & Southern Africa	1.0-2.0 million	D	INC	INC
<i>Thalassornis leuconotus leuconotus</i>				
- West Africa	1,000	<1,000	DEC	DEC
- Eastern & Southern Africa	10,000-25,000	10,000-25,000	STA	STA
<i>Oxyura leucocephala</i>				
- West Mediterranean (Spain & Morocco)	1,200	2,000-4,500	INC	INC
- Algeria & Tunisia	400	400	STA	STA
- E Mediterranean, Turkey & SW Asia	8,000-15,000	8,000-15,000	DEC	DEC
<i>Cygnus olor</i>				
- NW Mainland & Central Europe	210,000	210,000	INC	INC
- Black Sea	45,000	45,000	INC	INC
- W & Central Asia/Caspian	250,000	250,000	INC	INC
<i>Cygnus cygnus</i>				
- Iceland/UK & Ireland	16,000	20,900	?	INC
- NW Mainland Europe	59,000	59,000	INC	INC
- N Europe & W Sib/B Sea & E Med	17,000	17,000	DEC	DEC
- W & Cent Siberia/Caspian	20,000	20,000	DEC	DEC
<i>Cygnus columbianus bewickii</i>				
- W Siberia & NE Europe/NW Europe	29,000	29,000	INC	DEC
- Northern Siberia/Caspian	500	500	?	?
<i>Anser brachyrhynchus</i>				
- E Greenland & Iceland/UK	250,000	241,000	INC	INC
- Svalbard/NW Europe	37,000	37,000	INC	STA
<i>Anser fabalis fabalis</i>				
- NE Europe/NW Europe	100,000	100,000	STA	STA
<i>Anser fabalis rossicus</i>				
- W & C Siberia/NE & SW Europe	600,000	600,000	?	?
<i>Anser albifrons albifrons</i>				
- NW Siberia & NE Europe/NW Europe	600,000	600,000	INC	(INC)
- Western Siberia/Central Europe	100,000	100,000	DEC	DEC
- Western Siberia/Black Sea & Turkey	650,000	650,000	(STA)	STA
- Northern Siberia/Caspian & Iraq	15,000	15,000	DEC	DEC
<i>Anser albifrons flavirostris</i>				
- Greenland/Ireland & UK	33,000	30,000	INC	STA
<i>Anser erythropus</i>				
- N Europe & W Sib/B Sea & Caspian	15,000	8,000-13,000	DEC	DEC
<i>Anser anser anser</i>				
- Iceland/UK & Ireland	80,000	89,100	DEC	(STA)
- NW Europe/SW Europe	200,000	400,000	INC	INC
- Central Europe/N Africa	25,000	25,000	INC	INC
<i>Anser anser rubrirostris</i>				
- Black Sea & Turkey	85,000	85,000	?	?
- Western Siberia/Caspian & Iraq	>100,000	>100,000	INC	INC
<i>Branta leucopsis</i>				
- E Greenland/Scotland & Ireland	40,000	54,100	INC	INC
- Svalbard/SW Scotland	23,000	23,000	INC	INC
- Russia/Germany & Netherlands	267,000	360,000	INC	INC
<i>Branta bernicla bernicla</i>				
- Western Siberia/Western Europe	300,000	190,000	INC/STA	DEC
<i>Branta bernicla hrota</i>				
- Svalbard/Denmark & UK	5,000	5,000	STA	STA
- Canada & Greenland/Ireland	20,000	20,000	STA	STA

Population	CSR 1999	Revised estimate	Trend 1999	Revised trend
<i>Branta ruficollis</i>				
- Northern Siberia/Black Sea & Caspian	70,000	88,000	STA/INC	INC
<i>Alopochen aegyptiacus</i>				
- West Africa	10,000-25,000	10,000-25,000	?	DEC
- Eastern & Southern Africa	200,000-500,000	200,000-500,000	?	STA
<i>Tadorna ferruginea</i>				
- Northwest Africa	3,000	3,000	DEC	DEC
- E Mediterranean & Black Sea/NE Africa	20,000	20,000	DEC	DEC
- Western Asia & Caspian/Iran & Iraq	35,000	35,000	INC	INC
<i>Tadorna cana</i>				
- Southern Africa	42,000	42,000	STA	STA
<i>Tadorna tadorna</i>				
- Northwestern Europe	300,000	300,000	INC	STA
- Black Sea & Mediterranean	75,000	75,000	STA/DEC	DEC
- Western Asia/Caspian & Middle East	80,000	80,000	INC	INC
<i>Plectropterus gambensis gambensis</i>				
- West Africa	50,000	100,000	DEC	STA
- Eastern Africa (Sudan to Zambia)	200,000-300,000	200,000-300,000	STA	STA
<i>Plectropterus gambensis niger</i>				
- Southern Africa	50,000-100,000	50,000-100,000	STA	INC
<i>Sarkidiornis melanotos melanotos</i>				
- West Africa	50,000	50,000-100,000	STA	STA
- Southern & Eastern Africa	500,000-1,000,000	100,000-500,000	STA	STA
<i>Nettapus auritus</i>				
- West Africa	20,000-30,000	<10,000	?	DEC
- Southern & Eastern Africa	100,000-250,000	100,000-250,000	?	?
<i>Anas capensis</i>				
- Eastern Africa (to Lake Chad & Libya)	A/B	5,000-15,000	STA	DEC
- Southern Africa (N to Angola & Zambia)	100,000-250,000	100,000-250,000	INC	INC
<i>Anas strepera strepera</i>				
- Northwestern Europe	30,000	50,000	INC	INC
- NE Europe/Black Sea & Med	75,000-150,000	75,000-150,000	DEC	DEC
- W Siberia/SW Asia & NE Africa	130,000	130,000	?	?
<i>Anas penelope</i>				
- W Siberia & NE Europe/NW Europe	1,250,000	2,000,000	INC	INC
- W Siberia & NE Europe/B Sea & Med	560,000	300,000	DEC	DEC
- Western Siberia/SW Asia & NE Africa	250,000	250,000	DEC	DEC
<i>Anas platyrhynchos platyrhynchos</i>				
- Northwestern Europe	5,000,000	4,500,000	STA	DEC
- N Europe/Western Mediterranean	1,000,000	1,000,000	INC	(STA)
- E Europe/Black Sea & E Mediterranean	2,250,000	2,000,000	DEC	DEC
- Western Siberia/SW Asia	800,000	800,000	?	?
<i>Anas undulata undulata</i>				
- Southern Africa	>100,000	>100,000	STA	STA
<i>Anas clypeata</i>				
- NW & Central Europe (win)	40,000	40,000	STA	(STA)
- W Sib, NE & E Eur/S Eur & W Africa	450,000	450,000	(DEC)	?
- W Siberia/SW Asia, NE & E Africa	400,000	400,000	DEC	(DEC)
<i>Anas erythrorhyncha</i>				
- Southern Africa	500,000-1,000,000	500,000-1,000,000	STA	STA
- Eastern Africa	100,000-300,000	100,000-300,000	STA	STA
- Madagascar	15,000-25,000	15,000-25,000	DEC	DEC

Population	CSR 1999	Revised estimate	Trend 1999	Revised trend
<i>Anas acuta</i>				
- Northwestern Europe	60,000	60,000	DEC	DEC
- W Sib, NE & E Eur/S Eur & W Africa	1,200,000	1,000,000	DEC	DEC
- W Siberia/SW Asia & Eastern Africa	700,000	700,000	?	?
<i>Anas querquedula</i>				
- W Siberia & Europe/West Africa	2,000,000	2.0-3.3 million	DEC	DEC
- W Siberia/SW Asia, NE & East Africa	100,000-200,000	100,000-200,000	?	?
<i>Anas crecca crecca</i>				
- Northwestern Europe	400,000	400,000	INC	STA
- W Siberia & NE Europe/B Sea & Med	750,000-1,375,000	1,000,000	STA	(STA)
- W Siberia/SW Asia & NE Africa	1,500,000	1,500,000	DEC	DEC
<i>Anas hottentota</i>				
- Lake Chad Basin	5,000-10,000	<1,000	DEC	DEC
- Eastern Africa (south to N Zambia)	100,000-300,000	C	STA	STA
- Southern Africa (north to S Zambia)	C	C	STA	STA
<i>Marmaronetta angustirostris</i>				
- W Mediterranean/W Med & West Africa	3,000	3,000-5,000	DEC	?
- Eastern Mediterranean	1,000	1,000	DEC	DEC
- Southwestern Asia	5,000-15,000	5,000-15,000	DEC	DEC
<i>Netta rufina</i>				
- SW & Cent Europe/W Mediterranean	25,000	50,000	INC	INC
- Black Sea & E Mediterranean	50,000	20,000-43,500	DEC	DEC
- Western & Central Asia/SW Asia	200,000	250,000	STA	(STA)
<i>Netta erythrophthalma brunnea</i>				
- Southern & Eastern Africa	30,000-70,000	30,000-70,000	STA	STA
<i>Aythya ferina</i>				
- NE Europe/NW Europe	350,000	350,000	DEC	STA
- Central & NE Europe/B Sea & Medit.	1,000,000	1,100,000	DEC	INC
- Western Siberia/SW Asia	350,000	350,000	(DEC)	(DEC)
<i>Aythya nyroca</i>				
- W Mediterranean/North & West Africa	2,000-3,000	2,000-3,000	DEC	DEC
- E Europe/E Medit. & Sahelian Africa	10,000-50,000	40,000-65,000	DEC	DEC
- Western Asia/SW Asia & NE Africa	5,000	C	DEC	?
<i>Aythya fuligula</i>				
- Northwestern Europe (win)	1,000,000	1,200,000	INC	INC
- Central Europe, Black Sea & Med (win)	600,000	700,000	INC	INC
- W Siberia/SW Asia & NE Africa	200,000	200,000	?	?
<i>Aythya marila marila</i>				
- Northern Europe/Western Europe	310,000	310,000	?	STA
- W Siberia/Black Sea & Caspian	100,000-200,000	100,000-200,000	?	?
<i>Somateria mollissima mollissima</i>				
- Baltic, Denmark & Netherlands	1,350,000-1,700,000	850,000-1,200,000	STA	DEC
- Norway & Russia	300,000-550,000	360,000-540,000	STA	STA
<i>Somateria mollissima borealis</i>				
- Svalbard & Franz Joseph (bre)	40,000-80,000	40,000-80,000	STA	STA
<i>Somateria spectabilis</i>				
- E Greenland, NE Europe & W Siberia	300,000	300,000	(STA)	STA
<i>Polysticta stelleri</i>				
- Western Siberia/NE Europe	40,000	30,000-50,000	INC	STA/INC
<i>Clangula hyemalis</i>				
- Iceland & Greenland	150,000	100,000-150,000	STA	STA
- Western Siberia/North Europe	4,600,000	4,600,000	STA	STA
<i>Melanitta nigra nigra</i>				
- W Siberia & N Eur/W Eur & NW Africa	1,600,000	1,600,000	STA	STA

Population	CSR 1999	Revised estimate	Trend 1999	Revised trend
<i>Melanitta fusca fusca</i>				
- W Siberia & N Europe/NW Europe	1,000,000	1,000,000	STA	STA
- Black Sea & Caspian	1,500	1,500	?	?
<i>Bucephala clangula clangula</i>				
- NW & Central Europe (win)	300,000	400,000	INC	INC
- NE Europe/Adriatic	75,000	75,000	?	?
- W Siberia & NE Europe/Black Sea	20,000	20,000	?	?
- Western Siberia/Caspian	25,000	25,000	?	?
<i>Mergellus albellus</i>				
- NW & Central Europe (win)	25,000-30,000	40,000	STA	INC
- NE Eur/Black Sea & E Mediterranean	35,000	35,000	?	?
- Western Siberia/SW Asia	30,000	30,000	(DEC)	(DEC)
<i>Mergus serrator serrator</i>				
- NW & Central Europe (win)	145,000	170,000	STA	INC
- NE Europe/Black Sea & Med	50,000	50,000	?	?
- Western Siberia/SW & Cent Asia	<10,000	<10,000	?	?
<i>Mergus merganser merganser</i>				
- NW & Central Europe (win)	200,000	250,000	STA	INC
- NE Europe/Black Sea	10,000	10,000	?	?
- Western Siberia/Caspian	20,000	20,000	?	?
GRUIDAE				
<i>Grus leucogeranus</i>				
- Iran (win)	9	3	STA	DEC
<i>Grus virgo</i>				
- Black Sea (Ukraine)/NE Africa	500	450-510	DEC	DEC
- Turkey (bre)	<100	60-90	?	DEC
- Kalmykia/NE Africa	30,000-35,000	30,000-35,000	STA	STA/INC
<i>Grus paradisea</i>				
- Extreme Southern Africa	21,000	20,000-21,000	DEC	STA
<i>Grus carunculatus</i>				
- Central & Southern Africa	13,000-15,000	8,000	DEC	DEC
<i>Grus grus</i>				
- Northwest Europe/Iberia & Morocco	60,000-70,000	75,000	INC	INC
- NE & Central Europe/North Africa	>60,000	70,000	STA/INC	DEC
- E Eur/Turkey, Mid. East & NE Africa	35,000	35,000	DEC	DEC
- Turkey & Georgia (bre)	200-500	300-900	DEC	DEC
- Western Siberia/South Asia	55,000	70,000	DEC	?
RALLIDAE				
<i>Sarothrura boehmi</i>				
- Central Africa	?	?	?	DEC
<i>Porzana parva parva</i>				
- Western Eurasia/Africa	C/D	D	DEC	DEC
<i>Porzana pusilla intermedia</i>				
- Europe (bre)	B	10,000-20,000	DEC	STA/DEC
<i>Porzana porzana</i>				
- Europe/Africa	D	D	DEC	DEC
<i>Aenigmatolimnas marginalis</i>				
- Sub-Saharan Africa	?	?	(DEC)	DEC
<i>Fulica atra atra</i>				
- Black Sea & Mediterranean (win)	2,500,000	2,500,000	(STA)	(INC)

Population	CSR 1999	Revised estimate	Trend 1999	Revised trend
DROMADIDAE				
<i>Dromas ardeola</i>				
- NW Indian Ocean, Red Sea & Gulf	43,000	43,000	?	(STA)
RECURVIROSTRIDAE				
<i>Himantopus himantopus himantopus</i>				
- Subsaharan Africa (excluding south)	?	D	?	?
- Southern Africa ('meridionalis')	-	15,000-30,000	-	INC
- SW Europe & NW Africa/W Africa	40,000	71,000-82,000	STA	STA
- Central Europe & E Medit./N-C Africa	30,000-60,000	23,000-44,000	STA	?
- W, C & SW Asia/SW Asia & NE Africa	B	20,000-50,000	?	?
<i>Recurvirostra avosetta</i>				
- Southern Africa	10,000-20,000	19,300	INC	(INC)
- Eastern Africa	?	C	?	?
- Western Europe & NW Africa (bre)	67,000	73,000	INC	STA
- SE Europe, Black Sea & Turkey (bre)	C	47,000	(DEC)	STA/DEC
- W & SW Asia/Eastern Africa	B	B	?	(STA)
GLAREOLIDAE				
<i>Glareola pratincola pratincola</i>				
- W Europe & NW Africa/West Africa	16,000-20,000	18,000-19,500	?	STA
- Black Sea & E Med/E Sahel zone	B	16,000-31,000	DEC	DEC
- SW Asia/SW Asia & NE Africa	B/C	B/C	?	?
<i>Glareola nordmanni</i>				
- SE Europe & W Asia/Southern Africa	D	29,000-45,000	DEC	DEC
CHARADRIIDAE				
<i>Pluvialis apricaria apricaria</i>				
- Britain, Ireland, DK, Ger & Baltic (bre)	70,000	69,000	DEC	DEC
<i>Pluvialis apricaria altifrons</i>				
- Iceland & Faroes/E Atlantic coast	750,000	930,000	(STA)	(STA)
- N Europe/W Europe & NW Africa	1,000,000	645,000-954,000	STA	STA
- Northern Siberia/Caspian & Asia Minor	?	?	?	?
<i>Pluvialis squatarola</i>				
- W Siberia & Can/W Europe & W Africa	168,000	247,000	INC	INC
- C & E Siberia/SW Asia, E & S Africa	50,000	90,000	?	?
<i>Charadrius hiaticula hiaticula</i>				
- N Europe/Europe & North Africa	47,500	73,000	INC	INC
<i>Charadrius hiaticula psammodroma</i>				
- Can, Greenl. & Iceland/W & S Africa	195,000	190,000	?	(DEC)
<i>Charadrius hiaticula tundrae</i>				
- NE Eur & Sib/SW Asia, E & S Africa	200,000	145,000-280,000	?	?
<i>Charadrius dubius curonicus</i>				
- Europe & NW Africa/W Africa	D	180,000-290,000	STA	(STA)
- West & SW Asia/Eastern Africa	?	?	?	?
<i>Charadrius pecuarius pecuarius</i>				
- Southern & E & NE Africa	?	50,000-100,000	?	?
- West Africa	-	10,000-20,000	-	?
<i>Charadrius tricollaris tricollaris</i>				
- Southern & Eastern Africa	?	40,000-100,000	?	INC
<i>Charadrius forbesi</i>				
- West & Central Africa	?	B/C	?	?
<i>Charadrius pallidus pallidus</i>				
- Southern Africa	6,000-7,000	11,200	STA	STA

Population	CSR 1999	Revised estimate	Trend 1999	Revised trend
<i>Charadrius pallidus venustus</i>				
- Eastern Africa	B	4,000-5,000	?	?
<i>Charadrius alexandrinus alexandrinus</i>				
- West Europe & W Med/West Africa	67,000	62,000-70,000	DEC	DEC
- Black Sea & E Medit./E Sahel	C	32,000-49,000	DEC	(DEC)
- SW & Cen Asia/SW Asia & NE Africa	C/D	C	?	?
<i>Charadrius marginatus mechowi</i>				
- Southern & Eastern Africa	?	25,000-35,000	?	?
- West to West-central Africa	?	10,000-15,000	?	?
<i>Charadrius mongolus pamirensis</i>				
- West-central Asia/SW Asia & E Africa	>30,000	>30,000	?	?
<i>Charadrius leschenaultii columbinus</i>				
- Turkey & SW Asia/E. Med & Red Sea	A	A	?	?
<i>Charadrius leschenaultii crassirostris</i>				
- Caspian & SW Asia/Arabia & NE Africa	65,000	C	?	?
<i>Charadrius leschenaultii leschenaultii</i>				
- Central Asia/Eastern & Southern Africa	-	B	-	?
<i>Charadrius asiaticus</i>				
- SE Europe & W Asia/E & S-cen Africa	B/C	B/C	DEC	(DEC)
<i>Eudromias morinellus</i>				
- Europe/NW Africa	D	39,000-110,000	DEC	STA/DEC
- Asia/Middle East	B/C	B/C	?	?
<i>Vanellus vanellus</i>				
- Europe/Europe & N Africa	7,000,000	2.8-4.0 million	DEC	DEC
- Western Asia/SW Asia	C/D	1.6-2.9 million	?	?
<i>Vanellus spinosus</i>				
- Black Sea & Mediterranean (bre)	C	C	INC	INC
<i>Vanellus albiceps</i>				
- West & Central Africa	?	10,000-20,000	?	?
<i>Vanellus senegallus senegallus</i>				
- West Africa	?	C	?	?
<i>Vanellus senegallus solitaneus</i>				
- Southwest Africa	?	C	?	?
<i>Vanellus senegallus lateralis</i>				
- Eastern & Southeastern Africa	?	C	?	?
<i>Vanellus lugubris</i>				
- Southern West Africa	-	5,000-20,000	-	(DEC)
- Central & Eastern Africa	?	20,000-50,000	?	DEC
<i>Vanellus melanopterus minor</i>				
- Southern Africa	?	2,000-3,000	(DEC)	DEC
<i>Vanellus coronatus coronatus</i>				
- Eastern & Southern Africa	?	200,000-400,000	?	(INC)
- Central Africa	?	?	?	?
<i>Vanellus coronatus xerophilus</i>				
- Southwest Africa	?	?	?	?
<i>Vanellus superciliosus</i>				
- West & Central Africa	?	A/B	?	?
<i>Vanellus gregarius</i>				
- SE Europe & Western Asia/NE Africa	A	400-1,200	DEC	DEC
<i>Vanellus leucurus</i>				
- SW Asia/SW Asia & NE Africa	B/C	B	(INC)	(DEC)

Population	CSR 1999	Revised estimate	Trend 1999	Revised trend
SCOLOPACIDAE				
<i>Gallinago media</i>				
- Scandinavia/probably West Africa	18,000-51,000	18,000-51,000	STA	STA
- W Siberia & NE Europe/SE Africa	D	D	DEC	(DEC)
<i>Gallinago gallinago gallinago</i>				
- Europe/S & W Europe & NW Africa	>20,000,000	E	DEC	DEC
- W Siberia/SW Asia & Africa	E	>1,500,000	?	?
<i>Gallinago gallinago faeroeensis</i>				
- Iceland, Faroes & N Scotland/Ireland	750,000	570,000	STA	(STA)
<i>Lymnocyptes minimus</i>				
- N Europe/S & W Europe & W Africa	C/D	D/E	DEC	STA
- W Siberia/SW Asia & NE Africa	?	?	?	?
<i>Limosa limosa limosa</i>				
- Western Europe/NW & West Africa	350,000	148,000-183,000	DEC	DEC
- Eastern Europe/Central & Eastern Africa	D	93,000-173,000	DEC	DEC
- W-cen. Asia/SW Asia & Eastern Africa	C	C	?	?
<i>Limosa limosa islandica</i>				
- Iceland/Western Europe	65,000	35,000	INC	INC
<i>Limosa lapponica lapponica</i>				
- N Europe/Western Europe	115,000	120,000	STA/DEC	STA
<i>Limosa lapponica taymyrensis</i>				
- W Siberia/West & Southwest Africa	700,000	520,000	?	DEC
<i>Limosa lapponica menzbieri</i>				
- Cen Siberia/S & SW Asia & E Africa	C/D	100,000-150,000	?	?
<i>Numenius phaeopus phaeopus</i>				
- Northern Europe/West Africa	-	156,000-298,000	-	?
- West Siberia/Southern & Eastern Africa	?	D	?	?
<i>Numenius phaeopus islandicus</i>				
- Iceland, Faroes & Scotland/West Africa	-	610,000	-	STA
<i>Numenius phaeopus alboaxillaris</i>				
- SW Asia/Eastern Africa	A	A	DEC	?
<i>Numenius tenuirostris</i>				
- Cen Siberia/Mediterranean & SW Asia	50-270	<50	DEC	DEC
<i>Numenius arquata arquata</i>				
- Europe/Europe, North & West Africa	348,000	420,000	STA/INC	STA/INC
<i>Numenius arquata orientalis</i>				
- W Siberia/SW Asia, E & S Africa	C	C	(DEC)	(DEC)
<i>Numenius arquata suschkini</i>				
- SE Europe & SW Asia (bre)	-	?	-	(DEC)
<i>Tringa erythropus</i>				
- N Europe/S Europe, N & W Africa	75,000-150,000	77,000-131,000	(STA)	(STA)
- W Siberia/SW Asia, NE & East Africa	B/C	B/C	?	?
<i>Tringa totanus totanus</i>				
- NW Europe/W Europe, NW & W Africa	177,000	222,500	DEC	DEC
- Central & East Europe/E Med & Africa	D	223,000-464,000	DEC	DEC
<i>Tringa totanus britannica</i>				
- Britain & Ireland/Britain, Ireland, France	-	124,000-127,000	-	DEC
<i>Tringa totanus ussuriensis</i>				
- West Asia/SW Asia, NE & E Africa	?	213,000-326,000	?	?
<i>Tringa totanus robusta</i>				
- Iceland & Faroes/Western Europe	150,000-300,000	64,500	STA/INC	STA/INC
<i>Tringa stagnatilis</i>				
- Eastern Europe/West & Central Africa	C/D	21,000-52,000	?	?
- W Asia/SW Asia, E & S Africa	C	C	?	?

Population	CSR 1999	Revised estimate	Trend 1999	Revised trend
<i>Tringa nebularia</i>				
- N Europe/SW Europe, NW & W Africa	D	234,000-395,000	STA	STA
- Western Siberia/SW Asia, E & S Africa	C/D	D	?	?
<i>Tringa ochropus</i>				
- N Europe/S & W Europe, West Africa	D/E	1.0-1.9 million	STA/INC	STA/INC
- W Siberia/SW Asia, NE & E Africa	?	D/E	?	?
<i>Tringa glareola</i>				
- NW Europe/West Africa	E	855,000-1,220,000	DEC	DEC
- NE Europe & W Siberia/E & S Africa	D/E	>2,000,000	?	(STA)
<i>Tringa cinerea</i>				
- NE Eur & W Sib/SW Asia, E & S Africa	44,000	D	(STA)	(STA)
<i>Tringa hypoleucos</i>				
- W & Central Europe/West Africa	E	1.4-2.0 million	STA	STA
- E Europe & W Siberia/C, E & S Africa	(E)	E	?	(STA)
<i>Arenaria interpres interpres</i>				
- NE Can & Greenl/W Eur & NW Africa	>80,000	100,000-200,000	(INC)	INC
- Northern Europe/West Africa	50,000-100,000	46,000-119,000	STA	STA
- W & Cen Siberia/SW Asia, E & S Africa	C	100,000	?	?
<i>Calidris tenuirostris</i>				
- E Siberia/SW Asia & W South Asia	A	2,000-5,000	?	?
<i>Calidris canutus canutus</i>				
- N Siberia/Western & Southern Africa	260,000	340,000	DEC	DEC
<i>Calidris canutus islandica</i>				
- NE Canada & Greenland/West Europe	400,000	450,000	(STA)	DEC
<i>Calidris alba</i>				
- E Atlantic, W & S Africa (win)	123,000	123,000	STA	STA/INC
- SW Asia, E & S Africa (win)	120,000	140,000	?	(STA)
<i>Calidris minuta</i>				
- N Europe/Europe, North & West Africa	211,000	200,000	STA	(DEC)
- Western Siberia/SW Asia, E & S Africa	1,000,000	1,000,000	?	?
<i>Calidris temminckii</i>				
- Fennoscandia/North & West Africa	?	39,000-80,000	?	?
- NE Eur & W Sib/SW Asia & E Africa	?	(E)	?	?
<i>Calidris maritima maritima</i>				
- North & W Europe (excl. Iceland) (win)	50,500	50,000-100,000	STA	STA
<i>Calidris alpina alpina</i>				
- NE Eur & NW Sib/W Eur & NW Africa	1,373,000	1,330,000	DEC	STA
<i>Calidris alpina centralis</i>				
- Central Siberia/SW Asia & NE Africa	150,000	300,000	?	?
<i>Calidris alpina schinzii</i>				
- Iceland & Greenland/NW and W Africa	800,000	940,000-960,000	STA	STA
- U.K. & Ireland/SW Eur & NW Africa	33,000-36,000	23,000-26,000	DEC	DEC
- Baltic/SW Europe & NW Africa	-	3,600-4,700	-	DEC
<i>Calidris alpina arctica</i>				
- NE Greenland/West Africa	15,000	21,000-45,000	STA	(STA)
<i>Calidris ferruginea</i>				
- Western Siberia/West Africa	436,000	740,000	STA	INC
- Central Siberia/SW Asia, E & S Africa	310,000	330,000	STA	STA
<i>Limicola falcinellus falcinellus</i>				
- Northern Europe/SW Asia & Africa	40,000-60,000	61,000-64,000	(DEC)	?
<i>Philomachus pugnax</i>				
- N Europe & W Siberia/West Africa	E	E	DEC	DEC
- Northern Siberia/SW Asia, E & S Africa	D/E	E	?	(DEC)
<i>Phalaropus lobatus</i>				
- Western Eurasia/Arabian Sea	D/E	E	(STA)	?

Population	CSR 1999	Revised estimate	Trend 1999	Revised trend
<i>Phalaropus fulicaria</i>				
- Can & Greenland/Atlantic coast Africa	?	920,000	?	?
LARIDAE				
<i>Larus leucophthalmus</i>				
- Red Sea & nearby coasts	20,000	20,000	STA	STA
<i>Larus hemprichii</i>				
- Red Sea, Gulf, Arabia & Eastern Africa	D	150,000-300,000	?	?
<i>Larus audouinii</i>				
- Mediterranean/N & W coasts of Africa	40,000	57,600	INC	INC
<i>Larus armenicus</i>				
- Armenia, E Turkey & NW Iran	45,000-60,000	69,000-75,000	STA	?
<i>Larus ichthyaetus</i>				
- Black Sea & Caspian/SW Asia	70,000-120,000	72,000-120,000	INC	INC
<i>Larus genei</i>				
- West Africa (bre)	20,000	22,500	INC	INC
- Black Sea & Mediterranean (bre)	120,000-240,000	123,000-237,000	(INC)	INC
- W, SW & S Asia (bre)	150,000	150,000	INC	INC
<i>Larus melanocephalus</i>				
- W Europe, Med & NW Africa	D	570,000-1,110,000	INC	INC
<i>Sterna nilotica nilotica</i>				
- Western Europe/West Africa	12,000	9,500-10,800	DEC	DEC
- Black Sea & E Medit./Eastern Africa	?	14,000-39,000	DEC	DEC
- West & Central Asia/SW Asia	B	B	?	?
<i>Sterna caspia caspia</i>				
- Southern Africa (bre)	1,500	5,000	STA	(INC)
- West Africa (bre)	15,000	40,500	(DEC)	INC
- Europe (bre)	5,000-7,000	5,400-7,800	DEC	DEC
- Caspian (bre)	10,000	9,000-16,500	DEC	(DEC)
<i>Sterna maxima albidorsalis</i>				
- West Africa (bre)	75,000	129,000	STA	STA/INC
<i>Sterna bengalensis bengalensis</i>				
- Persian Gulf/Southern Asia	150,000-180,000	150,000-180,000	?	?
- Red Sea/Eastern Africa	C	C	?	?
<i>Sterna bengalensis emigrata</i>				
- S Mediterranean/NW & W Africa coasts	4,000	4,000	STA	STA
<i>Sterna bergii bergii</i>				
- Southern Africa (Angola – Mozambique)	20,000	20,000	?	(STA)
<i>Sterna bergii enigma</i>				
- Madagascar & Mozambique/S Africa	-	8,000-10,000	-	?
<i>Sterna bergii thalassinus</i>				
- Eastern Africa & Seychelles	1,200	2,550-4,500	?	?
<i>Sterna bergii velox</i>				
- Red Sea & NE Africa	C	C	?	?
<i>Sterna sandvicensis sandvicensis</i>				
- Western Europe/West Africa	150,000	159,000-171,000	INC	INC
- Black Sea & Mediterranean (bre)	130,000	44,000-73,000	(DEC)	DEC
- West & Central Asia/SW & South Asia	110,000	110,000	?	?
<i>Sterna dougallii dougallii</i>				
- Europe (bre)	5,000	4,800-5,400	DEC	DEC
<i>Sterna hirundo hirundo</i>				
- Southern & Western Europe (bre)	180,000	170,000-200,000	(STA)	(STA)
- Northern & Eastern Europe (bre)	600,000	460,000-820,000	(STA)	(STA)
- Western Asia (bre)	C/D	C/D	?	?

Population	CSR 1999	Revised estimate	Trend 1999	Revised trend
<i>Sterna paradisaea</i>				
- Western Eurasia (bre)	E	1.3-2.3 million	(STA)	STA/DEC
<i>Sterna albifrons albifrons</i>				
- Eastern Atlantic (bre)	34,000	31,000-37,500	STA/INC	STA
- Black Sea & East Mediterranean (bre)	70,000-120,000	63,500-127,000	DEC	DEC
- Caspian (bre)	B	B	?	?
<i>Sterna albifrons guineae</i>				
- West Africa (bre)	?	?	?	?
<i>Sterna saundersi</i>				
- W South Asia, Red Sea, Gulf & E Africa	40,000	40,000	?	?
<i>Sterna balaenarum</i>				
- Namibia & S Africa/Atlantic to Ghana	13,500	13,500	(DEC)	(INC)
<i>Sterna repressa</i>				
- W S Asia, Red Sea, Gulf & E Africa	600,000	600,000	DEC	DEC
<i>Chlidonias leucopterus</i>				
- E Europe & W Asia/Africa	200,000-250,000	3,000,000	DEC	?
<i>Chlidonias niger niger</i>				
- Europe & Asia/Atlantic coast of Africa	200,000	200,000-350,000	DEC	STA/DEC

TABLE 2: POPULATION SIZES AND TRENDS OF WATERBIRD SPECIES PROPOSED FOR INCLUSION IN THE AGREEMENT

KEY TO COLUMN HEADINGS:

Population

The migratory populations of waterbird species occurring in the Agreement Area but not included in the Agreement or Action Plan. The method of describing populations follows that adopted in Table 1.

Population size

Population estimates given in the column headed 'CSR 1999' are mostly taken from the first edition of the *Report on the Conservation Status of Migratory Waterbirds in the Agreement Area* (Wetlands International 2000). For populations not included in that report, the estimates are taken from the second edition of *Waterfowl Population Estimates* (Rose & Scott 1997).

In all cases, the numerical estimates are given as number of individuals, although in many cases the estimates have been derived from numbers of breeding pairs. In these latter estimates, the total number of individuals has been obtained by multiplying the number of breeding pairs by a factor of three. For many species and populations, only a rough indication of population size is available. In these cases, population size is given in one of five categories.

- A: Less than 10,000 individuals
- B: 10,000-25,000 individuals
- C: 25,000-100,000 individuals
- D: 100,000-1,000,000 individuals
- E: Over 1,000,000 individuals

Trends

Information on trends is confined to the situation in recent decades. Brackets are used to indicate either that there is some doubt about the trend, or that a particular trend has been reported in only a part of the species' range, and may not be applicable throughout most of its range. The trends given in the column headed 'Trend 1999' are taken from the first edition of the *Report on the Conservation Status of Migratory Waterbirds in the Agreement Area* and second edition of *Waterfowl Population Estimates*.

- | | | | | | |
|-----|---|------------|-----|---|------------|
| INC | - | Increasing | DEC | - | Decreasing |
| STA | - | Stable | ? | - | Unknown |

Population	CSR 1999	Revised estimate	Trend 1999	Revised trend
SPHENISCIDAE				
<i>Spheniscus demersus</i>				
- Southern Africa	-	180,000	-	DEC
PODICIPEDIDAE				
<i>Tachybaptus ruficollis ruficollis</i>				
- Europe & Northwest Africa	D	230,000-450,000	STA	STA
<i>Podiceps cristatus cristatus</i>				
- Northwest & Western Europe	D	368,000-579,000	INC	INC
- Black Sea & Mediterranean (win)	D	>600,000	INC	INC
- Caspian & Southwest Asia (win)	10,000	10,000	?	?
<i>Podiceps cristatus infuscatus</i>				
- Eastern Africa (Ethiopia to N Zambia)	<1,000	<1,000	DEC	DEC
- Southern Africa	A	A	INC	INC
<i>Podiceps nigricollis nigricollis</i>				
- Europe/S & W Europe & N Africa	100,000	117,000-450,000	(STA)	STA/INC
- Western Asia/SW & South Asia	25,000	25,000	INC	INC
<i>Podiceps nigricollis gurneyi</i>				
- Southern Africa	B/C	10,000-20,000	INC	INC
PELECANIDAE				
<i>Pelecanus onocrotalus</i>				
- West Africa	30,000	60,000	?	STA
- Eastern Africa	-	150,000	-	STA
- Southern Africa	-	18,000	-	(STA)
<i>Pelecanus rufescens</i>				
- Tropical Africa & SW Arabia	D	50,000-100,000	STA	STA
SULIDAE				
<i>Sula (Morus) capensis</i>				
- Southern Africa	-	346,000	-	DEC
PHALACROCORACIDAE				
<i>Phalacrocorax coronatus</i>				
- Coastal Southwest Africa	5,330	8,700	?	STA
<i>Phalacrocorax neglectus</i>				
- Coastal Southwest Africa	18,000	9,700	?	DEC
<i>Phalacrocorax carbo carbo</i>				
- Northwest Europe	120,000	114,000	INC	INC
<i>Phalacrocorax carbo sinensis</i>				
- Northern & Central Europe	200,000	275,000-340,000	INC	INC
- Black Sea & Mediterranean	100,000	>130,000-160,000	INC	INC
- West & Southwest Asia	100,000	100,000	?	?
<i>Phalacrocorax carbo lucidus</i>				
- West & Eastern Africa	D	135,000-535,000	?	STA
- Southern Africa	B	11,000-13,000	?	STA
<i>Phalacrocorax capensis</i>				
- Coastal Southern Africa	550,000	216,000	?	DEC
ARDEIDAE				
<i>Egretta ardesiaca</i>				
- Sub-Saharan Africa	B/C	B/C	DEC	DEC

Population	CSR 1999	Revised estimate	Trend 1999	Revised trend
<i>Egretta garzetta garzetta</i>				
- Subsaharan Africa	?	100,000-500,000	?	?
- Europe, Black Sea & Med/W & C Africa	100,000-150,000	140,000-210,000	INC	INC
- Western Asia/SW Asia, NE & E Africa	C	C	?	?
<i>Egretta gularis gularis</i>				
- West Africa	?	B/C	?	(STA)
<i>Egretta gularis schistacea</i>				
- NE Africa & Red Sea	?	B/C	?	?
- SW Asia & South Asia ¹	17,000	17,000	?	?
<i>Egretta dimorpha</i>				
- Coastal Eastern Africa	?	10,000	?	STA
<i>Ardea cinerea cinerea</i>				
- Subsaharan Africa	?	D	?	STA
- Europe & North Africa (bre)	400,000-500,000	480,000-600,000	INC	INC
- West & SW Asia (bre)	B/C	C/D	?	STA/DEC
<i>Ardea melanocephala</i>				
- Subsaharan Africa	D/E	100,000-500,000	INC	INC
<i>Ardea purpurea purpurea</i>				
- Tropical Africa	C	75,000-100,000	?	STA
<i>Casmerodius albus melanorhynchos</i>				
- Subsaharan Africa & Madagascar	C	100,000-500,000	?	STA
<i>Mesophoyx intermedia brachyrhyncha</i>				
- Subsaharan Africa	?	C	?	STA
<i>Bubulcus ibis ibis</i>				
- Southern Africa	D	D	?	INC
- Tropical Africa	E	E	?	?
- SW Europe & NW Africa	>250,000	300,000-450,000	INC	INC
- East Mediterranean & SW Asia	A/B	A/B	?	?
<i>Ardeola ralloides ralloides</i>				
- Med., Black S. & N Africa/Subs. Africa ²	-	40,000-70,000	-	DEC
- West & SW Asia/Subsaharan Africa ²	-	C	-	?
<i>Ardeola ralloides paludivaga</i>				
- Subsaharan Africa & Madagascar	C	100,000-500,000	?	STA
<i>Nycticorax nycticorax nycticorax</i>				
- Subsaharan Africa & Madagascar	C	C/D	?	STA
- Europe & NW Africa/Med & Africa	100,000-200,000	150,000-230,000	DEC	DEC
- Western Asia/SW Asia & NE Africa	C	C	?	?
<i>Ixobrychus minutus payesii</i>				
- Subsaharan Africa	?	C	?	?
<i>Botaurus stellaris capensis</i>				
- Southern Africa	?	5,000	?	DEC
CICONIIDAE				
<i>Anastomus lamelligerus lamelligerus</i>				
- Subsaharan Africa	C/D	400,000-800,000	STA	STA
<i>Ciconia nigra</i>				
- Southern Africa	<1,500	2,850-4,740	STA	STA
<i>Ciconia abdimii</i>				
- Subsaharan Africa & SW Arabia	D	300,000-600,000	STA	(DEC)
<i>Leptoptilos crumeniferus</i>				
- Subsaharan Africa	100,000	100,000-300,000	INC	INC
BALAENICIPITIDAE				
<i>Balaeniceps rex</i>				
- Central Tropical Africa	12,000-15,000	5,000-10,000	?	DEC

Population	CSR 1999	Revised estimate	Trend 1999	Revised trend
THRESKIORNITHIDAE				
<i>Platalea leucorodia balsaci</i>				
- Coastal West Africa (Mauritania)	5,000-6,000	7,000	?	STA
ANATIDAE				
<i>Oxyura maccoa</i>				
- Eastern Africa	15,000-25,000	1,500	DEC	DEC
- Southern Africa	15,000-25,000	A	INC	INC
<i>Anser fabalis johanseni</i>				
- W & C Sib/Turkmenistan to W China ³	-	?	-	?
GRUIDAE				
<i>Balearica pavonina pavonina</i>				
- West Africa (Senegal to Chad)	11,500-17,500	15,000	DEC	DEC
<i>Balearica pavonina ceciliae</i>				
- Eastern Africa (Sudan to Uganda)	55,000-60,000	25,000-55,000	DEC	DEC
<i>Balearica regulorum regulorum</i>				
- S Africa (N to Angola & S Zimbabwe)	<10,000	8,000-12,000	DEC	STA
<i>Balearica regulorum gibbericeps</i>				
- Eastern Africa (Kenya to Mozambique)	75,000-85,000	50,000-65,000	DEC	DEC
RALLIDAE				
<i>Sarothrura ayresi</i>				
- Ethiopia & Southern Africa ⁴	<1,000	700	?	DEC
<i>Sarothrura elegans elegans</i>				
- NE, Eastern & Southern Africa	?	?	?	?
<i>Sarothrura elegans reichenovi</i>				
- S West Africa to Central Africa	?	?	?	?
<i>Rallus aquaticus aquaticus</i>				
- Europe & North Africa	D	390,000-1,170,000	STA	STA
<i>Rallus aquaticus korejewi</i>				
- Western Siberia/Southwest Asia	?	?	?	?
<i>Rallus caerulescens</i>				
- Southern & Eastern Africa	?	?	?	?
<i>Crecopsis egregia</i> ⁵				
- Subsaharan Africa	?	?	?	?
<i>Crex crex</i>				
- Europe & West Asia/Subsaharan Africa	D	3.4-6.0 million	DEC	DEC
<i>Amaurornis flavirostris</i>				
- Subsaharan Africa	E	E	?	?
<i>Porphyrio alleni</i>				
- Subsaharan Africa	?	?	?	?
<i>Gallinula chloropus chloropus</i>				
- Europe & North Africa	E	2.6-4.5 million	STA	STA
- West & Southwest Asia	D	D	?	?
<i>Gallinula angulata</i>				
- Subsaharan Africa	?	C/D	?	?
<i>Fulica cristata</i>				
- Subsaharan Africa	D/E	D/E	?	?
- Spain & Morocco	A	5,000-10,000	?	?
<i>Fulica atra atra</i>				
- Northwest Europe (win)	1,500,000	1,750,000	STA	INC
- Southwest Asia (win)	2,000,000	2,000,000	?	?

Population	CSR 1999	Revised estimate	Trend 1999	Revised trend
HAEMATOPODIDAE				
<i>Haematopus ostralegus ostralegus</i>				
- Europe/S & W Europe & NW Africa	1,000,000	1,020,000	INC	INC
<i>Haematopus ostralegus longipes</i>				
- SE Eur & W Asia/SW Asia & NE Africa	25,000	100,000-200,000	?	(STA)
<i>Haematopus moquini</i>				
- Coastal Southern Africa	4,780	4,800	?	STA
BURHINIDAE				
<i>Burhinus senegalensis senegalensis</i>				
- West Africa	?	B	?	?
<i>Burhinus senegalensis inornatus</i>				
- Northeast & Eastern Africa	?	B	?	?
GLAREOLIDAE				
<i>Pluvianus aegyptius aegyptius</i>				
- West & Eastern Africa	?	B	?	?
<i>Glareola ocularis</i>				
- Madagascar/East Africa	?	A/B	?	?
<i>Glareola nuchalis nuchalis</i>				
- Eastern & Central Africa	?	C	DEC	?
<i>Glareola nuchalis liberiae</i>				
- West Africa	?	B/C	?	?
<i>Glareola cinerea cinerea</i>				
- SE West Africa & Central Africa	?	B/C	?	?
CHARADRIIDAE				
<i>Pluvialis fulva</i>				
- N-C Siberia/S & SW Asia, NE Africa	C/D	50,000-100,000	?	?
<i>Vanellus gregarius</i>				
- Central Asian Republics/NW India ⁶	<1,000	200-600	DEC	DEC
<i>Vanellus leucurus</i>				
- Central Asian Republics/South Asia ⁷	B/C	B/C	?	(INC)
SCOLOPACIDAE				
<i>Scolopax rusticola</i>				
- Europe/S & W Europe & North Africa	>15,000,000	21-25 million	STA	STA
- Western Siberia/SW Asia (Caspian)	?	?	?	?
<i>Gallinago stenura</i>				
- N Siberia/South Asia & Eastern Africa	C/D	C/D	?	?
LARIDAE				
<i>Larus canus canus</i>				
- NW & C Europe/Atlantic & Medit.	1,600,000	1.3-2.1 million	DEC	DEC
<i>Larus canus heinei</i>				
- NE Eur & W Sib/Black Sea & Caspian	C	D	?	(INC)
<i>Larus marinus</i>				
- North & Western Europe	480,000	420,000-510,000	INC	STA
<i>Larus dominicanus vetula</i>				
- Coastal Southern Africa	?	69,000	?	INC
<i>Larus hyperboreus hyperboreus</i>				
- North Atlantic	200,000	135,000-360,000	STA	STA
<i>Larus glaucooides glaucooides</i>				
- Greenland/Iceland & NW Europe	C/D	90,000-300,000	STA	STA

Population	CSR 1999	Revised estimate	Trend 1999	Revised trend
<i>Larus argentatus argentatus</i> ⁸				
- North & Northwest Europe	1,400,000	1.1-1.5 million	INC	INC
<i>Larus argentatus argenteus</i>				
- Iceland & Western Europe	1,300,000	1,090,000	?	(STA)
<i>Larus heuglini</i> ⁹				
- NE Eur & W Sib/W Asia & NE Africa	?	?	?	?
<i>Larus (heuglini) barabensis</i>				
- Southwest Siberia/Southwest Asia	?	?	?	?
<i>Larus cachinnans cachinnans</i>				
- Black S. & W Asia/SW Asia, NE Africa	C/D	D	?	(INC)
<i>Larus cachinnans michahellis</i>				
- Mediterranean, Iberia & Morocco	350,000	475,000-585,000	INC	INC
<i>Larus fuscus fuscus</i> ¹⁰				
- NE Eur/Black Sea, SW Asia & E Africa	200,000-300,000	156,000-228,000	?	DEC
<i>Larus fuscus graellsii</i>				
- Western Europe/Med & West Africa	400,000-500,000	525,000	INC	INC
<i>Larus cirrocephalus poiocephalus</i>				
- West Africa	?	30,000	?	?
- Central & Eastern Africa	?	D	?	?
- Southern Africa (excluding Madagascar)	?	(B)	?	INC
<i>Larus hartlaubii</i>				
- Coastal Southwest Africa	25,000	32,000-33,000	?	STA/INC
<i>Larus ridibundus</i>				
- W Europe/W Europe, W Med, W Africa	>5,000,000	5.6-7.3 million	(STA)	INC
- E Europe/Black Sea & E Mediterranean	D	1.3-1.7 million	(STA)	INC
- West Asia/SW Asia & NE Africa	250,000	250,000	?	?
<i>Larus minutus</i>				
- Cen & E Europe/SW Europe & W Med.	60,000-90,000	66,000-102,000	STA/INC	(STA)
- W Asia/E Med, Black Sea & Caspian	(C)	C	?	?
<i>Xema sabini sabini</i>				
- Canada & Greenland/SE Atlantic	?	?	?	?
<i>Sterna dougallii dougallii</i>				
- Southern Africa	400	750	DEC	INC
- East Africa	38,000	26,000	?	?
<i>Sterna dougallii arideensis</i>				
- Madagascar, Seychelles & Mascarenes	3,600	10,000-15,000	?	(DEC)
<i>Sterna dougallii bangsi</i> ¹¹				
- North Arabian Sea (Oman)	?	<600	?	?
<i>Sterna vittata vittata</i>				
- Subantarctic islands/S Africa	3,000-6,000	3,000-6,000	?	?
<i>Sterna vittata tristanensis</i>				
- Tristan da Cunha & Gough/S Africa	2,500	2,500	?	?
<i>Chlidonias hybridus hybridus</i>				
- Western Europe & NW Africa (bre)	20,000-30,000	21,500-31,000	DEC	DEC
- Black Sea & E Mediterranean (bre)	50,000-80,000	80,000-120,000	STA/INC	STA/INC
- Caspian (bre)	C	C	?	?
<i>Chlidonias hybridus sclateri</i> ¹²				
- Eastern Africa (Kenya & Tanzania)	?	A	?	?
- Southern Africa (to Malawi & Zambia)	?	B	?	?
RYNCHOPIDAE				
<i>Rynchops flavirostris</i>				
- Coastal West Africa	?	<5,000	?	DEC
- Central Africa	?	B	?	DEC
- Eastern & Southern Africa	?	B	?	DEC

Footnotes

- 1 Sometimes assigned to the race *asha*.
- 2 The limits of these two populations of *Ardeola ralloides* differ from those adopted in the second edition of *Waterfowl Population Estimates*.
- 3 This population was omitted from the 2000 version of the Action Plan because it winters outside the Agreement Area.
- 4 Probably two separate populations.
- 5 Often assigned to the genus *Crex*.
- 6 This population was omitted from the 2000 version of the Action Plan because it winters outside the Agreement Area.
- 7 This population was omitted from the 2000 version of the Action Plan because it winters outside the Agreement Area.
- 8 Includes the yellow-legged form '*omissus*' from the Baltic, Estonia, Finland and northwest Russia.
- 9 Includes the weakly defined form '*taimyrensis*' from the lower Yenisey and western Taymyr region.
- 10 Includes '*intermedius*' from The Netherlands, Denmark and southern Norway.
- 11 The subspecific status of this population is in some doubt.
- 12 Sometimes assigned to the race *delalandii*.

TABLE 3 : SPECIES OF WATERBIRDS OCCURRING IN THE AGREEMENT AREA BUT INAPPROPRIATE FOR INCLUSION IN THE AGREEMENT

KEY TO COLUMN HEADINGS

1. The species is not migratory, as defined in the Bonn Convention. Species which are entirely or almost entirely confined to a single Range State are indicated with a double asterisk (**).
2. The species occurs in the Agreement Area only as a vagrant or rare straggler from another region.
3. Only a very small part of the total range of the species lies within the Agreement Area. The region therefore has very little significance for the species.
4. The species is more properly regarded as a seabird, breeding on rocky or sandy sea coasts, cliffs, offshore islands *etc.*, and spending the non-breeding season exclusively in marine environments.
5. The species is otherwise unusual in its habitat requirements, occurring in desert, grassland, heathland or forest, and is at no time dependent on wetland habitats.
6. The species has been artificially introduced in the Agreement Area.

	1	2	3	4	5	6
<i>Tachybaptus rufolavatus</i>	**					
<i>Tachybaptus pelzelni</i>	**					
<i>Podilymbus podiceps</i>		*				
<i>Phalacrocorax africanus</i>	*					
<i>Phalacrocorax auritus</i>		*				
<i>Phalacrocorax aristotelis</i>	*			*		
<i>Anhinga rufa</i>	*					
<i>Egretta tricolor</i>		*				
<i>Egretta caerulea</i>		*				
<i>Egretta thula</i>		*				
<i>Ardea humbloti</i>	**					
<i>Ardea goliath</i>	*					
<i>Ardeola grayii</i>	*		*			
<i>Ardeola bacchus</i>		*				
<i>Butorides striatus</i>	*					
<i>Butorides virescens</i>		*				
<i>Gorsachius leuconotus</i>	*					
<i>Tigriornis leucolophus</i>	*					
<i>Ixobrychus exilis</i>		*				
<i>Ixobrychus eurhythmus</i>		*				
<i>Botaurus lentiginosus</i>		*				
<i>Scopus umbretta</i>	*					
<i>Ephippiorhynchus senegalensis</i>	*					
<i>Bostrychia hagedash</i>	*					

	1	2	3	4	5	6
<i>Bostrychia carunculata</i>	**					
<i>Bostrychia olivacea</i>	*					
<i>Bostrychia bocagei</i>	**					
<i>Bostrychia rara</i>	*					
<i>Geronticus calvus</i>	*					
<i>Lophotibis cristata</i>	**					
<i>Oxyura jamaicensis</i>						*
<i>Anser indicus</i>						*
<i>Anser caerulescens</i>		*				
<i>Anser rossii</i>		*				
<i>Branta canadensis</i>		*				*
<i>Cyanochen cyanopterus</i>	**					
<i>Pteronetta hartlaubii</i>	*					
<i>Nettapus coromandelianus</i>		*				
<i>Aix sponsa</i>						*
<i>Aix galericulata</i>						*
<i>Anas americana</i>		*				
<i>Anas falcata</i>		*				
<i>Anas formosa</i>		*				
<i>Anas bernieri</i>	**					
<i>Anas rubripes</i>		*				
<i>Anas melleri</i>	**					
<i>Anas sparsa</i>	*					
<i>Anas discors</i>		*				
<i>Anas smithii</i>	*					
<i>Aythya valisineria</i>		*				
<i>Aythya collaris</i>		*				
<i>Aythya innotata</i>	**					
<i>Aythya affinis</i>		*				
<i>Somateria fischeri</i>		*				
<i>Histrionicus histrionicus</i>	*					
<i>Melanitta perspicillata</i>		*				
<i>Bucephala islandica</i>	*					
<i>Bucephala albeola</i>		*				
<i>Lophodytes cucullatus</i>		*				
<i>Grus canadensis</i>		*				
<i>Grus monacha</i>		*				
<i>Sarothrura pulchra</i>	*					
<i>Sarothrura rufa</i>	*					
<i>Sarothrura lugens</i>	*					
<i>Sarothrura affinis</i>	*					
<i>Sarothrura insularis</i>	**					
<i>Sarothrura watersi</i>	**					
<i>Himantornis haematopus</i>	*					
<i>Canirallus oculus</i>	*					
<i>Canirallus kiolooides</i>	**					
<i>Rallus madagascariensis</i>	**					
<i>Rougetius rougetii</i>	**					

<i>Dryolimnas cuvieri</i>	**					
	1	2	3	4	5	6
<i>Amaurornis phoenicurus</i>		*				
<i>Amaurornis olivieri</i>	**					
<i>Porzana carolina</i>		*				
<i>Porphyrio porphyrio</i>	*					
<i>Porphyrio martinicus</i>		*				
<i>Fulica americana</i>		*				
<i>Podica senegalensis</i>	*					
<i>Actophilornis africanus</i>	*					
<i>Actophilornis albinucha</i>	**					
<i>Microparra capensis</i>	*					
<i>Hydrophasianus chirurgus</i>			*			
<i>Rostratula benghalensis</i>	*					
<i>Haematopus meadewaldoi</i>	**					
<i>Burhinus oedicephalus</i>					*	
<i>Burhinus vermiculatus</i>	*					
<i>Burhinus capensis</i>	*				*	
<i>Rhinoptilus africanus</i>	*				*	
<i>Rhinoptilus chalcopterus</i>					*	
<i>Rhinoptilus cinctus</i>					*	
<i>Cursorius cursor</i>					*	
<i>Cursorius rufus</i>					*	
<i>Cursorius temminckii</i>					*	
<i>Glareola maldivarum</i>		*				
<i>Glareola lactea</i>		*				
<i>Pluvialis dominica</i>		*				
<i>Charadrius semipalmatus</i>		*				
<i>Charadrius vociferus</i>		*				
<i>Charadrius thoracicus</i>	**					
<i>Vanellus crassirostris</i>	*					
<i>Vanellus armatus</i>	*					
<i>Vanellus tectus</i>	*					
<i>Vanellus melanocephalus</i>	**					
<i>Vanellus indicus</i>	*		*			
<i>Gallinago solitaria</i>		*				
<i>Gallinago megala</i>		*				
<i>Gallinago nigripennis</i>	*					
<i>Gallinago macrodactyla</i>	**					
<i>Limosa haemastica</i>		*				
<i>Numenius borealis</i>		*				
<i>Numenius minutus</i>		*				
<i>Bartramia longicauda</i>		*				
<i>Tringa melanoleuca</i>		*				
<i>Tringa flavipes</i>		*				
<i>Tringa solitaria</i>		*				
<i>Tringa macularia</i>		*				
<i>Tringa brevipes</i>		*				
<i>Catoptrophorus semipalmatus</i>		*				
<i>Limnodromus griseus</i>		*				

<i>Limnodromus scolopaceus</i>		*				
	1	2	3	4	5	6
<i>Limnodromus semipalmatus</i>			*			
<i>Calidris pusilla</i>		*				
<i>Calidris mauri</i>		*				
<i>Calidris ruficollis</i>			*			
<i>Calidris subminuta</i>			*			
<i>Calidris minutilla</i>		*				
<i>Calidris fuscicollis</i>		*				
<i>Calidris bairdii</i>		*				
<i>Calidris melanotos</i>		*				
<i>Calidris acuminata</i>		*				
<i>Micropalama himantopus</i>		*				
<i>Tryngites subruficollis</i>		*				
<i>Steganopus tricolor</i>		*				
<i>Larus delawarensis</i>		*				
<i>Larus brunnicephalus</i>		*				
<i>Larus philadelphia</i>		*				
<i>Larus atricilla</i>		*				
<i>Larus pipixcan</i>		*				
<i>Pagophila eburnea</i>				*		
<i>Rhodostethia rosea</i>			*	*		
<i>Rissa tridactyla</i>				*		
<i>Sterna elegans</i>		*				
<i>Sterna sumatrana</i>		*				
<i>Sterna forsteri</i>		*				
<i>Sterna aleutica</i>		*				
<i>Sterna anaethetus</i>				*		
<i>Sterna fuscata</i>				*		
<i>Anous stolidus</i>				*		
<i>Anous minutus</i>				*		
<i>Anous tenuirostris</i>				*		

ANNEX 1

SPECIES OF WATERBIRDS OCCURRING IN THE AGREEMENT AREA BUT INAPPROPRIATE FOR INCLUSION IN THE AGREEMENT

PODICIPEDIDAE

Alaotra Grebe *Tachybaptus rufolavatus*

Endemic to Madagascar; confined to Lake Alaotra and now probably extinct as a result of hunting, habitat destruction, and competition and hybridisation with *T. ruficollis*.

Madagascar Little Grebe *Tachybaptus pelzelinii*

Endemic to Madagascar, where the population may number fewer than 5,000 individuals.

Pied-billed Grebe *Podilymbus podiceps*

Vagrant to Europe from North America.

PHALACROCORACIDAE

Long-tailed Cormorant *Phalacrocorax africanus*

Two subspecies occur: the nominate subspecies occurs throughout Africa south of the Sahara; *P. a. pictilis* is confined to Madagascar. All populations appear to be sedentary or dispersive. Some populations show local seasonal movements related to rainfall (*e.g.* in Congo), but no long-distance migrations are known.

Double-crested Cormorant *Phalacrocorax auritus*

Vagrant to Europe from North America.

European Shag *Phalacrocorax aristotelis*

Invariably a marine species of rocky coasts. Three subspecies occur: the nominate race breeds in Iceland and on the Atlantic coast of Europe; *P. a. desmarestii* breeds in the central Mediterranean; and *P.c. riggenbachi* breeds on the coast of Morocco. All populations are mainly sedentary, with the northernmost populations showing some post-breeding dispersal (*e.g.* from extreme north-western Russia to northern Norway). Populations of *desmarestii* appear to be entirely sedentary.

ANHINGIDAE

African Darter *Anhinga rufa*

Mainly sedentary; apparently subject to some local movements, but these have yet to be documented.

ARDEIDAE

Tricolored Heron *Egretta tricolor*

Vagrant to the Western Palearctic from North America.

Little Blue Heron *Egretta caerulea*

Vagrant to the Western Palearctic from North America.

Snowy Egret *Egretta thula*

Vagrant to Europe from North America.

Madagascar Heron *Ardea humbloti*

Endemic to Madagascar.

Goliath Heron *Ardea goliath*

Largely sedentary, with some post-breeding dispersal.

Indian Pond-Heron *Ardeola grayii*

Extralimital; a scarce visitor to the Arabian Peninsula and Persian Gulf from south-eastern Iran and the Indian Subcontinent.

- Chinese Pond-Heron *Ardeola bacchus*
 Vagrant to Europe from eastern Asia.
- Striated Heron *Butorides striatus*
 Largely sedentary, with some post-breeding dispersal.
- Green Heron *Butorides virescens*
 Vagrant to Europe from North America.
- White-backed Night-Heron *Gorsachius leuconotus*
 A forest heron; apparently sedentary.
- White-crested Bittern *Tigrionis leucolophus*
 A secretive forest bittern; apparently sedentary.
- Least Bittern *Ixobrychus exilis*
 Vagrant to Europe from North America.
- Schrenck's Bittern *Ixobrychus eurhythmus*
 Vagrant to Europe from eastern Asia.
- American Bittern *Botaurus lentiginosus*
 Vagrant to Europe from North America.

SCOPIDAE

- Hamerkop *Scopus umbretta*
 Largely sedentary, with some wet-season dispersal to seasonal ponds in semi-arid areas. No evidence of regular migration anywhere.

CICONIIDAE

- Saddle-billed Stork *Ephippiorhynchus senegalensis*
 Largely sedentary and probably territorial. Some nomadic movements within large expanses of swamp, but no migrations known.

THRESKIORNITHIDAE

- Hadada Ibis *Bostrychia hagedash*
 Apparently sedentary throughout its extensive range.
- Wattled Ibis *Bostrychia carunculata*
 Endemic to the highlands of Ethiopia.
- Olive Ibis *Bostrychia olivacea*
 A rather secretive forest ibis; sedentary.
- Dwarf Olive Ibis *Bostrychia bocagei*
 Endemic to Sao Tome; rare.
- Spot-breasted Ibis *Bostrychia rara*
 A forest ibis; sedentary.
- Bald Ibis *Geronticus calvus*
 Confined as a breeding species to the highlands of South Africa, Lesotho and Swaziland. Mainly sedentary, but subject to local movements (up to 18 km) outside the breeding season. The present population of 8,000-10,000 individuals has remained relatively stable since 1970, after a long period of decline.
- White-winged Ibis *Lophotibis cristata*
 Endemic to Madagascar.

ANATIDAE

- Ruddy Duck *Oxyura jamaicensis*
 Introduced into Western Europe from North America.
- Bar-headed Goose *Anser indicus*
 Introduced into Western Europe from Central Asia; possibly also a vagrant.

- Snow Goose *Anser caerulescens*
Vagrant to Europe and Africa from North America.
- Ross's Goose *Anser rossii*
Vagrant to Europe from North America.
- Canada Goose *Branta canadensis*
Widely introduced into Europe from North America; also a vagrant.
- Blue-winged Goose *Cyanochen cyanopterus*
Endemic to the highlands of Ethiopia.
- Hartlaub's Duck *Pteronetta hartlaubii*
Sedentary along rivers and streams in forested areas of West and Central Africa.
- Cotton Pygmy-goose *Nettapus coromandelianus*
Very scarce winter visitor to the Arabian Peninsula from South Asia.
- Wood Duck *Aix sponsa*
Introduced into Western Europe from North America.
- Mandarin Duck *Aix galericulata*
Introduced into Western Europe from eastern Asia.
- American Wigeon *Anas americana*
Vagrant to Europe and Africa from North America.
- Falcated Duck *Anas falcata*
Vagrant to Europe and the Middle East from eastern Asia.
- Baikal Teal *Anas formosa*
Vagrant to Europe from eastern Asia.
- Madagascar Teal *Anas bernieri*
Endemic to Madagascar, where threatened with extinction.
- American Black Duck *Anas rubripes*
Vagrant to Europe from North America.
- Meller's Duck *Anas melleri*
Endemic to Madagascar.
- African Black Duck *Anas sparsa*
Sedentary and territorial with a permanent home range. A species of rivers, streams and mountain bogs.
- Blue-winged Teal *Anas discors*
Vagrant to Europe and Africa from North America.
- Cape Shoveler *Anas smithii*
Confined to Southern Africa. Largely sedentary, with some irregular movements but no clear pattern of migration.
- Canvasback *Aythya valisineria*
Vagrant to Europe from North America.
- Ring-necked Duck *Aythya collaris*
Vagrant to Europe and Africa from North America.
- Madagascar Pochard *Aythya innotata*
Endemic to Madagascar where probably extinct. (The last known bird died in January 1993).
- Lesser Scaup *Aythya affinis*
Vagrant to Europe from North America.
- Spectacled Eider *Somateria fischeri*
Vagrant to Western Siberia and northern Norway from north-eastern Asia (east of the Lena Delta).
- Harlequin Duck *Histrionicus histrionicus*
Primarily a North American and East Asian species, confined in the Agreement Area to Greenland and Iceland where the populations are resident. There is some movement of birds to adjacent coasts in winter.

Surf Scoter *Melanitta perspicillata*

Vagrant to Europe from North America.

Barrow's Goldeneye *Bucephala islandica*

A North American species, confined in Agreement Area to Iceland, where the population of about 800 pairs is resident.

Bufflehead *Bucephala albeola*

Vagrant to Europe from North America.

Hooded Merganser *Lophodytes cucullatus*

Vagrant to Europe from North America.

GRUIDAE

Sandhill Crane *Grus canadensis*

Vagrant to Europe from North America.

Hooded Crane *Grus monacha*

Vagrant to Europe from eastern Asia.

RALLIDAE

White-spotted Flufftail *Sarothrura pulchra*

A sedentary forest rail. Four subspecies have been described.

Red-chested Flufftail *Sarothrura rufa*

Sedentary. Three subspecies have been described.

Chestnut-headed Flufftail *Sarothrura lugens*

Sedentary. Two subspecies have been described.

Striped Flufftail *Sarothrura affinis*

Sedentary. Two subspecies have been described.

Madagascar Flufftail *Sarothrura insularis*

Endemic to Madagascar where locally abundant.

Slender-billed Flufftail *Sarothrura watersi*

Endemic to Madagascar where apparently very rare and local.

Nkulengu Rail *Himantornis haematopus*

A sedentary rail of lowland rain forest, occasionally occurring in mangroves.

Grey-throated Rail *Canirallus oculus*

Sedentary. An uncommon and secretive rail of lowland rain forest in West and Central Africa.

Madagascar Wood Rail *Canirallus kiolooides*

Endemic to Madagascar. Two subspecies have been described.

Madagascar Rail *Rallus madagascariensis*

Endemic to eastern Madagascar.

Rouget's Rail *Rougetius rougetii*

Confined to the highlands of Ethiopia and Eritrea; sedentary.

White-throated Rail *Dryolimnas cuvieri*

Endemic to Madagascar (*D. c. cuvieri*) and Aldabra (*D. c. aldabranus*).

White-breasted Waterhen *Amaurornis phoenicurus*

Vagrant to the Arabian Peninsula from southern Asia.

Sakalava Rail *Amaurornis olivieri*

Endemic to Madagascar; rare.

Sora *Porzana carolina*

Vagrant to Europe from North America.

Purple Swamphen *Porphyrio porphyrio*

Sedentary over most of its very extensive range; sometimes moves locally after breeding in Northwest Africa and Egypt. Four subspecies are relevant: the nominate race in Southwest Europe and Northwest Africa; *madagascariensis* in Madagascar, Egypt and Africa south of the Sahara; *seistanicus* in eastern Turkey and northern and eastern Iran; and *poliocephalus* in Iraq.

Purple Gallinule *Porphyrio martinicus*

Vagrant to Europe from North America.

American Coot *Fulica americana*

Vagrant to Europe from North America.

HELIORNITHIDAE

African Finfoot *Podica senegalensis*

Highly localised and apparently sedentary. Four subspecies are generally recognised.

JACANIDAE

African Jacana *Actophilornis africanus*

Mainly sedentary, but may undertake dispersive or nomadic movements in response to drought.

Madagascar Jacana *Actophilornis albinucha*

Endemic to Madagascar.

Lesser Jacana *Microparra capensis*

Apparently sedentary, unless forced to move by drought.

Pheasant-tailed Jacana *Hydrophasianus chirurgus*

Mainly extralimital; a scarce winter visitor to the Arabian Peninsula from southern Asia.

ROSTRATULIDAE

Greater Painted-snipe *Rostratula benghalensis*

Mainly sedentary but performs irregular movements in response to rainfall or drought.

HAEMATOPODIDAE

Canary Island Oystercatcher *Haematopus meadewaldoi*

Endemic to the Canary Islands; possibly extinct.

BURHINIDAE

Eurasian Thick-knee *Burhinus oedicnemus*

A bird of dry grasslands, heathlands and semi-desert.

Water Thick-knee *Burhinus vermiculatus*

Largely sedentary, making only local movements related to changes in water level.

Spotted Thick-knee *Burhinus capensis*

A bird of savanna, open woodland, cultivated land, semi-arid scrub and stony hillsides. Mainly sedentary.

GLAREOLIDAE

Double-banded Courser *Rhinoptilus africanus*

A bird of flat, stony and gravelly desert and semi-desert plains; mainly sedentary.

Bronze-winged Courser *Rhinoptilus chalcopterus*

A bird of *Acacia* and other savanna, bushveld and thorn scrub. Migratory.

Three-banded Courser *Rhinoptilus cinctus*

A bird of dry mopane and miombo woodland, thorn savanna and scrub and other dry, open woodlands. Mainly sedentary, but migratory in southernmost part of range.

Cream-coloured Courser *Cursorius cursor*

A bird of desert and semi-desert. Migratory.

Burchell's Courser *Cursorius rufus*

A bird of desert, semi-desert and overgrazed grasslands. Highly nomadic.

Temminck's Courser *Cursorius temminckii*

A bird of semi-arid bush savanna, bushveld and short grasslands. Migratory in some areas.

Oriental Pratincole *Glareola maldivarum*

Vagrant to Europe from eastern Asia.

Small Pratincole *Glareola lactea*

Vagrant to Iran and the Arabian Peninsula from southern Asia.

CHARADRIIDAE

American Golden Plover *Pluvialis dominica*

Vagrant to Europe and Africa from North America.

Semipalmated Plover *Charadrius semipalmatus*

Vagrant to Europe from North America.

Killdeer *Charadrius vociferus*

Vagrant to Europe from North America.

Madagascar Plover *Charadrius thoracicus*

Endemic to Madagascar where restricted to coastal grassy areas in the southwest.

Long-toed Lapwing *Vanellus crassirostris*

Three subspecies have been described: *crassirostris* around Lake Chad and in Sudan, Uganda and Kenya; *hybrida* from Tanzania and eastern Democratic Republic of Congo to Malawi; and *leucopterus* from southern Democratic Republic of Congo, Zambia and Malawi to South Africa. *V. c. hybrida* is regarded by some authors as merely the intergrades between *crassirostris* and *leucopterus*. The species appears to be largely sedentary throughout its range.

Blacksmith Plover *Vanellus armatus*

Largely sedentary, but subject to local movements in some parts of its range in relation to the rains.

Black-headed Lapwing *Vanellus tectus*

Largely sedentary throughout its range, with some local movements in Mauritania, Mali and Nigeria during the rains.

Spot-breasted Lapwing *Vanellus melanocephalus*

Endemic to the highlands of Ethiopia.

Red-wattled Lapwing *Vanellus indicus*

Mainly extralimital, occurring throughout southern Asia west to north-central Iraq and extreme south-eastern Turkey; also in Oman and the United Arab Emirates. Mainly sedentary.

SCOLOPACIDAE

Solitary Snipe *Gallinago solitaria*

Vagrant to eastern Iran and central Saudi Arabia from Central Asia.

Swinhoe's Snipe *Gallinago megala*

Vagrant to Europe from eastern Asia.

African Snipe *Gallinago nigripennis*

Largely sedentary, but subject to local movements often associated with drying of temporary floods.

Madagascar Snipe *Gallinago macrodactyla*

Endemic to Madagascar where uncommon.

Hudsonian Godwit *Limosa haemastica*

Vagrant to Europe from North America.

Eskimo Curlew *Numenius borealis*

Former vagrant to Europe from North America.

- Little Curlew *Numenius minutus*
Vagrant to Europe from eastern Asia.
- Upland Sandpiper *Bartramia longicauda*
Vagrant to Europe from North America.
- Greater Yellowlegs *Tringa melanoleuca*
Vagrant to Europe and Africa from North America.
- Lesser Yellowlegs *Tringa flavipes*
Vagrant to Europe and Africa from North America.
- Solitary Sandpiper *Tringa solitaria*
Vagrant to Europe from North America.
- Spotted Sandpiper *Tringa macularia*
Vagrant to Europe from North America.
- Grey-tailed Tattler *Tringa brevipes*
Vagrant to Europe from eastern Asia.
- Willet *Catoptrophorus semipalmatus*
Vagrant to Europe from North America.
- Short-billed Dowitcher *Limnodromus griseus*
Vagrant to Europe from North America.
- Long-billed Dowitcher *Limnodromus scolopaceus*
Vagrant to Europe and Africa from North America.
- Asian Dowitcher *Limnodromus semipalmatus*
Vagrant to the United Arab Emirates, Yemen and Kenya from eastern Asia.
- Semipalmated Sandpiper *Calidris pusilla*
Vagrant to Europe from North America.
- Western Sandpiper *Calidris mauri*
Vagrant to Europe from North America.
- Rufous-necked Stint *Calidris ruficollis*
Mainly extralimital breeding in Northeast Asia and wintering in Southeast Asia and Australasia. Recorded as a vagrant or very scarce passage migrant on the East African coast, and as a regular winter visitor in very small numbers to South Africa.
- Long-toed Stint *Calidris subminuta*
Mainly extralimital breeding in Northeast Asia and wintering in Southeast Asia and Australasia. Rare winter visitor to the Arabian Peninsula; vagrant to Europe and eastern Africa.
- Least Sandpiper *Calidris minutilla*
Vagrant to Europe from North America.
- White-rumped Sandpiper *Calidris fuscicollis*
Vagrant to Europe and Africa from North America.
- Baird's Sandpiper *Calidris bairdii*
Vagrant to Europe and Africa from North America.
- Pectoral Sandpiper *Calidris melanotos*
Vagrant to Europe and Africa from North America.
- Sharp-tailed Sandpiper *Calidris acuminata*
Vagrant to Europe and the Arabian Peninsula from eastern Asia.
- Stilt Sandpiper *Micropalama himantopus*
Vagrant to Europe from North America.
- Buff-breasted Sandpiper *Tryngites subruficollis*
Vagrant to Europe, Africa and the Arabian Peninsula from North America.
- Wilson's Phalarope *Steganopus tricolor*
Vagrant to Europe, Africa and the Arabian Peninsula from North America.

LARIDAE

Ring-billed Gull *Larus delawarensis*

Vagrant to Europe and Africa from North America.

Brown-headed Gull *Larus brunnicephalus*

Mainly extralimital, breeding in Central Asia and wintering in southern and Southeast Asia. A very rare winter visitor to the southern Persian Gulf and Arabian Sea; vagrant to the Near East.

Bonaparte's Gull *Larus philadelphia*

Vagrant to Europe from North America.

Laughing Gull *Larus atricilla*

Vagrant to Europe and Africa from North America.

Franklin's Gull *Larus pipixcan*

Vagrant to Europe and Africa from North America.

Ivory Gull *Pagophila eburnea*

A marine species. Breeds in the high Arctic (Greenland, Svalbard, Russia) and winters mainly in Arctic waters within drift ice and along the edge of the pack-ice. A vagrant further south in Europe.

Ross's Gull *Rhodostethia rosea*

Breeds on the tundra of north-eastern Siberia between the Khroma and Kolyma Rivers (120° to 160°E). The winter distribution is poorly known, but is presumed to be along the edge of the pack-ice in the Arctic Ocean. Only a vagrant to Northwest Europe.

Black-legged Kittiwake *Rissa tridactyla*

A marine species; pelagic outside the breeding season. European breeding populations winter in the North Atlantic south to Mauritania.

Elegant Tern *Sterna elegans*

Vagrant to Europe from the Americas.

Black-naped Tern *Sterna sumatrana*

Vagrant to South Africa and Mozambique from Southeast Asia.

Forster's Tern *Sterna forsteri*

Vagrant to Europe from North America.

Aleutian Tern *Sterna aleutica*

Vagrant to Europe from North America.

Bridled Tern *Sterna anaethetus*

A marine species, breeding on small islands off the African and Arabian coasts; pelagic outside the breeding season.

Sooty Tern *Sterna fuscata*

A marine species, breeding on small islands off the West and East African coasts; pelagic outside the breeding season.

Brown Noddy *Anous stolidus*

A marine species, breeding on small islands off the African and Arabian coasts; mainly pelagic outside the breeding season.

Black Noddy *Anous minutus*

A marine species, breeding on islands in the Gulf of Guinea; mainly sedentary.

Lesser Noddy *Anous tenuirostris*

A marine species, breeding in the Seychelles and Mascarenes, and visiting the coasts of Arabia, Madagascar and East Africa outside the breeding season.